Scribonius Largus' *Compounding of Drugs* (*Compositiones medicamentorum)*

Introduction, Translation, and Medico-Historical Comments

Vol I: Introduction, Medicine and Pharmacy in Contemporary Context, Reception

Vol II: Translation with Explanatory and Medico-Historical Comments

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Abstract

Scribonius Largus' *Compounding of Drugs* or *Recipes for Remedies* (*Compositiones medicamentorum*) is an important source for Roman medicine, especially pharmaceutical practice, in the first century CE. Its division into three main sections – remedies addressing complaints head to toe (*a capite ad calcem*), poisons and venoms (antidotes, theriacs, toxicology), and plasters, ointments, and similar "surgical" matters – allows for investigation of Scribonius' approach to these respective aspects of medicine, the types of remedies and ingredients which form his therapeutic repertoire, and the technical knowledge and practical methods of drug compounding which constitute applied pharmacy in the early Roman Empire. The work's preface and its index supplement the understanding of the *Compositiones* as a systematic reference work for treating common and dangerous ailments, based on a medical model with a strong commitment to ethical professional conduct and the tripartite nature of medicine as an inseparable union between pharmacy, surgery, and dietetics. While relatively obscure when compared to the more extensive and famous works of Pliny the Elder, Dioscorides, Celsus, and above all Galen, the material resonated with audiences of different time periods, leading to a varied reception and afterlife which ranges from second hand citations in Galen and extensive reproduction in Marcellus over individual recipes copied in medieval recipe compilations to dissertations by pharmacologists and dentists around the turn of the twentieth century, and include materials as diverse as medieval manuscripts, a Humanist commentary written in prison, a treatise on the pox, a doctoral thesis which is both a defence of Scribonius and of contemporary academic dentistry, and an engraving of the author on a large Theriac container. This thesis approaches these aspects of the *Compositiones* from two angles: in volume one, the text, its scholarly analysis, and the methodology taken here will be introduced before discussing the different sections and themes of the text – its approach to medicine and professional conduct, its structure and pharmaceutical practice, and its position in contemporary context, compared to the works of Celsus, Pliny the Elder, and Dioscorides. Its reception will also be discussed, with a focus on three late nineteenth and early twentieth century German language works which approach Scribonius from a pharmacological (Felix Rinne, 1892/1896) or dental perspective (Walter Wriedt, Fritz Trilk, 1921) which illustrate engagement of scientists and practitioners with ancient medical texts and medico-historical studies and their importance as part of the legitimisation and identity formation strategies of newly developing academic disciplines such as pharmacology and academic dentistry. Volume two lets the work speak for itself and aims to make Scribonius more accessible to a wider range of audiences by providing an English translation of the *Compositiones* which reflects the technical and at times challenging nature of the text and its translation into a modern language and attempts to clarify ambiguities, uncertainties, or problems with text or meaning by extensive explanatory annotations and comments, as well as drawing attention to noteworthy elements of medico-historical interest. The translation is supplemented by an appendix listing the – at times tentative – modern scientific botanical names and, where possible or suitable, chemical composition of mineral and inorganic substances mentioned in the text.

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Preface

In 2012, I encountered a footnote in Vivian Nutton's *Ancient Medicine* (2004) which mentioned, in passing, the lack of an English translation of one of the main sources of Roman Imperial pharmacology, the *Compositiones medicamentorum* of Scribonius Largus. The curiosity inspired by this gap among the first century CE authors available in English, especially noticeable since the second edition of Lily Beck's much (and deservedly) praised Dioscorides translation (2005; 2nd ed. 2011, 3rd ed. 2017) had only just been published, eventually led to an MRes dissertation on Scribonius and his medical practice (2012/2013). Scholarly engagement with "the unknown pharmacist" (Nutton, 1995) has much increased since then, and a wide range of perspectives which draw on the text's engagement with Greek medicine, its use of various medical substances, and its insights into socio-cultural elements of imperial Rome (such as imperial freedmen or gladiatorial combat), have extended the previously particularly linguistics- or medical ethics-focussed interest in Scribonius' work and its preface. The study of Scribonius has been much aided by the 2016 publication of Jouanna-Bouchet's edition (with introduction, French translation, and commentary, revised from her 2000 doctoral thesis), and the excerpts from medieval manuscripts published and analysed by Fischer and Sconocchia (2008, 2010) which supplement Sconocchia's 1983 edition, [1] while translations into modern languages include not only Jouanna-Bouchet's revised French translation, but also a new (and the first complete) German translation by Brodersen (2016), and Mantovanelli's new Italian translation (2012).[2] Meanwhile, Nutton's footnote on the case of the missing English translation, also included in the 2012 second edition of *Ancient Medicine*, remains accurate. [3]

This thesis aims to contribute to the growing body of scholarship on and translations of Scribonius by introducing, translating, and commenting on the *Compositiones* as an example of Latin technical literature and a key source for the practice of first century Latin pharmacy and its reception. Drawing from a background in chemical laboratory practice and nineteenth/early twentieth century medical history (particularly surgery, epidemic disease, and anatomical specimens), as well as classical training, the present discussion adds a different perspective to the study of Scribonius, focusing on the practical implications of translating and interpreting technical language and content

[1] As well as additional modifications published by Sconocchia (2010). Publication of the revised second edition, originally announced for 2016, has so far been delayed, and was, at the time of submission of this thesis, scheduled for June 2020 (De Gruyter, 2019); it has since been published (November 2020)
[2] A list to which Sconocchia's own Italian translation (2020) that accompanies his revised edition can now be added.
[3] Although to be precise, as it turns out, a translation is not so much missing as unpublished and rather inaccessible on top of that: I am indebted to Brent Arehart, who kindly confirmed for me that the deposited manuscript in Old Dominion University Libraries (Norfolk, Virginia), as indexed on WorldCat, is a full draft the translation Hamilton announced in 1987, but which has so far not been published. In the meantime, then, the issue of the inaccessible English Scribonius (excepting the preface, for which there are no less than three English translations: Hamilton, 1986; Pellegrino and Pellegrino, 1988, and Prioreschi, 1996) stands.

rather than medical theory or philological elements.[4] Key aspects of the text in terms of dating, scholarship, and manuscript tradition on the one hand, and concerning Scribonius' medical and pharmacological approach as examined in contemporary context on the other, will be covered in the introduction, unless subsequently addressed in the commentary. The reception of the *Compositiones*, particularly among nineteenth/early twentieth century German pharmacologists and dentists –of interest for both the reception of ancient medicine and the history of nineteenth/twentieth century science and medicine more broadly – will also be briefly discussed in the introduction; this section is informed by visits to German libraries (Berlin and Bochum) as only the pharmacological source (as well as two classical studies) are easily accessible elsewhere.

A word of justification seems necessary here: while the traditional format of a single-text-based thesis in the field of Classical Scholarship would generally include an edition as well as a translation and commentary, this was deemed not only to be beyond the scope or aim of this thesis, but also of low added value to the field given the availability of recent as well as forthcoming revised editions. By contrast, the production of a translation has proven to be a highly valuable tool for both investigating challenges in the translation of Latin as well as historical technical literature, and the identification of key points which require comment and discussion. On account of this integral role of the translation to the thesis as a whole, the alternative traditional format of the introduction and commentary was considered to be less suitable and effective, especially as one of the original aims of this venture was to increase the accessibility of ancient scientific texts.

Given the chosen format, the restrictions imposed by the maximum length of a thesis, and the extent of the text and its content, choices necessarily had to be made regarding the scope of commentary and discussion, particularly with regards to the style and length of the commentary, the discussion of context and reception in the introduction, and the approach to the preface. Consequently, the commentary takes the form of foot- and endnotes to the translation and focusses on Scribonius as a source for the history of science and medicine, especially first century CE Roman medicine and pharmacy. While language, terminology, and to a lesser extent textual criticism inform the translation (and are subsequently addressed in the commentary, especially for difficult passages), it needs to be stressed that this is neither a "traditional" philological commentary, nor a comprehensive medico-historical one. Rather, its role is to highlight some aspects of particular interest for the history of medicine and Roman pharmacy beyond what is discussed in the introductory volume, and to complement and, where necessary, clarify or justify, the translation. As

[4] "Philology" here in the sense of textual criticism or linguistic analysis of Scribonius' Latin. For the technical and practical material, there are e.g. similarities between the composition of ancient and modern compounds (both pharmacological and chemical) in instruction, practice, and problems of clarity, and parallels to be drawn between Scribonius' concern for patients, or his preference for avoiding invasive operations if possible, and the elements of compassion, analgesia, and conservative surgery which, somewhat unexpectedly, emerges from sources on mid-to late nineteenth century military surgery.

outlined above, it was decided that the translation serves as an integral part of the thesis, providing the background and reference for the commentary, especially for sections discussing ambiguities in meaning, and consequently should not be omitted from the thesis as this would damage thesis cohesion, remove the groundwork on which both analysis and explanatory comments are built, and lose the aspect of contributing to interpretation and accessibility of the text by means of a translation.[5]

While Scribonius' importance for the study of Roman drug-based medicine, ancient medicine, and the history of pharmacy more broadly, is evident and undisputed, it is argued that the *Compositiones* are a highly relevant source far beyond the field of ancient pharmacology. An obvious aspect lies in the communication and transmission of technical knowledge. Whether agricultural manual, cooking book, or much later treatise on artistic practice, Scribonius' text and approach arguably provides sufficient parallels and approaches to be of relevance not only to Classicists and Medical Historians, but also to scholars working on Greco-Roman technical treatises in general, on the large field of recipe literature ancient to modern, or on the ample Early Modern material on practical composition of anything from art to natural history specimens. Furthermore, the text is of relevance for the history of science and medicine more broadly, comprising a source for the continuity and change in use of medicinal substances, drug composition, pharmaceutical practice, and the language and style of medical recipes and pharmacopoeias. Finally, there is a strong and multidimensional reception angle: Galen's use and quotations aside, there is Marcellus' balance between the "superstitious" and the "rationally" quantitative in using Scribonius for his *De Medicamentis*, the appearance of individual recipes in medieval *Rezeptliteratur*, the tangential relevance for medical responses to the Great Pox and the material culture of Theriac containers, and the two interconnected Neo-Latin commentaries of Rhodius and Sperling. Additionally, Helmreich's 1887 edition of the *Compositiones* resulted in a diverse and intriguing reaction in German language scholarship, including interest by the newly developed science of pharmacology, such as the commentary by Rinne (1892/1896) at Kobert's *Pharmakologischen Institut* in Dorpat (now Tartu, Estonia), two dissertations on Scribonius by dentists for the recently introduced German dental doctorate, and the role of medical texts the German classical tradition of the time, as exemplified by Schonack's study (1912) and translation (1913). As such, given the renewed interest in Scribonius, and the text's relevance for a wider scholarly, non-classicist, and potentially even non-academic, audience, it can be argued with some confidence that this thesis is a timely and original contribution to both scholarship and the availability and accessibility of ancient technical literature in modern translation.

[5] That said, it still proved to be beyond the limits of the wordcount, and as such has taken the hybrid position of what might be called an integrated appendix of sorts.

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First and foremost, I'd like to thank my supervisors – Professor Isabel Ruffell, Professor Costas Panayotakis, and Dr Stuart Airlie – for their continuous advice and support throughout my PhD; additionally, their lectures and seminars during my undergraduate career have had a profound impact on not only my knowledge of History, Latin, and Greek, but also my own approach to teaching and student support.

A PhD thesis is based on more than the immediate research and development that constitutes the period of doctoral study, and I am indebted to more individuals who taught, supported, or otherwise informed my academic knowledge and approach than I can do justice here. Among many others, and in addition to my supervisors (and especially Prof. Ruffell) who have similarly supported me in this, I'd like to thank Dr Lisa Hau, Dr Martina King, and Professor Catherine Steel for encouraging me to pursue postgraduate study and advise me in developing research proposals and funding applications, as well as Professor Malcolm Nicolson, Professor Margarite Dupree and Dr Angus Fergusson for their role in my development as a medical historian. Among my many teachers and tutors, I'd also like to thank Mrs Linda Knox and Dr Luke Houghton for their significant influence in my learning and enjoyment of Greek and Latin, and especially my second High School Latin teacher, Herr Schultz, who deserves much of the credit for my interest in Ancient Greek and comparative linguistics, and for my renewed love of Latin which had been somewhat dampened by his predecessor's terror-inspiring approach to teaching. Mrs Carol Parry and Dr Amanda Sykes have been wonderful mentors in medical heritage/Scottish medical history and developing as a teacher/researcher, respectively. Mrs Maggie Reilly and Mrs Ruth Fletcher have been encouraging and influential in building my understanding of Glasgow University's scientific collections and my skills in public engagement– the Hunterian Associates Programme has been a highlight and much needed "break" working on nineteenth century anatomy to be able to return to ancient pharmacy

with fresh eyes. Last but not least, my supervisor and instructor through much of my apprenticeship, Herr Günther Seidel, is to a large extent the reason why after a long period of no confidence in my academic abilities I considered applying to university in the first place; my confidence in my academic abilities is still fluctuating, but after one undergraduate and two postgraduate degrees and plans for further study after the PhD, I am very glad I took his advice.

An acknowledgement of particular importance to me is that to the administrative and technical staff who made this work possible. Through my previous role as a research technician assisting PhD students, I know too well that the work of administrators and technical staff is a crucial and indispensable and all too frequently undervalued element in research practice. Like any research project, this thesis would not have been possible without this incredible support; I'd like to single out the SGSAH and UofG College of Arts/School of Humanities admin staff for their never-ending support and patience in replying to my queries, particularly Christelle Le Riguer, Lindsay Wilson, Lesley Watson, and Claire Smith. I am much indebted to the support of librarians, archivists, and special collections staff for their advice and support in finding and accessing a range of sources both old and recent, locally at UofG Library, Archives, and Special Collections and the RCPSC, and further afield at the Staatsbibliothek Preussischer Kulturbesitz Berlin, the Universitätsbibliothek [Humboldt–Universität] Berlin, the Universitätsbibliothek Bochum, the University Library Swansea, and of course the Wellcome Library. A particular note of gratitude goes fellow historian of ancient medicine Bren Arendt, who has been not only a source of fruitful academic correspondence but was so kind as to trouble himself with providing me with details regarding Hamilton's archival Scribonius translation, held in Virginia, for me, which I would otherwise not have been able to consult. Similarly, out of my many supportive friends and colleagues, I would like to especially thank previous fellow PhD student and now Dr Martin Krijgsman, whose friendship, willingness to read or listen to my at times long-winded ideas, and excitement for both my and his own research has been invaluable, as has the detailed feedback and continuous reassurance with which he supported me in preparation for my viva. That I am indebted to the scholars working on Scribonius past and present goes without saying; especially the works of the two most recent editors, Sergei Sconocchia and Joelle Jouanna-Bouchet, and that of Professor Kai Brodersen, who with incredible kindness sent me both a pre-print version and a copy of his book, have been invaluable for my understanding of Scribonius, the textual tradition, and the challenges of translating the *Compositiones*.

My viva was a very positive experience thanks to the constructive questioning and immensely helpful feedback from Dr Laurence Totelin and Dr Jane Draycott; their comments have allowed me to see my thesis and contribution to scholarship in a new light, address some of its flaws and

oversights, and reminded me why I decided to pursue this research many years ago. Laurence in particular has been a source of inspiration and encouragement since I met her at my first academic conference back in 2009 or 2010, while Jane's previous comments during my mid-PhD Annual Progress Review were tremendously helpful for addressing and resolving some of the challenges encountered with the thesis at the time.

Finally, I cannot express in words how much the support of my partner, family (especially my parents), and friends has meant and does mean to me. I could not have done it without them, and their ongoing patience, encouragement, and acceptance of the inseparable unit of my-thesis-and-I which has been joining them for coffee or holidays (or, more recently, videocalls) for the past years, means the world to me.

Abbreviations

General Abbreviations (Dictionaries, Reference Works etc.)

ANRW	*Aufstieg und Niedergang der Römischen Welt*, eds. W. Haase, H. Temporini (Berlin and New York: De Gruyter, 1972–)
BNF	*British National Formulary*
CMG	*Corpus Medicorum Graecorum* (Berlin, 1908–)
CML	*Corpus Medicorum Latinorum* (Berlin, 1915–)
Duden	*Duden. Die Deutsche Rechtschreibung.* Berlin: Bibliographisches Institut GmbH, 2020. Available online at https://www.duden.de/ [Accessed 14/03/2020]
EANS	*The Encyclopedia of Ancient Natural Scientists. The Greek tradition and its many heirs*, eds. P. T. Keyser and G. L. Irby-Massie (London: Routledge, 2012)
Georges	*Ausführliches lateinisch-deutsches Handwörterbuch*, ed. K. E. Georges. 8th ed., 2 vols. (Hannover: Hahnsche Buchhandlung, 1913–1918; Nachdruck Darmstadt: Wissenschaftliche Buchgesellschaft, 1998)
PHI	*Classical Latin Texts/PHI Latin Texts* [online], The Packard Humanities Institute (n.d.). Available at https://latin.packhum.org/index [Accessed 07/06/2020]
TLG	*Thesaurus Linguae Graecae* [online], dir. M. Pantelia (2013–). Available at http://stephanus.tlg.uci.edu/ [Accessed 07/06/2020]
L&S	*Lewis & Short Latin Dictionary,* eds. C. T. Lewis and C. Short (Oxford: Clarendon Press, 1879)
LSJ	*Liddell and Scott Greek Dictionary*, eds. H. G. Liddell and R. Scott, revised H. S. Jones and R. McKenzie (= *Liddell-Scott-Jones Greek Dictionary;* Oxford: Clarendon Press, 1940)
NICE	National Institute of Health and Care Excellence
OCD	*Oxford Classical Dictionary,* 4th ed., eds. S. Hornblower and A. Spawforth (Oxford: Oxford University Press, 2012)
OLD	*Oxford Latin Dictionary*, 2nd edition, eds. P. G. W. Glare (Oxford: Oxford University Press, 2012)
OMD	*Oxford Concise Colour Medical Dictionary*, 2nd ed., ed. E. A. Martin (Oxford: Oxford University Press, 1998)

RE	*Paulys Realencyclopädie der classischen Altertumswissenschaft*, eds. A. Pauly, G. Wissowa, et al. (Stuttgart: Metzler, 1893–1978); *Gesamtregister* ed. T. Erler et. al., 1997)

Sigla, Editions, Commentaries (following Jouanna-Bouchet 2016: CLXXIII–IV):

Amb	Ambrosianus M. Sup. 19
B	Codex Bambergensis medicinalis 1 (*Lorscher Arzneibuch*)
Ca	Casinensis 69
C	Bodmerianus 84 (*olim* Phillipps 386)
G	Codex Sangallensis 751
Helmreich	*Compositiones* ed. G. Helmreich, 1887
J-B	*Compositiones* ed. J. Jouanna-Bouchet, 2016
L	Laudunensis 420 (*olim* 326)
M	Marcellus, *De Medicamentis* ed. M. Niedermann, E. Liechtenhan, 1968
P	Parisinus Lat. 6880 (*olim* Regius 4999)
R	*Editio princeps* (*codicis instar*), J. Ruellius, 1528
Rhodius	*Emendationes et Notae,* 1655 [paginated separately from the edition]
S	*Compositiones* ed. S. Sconocchia, 1983
S2	*Compositiones* 2nd ed. S. Sconocchia, 2020
Sperling	*Animadversiones in Scribonium et notas Johannis Rhodii* ed. W. Wuttke, 1974
T	Toletanus Capit. 98, 12
V	Codex Vindocinensis 175
W	Codex Vindocinensis 109

Ancient Authors and Works

Aet. = Aëtius of Amida

Alex. Trall. =Alexander of Tralles

Androm. (Iun.) = Andromachus (the Younger) [ap. Gal.]

Antyll. = Antyllus [ap. Orib.]

Apicius = *De Re Coquinaria*

Apul. = Apuleius: *Met. = Metamorphoses*

Archig. = Archigenes [ap. Orib.]

Aret. = Aretaeus of Cappadocia: *CA = De curatione acutorum morborum (On therapy of acute diseases)*

Ar. = Aristophanes: *Eq. = Equites* (*Knights*)

Arist. = Aristotle

GA = *De Generatione Animalium*

HA = *Historia Animalium*

Arr. = Arrian: *Epict. Diss. = Epicteti Dissertationes*

Asclep. = Asclepiades [ap. Gal.]

Cass. Felix = Cassius Felix

Cato, M. Porcius: *Agr. = De Agri Cultura* (*On Agriculture*)

Cels. = Celsus: *Med. = De medicina* (*On Medicine*)

Cic. = Cicero:

Brut. = Brutus

Div. = De Divinatione

Col. = Columella, *De Res Rustica* (*On Agriculture*)

Diod. Sic. = Diodorus Siculus

Diosc. = Dioscorides, *Materia Medica*/Περὶ ὕλης ἰατρικῆς

Gal. = Galen:

Alim. Fac. = De alimentorum facultatibus (*On the Properties of Foodstuffs*)

Antid. = De Antidotis

Comp. med. gen. = De compositione medicamentorum per genera

Comp. med. loc. = De compositione medicamentorum secundum locos

De indol. = De Indolentia/De dolore evitando (Peri alypias/On Avoiding Distress)

De anat. admin. = De anatomicis administrationes (On Anatomical Procedures)

MM = Methodus medemdi (The Method of Healing)

Ther. = De theriaca ad Pisonem (On Theriac to Piso)

Ther. ad Pamph. = De theriaca ad Pamphilianum

Thras. = Thrasybulus sive utrum medicinae sit an gymnasticae hygiene/ Ad Thrasybulum liber (Thrasybulus)

UP = De usu partium (corporis humani) (On the Usefulness of Parts of the Body)

Hdt. = Herodotus

Herophil. = Herophilus of Chalcedon

Hipp. = Hippocrates et Corpus Hippocraticum:

Acut. = De diaeta in morbis acutis (Regimen in Acute Diseases)

Acut. (Sp.) = De diaeta acutorum (spurium) (Regimen in Acute Diseases (Appendix))

Alim. = De alimento (On Nutriment)

Aph. = Aphorismi (Aphorisms)

Art. = De artibus (On Joints)

Coac. = Coacae praenotiones (Coan Prenotions)

[Epist.] = Epistolae (Letters)

Insomn. = De insomniis = De diaeta IV (Dreams/Regimen IV)

Jusj. = Iusiurandum (The Oath)

Liqu. = De liquidorum usu (Use of Liquids)

Loc. Hom. = De locis in homine (Places in Man)

Mochl. = Mochlikon/ Μοχλικός *(Vectiarius, Instruments of Reduction)*

Morb. = De morbis (Diseases)

Morb. Sacr. = De morbo sacro (On the Sacred Disease)

Mul. = De mulierum affectibus (Diseases of Women)

Prorrh. = Prorrheticon (Prorrhetic)

VC = De capitis vulneribus (On Wounds in the Head)

Vict. = De diaeta (Regimen)

VM = De prisca medicina (On Ancient Medicine)

Hom. = Homer*:* *Il. = Iliad*

Od. = Odyssey

Hor. = Horace: *S. = Sermones*

Macrobius: *Sat. = Saturnalia*

M = Marcellus: *Med. = De Medicamentis*

Mart. = Martial, *Epigrammata*

Mart. Cap. = Martianus Capella, *Philologia (De nuptiis Philologiae et Mercurii)*

Nic. = Nicander: *Al. = Alexipharmaca*

Th. = Theriaca

NT = *Novum Testamentum*: *Apoc. = Apocalypse/Revelation*

Orib. = Oribasius: *Coll. med. = Collectiones medicae* (*Medical Compilations*)

Syn. = Synopsis ad Eustathium filium

Ov. = Ovid: *Fast. = Fasti*

Med. = Medicamina Faciei Femineae

Pall. = Palladius (Rutilius Taurus Aemilianus): *Agr. = Opus Agriculturae (The Work of Farming)*

Paul. Aeg. = Paulus Aegineta

Plin. Val. = "Plinius Valerianus", i.e. the *Physica Plinii*

Plin. = Pliny the Elder, *Naturalis Historia* (Natural History, *Nat.*)

Plut. = Plutarch : *Flam. = Flaminius*

Poll. = Pollux, *Onomasticon*

Pomp. Mel. = Pomponius Mela : *Chor. = De chorographia*

Quint. = Quintillian: *Inst. = Institutio Oratoria*

Ruf. = Rufus of Ephesus : *Ren. Ves = De renum et vesicae affectionibus*

Onom. = Onomasticon [De corporis humani appelationibus]

Suet. = Suetonius: *Aug. = Augustus*

Cl. = Claudius

Theophr. = Theophrastus : *CP = De Causis Plantarum*

HP = Historia Plantarum

Varr. = Varro : *RR = Res Rusticae*

Verg. = Vergil: Ecl. = *Eclogae (Eclogues)*

G. = Georgica (Georgics)

Vett. Val. = Vettius Valens (Vett. Val.)

Vitr. = Vitruvius: *De Architectura (On Architecture)*

1 General Introduction

This section expands on the general methodological comments and rationale (as outlined in the preface) by introducing and contextualising both this thesis and the *Compositiones* in more detail. While both biographical information and manuscripts are in short supply, a brief overview of the author, dating, and textual tradition of the *Compositiones* will come first, followed by a review of the previous translations and scholarly discussions of the *Compositiones* which provide the framework for this PhD. Finally, methodological and other aspects pertaining to the translation, commentary, and introductory discussion (including their general and present limitations) will be addressed to clarify the approach and nature of the following work.

1.1 Author and Date

The *Compositiones* are generally (and with reasonable accuracy) dated to the early to mid-first century CE, specifically the years 43 to 48. The dating is based on two particular passages in the *Compositiones* which refer to datable events and individuals, namely Claudius' excursion to Britain and the reference to Messalina as Claudius' wife. In **163**, Scribonius mentions partaking in Claudius' excursion to Britain (*cum Britanniam peteremus cum deo nostro Caesare*), known to have taken place in 43 CE (Suet. *Cl.* 17; Dio Cass. 60.19–22); this is generally taken to be the *terminus post quem*, although this relies on the assumption that the *Compositiones* were written in chronological order.[6] Scribonius also refers to being abroad in the preface (*sumus enim, ut scis, peregre,* ***praef.*** **14**), but these two comments need not necessarily be connected.[7] With respect to Messalina, the recipe in question is **60**, where Scribonius refers to her as *Messalina dei nostri Caesaris,* which indicates that she was still alive and held in some degree of public repute.[8] As such, this recipe is likely to predate her public dismissal and execution in 48 CE, most notably described by Tacitus (*Ann.* 11.35.3), as it would be unwise for Scribonius to include this reference

[6] For indications of the *Compositiones* as a 'draft' of sorts, based on an interpretation of the index, see Sconocchia (2001a: 265–6); Baldwin (1992: 79) also sees discrepancies between individual chapters as "possibly a sign of careless or unrevised compilation", although his example of **13** vs. **17** is not ideally chosen: the gladiator whose throat has been cut (*gladiator iugulatus*) appears in two different contexts (the knife used for the act in **13**, and the liver of the victim in **17**), and as **13** relates somebody else's instructions (cf. the *superstitio* of avoiding iron rings during compounding mentioned in **152**), this is not exactly an endorsement, and therefore does not actually contradict **17**'s dismissal of gladiatorial liver as falling outside the medical profession.

[7] Here Sconocchia (2006: 115) rightly disagrees with Rhodius (1655: 28) and Marsili (1956: 209) who interpret *peregre* to refer to *Britanniam peteremus*.

[8] The Valens who is mentioned as both Scribonius' teacher (**Ind. 91**) as well as his fellow student (**94**) is likely to be M. Terentius Valens (Keyser 2012i; Scarborough 2012i, 2018: 8) rather than the equally quickly disgraced Vettius Valens of Claudius and Messalina's entourage.

in a text intended to be presented to the emperor through Scribonius' patron Callistus.[9] Even if a potential composition after 48 is considered, Callistus' death in or before 51 (Dio 60.33.3) suggests an alternative *terminus ante quem*.[10] Nutton (1995: 5) suggests a further refinement of the dating, arguing for the years 47 and 48 as Callistus obtained his position as legal secretary to Claudius at the end of 47. While this is a valid alternative reading, it is perhaps to be asked whether Callistus, as a freedman of Claudius in a period where substantial power was held by this group, might not have been previously in a position to recommend Scribonius' work to Claudius (cf. ***praef.* 13**). Debates about such details aside, however, the compilation of the *Compositiones* can be firmly placed within the reign of Claudius, although individual recipes can be dated to Tiberian and Augustan times (cf. 3.2 below).

As for Scribonius himself, his mention of older teachers, such as Apuleius Celsus and Tryphon[11] indicate that, while the *Compositiones* date to the reign of Claudius, he was training or active as a medical practitioner earlier than that, certainly within the reign of Tiberius,[12] and perhaps even during Augustus' principate.[13] There are limits to what extent his medical career can indicate his age given the diversity of approaches in ancient medical education, and we do not know whether he pursued an apprenticeship as a doctor in his youth, or later in his life, or indeed spent any lengthy time period training. Fischer (1979: 169) suggests an average medical education between three and five years as more likely than the extremes between Thessalos of Tralles' six months and Galen's eleven years of medical training; here Scribonius may have followed more traditional or more unorthodox routes in terms of time-span. Hamilton (1986a: 209) places Scribonius' *floruit* at 14–54 CE, and Nutton (1995: 5) suggests a birthdate of 3 or 4 BCE, while Scarborough (2012h) dates him to ca. 25 BCE–55 CE. This general biographical uncertainty also applies to the broader question of details about Scribonius' private life, which are similarly vague. Various speculations have been made about his potential status as a freedman;[14] his connection to the Roman *gens* Scribonia either as such or as a member in his own right (Deichgräber, 1950: 4 = 856); his connection to Sicily

[9] While not outright stating that this was his intention for the text, the strategic reference to such actions with respect to Scribonius' other medical writings in ***praef.* 13** makes such aspirations likely.
[10] Baldwin (1992: 76), who himself nevertheless strongly argues in favour of 48 as the cut-off date.
[11] Both under Tiberius; for Apuleius Celsus, von Rohden (1894: sp. 259) and Scarborough (2012c); for Tryphon, who is also mentioned by Celsus and Galen, cf. Scarborough (2012j), Touwaide (2009: sp. 989), and Diller (1939: sp. 745); for both, see also Schonack (1912: 16–7).
[12] Thus e.g. Machold (2010: 15), given the reference to Tiberius in **120**.
[13] If his account of the steward of Calvisius Sabinus in **231** is based on his own experience; Schonack (1912: 18-19) thinks it more likely that this was based on a story by one of his teachers.
[14] Thus Hamilton (1986a: 209); Cassia (2012); note also Fischer (1979: 170) on the limited number of freeborn Romans (not including free non-Romans) as practitioners of medicine, and Nutton (2012: 537) on the high number of slaves or former slaves recorded in the epigraphic evidence surviving about doctors. By contrast, Machold (2010: 14–5) argues, based on Scribonius' reference to Roman civic duties in the preface (***praef.* 4**), that he was a free Roman citizen; cf. II.2.1. Schonack (1912: 9–10) draws attention to the cognomen Largus, perhaps from *largiri* indicating "der reich gebende" (the one who gives abundantly), as well as Claudius' prohibition to non-Romans bearing Roman names (Suet. *Cl.* 25), from which he likewise determines him to be a Roman citizen.

based on his connection to Apuleius Celsus, himself from Centuripae in Sicily, as well as his familiarity with the presence of rabid dogs there as denoted in **94**;[15] his connection to the Imperial Court;[16] the extent to which he was a native speaker of Greek, or at least a bilingual writer (Nutton 2012a: 536; Sconocchia 2006: 114); and whether there was a Greek version of the *Compositiones* or any further, now lost, work(s). This latter point, source of much debate, derives from the fact that the wording *scripta mea Latina medicinalia* (***praef.* 13**) indicates a distinction between Scribonius' Latin writings and potential Greek writings. There are potentially further lost works: on the one hand, Scribonius' comments on further works may be due to the literary topos of the preface (Römer 1987: 131–132); on the other hand, the possibility of the second index in the Toletanus 98.12 manuscript (**T**), which does not correspond to the *Compositiones*' content, as a list of additional recipes as promised by Scribonius has been considered (Sconocchia 1976: 263–265, 1981: 257–269, 1988: 14; Machold 2010: 22), but the list rather seems to refer in part to other excerpts of the manuscript a whole, and ultimately there is no concrete evidence (cf. also Jouanna-Bouchet 2016: XVIII). Of much relevance here is Galen, who includes a number of recipes attributed to Scribonius, some of which are not found in the *Compositiones,* generally making their way to Galen via Andromachus and Asklepiades Pharmakion (Jouanna-Bouchet 2000: 13, 2016: VII, LXXIV–LXXVI; Nutton 1995: 5–6; Fabricius 1972: 222; see generally Guardasole 2014, 2015, discussed in more detail in 4.1.1 below), which, it has been argued, may ultimately derive from a Greek version of the *Compositiones* (Sconocchia 2006: 114; Nutton 2012a: 175). An original Greek version is suggested by Cornarius and Wellmann and supported by Nutton (1995: 5–6), as otherwise this would be "an extremely unlikely instance of a Latin book being read (and cited) by a Greek audience", whereas Deichgräber (1950: 867 = 15) dismisses it, and Schonack (1912: 27–31) criticises both the idea of an original Greek version and a fourth-century Latin translation harshly.[17] While the existence of an alternative Greek version is possible, Scribonius' insistence on identifying himself with the Romans and clearly distinguishing between "our" medical terminology and that of "the Greeks" in strong contrast to Galen's approach and identity (cf. Nutton 2012b; this aspect is expanded on in 2.2.2) fits better within a Latin text, although Scribonius evidently drew on Greek texts (thus the references to Asclepiades (***praef.* 7-8**, **75**, **84**,

[15] Deichgräber 1950: 4 = 856; Cassia, 2012: 44–48; Nutton 2012a: 175, Buecheler 1882: 321. Baldwin (1992: 77) cautions against such speculations given that Scribonius mentions remedies from other places (most notably Africa in **122**), while Machold (2010: 16–7) concedes familiarity with Sicily but no indication as to the implication for Scribonius' biography.

[16] Nutton 2012b: 175; Cassia 2012. Nutton (1995: 5) argues that he is unlikely to be particularly close to the imperial family given that many of his recipes "would seem all to have been taken at second hand", and his need to rely on Callistus.

[17] If the letter to Pullius Natalis transmitted in Marcellus (eds. Niedermann and Liechtenhahn 1968: 44–45), who includes both this as well as the *epistula dedicatoria* under the name of Celsus, is indeed to be attributed to Scribonius, as Schulze (2003) argues, this would provide further evidence for Scribonius' bilingualism as the author comments on translating Greek recipes for a Roman audience, including the problems of plant names as well as the characteristics of Greek writing.

plus **79** in Sconocchia's second edition) and the attribution of numerous recipes to practitioners with Greek names such as Tryphon, Dionysos, or Andronios) and may have produced an alternative version as part of his non-Latin medical writing implied by *scripta mea Latina medicinalia*.

These discussions highlight that there are limits to the extent to which we can say anything definite about any of the above; what can perhaps be most clearly stated is that Scribonius was not Claudius' personal physician (cf. Sconocchia 1983: VI–VII), a somewhat persistent misinterpretation of his comments about affiliation with the court and travelling to Britain with Claudius,[18] and that his name was not Designatus or Designatianus.[19] As such, many of the details about Scribonius' biography are ultimately left to speculation, and beyond the clearly stated connection to the Imperial Court via Callistus and Claudius, the high likelihood of his bilingual status, his wide range of teachers, and the fact that he was familiar with different geographical locations, including Sicily and Britain,[20] we have to predominantly rely on an analysis of the *Compositiones* as – necessarily subjective – evidence for his life, personality, and medical practice.[21]

1.2 Textual Transmission and Editions

The extant text of the *Compositiones* (see below on missing passages) has seen sporadic editions since the sixteenth century, but, in contrast to other medical authors, there is no extensive manuscript tradition of the *Compositiones* as such.[22] With the exception of Toletanus Capit. 98.12 (hereafter **T**), a sixteenth century codex from the Biblioteca Capitolare di Toledo (Sconocchia 1981, 1976),[23] no manuscript of the work has been discovered, although a number of individual recipes are transmitted in various different manuscripts and contexts, all of which predate **T**. These include adaptations of a plaster (**214**) in Bodmerianus 84 (= **C**, 9th C.; Mazzini 1983; Sconocchia 1983: X), a headache remedy **6** and another plaster **206** in the *Physica Plinii Bambergensis* (Codex Bambergensis Medicinalis 2, late 9th/early 20th C., ed. Önnerfors 1975; cf. Sconocchia 1983: XI), an emollient (**258**) and two soothing salves (**156, 268)** in *the Lorscher Arzneibuch*, Codex Bambergensis Medicinalis 1 = Msc. Med. 1 (= **B**, around 800; ed. Stoll 1992, see Fischer 2010: 148), selected plasters in Ambrosianus M19 sup. (= **Amb,** 12th/13th C.), several of the surgical

[18] Thus e. g. Thomas (1978: 22), Gerabek (1991: 2), or Kunnumpurath et al. (2009: 333).
[19] A misattribution found, among others, in the title of Bernhold's 1786 edition (in part due to the Largius Designatianus in Marcellus, see discussion by Schonack, 1912: 12–13), which still occasionally appears in modern scholarship (thus Rochietta, 1974 and Jenkner, 2013).
[20] cf. **163**, where his botanical comments suggest familiarity with the flora of Sicily and mentions departing for Britain with Claudius.
[21] For the resulting "curated" image which Scribonius presents of himself, particularly through the *epistula dedicatoria*, but also across the work as a whole, see 2.2 below.
[22] On the transmission and editions of Scribonius up to Helmreich, see also Schonack 1912: 73–82.
[23] Jouanna-Bouchet (2016: CLXXIII) lists the manuscript's date as between 1515 and 1520 – a mere eight to thirteen years before Ruellius' *editio princeps* of 1628. See also pp. CXIII–CXLII on the excerpts and manuscripts, and CXLII–CXLV on the editions.

chapters in Casinensis 69 (= **Ca**, 9th; Fischer 2010: 148; edited and commented in Sconocchia 1995), and the *mala medicamenta* in Anconitanus 35 (14th C.?; Fischer 2010: 148) and Vindocinensis 109 (= **W**, late 11th C.), and selected chest remedies (**70, 79, 95**), a colic medicine (**120**), and various antidotes in Vindocinensis 175 (= **V**, late 11th C.; Fischer 2010; Fischer and Sconocchia 2008),[24] including the Holy Antidote of Paccius Antiochus (**97-107**), versions of which are found in Sangallensis 751 (= **G**, 9th century) and in several of the manuscripts (Table 4-2). These excerpts have been highly valuable for textual criticism as additional testimonies, not derived from **T** and providing a contrast to the indirect tradition exemplified by Parisinus Lat. 6880 (= **P**, olim Regius 4999) and Laudunensis 420 (= **L**, olim 326), the main ninth and ninth/tenth manuscripts of Marcellus' *De medicamentis* (= **M**, eds. Niedermann and Liechtenhan 1968, on which below); Joelle Jouanna-Bouchet's 2016 edition incorporates many of the previously questionable readings or corrections supported by these manuscripts, and as the publications listed above illustrate, Sergio Sconocchia has likewise revisited his 1983 edition based on these testimonies, which culminated in the 2020 publication of his second edition. The indirect tradition has provided potential insights into the missing or incomplete sections of the *Compositiones*[25], and Klaus-Dietrich Fischer's (2010) investigation and suggestion for a reconstruction of the previously missing antidote of Zopyros highlights the importance of the analysis of recipe compilations and similar manuscripts for the transmission and analysis of Scribonius, as well as for ancient medicine in general.[26]

Given the absence of a traditional and extensive manuscript tradition, the *editio princeps* of Ruellius, published (together with Celsus and comments about weights and measures) in 1528 by Wechel (Vuechel)/Silvius in Paris which is based on (and evidence for) an unknown and now lost manuscript, is of key importance. Ruellius' edition is also included in Cratander's Basel edition of 1529 alongside medical treatises by "Polybius" and Antonius Benivenius. The text of Scribonius is included by Aldus among his *Medici antiqui omnes* (Venice, 1547), and by Stephanus in the *Medicae artis principes post Hippocratem et Galenum Graeci latinitate donati* (Paris and Geneva, 1567). A further edition is published by Rhodius, first as a text-only version in 1650, and again in 1655, supplemented with indices, a "lexicon" of key elements of the *Compositiones,* and references to some of the chapters found in Galen (cf. Schonack 1912: 81–2), and, importantly, with an extensive commentary on the *Compositiones*; this edition is in turn followed by a critical commentary by Sperling in his *Animadversiones* (see 1.4.5; 4.2.3), which however includes no

[24] See 4.1.3 for the medieval afterlife of the *Compositiones* in general.
[25] **167–169** as well as **236** are missing, cc. **72**, **166**, **170**, and **235** are incomplete. See e.g. Schonack, 1912: 74–5, who also comments on the assumption that **168** is the recipe against a viper's bite corresponding to the one mentioned in Claudius' proclamation recorded by Suetonius (*Cl.* 16).
[26] Thus e.g. Fischer (2001). On this indirect tradition of Scribonius, see also Sconocchia 1988: 45–51, 1993a: 878–88, and more broadly 1985.

edition. Finally, in 1786 Bernhold publishes a further edition, which is predominantly the text of Rhodius' edition as well as his indices and Galenic quotes (supplemented by an introduction about Scribonius' life and an appended index), and including the page of Greek synonyms in Scribonius which is found in volume 2 of Otto Brunfels' *Herbarum vivae icones* (1531: 31),[27] although Schonack (1912: 81) somewhat disparagingly argues that this hardly contributes anything new or worthwhile over the edition of Rhodius,[28] and Rinne (1896: 27) concedes some useful notes to the introduction but dismisses the index as inadequate.[29]

As editors operated on the assumption that there was no surviving manuscript of Scribonius until the realisation of **T**'s value in the 1970s, Marcellus Empiricus and the manuscript tradition of the *De Medicamentis* has been highly important for textual criticism of the *Compositiones*. While Marcellus' reliance on Scribonius Largus' *Compositiones*, taking numerous recipes from the *Compositiones*, with minor to no alteration[30] is noted already in the sixteenth century by Cornarius (who uses Ruellius' Scribonius for textual criticism of his 1536 Marcellus edition),[31] and used by Rhodius for his 1655 Scribonius, it is studied and applied most extensively by Helmreich in a 1882 study and his Teubner edition of 1887.[32] The latter remained the standard edition until 1983,[33] when Sconocchia published a new Teubner edition (concordance 1988) based on the discovery of a manuscript including the *Compositiones* in the Biblioteca Capitolare di Toledo (on which see Sconocchia, 1976).[34] The most recent edition is that of Jouanna-Bouchet (2016), revised from her 2000 thesis. Sconocchia's new edition for the CML (II, 1), incorporating revisions (partially

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[27] For a digitised copy, see e.g. https://reader.digitale-sammlungen.de/de/fs1/object/display/bsb11199917_00127.html

[28] "kann...nur als ein Rückschritt bezeichnet werden" (Schonack 1912: 81). On the various editions, see e.g. Schonack (1912: 73–84), Jouanna-Bouchet (2016: CXLII–CXLIV).

[29] "ein von Dr Weinrich geliefertes Register ist mangelhaft. Nur die Vorrede bietet einige brauchbare Notizen". Berghold's summary of his work on p. XXIV – "*In textu quidem edendo, presso, ut aiunt, sum sequutus pede, editionem* Rhodianam*: accidi in fine* Fragmentum de Simplicibus *a* Brunfelsio *excerptum*; ***et indicem a Viro Doctissimo, Doctore Medico* Weinrich**, *artem Medicam huc viciniae magna cum laude exercente, nova opera studioque singulari, elaboratum.*" – suggests that this is the index (pp. 147–158) following the excerpt from Brunfels, pp. 147–158, which, unlike the latter, does not include an attribution *in situ*. The index lists ingredients with Greek synonyms (where applicable) and the first instance of occurrence, supplemented by occasional brief comments, e.g. on the *Apollinaris herba/Altercum* issue (p. 149), which is rather meagre when compared to Rinne's own list of Scribonius' ingredients and their use. It is worth noting that the index to the *Compositiones* is included in Bernhold's, but not Helmreich's (on which Rinne's work is based) edition, but given Bernhold's statement in the order of 1. Rhodius' edition, 2. Brunfels' *Fragmentum*, 3. Weinrich's index, it is unlikely that either reference is to this list.

[30] Around 172 according to Schonack (1912: 74) – for a list see Niedermann's 1968 edition, 350–364.

[31] As such, Aldus' (and Cornarius') inclusion of Scribonius after Marcellus in his 1547 *Medici antiqui omnes* is an interesting choice.

[32] Credited by Deichgräber (1950: 874 = 22) as "die erste philologisch-kritische" (the first philologico-critical) out of the preceding editions.

[33] According to Deichgräber, Niedermann planned a new CML edition, a plan which unfortunately became a victim of the inter-war period ("[der] der Inflation in der Zeit nach 1918 zum Opfer gefallen ist", Deichgräber, 1950: 874=22); Deichgräber himself includes an edition of the preface.

[34] Marsili's edition of 1956 also includes a Latin text. On account of the minor textual changes made by some of these publications, Fischer (2010: 147) speaks of four editors of Scribonius (Ruellius, Rhodius, Helmreich, Sconocchia), omitting Jouanna-Bouchet's then-unpublished edition. The translations of Brodersen (2016) and Mantovanelli (2012) also include the Latin text, with minor alterations.

discussed in Sconocchia 1995, 2010a, and Fischer and Sconocchia 2008), was due to be published in 2017, but has so far been delayed; the publication date is currently set for 30th November 2020 (De Gruyter 2020; correct as of 29th June 2020). As the translation presented here was initially completed before the publication of Jouanna-Bouchet's revised edition in 2016, it is based on Sconocchia's 1983 edition, although the former has been used for clarification of difficult passages where noted.[35]

1.2.1 The Title

While the Latin title has seen variations throughout the text's historical editions,it remains a description of a work containing medicinal recipes [*Compositiones medicae*: Cratander Ruellius (recipe section title[36]), Bernhold (recipe section title), Rhodius (title, recipe section title)] or compound drugs/recipes [*De compositione medicamentorum*: Cratander Ruellius (frontispiece), Aldina, Stephanus; *De compositionibus medicamentorum:* Ruellius Paris (frontispiece); *Compositiones medicamentorum*: Paris Ruellius (title)[37], Bernhold, Sconocchia, Jouanna-Bouchet); sometimes abbreviated *Conpositiones* (Helmreich); *Compositiones*: Ruellius (index title, recipe section title), Bernhold (index title), Rhodius (index title)]. Even the established *Compositiones medicamentorum* leaves various options for its translation into modern languages. Most translators have predominantly focussed on the "recipe" sense of *compositiones*; thus, Marsili calls it *Ricette* (1956), Mantovanelli (2012) *Ricette Medice*, Nutton (2004, 2012a) *Drug Recipes*, and Jouanna-Bouchet, *Compositions médicales* (2016). *Book of Recipes* seems the most popular version, adopted by Sconocchia (2014), Guardsole (2014), and Gautherie (2014); Schonack similarly uses the German equivalent (*Rezeptbuch*) in his 1913 translation. Brodersen, interestingly, decides to foreground Scribonius' professional ethics, opting for *Der gute Arzt* (The good physician), with the Latin *Compositiones* given as subtitle. However, while *compositio* certainly has the connotation of "recipe" in the context of pharmacy, it also means "compounded" or "composite",[38] and as such the whole title may instead be taken as *Compound/Composite Drugs*, the *Composition/Compounding of Drugs*, *Recipes for Remedies*, and diverse variations thereof. In order to reflect this potential variety, the present study opts for *Compounding of Drugs* as this emphasises the complex nature of

[35] As the edition was indeed published in November 2020, differences between the 1983 and 2020 editions have been noted in the Latin text and, where relevant, addressed in the translation and/or commentary.
[36] i.e. the title given at the start of the recipes proper (and similarly the title immediately preceding the index), rather than the title of the work given on title page or frontispiece.
[37] Schonack (1912: 76) states that the Paris Ruellius edition features it at the very front of the book, but the digitised versions only include the frontispiece with *De compositionibus*.
[38] s.v. L&S *compositio*, "I. a putting together, compounding; I.A.2 a compound, mixture"; s.v. OLD 4 "A mixture of var. substances or ingredients; the composition (of a medicament etc.)", 5 "arrangement".

remedies, the employment of compound as well as occasionally simple drugs, and highlights a degree of continuity within pharmacological practice.[39]

1.3 Scribonius in translation

To date, the *Compositiones* have been translated in part or as a whole into German, Italian, Portuguese, French, and English.[40] For German, Schonack translates the text of Helmreich's edition in 1913; as Helmreich's edition (and thus Schonack's translation) does not include the index of recipes, Brodersen's (2016) translation is the first complete translation into German. A substantial partial translation into German, likewise based on Helmreich's edition, is included in the pharmacological commentary of Rinne (1896), namely the preface and chapters **1** to **79** , , although Rinne indicates that he translated the entire text as a foundation for his study (1896: 27), which is also confirmed by Kobert's preface to this volume of his *Historische Studien* (1896: V). Part of the preface alone (***praef.* 1–11**) is translated by Kollesch and Nickel (1994) as part of their Ancient Medicine reader.[41] Individual chapters are translated by Machold as part of his 2010 work on iatromagical aspects in Scriboniusand the early twentieth century scholarship on dentistry in Scribonius by Wriedt (1921) and Trilk (1921) likewise includes a few partial translations or close paraphrases of the dental chapters. Given Marcellus' inclusion of a substantial number of Scribonius' recipes, including the preface, with at times minor to no alterations, the translation of Marcellus by Kollesch and Nickel (1968) also deserves mention here.[42]

As for Italian, the work has been translated by Marsili (1956), again without the index, and the complete work by Mantovanelli (2012). A third Italian translation is part of Sconocchia's revised edition, announced for (and published in) November 2020. Lippi and Sconocchia (2003) also include a translation of the preface in their work, and Buonopane (2014) includes partial translations of individual recipes related to pain management.

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[39] Cf. the profession of the compounding physician or pharmacist in the medical practice of some countries, as illustrated e.g. by the existence of such publications as the *International Journal of Pharmaceutical Compounding* (http://www.ijpc.com/), or the German term for a prescription (*Rezept*), which is not only synonymous with a (culinary etc.) recipe, but occasionally contains actual instructions for the composition of a particular remedy, e.g. a dermatological salve which is not readily commercially available in the required ingredient combination/concentration, by a pharmacy technician.

[40] Not including the Greek translations/adaptations in Galen's work, as discussed in 4.1.1 below. As translations of individual recipes are impossible to trace across scholarship, the examples given necessarily provide a non-exhaustive list.

[41] Deichgräber's announcement (1950) of a forthcoming translation seems to have been abandoned in favour of a further discussion of Scribonius' ethics and concept of *profession* (Deichgräber 1951); this is listed among the Scribonius translations in the *Bibliographie des Textes Médicaux Latins* (1987: 142), but as the article is very short (three pages, of which the first is entirely committed to a discussion), it may, like the reader of Kollesch and Nickel, only contain a translation of part of the preface. That said, the typescript is very small, and it is possible to fit the translation onto two pages (the remainder of the article is behind a paywall, and access could not be obtained at the time of writing). Helmreich (1887: 1–6) contains the Latin text of the preface but does not in fact include a German translation (thus Scarborough 2018: 2), nor does Helmreich's other work.

[42] The same holds true for other Marcellus translations, and indeed for part of the scholarship on Marcellus which by extension is selectively scholarship on Scribonius as well; an additional literature review for Marcellus was omitted here for practical reasons.

Finally, Jouanna-Bouchet's 2000 thesis, published with expansion and revision in 2016, also includes a French translation and commentary, while a translation of the preface as well as 150 chapters into Portuguese is included in Abreu Almeida's 2011 unpublished thesis.

When it comes to English translation efforts, the *epistula dedicatoria* has received particular attention, and translations are available by Hamilton (1986a), Pellegrino and Pellegrino (1988), and Prioreschi (1996). In addition to this, some of the dental chapters (**53–61**) have been translated by Thomas (1978), with additional translation of a further chapter relevant to dentistry (**95**) provided by Hamilton (1987), while Jenkner (2013: 5) translates chapters **11** and **162** in the context of his study on electrotherapy. Translations of individual recipes or parts of recipes have similarly been included in publications discussing particular aspects of Roman medicine, of which Guardasole (2014, **50-52**), Kellaway (1946, **11**, **162** partially), Totelin (2009: 259–260, **177**) and Scarborough (2018, parts of several, including **84**, **98**, **163**, **175**; **153** with discussion) provide examples, although no exhaustive list can be provided here. As discussed in the preface, Hamilton's draft translation has been announced (1986a: 216) and deposited (1986b), but not formally published.

1.4 Scholarship

While Scribonius has generally received less scholarly attention than other ancient medical authors, there has been an increase in scholarship following the publication of Sconocchia's edition in 1983, as well as more recently.[43] In general, scholarship with a particular focus on Scribonius tends to fall into the broad categories of a) studies on philological matters, b) on the ethics of Scribonius, c) on medical, dental, or pharmacological aspects, as well as d) more general studies discussing a variety of topics. Additionally, there are a number of commentaries (see 1.4.5) which bridge these categories.

1.4.1 Philological and literary studies; textual criticism

Around the time of the publication of Helmreich's edition, philological studies and textual criticism were published by Helmreich himself (1882, 1888), Lottritz (1913), Jourdan (1918a, 1918b, 1919a; collected as 1919b), Niedermann (1916, as well as in the broader study of 1948), and, arguably, Schonack (1912), although his work could similarly be considered a general study.[44] While Helmreich and Niedermann provide shorter articles, the work of Lottritz and Jourdan are doctoral dissertations (although Jourdan's work was also published as three articles in 1918/1919, which is

[43] A similar increase in interest occurred in the late nineteenth and early twentieth century following the publication of Helmreich's edition in 1887(see 4.4) – although at this point, it might be more appropriate to specify "less than Galen or the Hippocratic Corpus", as e.g. the scholarship on Celsus is far less abundant than one might expect and Scribonius is served reasonably well in comparison.

[44] Schonack's 1913 translation includes a lengthy introduction and appendix on the drug components used. He announced further philological scholarship and more extensive studies about the relationship to Nikander (1912: vii, 1912: 26), which never appeared (see 4.4 – Schonack died in 1916).

the more readily accessible version). More recently, following Sconocchia's edition in 1983, extensive philological scholarship has been contributed by Sconocchia himself (e.g. 1991b, 1993a, 2001a, 2001b, 2006, 2010a), as well as by Grassi (1968) and Lausdei (1984, 1985a, 1985b, 1988), while Jouanna-Bouchet (2013) and del Pilar Lojendio Quintero and del Socorro Pérez Romero (2007a) discuss the question of Greek and Latin plant terminology and influences in the *Compositiones* (on the latter, see also Sconocchia 2014). Scribonius furthermore receives extensive mention in studies on medical Latin; Langslow (2000) and Önnerfors (1993) use Scribonius extensively in their respective studies, Sconocchia (2001b) compares the language of Celsus and Scribonius, and Smol'skaja (1979) to that of first century medical writers more broadly, while Jouanna-Bouchet (2009) on literary aspects of Marcellus' *De medicamentis* is in many ways also an analysis of Scribonius, given the parallels between the two texts. Several publications likewise include Scribonius in discussing particular aspects of medical terminology as well as the use of specific terms (e.g. *zona*: Jouanna-Bouchet 2006; Boscherini 2006; Ferraces Rodríguez 2009; see also Schott 2017; ἐπιφορά: Pardon-Labonnelie 2010; pharmaceutical terminology: Šega 1983; Gaide 2002; Gitton-Ripoll 2010; terms denoting medical binding: Gaide 2003; verbs related to heat: del Pilar Lojendio Quintero and del Socorro Pérez Romero 2007b; anatomical terminology: Pérez Santana 2010).

1.4.2 Ethics and the *epistula dedicatoria*

Much attention has been paid to Scribonius' preface, the *epistula dedicatoria* and its exhortation to ethical medical practice. The first substantial study is that of Deichgräber (1950), followed by a much briefer paper on Scribonius' ethics and concept of *professio* (Deichgräber 1951), although admittedly Deichgräber approaches the topic much more from a philological perspective than subsequently mentioned authors, to the point of including an edition, complete with *apparatus criticus*, of the preface's text in his initial publication. Studies of Scribonius' ethics similarly accompany the translations of the preface provided by Hamilton (1986a) and Pellegrino and Pellegrino (1988), and part of the passage (***ep*. 1–11**) is selected as an example of ethics in ancient medicine in the Reader assembled by Kollesch and Nickel (1994: 57–62), with suitable illustrating notes (pp. 213–215). Pellegrino expands on his publication in a paper of 1987 which uses Scribonius as the proposed basis for a new modern set of ethical guidelines, republished in 2006 with comments by a variety of medical practitioners (Pellegrino 2006), and modern works on medical ethics similarly draw on the *Compositiones* for context or discussion (e.g. Loewy 1989), to the extent that Rütten summarises Scribonian ethics as more important for modern medical ethicists than Hippocratic ethics.[45] Scribonius is additionally discussed to larger or smaller extents in various

[45] "die [Scribonius] im Hinblick auf die Geschichte der medizinischen Ethik gelegentlich sogar für wichtiger und wirkungsmächtiger halten als die sogenannte hippokratische Ethik" (reply to Mudry 1997: 331).

studies on ethical matters in ancient medicine (e.g. Edelstein 1956 on Greek medical ethics; Porter 2014 (unpublished) on compassion in first century medicine; Harms 2008 on euthanasia, on which see also Flemming 2005), as well as with regard to the reception of the Hippocratic Oath (e.g. Leith 2007; André 2005), for which the text is an important source. Further studies of the preface, both with respect to ethics and more generally, are provided by Mudry (1997), Sconocchia (2006, 2010a, 2000b, 1991a), Römer (1987, also published in Italian translation 1990), Ollero Granados (1989) and Lippi and Sconocchia (2003).

1.4.3 Dental, Pharmacological, and Medical Aspects

While the focus remains to a reasonable extent on the philological or ethical relevance of the *Compositiones*, some studies of Scribonius' pharmacology have been made. In addition to the study of Rinne (1896, 1896) mentioned above, more recently Martínez Saura (1995, 1999) has examined Scribonius in the context of first-century medical authors (generally with regard to Celsus in the former, and in their respective use of wine in the latter paper); Mantovanelli (2012a) likewise includes an extensive pharmacological register in his translation and comments on the use of wool in Scribonius' therapeutic approach (2012b). Del Pilar Lojendio Quintero and del Socorro Pérez Romero (2005) discuss Scribonius' use of animal remedies, and in a subsequent paper (2007a) investigate remedies and poisons with names transcribed from Greek (already mentioned in 1.4.1 for its contribution to scholarship on technical terminology), part of a broader discussion of Scribonius' position between not only Greek and Latin medical terminology but also his sources and practice. Abreu Almeida's 2011 thesis (unpublished) discusses Scribonius in the context of first century medicine and medical Latin on the one hand and with relation to modern pharmacology and toxicology on the other, while that of Gellens (2019) similarly analyses the ancient and modern use of selected individual drugs/remedies (opium, willow bark, saffron, rue, *Ranunculus* spp., zinc oxide, garlic, and the ever-present torpedo fish) and poisons (hemlock, henbane, aconite) found in the *Compositiones* after providing a contextualising introduction to ancient medicine and the author and text. Scarborough's 2018 encyclopaedic article on Scribonius meanwhile discusses not only the context and preface, but also medical aspects, and particularly the pharmacology of **153**. Studies have furthermore made mention of the type of materials and instruments used in preparing and storing remedies (Taborelli 1996; del Pilar Lojendio Quintero and del Socorro Pérez Romero 2008), discussed Scribonius in the context of forms of pastilles or pills (Gourevitch 1999) or topical remedies (Lentini 1995b; Sconocchia 1993b) used in Roman medicine, examined "therapeutic gestures" in the work (Jouanna-Bouchet 2001), or commented on the relation to Galen's pharmacological works (Guardasole 2014, 2015). Individual remedies which are also employed by Scribonius have been the focus of Capitani (2004, on *collyrium stratioticum* [= *Comp.* **33**], the soldier's eye salve), Rippinger (1987, 1991, on *diaglaucium*/ διαγλαύκιον [= *Comp.* **22**], the eye

salve made out of hornpoppy sap), and Scarborough (2018, on several, particularly **163**, **175**, **153**, plus comments on the preface). The "holy remedy" of Paccius Antiochus (*antidotos hiera*/ ἀντίδοτος ἱερά, **97–107**) has likewise been discussed (Sconocchia 2010b, see also Mudry 1992, Scarborough 2018), while Fischer's (2010) reconstruction of the missing *Antidotos* Ζωπύριος (**169**) also includes a detailed analysis of the remedy as well as its role in Scribonius, and Maggiuli (2016) addresses the two chapters concerned with the treatment of parasitic worm infections (*ad taenias et lumbricos necandos*, **140–141**).

The dental chapters of the *Compositiones* have also found much interest, perhaps disproportionally more than the rest of the text aside from the preface.[46] This is on account of Scribonius' recommendation of conservative dentistry on the one hand (**53**), commended by practitioners (Thomas, 1978; Wriedt, 1921; Trilk, 1921), and due to a misreading of a passage in **54** (*interdum enim quasi vermiculi quidam eiciuntur*) on the other. The latter has led to claims that Scribonius subscribed to, or even invented, the tradition of the tooth worm theory of dental disease (see e.g. Gerabek 1999: 2, who, following Kobusch (1955: 10), also credits Scribonius with discussing "the tradition of applying gnawing worms on bad teeth" (1999: 2) although there is no such discussion and (depending on interpretation) not even a mention of this in the *Compositiones*). Consequently, Wriedt (1921) makes dismissing this claim a substantial part of his thesis (on which see 4.4.2). General dental studies with particular or exclusive focus on Scribonius are those of Thomas (1978), Hamilton (1987) and Perret and Vidal (1985), as well as the aforementioned historical studies of Wriedt (1921) and Trilk (1921), while e.g. Berghult (2001) and Lentini (1995a) discuss Scribonius in their more general accounts of Roman dentistry and dental care.

More broadly, Scribonius' medicine has been investigated regarding questions of rationality, irrationality, and iatromagical elements (Jouanna-Bouchet 2003; Machold 2010; Hirsch 1911; Harms 2010). Among others, **122** in particular has been examined both with regard to its superstitious nature and its implications for female practitioners in Roman Africa (Montero 1996; for an analysis of the *Compositiones* in the context of women and medicine in Rome, see furthermore Flemming 2000), while the "epilepsy" chapters **12–18** have invited similar interest given the numerological aspects of **16** and the simultaneous inclusion and dismissal of the elsewhere mentioned (auto)cannibalistic remedies in **17** (see e.g. 3.5 below). Scribonius' theoretical views in the context of medical schools have been discussed by Sconocchia (1991c; see also comments in Deichgräber 1950 and Schonack 1912), while his stance on the unity of medicine has found examination by Mudry (1985, with further comments by Sconocchia 1991c), and his medical doctrine and its reception in late antiquity and the middle ages by Sconocchia (1985, 1988, 1998).

[46] And, arguably, the use of electric fish for pain management, for which see below.

Finally, the application of a live electric eel for pain management of headaches and gout of the feet (**11** and **162** respectively) has occasioned several mentions, of which Cambiaghi and Sconocchia (2018) and Buonopane (2014, on pain management in Scribonius in general) are solely focussed on Scribonius, while more general studies on pain management via electricity (Jenkner 2013),[47] or the history of electric fish and electricity (Kellaway 1946; Keyser 1993; Tsoucalas et al. 2014) discuss the *torpedo* chapters (minus that involving the culinary use) in varying degree of extensiveness. These chapters have likewise, if usually very briefly, received attention and mention from modern practitioners in the fields of neurology and anaesthesia (a selection among the extensive range of examples: Hummel and Gerloff 2012; Fitzgerald and Daskalakis 2013; Francis and Dingley 2015; Tsoucalas et al. 2014), and, somewhat bizarrely, in a paper arguing for innovative energy management (Crawley 2014). As such, it may be noted that the *Compositiones* appear of interest not only to classicists and historians of medicine but also to practitioners and scientists, a topic which will be examined in further detail in section 3.2 with regard to the nineteenth and early twentieth century reception of the text.

1.4.4 General Studies

More general studies of Scribonius and the *Compositiones* include those of Baldwin (1992), Nutton (1995), Buecheler (1882), Lehmann and Lehmann (2018), as well as the extensive studies of Sconocchia (e.g. 1981, 1985, 1993a, 2008a). In terms of the broader social history of medicine, Cassia (2012) focusses on Scribonius in a study of freedmen at the imperial court, while Moog (2013, more generally in 2017, 2018) discusses the *Compositiones* in its references to gladiators and their treatment. Scribonius' comments on the emperor are also discussed by Jullian (1893), who has made a study of Scribonius' use of the expression *Deus Noster Caesar*, an expression likewise examined, with some reference to Scribonius, by Charlesworth (1925). For a study of the work's index, which while omitted by some previous editors had been included as authentic in the most recent editions of Sconocchia and Jouanna-Bouchet, see Riggsby 2007. The sources of the *Compositiones* are discussed, among many others, by Sconocchia (1985), while Scarborough (2018) has discussed Scribonius with respect to several aspects (medical and social context, ethics, individual recipes) as part of the *Oxford Handbook of Science and Medicine in the Classical World*. General discussions are also included in the introductions of Brodersen (2016), Jouanna-Bouchet (2016), Mantovanelli (2012), Sconocchia (2020), and Schonack (1913), while Schonack's 1912 study has arguably more general and medico-historical than strictly philological elements.

[47] If not always entirely correctly, see e.g. pp. 3-4.

1.4.5 Commentaries

Commentaries on Scribonius often have a philological focus but expand significantly beyond this; noteworthy historical commentaries are those of Rhodius (1655), as well as Sperling's response (dated 1658–1659, see Wuttke 1975: 253), which covers an extensive range of topics (see 4.2.3). Another commentary by John Caius (sixteenth century) remains lost (Wuttke 1975: 254; Caius' list of his own works, Caius ed. Roberts 1912: 106, mentions under the "Commentary or Annotations" category a work entitled *In Scribonii Largi de compositione medicamentorum librum unum*). Rinne provides an extensive pharmacological commentary on the *Compositiones* in two versions, the 1896 one a slight modification expanded by a partial translation from the 1892 version. More recently, Jouanna-Bouchet (2000, 2016) has provided an extensive commentary as part of her PhD thesis, substantially edited and updated for her 2016 publication. Sconocchia's second edition likewise includes a commentary, and many of his publications similarly include sections which fulfil the role of an editor-authored and sometimes discursive commentary (e.g. Sconocchia 2010a). Finally, while not a commentary as such, mention should be made of Mantovanelli (2012), who includes comments in his translation, and supplements the text with a general discussion as well as a pharmacological register from a modern pharmacological perspective.

1.5 Translation, Commentary, Introductory Sections: Approach and Key Aspects

1.5.1 Translation

Any translation is by its nature an interpretation, and any given approach has its advantages and disadvantages.[48] In prioritising a translation which represents and aims to clarify the technical, instructive, and at times formulaic nature of the text, a degree of "clumsiness" in expression and use of explanatory notes or brackets has been accepted as a necessity, although balance between the literal and the idiomatic has been strived for where possible. The complexity of ancient technical literature, and recipes in particular, adds particular challenges to those posed by the art and science of translation in general, as highlighted by the collection on a wide range of challenges in the translation of ancient technical texts edited by Imhausen and Pommerening (2010, in which see especially Totelin 2010 for Greco-Roman recipes),[49] and by their follow-up *Methodenband* (Imhausen and Pommerening 2016). These include, but are not limited to, the terminology of diseases, the identification of plants, the resolution of corrupted or peculiar expressions, and the

[48] On different approaches to translation, including the main division between literal vs. according to sense, see e.g. Heeßel 2010 in the context of ancient medicine, and more generally Kitzbichler 2007.
[49] The latter very fittingly entitled "A recipe for a headache", not only on account of the content of the addressed remedies.

question of who a translation is *for*, and what choices for translation and commentary this necessitates – a particular issue in the history of science and medicine, where translations can and have been used for retrospective diagnosis, an interpretation of medical history at odds with the historical context, or overly confident identification of ingredients for the purpose of scientific analysis. Examples include the impact of problematic translations on the reception of diseases listed in the Papyrus Ebers (Pommerening 2010), the misinterpretation of Babylonian disease concepts resulting from translations which ignore the cultural context (Heeßel 2010), the methodological issues with and negative response to the Nottingham (Harrison et al. 2015)[50] study on reconstruction and microbiological testing of an Anglo-Saxon eye remedy, summarised e.g. by King (2015), or the casual statement in Shrewsbury's 1950 paper which not only confidently diagnoses the "Plague of Athens" based on Thucydides' description, but does so relying entirely on a translation on account of his freely admitted absence of any knowledge of Ancient Greek.[51] Even a specifically Scribonius-related example exists, provided by Wriedt's 1921 study, the premise of which is entirely based on the translation and mistranslation of *quasi vermiculi*.

Given this complex and challenging framework for translating ancient technical texts in general, and recipes in particular, some more extensive – and perhaps somewhat excessively cautious - notes on the employed methodology beyond what has already been addressed in the preface is appropriate.

1.5.1.1 General Points

The translation follows the edition of Sconocchia (Teubner, 1983), incorporating alternative readings or emendations by Jouanna-Bouchet (Les Belles Lettres, 2016) where specified; the latter are given mainly for difficult passages, and do not reflect all differences between the two editions. In the post-submission revision, any changes made in Sconocchia's 2020 edition are also noted, with the caveat that Sconocchia's emendations do not necessarily affect the translation, as e.g. the case for changes which correct the Latin grammar or opt for Greek script rather than Latin transliteration; similarly, consistent changes, such as the change from parentheses to n dashes or from the spelling *myrrha* to *murra*, are generally noted in an initial footnote rather than changed across the text.

The first person singular and plural have been translated as they are found in the text, even if this means that Scribonius occasionally changes from "I" to "we" mid-recipe without speaking of a

[50] The paper resolved some of the issues with methodological and other uncertainties which were criticised following the press release and its coverage, all variously unspecific and overly optimistic about the implications; as such, this is a case study for poor research communication as much as the use and abuse of medical history.

[51] "As I possess no knowledge of classical Greek, I am forced to depend upon an English translation of Thucydides' description of the pestilence. I have chosen Jowett's (2) translation, because I have been informed on good authority that it is generally accepted as an accurate rendering of the Greek" (Shrewsbury 1950: 3).

different group; this is to reflect the different ways in which he refers to himself on the one hand, and the preface's ambiguity as to whether he is speaking of a group of doctors or of himself in the plural (cf. ***praef.* 11**). Explanatory comments or a literal translation of expressions are given in footnotes or endnotes, while square brackets denote clarifying expressions (e.g. "following [Hippocrates'] for the text's "following his") and angle brackets include additions not found in the Latin but necessary to make the translation clearer or more idiomatic (e.g. "The same <remedy>" for *idem*).[52] Terms for diseases or drug ingredients where the meaning or identity is tentative or poses other issues (e.g. *misy* or *lepra*), as well as terms which require further explanation (e.g. *posca*), are left in Latin (and italics to distinguish e.g. *cancer* from the modern concept) and addressed in the accompanying notes. The formatting of recipes is altered to present ingredients as a list rather than continuous text to aid understanding and clarity. Where necessary, punctuation and syntax have been adapted to follow grammatical rules, or to avoid lengthy and convoluted sentences.

In translating, the aim has generally been to be consistent in the translation of technical expressions. However, as terms frequently have multiple meanings depending on context or specific case – e.g. *herba* for herb, but also more generally for a plant, blade of grass, or leafy part (s.v. L&S *herba*) – or cannot be rendered in the same way in different English expressions (e.g. the several compound verbs for drug preparation and –administration), variation has been employed where more idiomatic or suitable. This also applies to disease terminology, reflecting the different meaning of individual terms, e.g. *caligo* for dimmed vision as well as dizziness, or *inflatio* for a variety of abdominal complaints including, but not limited to, trapped wind or flatulence, as well as idiomatic considerations. As such, while e.g. *dolor* has generally been translated as pain, *capitis dolor* has been rendered as headache rather than retaining the genitive construction in a more literal rendering such as "pain of the head", while compounds of *ungo* have been translated with several terms denoting ointment application – to apply, to treat, etc. – depending on what fits both meaning and grammatical context best.

A compromise has been made between translating technical terms with technical terms, e.g. "scissile" instead of "flaky" alum for *alumen fissile* and "trachea" instead of "windpipe" for *arteria*, and between using expressions of everyday language. This includes cases where a word which is used generally has a narrow specific meaning in technical contexts, but where the use of a different scientific term would appear anachronistic or require extensive analysis to determine whether it

[52] With the benefit of hindsight, at times a perhaps somewhat pedantic or superfluous distinction. Where square brackets are featured in the Latin text (i.e. for suppressed text), these are included in Latin quotations, but not translated unless it is necessary to highlight a difference between the editions, in which case the distinction is marked with curly brackets. Similarly, where text is added or emended in the Latin text as noted by angle brackets, this is distinguished in the translated text from such additions in the translation by double angle brackets where necessary.

would be correct in the given context. For example, terms of diluting and dissolving have not been modified to reflect the solubility of the given material-medium combination, even if the identification and preparation is sufficiently clear to indicate that a term such as "suspending" would have been more technically accurate; instead, occasionally, the translation has been less literal ("mixing"; "distributed"), although notes on the literal meaning or issues with the terminology have been provided. The result is, necessarily, a mixture between the accurate and the approximate, the literal and the idiomatic, and the polished and the somewhat clumsily rendered. This, it is argued, reflects Scribonius' language in that it is a technical text for a technical and/or educated lay audience, but it is also explanatory (cf. botanical, disease and other explanations, and synonyms or Latin/Greek terms for plants and diseases), and (relatively) accessible. This has prompted critics to lament its lack of flourish: Haeser (1875: 299) is among those calling his Latin "barbaric", while a century later Majno (1975: 535) still finds it unpalatable, "dishwater" compared to the "sparkling wine" of Celsus' writing.[53] But perhaps, rather than comparing Scribonius to Cicero or Celsus and their very different styles and types of work (cf. 3.4.1 on Celsus contrasted with Scribonius), the text is best seen as what it is: a kind of pharmacopoeia, literally "a book on making drugs". It is not meant to be an exercise in demonstrating mastery of rhetoric or philosophy, medical or otherwise, nor is it the highly concise and exclusively specialist-oriented type of modern pharmaceutical reference work like the British National Formulary. Like the pharmacopoeias of the eighteenth and nineteenth centuries, it provides instructions, alternates between abbreviations, symbols, and languages, is sometimes very clear, and occasionally confusing, and uses a wide range of ingredients and terms, some well-known, some perplexing, and some now used for something else. To claim that the translator has always tried to reflect this, or that every arguable decision was deliberate, would be untrue. But, adhering to the dictum that a translation is also an interpretation, Scribonius' text has been interpreted and rendered in the conscious effort to balance Latin textual translation, as expected from the aspiring Classicist, with the technical and practical elements and ambiguities that reflects the aspiring medical historian and trained chemical lab technician.

1.5.1.2 Weights and Measures

Coming to the quantitative, Latin weights and measures have been retained rather than providing modern approximations, and Ж has been rendered as *drachma* (using the spelling of "drachm/drachms" as usual for pharmaceutical recipes) rather than *denarius* following Scribonius' equation of the two in ***praef.* 15** (*erit autem nota* Ж *denarii unius Graeca drachma*).[54] Similarly, ingredient weights, which in Latin are given in the genitive and with *p./pondo* (and other forms),

[53] If such comparisons must be made, Celsus may well be a Champagne, but Scribonius is a perfectly serviceable good quality Merlot, and the on top of that former may not necessarily pair well with pharmaceutical practice.
[54] For the full range of symbols used in the *Compositiones*, see note ***praef.* 15, 5.23-24 *erit autem nota* <Ж>...**

have been translated as nominative and without the qualifier (e.g. in **5**: *rutae viridis ℈ p.* III rendered "3 drachms fresh rue" rather than "of fresh rue, 3 drachms in weight/3 drachms in weight of fresh rue"). However, the latter has been included when necessary or useful for clarification, e.g. **86** *fiunt pastilli, alii pondere ℈ I, alii victoriati* – "pastilles are made, some 1 drachm in weight, others a *victoriatus*".

Following Friedrich Hultsch's *Griechische und Römische Metrologie* (1862, 1882, its importance perhaps illustrated by a reprint issued in 1971), which in many respects remains the standard work, the approximate equivalences between ancient measurements as well as to modern units, are as follows:

1 *libra* = 12 *unciae* = 84 *drachmae/denarii*[55] = 288 *scripula*

Where 1 *libra* = 327.5 g,

And

1 *sextarius* = 2 *heminae* = 12 *cyathi* = *48 coc(h)lear*[56]

where 1 *sextariu*s = 0.547 L.

The following modern equivalents apply:

Table 1-1 Ancient and Modern Weights

Ancient Weight	Equivalent in *librae*	Modern Equivalent (g)
Libra (pound)	1	327.5 g ≈ 328 g
Uncia (ounce)	$\frac{1}{12}$	27.3 g ≈ 27 g
Sicilicus	$\frac{1}{48}$	6.8 g ≈ 7 g
Drachma /denarius	$\frac{1}{84}$	3.9 g ≈ 4 g
Victoriatus	$\frac{1}{168}$	1.9 g ≈ 2 g
Scripulum	$\frac{1}{288}$	1.1 g ≈ 1 g

[55] Under Nero, the equivalent changed from 84 *denarii* per *libra* to 96 *denarii* (Hultsch, 1862: 284–5). Similarly, the *victoriatus*, originally ¾ *denarii*, is used to denote ½ *denarius* in Scribonius' time (Hultsch, 1862: 289). See also Scarborough (2018: 18), who raises the issue of resultant confusion for later audiences.
[56] Brodersen (2016: 20)

Volumetric Measures:[57]

Table 1-2 Ancient and Modern Volumetric Measures

Ancient Measure	Amount in *sextarii*	Modern Equivalent (mL)
Sextarius	1	457 mL
Hemina	½ *sextarius*	274 mL
Cyathus	$\frac{1}{12}$ *sextarius*	45,6 mL ≈ 46 mL
Coc(h)lear	$\frac{1}{48}$ sextarius	9,5 mL ≈ 10 mL

The only measurement of length in the *Compositiones* – aside from the indirect reference to a mile (= *mille passus*) in **146** (*quinquagesimum lapidem*, at the 50th milestone – occurs in **15** when Scribonius mentions the *passus* as a measure for the extent of physical exercise to be taken:

1 *pes* = 0.29 m ≈ 0.3 m, and 1 *passus* = 5 *pedes* = 1.48 m ≈ 1.5 m (Hultsch, 1862: 306).

However, these neat tables imply an overly definite and exact correspondence between modern and ancient weights. Here a comparison of modern equivalents given by Scribonius translators is illustrative:[58]

Table 1-3 Metrological Equivalents in Scribonius Translations

Weight/ Measure	Rinne (1896)	Schonack (1912)[59]	Jouanna-Bouchet (2000)	Mantovanelli (2012)	Brodersen (2016)[60]	Jouanna-Bouchet (2016)[61]	Hultsch (1862, 1882)
Libra (= as)	360 g	360 g	324 g	327.456 g	~ 330 g	~ 324 g	327.5 g
uncia	26.25 g	26.25 g	27 g	27.288 g	1/12 *libra*	~ 27 g	27.3 g

[57] While mostly used for liquid substances, *cyathus* and similar measures can also be used to refer to solid substances, as indicated by Rinne's (1896) provision of both liquid and solid modern equivalents for volumetric units (see table below).

[58] On account of the text's inaccessibility, Marsili's translation has not been considered for the time being. The sicilicus, which is Sconocchia's interpretation of the uncertain *7 / ʔ / ʔ* symbol found in **71** and (in the case of the latter two symbols) **145**, corresponds to ¼ ounce or 6 scruples (Rhodius 1655: 133; Hultsch 1862: 111–112), i.e. $\frac{1}{48}$ libra, equivalent to between 6.75 and 7.5 g.

[59] Despite Schonack's statement of reference to Hultsch (as well as Berendes and Rinne), he seems to be less in accordance with this work than e.g. Mantovanelli.

[60] Brodersen furthermore includes *coc(h)lear*, a tablespoon ($\frac{1}{48}$ of a *sextarius*), and *ligula*, a not further defined unit of spoon.

[61] Additionally, modern equivalences for the fractional weights (*bes, selibra, triens, quadrans, sextans, sescuncia, semuncia* etc.) are also provided.

Weight/ Measure	Rinne (1896)	Schonack (1912)[59]	Jouanna-Bouchet (2000)	Mantovanelli (2012)	Brodersen (2016)[60]	Jouanna-Bouchet (2016)[61]	Hultsch (1862, 1882)
***Drachma* = *denarius* = *pondus denarius* (*p.* ✕)**	1.75 g[62]	1.75 g	ca. 3.86 g	3.89 g	1/84 *libra*	~ 3.86 g	3.9 g
scripulum	1.25 g	1.25 g	1.125 g	1.137 g	1.14 g	~ 1.125 g	1.1 g
victoriatus	½ *drachma/ denarius*	½ *drachma/ denarius*	½ *drachma/ denarius*	1.94 g	½ *denarius*	~ 1.93 g	1.9 g
sextarius	600 g or 480 g or ½ L	600 g or 480 g	540 g or more	0.457 L	"Krug", ⅙ of a *congius* (3L) → 500 mL	~ 54.7 cL or more	547 mL
hemina	240 g or a little more	300 g or 240 g	ca. 270 g	0.273 L	"Schoppen" (½ *sextarius* → 250 mL)	~ 27.30 cL	274 mL
cyathus	45 g	50 g	45 g	/	"Schöpfkellen" (1/12 *sextarius* → 41.7 mL)	~ 4.50 cL	45.6 mL

Historical scholarship about weights, while often still relevant, poses the further problem of providing equivalent weights in now outdated or regional standards.[63] This modern tendency to expect standardised and exact measurements (minor regional/diachronic variations aside) is however not the best or most realistic way to approach ancient weights and measures, when, as e.g. Wikander (2008: 765) discusses, at times significant variation is documented between regional standards, individual weights in the archaeological record, and even between coin weights and weights used in trade. As such, multiple decimal places, often a result of conversion calculations (e.g. if a pound is 328 g, then a *victoriatus* as ½ denarius, of which there are 84 in a pound, is 1/168 pound = 1.95 g) may give a misleading impression, as the often significant discrepancies in archaeological finds and regional/chronological changes do not lend themselves to highly exact modern correspondences. While equivalents are useful in order to better gauge the quantity or volume of ancient remedies as calculating in grams and millilitres is likely to be more familiar to readers than in *denarii* or *heminae*, it may likewise be useful to think of weights in historical pharmacological texts in terms of equivalent or relative weights. Explicit instances of this also occur in the *Compositiones*: e.g. in **47** (*interdum aspargenda ei galla erit vel chalcitis curiose trita*

[62] A peculiar equivalent, also found in Schonack, which corresponds to 1/205 or 1/206 *libra*, especially given the emphasis on Scribonius' statement that 1 *libra* = 84 *drachmae/denarii* (e.g. highlighted by Schonack 1912: 42–43, following his table of weight equivalences).

[63] Thus e.g. the regional German and Austrian measures and currencies Hultsch (1862: 315–316) provides as equivalent.

vel ***utraque*** *in unum* ***aequis ponderibus*** *mixta*), **51** (*misy usti, chalcitidis ustae, aeris flos usti, soreos, aeris squamae <****paria pondera****> tusa et cribrata*), or **217** (*salis marini, cerussae, olei veteris* ***paria pondera***).[64] Consequently, the Latin terms will be maintained in the translation to reflect this equivalent measurement system better, with reference to the weights given in tables 1-1, 1-2 and 1-3 above where quantities and modern equivalences are required.

1.5.1.3 Drug Identification and Disease Terminology

In addition to the question of weights and measures, the identification of drug ingredients, particularly plants and mineral components, as well as the translation and of disease terms, poses major challenges for the study of ancient pharmacology. This is particularly the case as, unlike in modern taxonomy and chemical nomenclature with its specificity, terms often can only be made to correspond to a potentially wide range of plants or compounds, as e.g. illustrated by Reveal (1996) concerning issues encountered when studying pre-Linnaean botany; pre-IUPAC terms for compounds likewise pose difficulties, as Crosland's grand study (1962, reprinted 1978) of chemical terminology from alchemy to the emergence of organic chemistry vividly demonstrates. Terminology remains a major challenge in both the translation and identification of ancient drug components, and the sparsity of translation of pharmacological texts attests to this, as Wilkins highlights in the context of the limited number of Galenic pharmacological texts which have been translated (Wilkins 2014: 173–6; see also Totelin 2016). This is also demonstrated by the fact that the standard dictionaries are "notoriously bad", as Wilkins (referencing Singer) calls the way the LSJ Greek dictionary handles plant terminology (Wilkins 2014: 177); the OLD is similarly and frequently in disagreement or contradiction with e.g. Goltz's work on mineral terminology (1972), or André's study on plants (1985, here cited in the 2010 reprint). The added layer of disagreement between dictionaries, translators, and interpretations chosen in their respective translations further highlights the fact that the question of identification and terminology has not yet been answered to a satisfactory level,[65] and it has to be accepted that for some plants, or minerals, or diseases this may remain impossible, as is the equation with Linnaean terms or precise chemical formulae.[66]

Similarly, the identification of historical diseases and disease entities is difficult and problematic at best and impossible at worst, and the question whether this approach has any place in or valuable

[64] It is in this context worth recalling that this approach is not unfamiliar in modern pharmacy, or at least some strands of it; thus, it is not uncommon to find ointment or tea recipes given in terms of equivalents rather than weights (an accessible example is Pahlow's 2006 *Grosses Buch der Heilpflanzen* which almost exclusively gives tea drug weights by equivalent rather than gram). Similarly, one may draw the parallel that to the reader used to the decimal system, a recipe book using *denarii* and *cyathi* does not differ all that much from one which employs liquid and solid ounces, gallons, or cups.

[65] There is further scope for research in this area, or at least consolidation of research, a point which has been highlighted by a number of scholars working both in ancient and medieval medicine, particularly in the edited study by Francia and Stobart (2014).

[66] Scribonius et al.'s ambiguous *misy* ore/mineral as well as the Homeric *moly*/μῶλυ are two of many examples which could be given here.

contribution to the history of medicine has been posed (Leven 2004; King 1998; Cunningham 2002; Mitchell 2011). Retrospective diagnosis and its problems is a well-established area of discourse in the history of medicine regardless of era, and, as Leven (2004: 370) points out, even the scientific contribution of paleopathology is not necessarily applied in the most scientific way, and a combination of methodological issues, early poor lab protocols, and uncritical or decontextualized publication of results has not helped the matter. Conversely, despite considerable advances in both methodology and rigour of protocols in especially ancient DNA analysis, some medical historians have been resistant or outright hostile to this field and its findings and potential, to the detriment of historical research, as Monica Green (2014a, esp.14–15; 2014b, esp. 51–54) notes, here in the context of plague/Black Death scholarship.[67] These issues highlight that the purely pragmatic, translation- oriented perspective – namely, how to approach the translation of historic disease terminology – is, much like the approximation of plants or minerals, in no way trivial.

In lieu of major scholarly overhauls, concessions are inevitable. For the present study, identification of ingredients, where possible, will be based on André (1985, using the 2nd edition 2010) for plants and Goltz (1972) on minerals. Any ambiguities or reasons for disagreement between the different Scribonius translators and different dictionaries will find discussion in the appropriate place, usually drawn from critical engagement with the work of other translators or similar scholarship. Given the at times extensive number of vernacular names for an individual plant, choices were influenced by the Encyclopaedia of Life (available at https://eol.org/)'s most common (British) English language term, or that featured most prominently or frequently in the search results. The botanical names are those listed as the accepted name as listed in the Plant List database (version 1.1, 2013, available at http://www.theplantlist.org/), reflecting changes in taxonomy since the publication of André's work which now includes binomials that are considered synonymous or illegitimate. Consequently, comparison to e.g. Beck's Dioscorides may show that both different common and scientific names are used for what is the same plant (e.g. Arabian pea (*Bituminaria bituminosa* (L.) C.H.Stirt) instead of treacle clover (*Psoralea bituminosa* L.) for *trifolium acutum*/ὀξύφυλλον). Where common names are complex (e.g. "broad-leafed pepperweed") and no other plant of the same type occurs, the translation sometimes simplifies (e.g. "pepperweed"); full common and scientific names are given in the appendix at the end of the translation volume. Similarly, for minerals and inorganic

[67] "**A major obstacle to fruitful dialogue between the humanistic and scientific approaches has been historians' aversion to agendas that smacked of "retrospective diagnosis":** the imposition of modern categories of scientific disease classification on evidence from the past; **this aversion has been especially strong among recent generations of historians of medicine**...using the categories of modern science to reconstruct plague's histories – adopting an outsider's (etic) perspective on the material history of plague – is actually **essentia**l to reconstructing the history of participants' experiences of those material conditions and the resulting experiences of sudden death, economic devastation, and social chaos (an emic perspective). **Both are valid, and both are necessary to a historical enterprise that unites the efforts of scientists and humanists alike**." (Green 2014: 15)

substances, chemical composition or formulae are given, where possible, in the appendix; as the majority of these are naturally occurring minerals or derivatives thereof, the main database consulted here was the Hudson Institute of Mineralogy's *Mindat* (1993–, https://www.mindat.org/).

Disease terminology has similar complexities as drug ingredients, but scholarship is less centrally and concisely gathered than, say, with André's plants (1985, 2010) and birds (1967), Beavis's insects (1988), or Goltz's minerals (1972). Given the issue of retrospective diagnosis, this is an area which requires particularly careful treading; as such, translations have been mostly derived from dictionary entries (but modified where needed/indicated), unless specialist scholarship was available (as e.g. the case for *zona*/*herpes*, or *lepra*);[68] studies on medical Latin more broadly[69] were also taken into consideration, as were the decisions made by other translators. Comments referring to modern afflictions or disease terminology are meant as statements on continuity and change in naming of diseases, and potential issues resulting from continuous use of a term for a different disease in modern vernacular or technical language, rather than attempts at ascribing modern biological entities to ancient disease terms. As such, unless otherwise specified, modern parallels are to be seen as comments on the reception of ancient terminology and medicine, or general practical approaches which, like e.g. the wheel, are employed cross-culturally and -temporally without implying direct influence.[70] For both ingredients and diseases, the Latin terms will be retained or provided in cases where the identification is particularly difficult or the terms require more extensive explanation; in these cases, explanatory notes are provided in the most suitable place.

1.5.2 Geographical Data and Maps

The maps in 3.3.3 and in note **146**, **74.6–9** ***ab aquis calidis...*** were made in the Ancient World Mapping Centre's *Antiquity À-la-carte* application (http://awmc.unc.edu/wordpress/alacarte/), content of which is available under a Creative Commons Attribution 4.0 International License (CC BY 4.0), using data from the Pleiades Project (Ancient World Mapping Center, Stoa Consortium,

[68] Thus Ferraces Rodríguez (2009), Jouanna-Bouchet (2006) and Sconocchia (2010: 138–150) on *zona*, Pardon-Labonnelie (2010) on *epiphora*, Barragán Nieto (2010) on *haemorrhoids*, as well the extensive scholarship on complicated diseases such as epilepsy (see e.g. Laskaris 2002; Wohlers 1999).
[69] Particularly Langslow (2000), as well as Önnerfors (1993).
[70] While this may seem overly cautious, the complex nature of the historiography of medicine, including the impacts of science-driven historically uncritical aDNA research (in the sense of research published by scientists for scientists in scientific journals, rather than with peer-reviewed analysis of the historical context or by an interdisciplinary team), the extensive scholarship on retrospective diagnosis and its pitfalls, the continuous proliferation of retrospective articles in medical journals, and the critical reception surrounding the recreation and scientific measurement of an Anglo-Saxon remedy (as mentioned above) highlights the controversial issues inherent in different approaches to the study of ancient medicine and the history of practice-based disciplines such as pharmacy. For more in-depth discussion, see also Pommerening (2010) and Heeßen (2010) on the problems caused by the use (especially the uncritical use) of modern terminology in the reception and use of translations of ancient (Egyptian and Babylonian, respectively) medical texts.

and Institute for the Study of the Ancient World, https://pleiades.stoa.org/), available under a Creative Commons Attribution 3.0 License (CC-BY 3.0). Calculations of distances were made with the Omnes Viae "Roman Road Planner" (Voorburg 2011, available at https://omnesviae.org/), which is based on the Peutinger map (*Tabula Peutingeriana*), where available, and extrapolations from the latter and measurement conversion of the closest itinerary to ancient roads drawn from Google maps.

1.5.3 Explanatory Notes and Medico-Historical Comments

Both the following analysis of the *Compositiones* and the explanatory notes which accompany the translation focus on the medical, pharmaceutical, and technical nature of the text. Aspects of language and medical terminology will be addressed to some extent, not only when it comes to the choice and implications of technical terminology and identification of substances or diseases, but also with respect to matters such as the verbs used to describe various therapeutic and technical processes. Implications of Marcellus' adaptation or the recipe's description for its composition and properties, discussion of similar topics in other medical writers or elsewhere in the *Compositiones*, as well as – to a very small extent - matters of textual criticism will also be addressed, the latter primarily if necessary for the comprehension of a passage, drawing mainly on the detailed comments by Jouanna-Bouchet (2016) as well as Sconocchia's extensive work on the text (see bibliography for full extent).[71] As such, the selection of notes and comments complements previous commentaries: the focus is more on the practice of pharmacy rather than on details of the *materia medica*, ancient or otherwise, as is the case in Rinne (1892, 1896), Mantovanelli (2012), and Scarborough's pharmacological discussion of **153** (2018). Medico-historical aspects and complicated chapters are addressed, as they are in the commentaries of Rhodius (1655), Sperling (1658–9), and Jouanna-Bouchet (2016), but the focus on philological matters has been substituted by an explanatory angle, aiming to render the translation, and thereby Scribonius' Latin and medical approach, more accessible.

The discussion which precedes the translation provides context and an introduction to Scribonius' overall approach to medicine and pharmacy, something which does not lend itself particularly well to being split across a commentary of individual chapters. It also addresses the topic of the text's reception, especially in selected medical sources from the early modern period to the early twentieth century, and examines the various roles of the *Compositiones* in both the history and historiography of medicine. The analysis of Scribonius' medicine and pharmacy in contemporary and comparative context, i.e. as examined alongside the works of Celsus, Dioscorides, and Pliny the Elder, thus

[71] And the since-published second (2020) edition by Sconocchia.

contributes not only to the understanding of first century CE pharmacotherapy, but adds to the body of work on comparative examinations of the *Compositiones* as for example those of Capitani (1972, popular medicine), Mantovanelli (2012, wool), Martínez Saura (1995, pharmacotherapy compared to Celsus) and Porter (2014, compassion), among many others. In this, it provides additional material on the text's afterlife which supplement Jouanna-Bouchet's studies on Marcellus (2003, 2009) and Guardasole's (2014, 2015) as well as Sconocchia's (2014) examination of Galen's Scribonius, and the extensive work of Fischer (2010), Fischer and Sconocchia (2008, 2010) and Sconocchia (1998, 2010b) on the medieval excerpts of Scribonius and their contribution to the edition and study of the *Compositiones,* including the testimony for missing chapters.

In practice, references to specific passages in the *Compositiones* follow the page and line numbers in Sconocchia's 1983 edition taking the format **chapter, page.line(s)** (e.g. **9, 18.17–18 *non sine tormento***). Where comments refer to the recipe as a whole, e.g.Marcellus' overall adaptation of the chapter, these are given at the beginning of the chapter, followed by a discussion of individual lines. In the non-print version, cross-reference hyperlinks are included for ease of navigation. As in the introduction, references to Scribonius' recipes are given as numbers and in bold (e.g. **11** for chapter 11); references to passages in other authors follow the usual referencing systems and abbreviations for the respective works.

Finally, it should perhaps – for the record, in a manner of speaking – be stressed that both the preceding discussion and the explanatory and analytical notes are by necessity selective, not exhaustive, and cannot provide a comprehensive commentary which encapsulates the many nuances of Scribonius' work and the challenges of translating technical prose, especially within the constraints and requirements of a doctoral thesis.

2 Scribonius, *On Good Medical Practice*: Pharmacy, Professional Ethics, and the Tripartite Nature of Medicine

2.1 Scribonius' Medical Approach and the Structure of the *Compositiones*

When examining Scribonius at first glance, preface or text as a whole, it is unsurprising that a work entitled "Compounding of Drugs" emphasises the importance and value of pharmacotherapy for medicine as a whole. In the opening line, the efficacy of well-tested remedies is even likened to divine intervention: "in fact drugs, tested by use and experience, provide what the touch of gods can bring about" (*prorsus enim quod tactus divinus efficere potest, id praestant medicamenta usu experientiaque probata*, ***praef.* 1**), a statement reinforcing the preface's opening quote, attributed to famous Hellenistic doctor and anatomist Herophilus of Chalcedon (ca. 330–260 BCE, cf. Scarborough 2012e), "that drugs [are] the hands of the gods" (*medicamenta divum manus esse*). [72] Despite this proven and almost supernatural effectiveness, there are those who would deny their patients the benefits of medicaments, and this prompts Scribonius to defend pharmacy as a crucial element of medicine both in terms of professional conduct and moral duty of care, and as an integral part of medicine. The former is expressed most clearly in ***praef.* 3**, where Scribonius links the denial of pharmacotherapy to professional negligence (*tam neglegentes in tam necessaria parte artis fuerint*) at best, and a fault (*crimen*) or evil (*malum*) at worst, both of which demonstrate a lack of the crucial moral disposition required of the physician and should incur the wrath of both gods and mortal men:

> *cur ergo aliqui excludant medicinam ex usu medicamentorum, non invenio, nisi ut detegant imprudentiam suam. sive enim nullum experimentum eius generis remediorum habent, merito accusandi sunt, quod tam neglegentes in tam necessaria parte artis | <artis>* **[S2]** *fuerint, sive experti quidem sunt eorum utilitatem, denegant autem usum, magis culpandi sunt, quia crimine invidentiae flagrant, quod malum cum omnibus animantibus invisum esse debeat, tum praecipue medicis, in quibus nisi plenus misericordiae et humanitatis animus est secundum ipsius professionis voluntatem, omnibus diis et hominibus invisi esse debent.*
>
> Why therefore some do exclude medicine from the use of medicaments, I do not understand, except in order to reveal their own ignorance. For if they have no experience of that kind of remedy, they are to be accused deservedly, because they have

[72] The statement (= Fr 248a in von Staden's edition), in addition to its inclusion in Marcellus (= Fr 248b), is also found in Galen, *Comp. sec. loc.*, 12: 966 K (ἔλεγεν...Ἡρόφιλος...θεῶν χεῖρας εἶναι τὰ φάρμακα), and Plutarch, *Moralia* 663C = *Questiones symposiacae/convivales* 4.1.3 (Herophilus Fr 248c), although the latter is attributed to Erasistratus in the manuscript tradition (= Fr 25 ed. Garofalo, τὰς βασιλικὰς καὶ ἀλεξιφαρμάκους ἐκείνας δυνάμεις, ἃς "θεῶν χεῖρας" Ἐρασίστρατος ὠνόμαζεν, "those kingly antidotes that Erasistratos called 'the hands of the gods'", trans. Clemend and Hoffleit) and emended to Herophilus by some scholars (von Staden 1989: 417). See von Staden 1989: 416–418 on this passage as evidence for Herophilus' approach to *materia medica* more generally.

> been so negligent in so necessary a part of the art; or if indeed they have experienced the usefulness of them, but deny their use, they are to be blamed more greatly, because they burn with the fault of envy, an evil which ought to be hateful not only to all living beings, but especially to physicians: <for> if they do not have in them a soul filled with sympathy and kindness according to the <proper> disposition of their own profession itself, they ought to be hateful to all gods and mortals. (***praef.* 3**)

Here it is not only the practical competence and medical knowledge which, importantly, must include pharmacotherapy, but also the moral requirement of a soul filled with compassion and humanity, or sympathy and kindness – *plenus misercordiae et humanitatis animus* – which is considered to be a crucial requirement for the medical practitioner. [73] Its absence not only casts professional competence – fitness to practice – into doubt, but transgresses both divine and human values to such an extent that it renders the so-called doctor ("in name only", *nomine tantummodo medicorum*, ***praef.* 9**) "hateful to gods and men". This strong wording occurs a second time at the end of the *Compositiones*' toxicology section, where those who do use drugs with the explicit intention to harm others, i.e. as poisons, are condemned as acting against both human and divine law (*ius fasque*), such as the "most accursed drug-sellers" (*execratissimi* | *exsecratissimi* **[S2]** *pharmacopolae*), who are "opposed to (medicine's) character" (*oppositi virtuti eius*, **199**), the "virtue" (*virtus*), excellence, or moral conduct, which is at the very heart of medicine.

Part of this need to defend the practice of pharmacy stems from a further example of poor medical knowledge at best and lack of moral character at worst: those who justify an opposition to drug use by (deliberately, according to Scribonius) misunderstanding the stance of another influential doctor, Asclepiades of Bithynia (practising in Rome around the turn of the first century BCE, ca. 120–90 BCE), [74] on medicament use:

> *at Asclepiades, maximus auctor medicinae, negavit aegris danda medicamenta: quidam enim hoc mendacio etiam pro argumento utuntur...nunc vero cum tam impudenter comminiscantur de eo, quid possum ultra dicere nisi genere quodam parricidium ac sacrilegium eos committere, qui haec dicunt?*

> But Asclepiades, a very great writer on medicine, denied that drugs should be given to the sick: for indeed, some people still resort to this lie in support of their argument...Now what am I able to say in addition, truly, when <this> is so shamelessly alleged about him, except that those who say these things commit parricide or sacrilege in some way? (***praef.* 7**)

[73] On the two terms in the context of Scribonius' preface, and in ancient medicine more broadly, see Lippi and Sconocchia (2003), Deichgräber (1950: 860–870), Hamilton (1986: 212), and Porter (2014: 126–136). On *humanitas* and *misericordia* as specifically Roman concepts, see Mudry 1997 and the comments on his paper.

[74] Asclepiades of Bithynia, or Asclepiades of Prusia, in Rome ca 120–90 BCE, on whom see Scarborough 1975, 2012d; Rawson; 1982; Vallance 1990, 1993, 2012.

With terms like *parricidium*, *sacrilegium*, *ius fasque*, and the twice repeated *omnibus diis et hominibus invisi esse debent*, Scribonius frames medical malpractice in general and ignorance or prevention of drug use in particular in strong moral, religious, and criminalistic or legal terms. Rather than being opposed to drugs, Asclepiades himself likewise condemned those who failed to aid their patients in this way, asserting that "a doctor who does not have two or three composite drugs, both tested and ready at a moment's notice, for every single defect, is of the worst kind" and thinking that "anyone who did not have multiple remedies compounded for every kind of disorder was not worthy of the profession of medicine," ***praef.* 8**.[75] The same type of doctor is again accused of murder in **84**, where dismissal of drugs and incompetence are combined to cause harm by application of a tourniquet,[76] a condemnation reinforced by the exasperated or imploring invocation of deity (*o bone deus*), and linked again to moral shortcomings by relating that "Hippocrates" considered it *nefas*, a transgression against both divine and moral law, to let harm come to anyone (***praef.* 5**), especially as

> medicine is the knowledge of healing, not harming. If it does not **fully apply itself** to the help of the suffering **in every respect**, it does not show the compassion to men which it promises.
>
> *scientia enim sanandi, non nocendi est medicina. quae nisi **omni parte sua plene excubat** in auxilia laborantium, non praestat quam pollicetur hominibus misericordiam* (***praef.* 5**).

Using drug therapy is thus an ethical obligation for the physician, a crucial element of the medical repertoire which needs to be used in its entirety to provide the promised extent and quality of care. It is a result of Scribonius' belief that medicine "truly equitably promises that it will come to the aid of all who appeal for its assistance" (*verum aequaliter omnibus implorantibus auxilia sua succursuram se pollicetur*, ***praef.* 4**) on the one hand, and his understanding of the nature of medicine as a tripartite unity of dietetics, pharmacy, and surgery on the other. Pharmacy cannot be separated from medicine because medicine promises to use everything at its disposal to help

---

[75] *contendit ultimae sortis esse medicum, qui non ad singula quaeque vitia binas ternasque compositiones et expertas et protinus paratas habeat…cui, nisi plura quis ad quodque genus vitii medicamenta composita habeat, non videtur dignus professione medicinae* (***praef.* 8**), a serious statement which is only strengthened by its preceding sarcastic note – "You see, then, how Asclepiades 'did not approve' of the use of drugs" (*vides ergo, quam non placeat Asclepiadi usus medicamentorum*).

[76] "Therefore, as a natural consequence some are **plainly murdered by the ignorance of such men** who have hastened the bleeding in some manner. And, oh good god, these are the very ones who attribute their own fault to drugs as if those accomplished nothing" (*merito itaque **manifeste quidam iugulantur genere** quodam incitata eruptione sanguinis **ab eiusmodi hominum imprudentia**. et, o bone deus, hi sunt ipsi, qui imputant suam culpam in medicamentis quasi nihil proficientibus*).

patients, and how could it be justified not to provide "what the touch of gods can bring about" (***praef.* 1**, see above). The centrality of the position that good medical practice requires reliance of all branches of medicine is reflected both in the structure and content of the text, as will be further explored below (2.1.1; 2.3; 2.4; 2.5). It is a rare example where Scribonius takes a clear stance on medical philosophy, a position opposing medical sects which eschew one or more branches of practice in favour of another, e.g. those which rely exclusively on dietetics, or ban surgery or pharmacotherapy.[77] Instead, Scribonius' understanding of medicine is that of a tripartite and, crucially, inseparable union and must be practiced as such – in addition to, as well as being informed by both knowledge (*scientia*) and compassion (*humanitas, misericordia*) – in order to truly help patients. The three constituent parts are organised as degrees (*gradus*) in a hierarchical order, of which pharmacy occupies the middle position:

> *etenim quasi per gradus quosdam medicina laborantibus succurrit. nam primum cibis ratione aptoque tempore datis temptat prodesse languentibus; deinde, si ad hos non responderit curatio, ad medicamentorum decurrit vim: potentiora enim haec et efficaciora quam cibi. post, ubi ne ad haec quidem cedunt difficultates adversae valetudinis, tunc coacta ad sectionem vel ultimo ad ustionem devenit.*
>
> For in fact medicine hastens to the assistance of the sick as it were in certain steps. For first it attempts to help the sick by giving them food with reason and at a suitable time. Then, if the treatment is not obtained as a result of those, it moves to the strength of drugs: for these are more powerful and efficacious than food. After that, when the troubles of ill-health do not yield even to these means, then, compelled, it moves to operating or at last to cauterisation.[78] (***praef.* 6**)

Celsus, whose preface includes a longer overview of medical history and ancient physicians, similarly describes the division of medicine into *diaitetike*, *pharmakeutike,* and *cheirourgia* since Hippocratic or at least Hellenistic times:

> *Isdemque temporibus in tres partes medicina diducta est, ut una esset quae uictu, altera quae medicamentis, tertia quae manu mederetur. Primam* ΔΙΑΙΤΗΤΙΚΗΝ *secundam* ΦΑΡΜΑΚΕΥΤΙΚΗΝ *tertiam* ΧΕΙΡΟΥΡΓΙΑΝ *Graeci nominarunt.*

[77] The affiliation with any medical philosophy or sect has been much discussed in the scholarship but is ultimately uncertain and not clearly in line with any of the main schools. Kind (1921) considers him an empiricist, and Prioreschi (1996:175) likewise identifies empiricist elements; however, Deichgräber (1950: 865–6 = 13–14) argues more critically that while he may have much in common with the Empirics, he also differs in crucial points and is ultimately too broad in his medical approach, and as such is not included in Deichgräber's *Griechische Empirikerschule* (1930). Stoic elements have been identified by Prioreschi (1996: 175) and Pellegrino and Pellegrino (1988), while both similarities to and distinctiveness from stoic philosophy, particularly with relation to the preface, are highlighted by von Staden in response to Mudry and Sconocchia (1997: 328–9) and explored by Mudry (1997) and the paper's published discussion. Sconocchia (1991a, 1991c, 2001a, and elsewhere) emphasises the criticism of Methodist medical practice, which emerges particularly in the preface through the criticism of those who argue that Asclepiades prohibited pharmacotherapy. As such, the case is far from clear, which prompts Schonack (1912: 66–69) to conclude that 'eclectic' is perhaps the best term given that he includes elements from a variety of schools; additionally, von Staden raises the valid issue that attempts to shoehorn medical writers into any of the sects has led to overlooking the individuality of authors such as Scribonius (von Staden, response to Mudry and Sconocchia, 1997: 328).

[78] Cf. Hipp. *Aph*. 7.87, and sim. Cels. 1 *praef*. 9.

> During the same times [= from the Hippocratics to the Hellenistic physicians] the Art of Medicine was divided into three parts: one being that which cures through diet, another through medicaments, and the third by hand. The Greeks termed the first Διαιτητική, the second Φαρμακευτική, the third Χειρουργία.
>
> (Cels. 1, *praef.* 9, trans. Spencer)

The version in the Hippocratic *Aphorisms* omits dietetics, but emphasises the hierarchical nature, and states rather than implies that if the "last resort" treatment of cautery fails, the disease cannot be cured:

> ὁκόσα φάρμακα οὐκ ἰῆται, σίδηρος ἰῆται: ὅσα σίδηρος οὐκ ἰῆται, πῦρ ἰῆται: ὅσα δὲ πῦρ οὐκ ἰῆται, ταῦτα χρὴ νομίζειν ἀνίατα.
>
> Those diseases that medicines do not cure are cured by the knife. Those that the knife does not cure are cured by fire. Those that fire does not cure must be considered incurable. (Hipp. *Aph.* 7.87, trans. Jones)

While both Scribonius and Celsus base their works on this model of medicine, the three parts of medicine occupy a much more balanced position in the *De Medicina*. Where Scribonius' dietetics are mostly restricted to comments on drug administration or treatment-related dietary modifications (see 2.3.3), Celsus dedicates the first four books to dietetics and regimen. The remaining four books are evenly split into pharmacy (5–6, both compounds and simples) and surgery (7–8), with fewer recipes and remarks on poisoning, but more simples and coverage of both operative surgery and human anatomy. Scribonius' anatomical notes are few and surgery is mainly to be avoided by drug treatment (see 2.5), and topical remedies like plasters and poultices are considered surgical rather than part of the *capite-ad-calcem* order of ailments. Nevertheless, the importance of this conception of medicine is crucial enough to be repeated, and the last chapter of the toxicology section which acts as a conclusion for the *Compositiones* up to that point and introduces the work'sfinal section, stresses again that none of the parts can be omitted without detriment to medicine as a whole:

> *Implicitas medicinae partes inter se et ita conexas esse* [*constat*], *ut nullo modo diduci sine totius professionis detrimento possint, ex eo intelligitur, quod neque chirurgia sine diaetetica neque haec sine chirurgia, utraque sine pharmacia, id est sine ea parte, quae medicamentorum utilium usum habet* | *exhibet* **[S2]**, *perfici possunt, sed aliae ab aliis adiuvantur et quasi consummantur.*
>
> That the parts of medicine are connected and linked in such a way, that they can be in no way separated without harm to the entire profession, is understood from this, that surgery can neither be accomplished without dietetics nor the latter without surgery, or either <of the two> without pharmacy, that is without that part which makes use of | shows the use(fulness) of **[S2]** beneficial drugs, but the different parts are helped by the others and are as though made complete. (**200**)

As all three parts are indispensable and omission of any one causes harm to both profession and, presumably, patients, Scribonius would probably disagree with the understanding of his *Compounding of Drugs* as a pharmacology book or pharmacy reference work. While "so necessary a part of the art" (*tam necessaria parte artis,* ***praef.*** **3**) is given due prominence, Scribonius considers dietetics to have been suitably covered, while the remainder of the work is concerned with surgery:

> *itaque quamvis ex magna parte ad diaeteticos pertinentes compositiones iam exhibuerimus, tamen quasi claudicat et vacillat hic liber, nisi eas quoque compositiones, quae ad chirurgos pertinent, posuerimus, quarum initium ab emplastris faciemus.*
>
> Therefore, although **we have already presented the composite drugs relevant, for the greater part, to the dieticians**, nevertheless this book is as though limping and unsound if we do not also put down **those composite drugs, which are relevant to the surgeons**, of which we will make the beginning from the plasters. (**200**)

While pharmacy – "use of beneficial drugs" – is thus the topic of the entire work, and plaster-like remedies have already appeared among the recipes "relevant, for the greater part, to the dieticians" (*quamvis ex magna parte ad diaeteticos pertinentes* – the "for the greater part" a notable differentiation) in the previous sections, the topical remedy types addressed in subsequent recipes are here distinguished by Scribonius as belonging to the field of the surgeons (*ad chirurgos pertinent*), many of whom are credited as recipe authors/sources (cf. 3.2.1). While cautery, the final element of the hierarchy of medical degrees (*ultimo ad ustionem*, ***praef.*** **6**), is not especially singled out by Scribonius as part of the structure here or elsewhere, references to such treatments are included among treatments with surgical effects, such as **114** or **240**, which can be used as, or acts like, a cauterizing iron (*quasi cauterio,* **114**; *quasi cauterium* **240**). Like dietetics, these form an essential component of his pharmaceutical work, which he would otherwise consider incomplete ("as though limping and unsound", *quasi claudicat et vacillat,* **200**), a rather clever metaphor for a medical work lacking the attention of a surgeon.

2.1.1 Impact of Approach on Structure

Consequently, this tripartite conception of medicine is explicitly reflected in the structure of the *Compositiones*.[79] The first 162 chapters address ailments *a capite ad calcem*, discussing the body more or less systematically up to the groin and then closing with gout of the feet, and to a lesser extent also cover dietetical and general medical treatment of disease. Pharmacology, or here mainly

[79] Nutton (1995: 6); more detailed discussions of the structure include e.g. Schonack (1912: 42–44) and Cassia (2012: 52–57).

toxicology, occupies chapters **163–200**, a section subdivided into prevention of venomous animal bites and treatment with antidotes and theriacs (**163–178**), and the symptoms and treatment of individual poisons (**179–200**). The "surgical" recipes (*quae ad chirurgos pertinent*, **200**) conclude the work, a variety of plasters, poultices, and ointments for the management of wounds and mainly topical ailments (skin diseases, ulcers, growths etc.), including pharmacological alternatives for those otherwise surgically removed (**201–271**).[80] These sections, framed in an assurance of the efficacy of the included remedies,[81] are introduced by a dedicatory letter to Scribonius' patron Callistus, which lays out the text's aims and position on ethical and practical matters.[82]

The work is completed by an index, placed between preface and recipes,[83] which acts as a navigation aid for the reader (cf. ***praef.* 15**, "Therefore, we have first placed in order and designated with numbers the disorders for which recipes are sought and suitable, so that what is sought can be easily found", *primum ergo ad quae vitia compositiones exquisitae et aptae sint, subiecimus et numeris notavimus, quo facilius quod quaeretur inveniatur*).[84] As one of the four Roman works (alongside Pliny's *Naturalis Historia*, Columella's *Res Rusticae*, and Aulus Gellius' *Noctes Atticae*) with authentic ancient indices, it is of importance for the study of the index in literature (on which see Riggsby 2007), but furthermore acts as a source of additional information or clarification for the *Compositiones*, such as the nature and number of recipes in a chapter, further details on remedy or on content, additional ailments, or synonyms. The former is illustrated by **Ind. 12**, which specifies that the chapter features four simples and one compound (*ad comitialem morbum simplicia* IIII, *compositum unum*), while a remedy's purpose is clarified by **Ind. 175** as a plaster for the bite of rabid dogs (*emplastrum mirificum ad canis rabiosi morsum*), while the chapter only notes that it was compounded for Augusta for "ailments of that sort" (*Augusta propter eiusmodi casus habuit compositum*, **175**) in a section covering not only rabies, but also general irritants, snakebite, and the

[80] Schonack (1912: 43) divides further into a section on plasters, *emplastra* and *lipara* (**201–254**), and a section on poultices and "means of relief" (*Linderungsmittel*), the *malagmata* and *acopa* (**255–271**).

[81] ***praef.* 12** indicates that Callistus requested recipes after experiencing the usefulness of drugs, while the concluding paragraph of **271** emphasises the tested nature of Scribonius' remedies and the credibility of any friends from whom he accepted recipes.

[82] The preface, which also fulfils a literary and customary function as an expression of praise and gratitude towards the patron, has itself been further subdivided by Römer (1987: 126–7): ***praef.* 1–4** justification of medicine and responsibilities of the physician; ***praef.* 5–10** medical ethics and unity of medicine; ***praef.* 11–14** dedication proper (with **11** in a middle position covering topics of both ***praef.* 5–10** and ***praef.* 12–14**), ***praef.* 15** guidelines for using the *Compositione*s.

[83] The index follows the *epistula dedicatoria* in the *editio princeps* of Ruellius (1528) as well as the more recent one of Sconocchia (1983) and Jouanna-Bouchet (2016).[83] Somewhat uncharacteristically, it precedes the *epistula* in that of Cratander (1529) but is omitted by the edition of Helmreich (1887), as it was then, and until at least the 1950s, considered inauthentic (Machold 2010: 17). On its authenticity, see Sconocchia (1976: 260, 1981: 55–60, 2001a: 261–262).

[84] Marcellus includes a similar, but shorter list, more broadly structured by ailment (e.g. headaches rather than individual remedies, such as Scribonius' eleven different headache remedies which are all listed in the index). For the additional brief but seemingly unrelated index included between Scribonius' index and the text of the *Compositiones* in **T** (including edition and commentary), see Sconocchia (1998: 175–183).

sting of scorpions. Finally, as the index covers the entirety of the text, it provides information about the chapters which are missing from the manuscript tradition, or only partially extant (**166–170**, as well as **72**, **235** and **236**). An illustrative example is **235**, for which part of the recipe or at least the chapter heading is extant, reading "should there be a dirty ulcer or should *cancer* attack or already have taken hold, the <remedy of> Andronios with wine works well" (*si ulcus sordidum erit aut cancer temptaverit vel iam occupaverit, Andronios ex vino bene facit*). While this could be a short, recipe-free chapter (cf. 3.1.1.6), the index makes it clear that two compound remedies are to be expected: "Two compound remedies should there be a dirty ulcer or should <the body or patient> be attacked or seized by *cancer*" (*si ulcus sordidum fuerit aut cancere temptabitur corruptumve fuerit composita duo*, **Ind. 235**). Even if the index includes a subsequent chapter in this count (cf. 3.1.1.1), one would expect at least one recipe (that for Andronios' remedy is already given in **63**), The index thus adds to the understanding of the text as well as providing a navigation aid for its three sections that reflect the thee parts of medicine.

2.2 The Preface: Effective use of a social and literary convention for self-presentation and contextualisation of medical work

As already noted in the introduction (1.4.2), a large and comparatively disproportionate amount of scholarship has been dedicated to Scribonius' *epistula dedicatoria*. Given this extensive interest, this section will only briefly discuss those elements of the preface which, in addition to those already covered, are of particular relevance for the present study.

The dedicatory epistle to the influential imperial freedman Callistus, Scribonius' patron and intermediary to the emperor Claudius, fulfils an important role as both literary device and social convention, and is consequently formulaic to some extent, as Römer (1987) has shown. But as a result, it also illustrates the way in which Scribonius presents himself as a doctor and Roman individual and positions himself and his work in the intellectual and economic context of ancient medicine. Here civic ideals, self-identification with "Romanness", and a cultivated self-image of an ethical practitioner with a suitably balanced approach to authority emerge as key themes.

2.2.1 Civic duties and military background

As part of his discussion of ethical medical conduct, Scribonius raises the point that the citizen-as-doctor and the citizen-as-soldier have different responsibilities in a military context:

> *idcirco* ***ne hostibus quidem malum medicamentum dabit, qui sacramento medicinae legitime est obligatus (sed persequetur eos, cum res postulaverit, ut militans et civis bonus omni modo)****, quia medicina non fortuna neque personis homines aestimat, verum aequaliter omnibus implorantibus auxilia sua succursuram se pollicetur nullique umquam nocituram profitetur.*

> For that reason, one who has been bound to the oath of medicine properly **will not even give a harmful medicament to the enemies (but pursue them, whenever the matter demands it, as a good citizen and soldier in every way)**, because medicine does not value people either by fortune or by character, but truly equitably promises that it will come to the aid of all who appeal for its assistance, and declares that it will never do any harm to anyone. (***praef.* **4**)

Here civic and medical responsibilities are contrasted to emphasise the gravity of the physician's obligation to help, and Scribonius illustrates that the professional rules by which the good doctor is bound goes beyond the moral conduct expected of the good Roman citizen. As Deichgräber (1950: 5) notes, this position on medicine's existence beyond political allegiances is contrary to that taken in the fifth pseudo-Hippocratic letter, addressed to the Persian Hystanes, which rejects an invitation on the basis of being unable to treat enemies of the Greeks (Περσέων δὲ ὄλβου οὔ μοι θέμις ἐπαύρασθαι, οὐδὲ βαρβάρους ἄνδρας νούσων παύειν, ἐχθροὺς ὑπάρχοντας Ἑλλήνων, [*Epist.*] 5.6–7). Scribonius' passage alerts to an idea of a complex identity – citizen, doctor, soldier – which embraces Roman ideas of citizenship and the citizen-soldier element, as well as the separate ethical orders followed by the citizen-physician which supersede personal feelings or national allegiances and requirements.

This contrasting of military and medical responsibilities on the battlefield is of interest in light of Scribonius' own background as part of Claudius' campaign to Britain.[85] While Scribonius' role in Claudius' campaign is not explicitly defined anywhere, accompaniment as an army doctor rather than a soldier seems more likely, and either explains or is corroborated by Scribonius' emphasis on the inclusion of "surgical" remedies and knowledge of wound treatment.[86] In this, Scribonius shares communality with his near-contemporary Dioscorides not only in terms of pharmacological interest, but also in military background.[87] As illustrated by **163**, the excursion provided not only military medical experience, but also allowed for scientific observations, as the account of a "pointy" clover (*trifolium acutum*/*oxytriphyllon*) growing near the departure harbour of Luna and its harvest ritual shows (cf. note **163**, 79.18-29 *pridie notare*). Soldiers specifically are directly linked to therapeutics by the Soldier's eye-salve (*stratioticum collyrium*, **33**), while further instances of military connection may be found among the multitude of wounds addressed in the surgical section of the text. That said, poisoned arrows and artillery injuries of unspecified kind (*telum*, "missile", only used in connection with poison (**176** *si quis venenato telo percussus est*), or the arrow-poison

[85] "when we were travelling to Britain with our god Caesar" *cum Britanniam peteremus cum deo nostro Caesare,* **163***).*
[86] Although a gladiatorial connection, as with Galen, is also an option – cf. the mentions of gladiators as patients in **101, 203, 207,** and **208.**
[87] Thus, in the preface of book one: οἶσθα γὰρ ἡμῖν στρατιωτικὸν τὸν βίον, "for you know that I have led a military life" (Diosc. *praef*. 4, trans. Beck), or alternatively "the life of a soldier" (cf. Scribonius' *stratioticum collyrium* in **33**). In addition to medical expertise in general, this, like for Scribonius, is synonymous with a wide-ranging knowledge of *materia medica* on account of travelling (πολλὴν γῆν ἐπελθόντες, "having covered much territory", Diosc. *praef*. 4, trans. Beck).

toxicum in **194**) are the only wounds noted that may be the result of combat, and as mentioned before, the context of the gladiatorial school is an alternative source for such injuries. Finally, one may note a degree of military or at least aggressive vocabulary in the description of disease and its treatment; Scribonius speaks of *auxilia,* a term for military support here used in its general sense of "help" (cf. 2.3.2), while diseases "seize" people (*corripio*) in a personified and aggressive way which resembles modern expressions like "war on drugs" or "fight against cancer".[88]

2.2.2 "We" and "They/the Greeks"

This explicit identification with Roman civic values finds further expression in the contrasting of "they" or "the Greeks" and a Latin-speaking "we". Throughout the *Compositiones,* this occurs in form of Greek or (less frequently) Latin terms which are given for diseases, drugs, and ingredients. The expression "which the Greeks call", *quae* (or similar) *Graeci dicunt,* occurs 36 times in the text; mostly for disease terms ("dangerous disorders, which the Greeks call *oxea pathe*", *vitiisque praecipitibus...quae ὀξέα πάθη Graeci dicunt,* ***praef.*** **8**), but also for medical ingredients ("copper scale, which the Greeks call *lepis", squama aeris, quam lepidam* | *lepida* **[S2]** *Graeci vocant,* **133**), or compound drug names ("a white plaster <made> of salt, which the Greeks call *dihalon", emplastrum ex sale album, quod διαλῶν* διαλῶν | δι᾽ ἁλῶν **[S2]** *Graeci vocant,* **Ind. 217**). The more neutral "they call*" (dicunt)* is used 30 times: "those creating black bile, whom they call melancholics" *(bilem atram generantes* | *generantis* **[S2]**, *quos melancholicos* | μελαγχολικούς **[S2]** *vocant,* **104**); "lead dross, which they call *scoria*" (*plumbi stercus, quod scoriam* | *scorian* **[S2]** *dicunt,* **48**); "that kind of drug which they call *perichrista*" (*huiusmodi medicamenta, quae perichrista vocant,* **29**).[89] The reverse – Latin synonyms given for Greek terms – is less common and occurs mainly with plant names: "the herb, which they call *polion* [hulwort],we as I believe *tiniaria*" (*herbae, quam polion vocant, nos ut opinor tiniariam*, **83**); "root of *cyperus/cypirus*,[90] which we call gladiolus" (*cyperi* **[S]** | *cypiri* **[J-B, S2]** *radicis, quod nos gladiolum appellamus,* **82**); *"periclymenon,* which we call 'mother of the wood' [honeysuckle]" (*periclymeni, quam silvae matrem vocamus,* **129**); "*scolopendrion*, which we call 'stone-shatterer' [burnet saxifrage]" and "*hierabotane* [holy plant], which we call *Vectonica* [betony]" (*herba scolopendrios, quam nos calcifragam appellamus...hierabotane* | *hierabotanes* **[S2]**, *quam nos Vectonicam dicimus,* **150**). Dioscorides' synonyms are generally alternative Greek names, analogue to Scribonius' account of what "some" or "others" call a plant, drug, or disease, e.g. "the root of common comfrey, which

[88] Although arguably Paul Ehrlich's pharmacological "magic bullet" (*Zauberkugel*, on which e.g. Strebhardt and Ullrich 2008) perhaps invokes the legend of the Freischütz, a mythological huntsman who has obtained bullets from the devil which always find their mark (perhaps most well-known in form of the 1821 opera by Carl Maria von Weber), more than the accuracy of a military sniper.

[89] Sconocchia's second edition clarifies some of these as matters of Greek terminology, e.g. in **7**: *per cornu, quod* | *<Graece>* **[S2]** *rhinenchytes vocatur*

[90] See note **82, 44.7–8** ***cyperi...*** for the textual and synonym-related issues in this chapter.

some call country elecampane, but others call comfrey of the Gauls" (*symphyti radix, quam quidam inulam rusticam vocant, quidam autem alum Gallicum dicunt*, **83**), while Celsus (and perhaps Pliny, to a lesser extent) is actively attempting to establish a Latin medical terminology, as von Staden (2010) has shown.[91] In addition to contributing to questions of Latin medical terminology, Scribonius' clear distinction between "we" and "the Greeks" or "they" is in stark contrast to the language of Galen, who, as Nutton (2012b) illustrates, maintains a strong Greek identity despite working in and for the Roman Empire. As Scribonius' "Latin medical writings" and occasional Graecisms (cf. 1.1) raise the issue of a Greek or at least a bilingual physician, Scribonius' self-presentation, unlike that of Galen, is very much that of a Roman. By additionally adhering to Roman social and literary custom through the dedicatory preface, necessary for both professional and personal advancement and access to imperial and social circles, Scribonius creates a framework for the *Compositiones* where his Romanness and his appropriate moral and professional conduct allows him to positively compare and distinguish himself from other medical practitioners in an ultimately flattering light.

2.2.3 Self-presentation, other practitioners, and medical authorities

This advertisement of distinctiveness and superior knowledge, skills, or ethics is necessary in the commercial environment, the "medical marketplace", of ancient medical practice. This concept of medical historiography, applied to both the early modern period (for an overview, see Jenner and Wallis 2007) and Greco-Roman antiquity (Nutton 1992; see also e.g. Steger 2004), describes an environment in which a multitude of individuals with a range of different medical approaches competed for patients' attention and, importantly, money.[92] In order to stand out from this variety of drug peddlers (*pharmacopolae, pigmentarii*), ointment-makers (*unguentarii*), and fellow physicians and surgeons in addition to those who offer services despite being "removed far from the discipline of medicine" (*longe summotos a disciplina medicinae*, ***praef.* 1**), Scribonius uses the recipe collection itself to emphasise how his own treatment, remedy composition, or knowledge of medicine sets him apart from others in the field. This may be through drawing attention to his treatment or cure of cases abandoned by others (*desperatas a quibusdam ocullariorum*, **37**), his improvement of remedies (e.g. *Diaglaucium* 2.0, διαγλαύκιον *nove factum* (**Ind. 22**), an eye-salve now including 5 drachms of opium, "for this I added, and in this way it functions better", *hoc enim ego adicio et ita melius respondet,* **22**), or his knowledge of physiology and haemostasis where the uneducated and unskilled all but kill their patients (*manifeste quidam iugulantur...ab eiusmodi*

[91] For Pliny and technical terminology, see Fögen 2010, and to an extent Healy 1978 (with discussion of Pliny and technology/science more generally).
[92] For the medical profession in Rome as well as its less than flattering reputation in this respect, see e.g. Nutton 1985a; Mudry 1985; Jackson 1988; or Scarborough 1969.

hominum imprudentia, **84**). Scribonius knows how to navigate the complexities of this commercial environment, and he carefully balances assertions of his good reputation within the profession, name-dropping of famous individuals (cf. 3.2.1), and acknowledgement of medicine's commercial nature (e.g. ***praef.* 9** on how less care is taken in selecting doctors than painters, indicating the patient's power – as well as their carelessness – in this aspect), with criticism of exclusively commercial interest, emphasising how his own approach is and has always been following "the proper path" (*rectam viam*) guided by ethics and "knowledge of the art itself" (*ipsius artis scientia,* ***praef.* 11**). Additionally, medicine is declared to be fundamentally independent of a patient's ability to pay "because medicine does not value people either by fortune or by character" (*quia medicina non fortuna neque personis homines aestimat,* ***praef.* 4**), and profiteering from inferior-quality or adulterated drugs, such as the poppy leaf-sap sold as opium (cf. note **22, 22.16-19 *opium*...**), is dismissed as a vice of those "outside" the profession. In addition to acting as a strategy for situating himself within, and standing out from, the medical marketplace, this latter anti-commercial rhetoric may also be seen as a further way in which Scribonius affiliates himself with Roman social and moral *mores,* and the elite's distaste for commercial activity, as expressed in e.g. Juvenal's third satire or parts of Cicero's work.[93]

Beyond this relatively clear differentiation from contemporary competition, Scribonius' position regarding medical authority figures is somewhat more ambiguous.[94] On the one hand, authority for authority's sake alone is dismissed – even as Asclepiades' perspective on drugs is redeemed by Scribonius, he makes it clear that if he had been opposed, the authority would not have dissuaded him from criticising – "I am not put off by personality when I see a matter to be evidently beneficial" (*non deterreor persona, cum rem manifeste prodesse videam,* ***praef.* 7**).[95] On the other hand, Scribonius opens the *Compositiones* with reference to and quotation of Herophilus ("who once was regarded as among the greatest physicians", *inter maximos quondam habitus medicos*, ***praef.* 1**), and critical reading and condemnation of misinterpretation aside, Asclepiades is well-received and even adopted as "our Asclepiades" (*Asclepiaden nostrum*, **75**). Familiarity with ancient authors, and education based not only on empirical study but also on reading and comprehension of important medical texts is one of the implicit and explicit demands Scribonius has for good medical practice. It emerges in the criticism of those who misinterpret Asclepiades (***praef.* 7–8**), his condemnation for a harmful level of ignorance both on drugs and physiology (e.g. ***praef.* 3**; **84**), and his emphasis on his own studies (***praef.* 11**). Meanwhile, the references to

[93] See e.g. Finley 1999: 41–4. On Roman values more generally, see e.g. the edited volume by Oppermann (1974).
[94] Imperial authority, however, is shown the appropriate respect of someone hoping for patronage, and Claudius is always referred to as "our god Caesar", *deus noster Caesar*, (***praef.* 13**; **60**, **163)**.
[95] A similar position can be discerned from Dioscorides' preface (1–3), which criticises both ancient and contemporary sources of incorrect, incomplete or unhelpful medical information.

Herophilus (***praef.* 1**), Hippocrates' *Oath* (***praef.* 5**), Asclepiades' *Parasceuasticon* (***praef.* 8**), and the note that his access to reference works was restricted to the bare necessities while he was abroad[96] draw attention to his own familiarity with the medical writings of Ancient and Hellenistic authorities. This ambivalent position is perhaps most evident in the way in which Scribonius mentions and uses "Hippocrates", particularly his reception of the Hippocratic Oath and its implications.

2.2.4 Reception of Hippocrates and the Hippocratic Oath

Asclepiades may be the most extensively discussed authority, and the beginning of medicine is placed more anonymously with the general therapeutic use of "herbs and their roots" (*herbis ac radicibus earum*, ***praef.* 2**), but it is Hippocrates who is singled out as "father of our profession" (*conditor nostrae professionis*).[97] This passage opens ***praef.* 5**, a section which uses the Hippocratic Oath to argue that Hippocrates' prohibition of abortifacients, the "sacred oath" required of his students, and their induction in humanity and compassion as much as in medicine surely showed how highly Hippocrates valued the life and wellbeing of the patient.

> *Hippocrates, conditor nostrae professionis, initia disciplinae ab iureiurando tradidit, in quo sanctum est, ut ne praegnanti quidem medicamen tum, quo conceptum excutitur, aut detur aut demonstretur a quoquam medico, longe praeformans animos discentium ad humanitatem. qui enim nefas existimaverint spem dubiam hominis laedere, quanto scelestius perfecto iam* **[S]** | *iam nato* **[J-B, S2]** *nocere iudicabunt?*

> Hippocrates, founder of our profession, handed down the first principles of the discipline by swearing an oath, in which it was a sacred principle that a drug which casts out the foetus ought not be given nor even shown to a pregnant woman by a doctor, <thereby> long predisposing the hearts of his students to humanity. For given that they will consider it an offence against divine and moral law (*nefas*) to harm the uncertain hope of a human being, how much more wicked will they judge it to harm one already fully grown **[S]** | ~ and born **[J-B, S2]**? (***praef.* 5**)

[96] "But forgive me if the recipes seem few to you and not written for all disorders: for we are, as you know, abroad, and no number of manuals accompanies us unless entirely indispensable" (*ignosces autem, si paucae visae tibi fuerint com positiones et non ad omnia vitia scriptae: sumus enim, ut scis, peregre nec sequitur nos nisi necessarius admodum numerus libellorum*, ***praef.* 14**).

[97] This passage has been of importance for the study of the Hippocratic Oaths and its reception (on which see e.g. Edelstein 1943, 1967, 1956; von Staden 1996; and, in disagreement with Edelstein (1943), Prioreschi 1995. That the "Hippocrates" in the ancient imagination bears little similarity to a single physician of the name, or that the original Oath was not intended as a universal statement of medical ethical conduct, nor used widely even among "Hippocratic" practitioners, is of little relevance to Scribonius, who takes it as an important example of regulation and ethical responsibility of the physician at most, and at the very least as a powerful rhetorical tool for making his argument. For the complex reception of "Hippocrates", see most recently King 2019, whose exploration of the "tweetable" or "meme-able" Hippocrates in the age of social media and internet-based discussion and knowledge acquisition highlights the various ways in which the Oath and other Hippocratic concepts have been decontextualized and interpreted both recently and in the past. For a comprehensive introduction on the Hippocratic corpus and issues such as authorship, see e.g. Craik 2015.

Scribonius' overall argument is for humanity in medical practice rather than against abortifacients in particular, but what is noteworthy is the reference – and reverence, the almost-invocation of what was by that time almost a pseudo-mythological figure – to "Hippocrates" and "his" *Oath*.[98] It provides evidence for Scribonius' familiarity with at least part of the Hippocratic corpus – at least sufficient knowledge of the *Oath* to be able to single out the passage – "Similarly I will not give to a woman an abortive remedy", ὁμοίως δὲ οὐδὲ γυναικὶ πεσσὸν φθόριον δώσω (*Jusj.* 15–16, trans. Edelstein) – from the general oath required of disciples – and therefore, more broadly, textual evidence for the *Oath* in first century Rome. Here, in the preceding section ("he, who has been bound to the oath of medicine properly", *qui sacramento medicinae legitime est obligatus,* ***praef.* 4**), and in **271** ("friends...who confirmed with an oath that they themselves had tested [the remedies]", *amicis...quas cum iureiurando adfirmaverunt se ipsos expertos esse*), the swearing of oaths is treated as proof of adherence to professional and truthful medical conduct, with the explicit linking of oaths to the sacred, and thereby bound to the laws of both gods and men (cf. *diis et hominibus invisi/invisus,* ***praef.* 3** and **199**).[99] As such, it frames the *Compositiones,* from the preface over the surgical section's introduction to the concluding paragraph in **271**, in the context of oaths, professional conduct, and moral, legal, and religious obligations.

While the invocation of Hippocrates and sacred oaths of medical ethics are an obvious and rhetorically effective choice, it is nevertheless an odd one when examined alongside Scribonius' overall approach to medical practice, given that the two take the opposite position on some key aspects. This emerges particularly in the respective stances on surgery, where Scribonius' commitment to surgical practice and sharing of effective treatments is in direct violation of the *Oath* (and vice versa). As stated in ***praef.* 5–6** and **200** and shown in 2.1, surgery is considered an indispensable element of medicine, whereas *Jusj.* 17–18, explicitly forbids physicians to concern themselves with surgery and requires specialists ("I will not use the knife, not even on sufferers from stone, but will withdraw in favor of such men as are engaged in this work", οὐ τεμέω δὲ οὐδὲ μὴν λιθιῶντας, ἐκχωρήσω δὲ ἐργάτησιν ἀνδράσι πρήξιος τῆσδε, trans. Edelstein). Scribonius' stance on specialisation is somewhat difficult to discern, given that he refers to eye-doctors (and

[98] *Discentium* (***praef.* 5**) may thus also be rendered 'disciples' instead of the more literal and neutral "students". A more recent example of the near-deification of medical authorities is the semi-religious status taken on by Joseph Lister, his antiseptic ritual, and his group of student-followers (Granshaw 1992; Lawrence and Dixey 1993).

[99] Arguably, this may be a further statement of Scribonius' commitment to Roman moral values, including religious ones, or at least exemplifies how Scribonius engages with the divine in these times of religious changes in the Roman Empire; cf. Herophilus' "hands of the gods" (***praef.* 1**), the repeated expression "hateful to gods and men" (***praef.* 3, 199**), Hippocrates' sacred Oath (***praef.* 5**), and the honorific *Deus Noster Caesar* (***praef.* 13, 60**), two of these phrases are repeated in the text, plant names are linked to deities – Apollo (*Apollinaris herba* or *radix*, here distinguished from henbane, its usual meaning), Artemis (*Artemisia*, here dittany of Crete rather than the more common use for wormwood), and Mercury (*herba Mercurialis*, annual mercury). The exclamation *medius fidius* occurs, which in addition to its usual reference to Jupiter can be taken as an association with Hercules, whose hero cult included medical elements, while Apollo is more strongly associated with medicine. Apollo's herb aside, the lack of explicit invocation of medical deities (as e.g. in the opening of the Oath) is however noteworthy.

ointment-makers, perhaps a sub-speciality of the doctor as much as of the drug-peddler) and distinguishes surgeons from physicians and dieticians, while including several remedies which have the explicit purpose to avoid incision or cautery is notable, especially in light of the absence of instructions for operative surgery. But as surgery is such an integral part of Scribonius' understanding of medicine, the Oath's somewhat complicated position on surgery – even if taken as an "overstepping one's competencies" statement – certainly seems jarring if placed next to Scribonius' overall demand that all branches of medicine must be utilised (***praef.* 6**) and harm is done if one is omitted (**200**). Additionally, while there are parallels between Scribonius' approach and the Oath's invocation of the divine as part of medical practice, or the importance of ethical conduct and indiscriminate treatment, the promise of honour and reputation and the transmission of medical knowledge poses a further issue. Scribonius' emphasises his desire for medical knowledge and his dismissal of financial gain or reputation, stating that he was "not, by Jupiter, being led by the desire for money or glory but the understanding of the art itself" (*non medius fidius tam ducti pecuniae aut gloriae cupiditate quam ipsius artis scientia,* ***praef.* 11**).[100] The Hippocratic Oath takes a less contrasting stance, and glory is the direct result of good and ethical practice: "If I fulfil this oath and do not violate it, may it be granted to me to enjoy life and art, being honored with fame among all men for all time to come" (Ὅρκον μὲν οὖν μοι τόνδε ἐπιτελέα ποιέοντι, καὶ μὴ ξυγχέοντι, εἴη ἐπαύρασθαι καὶ βίου καὶ τέχνης δοξαζομένῳ παρὰ πᾶσιν ἀνθρώποις ἐς τὸν αἰεὶ χρόνον, Hipp. *Jusj.* 24–26, trans. Edelstein). Where Scribonius invokes the gods to lend emphasis to his own focus on medicine, rather than honour, a good and lasting reputation is the reward asked of the gods by whom the Oath is sworn (that is "all the goddesses and all the gods", θεοὺς πάντας τε καὶ πάσας, singling out the medical deities Apollo the Physician, Asclepius, Hygieia, and Panaceia, *Jusj.* 1–2), and its unspecified opposite – a bad reputation? No reputation at all? Being forgotten? – named as punishment (παραβαίνοντι δὲ καὶ ἐπιορκοῦντι, τἀναντία τουτέων, "if I transgress it and swear falsely, may the opposite of all this be my lot", *Jusj.* 26–27, trans. Edelstein). Part of this contract is the explicit promise to restrict medical knowledge[101] to the initiated – to share it freely with the sons of the oath taker and his teacher, and others who have sworn such an oath (*Jusj.* 7–11), "but not to anyone else" (ἄλλῳ δὲ οὐδενί, *Jusj.* 11, trans. Edelstein). To Scribonius, acquisition and

[100] Of course, all of this is Scribonius' self-presentation, and as such to be taken with a grain of salt. The same chapter continues that he expected great advantages (*omnia commoda,* ***praef.* 11**) from his conduct, or that he draws attention to the fact that he has "healed several not unknown individuals, whose names it is unnecessary to relate" (*aliquot non ignotos sanavimus, quorum nomina supervacuum est referre ,***122***)*, emphasises or curries imperial favour (cf. *deus noster Caesar* and the name-dropping of Augustus, Octavia, Antonia, and Messalina before her fall from grace), and stresses his own positive reputation ("I certainly attained a great reputation for knowledge at some time or other through the use of medicaments given with success", *ego certe aliquotiens magnum scientiae consecutus sum titulum,* ***praef.* 2**).
[101] I.e. knowledge of medicine in general, rather than patient information – while the *Oath* prohibits that as well (*Jusj.* 21–24), this is more in line with Scribonius' partial anonymisation of certain cases, like that of "the slave of a certain ointment-maker" (*unguentarii cuiusdam servum,* **118**).

transmission of recipes – at times even with source attribution –, and familiarity and critical engagement with medical literature, knowledge and discourse, forms a crucial element of what distinguishes good practitioners from the bad, whether by virtue of avarice or harmful misinterpretation or lack of suitable medical knowledge, as discussed above. The author of the Hippocratic Oath, however, writes from the perspective of a secretive and hereditary or apprenticeship-based system of medicine, where transmission of medical knowledge is prohibited beyond the circle of students, teachers, and relatives that forms the specific group of the medically initiated. As such, it is an interesting choice to invoke the authority and oath of Hippocrates to add rhetorical and authoritative weight to the *Compositiones* where Scribonius seems to clearly disagree with some of its key tenets. However, given the continuity in this equation of the Hippocratic Oath with the ultimate symbol of ethical medicine, including in modern times,[102] this is not so much surprising as illustrative of the ancient reception of the Oath and its integration in physicians' understanding of medical practice and professional conduct.

As the previous analysis has shown, Scribonius uses his work in general and his preface in particular to present himself as an ethical and educated medical practitioner, with strong views on the importance of professional conduct and pharmacotherapy, and with appropriate knowledge of Roman *mores* and social formalities. This curated self-image establishes his position regarding medical approaches and practice as well as pragmatically within the medical marketplace. Furthermore, whether factual or formalistic statement, the *Compositiones* are presented as condensing Scribonius' overall medical and pharmacotherapeutic experience into a comprehensive Latin volume for the use of Callistus, to provide remedies against numerous ailments that the reader may encounter. As such, the range of ailments covered illustrates the health challenges and anxieties of life in the first century Roman Empire, while the extensive list of drugs and ingredients showcases the knowledge and availability of local and imported medicinal substances, as well as their preparation and application in medical contexts. The following discussion examines how this looks in practice, and how Scribonius approaches and represents aspects as diverse as individual

[102] With very little challenge, including in popular culture, as discussed by King (2019: 68–72). Two further examples for references to the Oath as a general shorthand for ethical medical conduct in popular culture are the science fiction series *Stargate Atlantis*, much of which centres around the use and abuse of bioethics (arc introduced in S01 E07 "Poisoning the Well", first aired 2004), and the eponymous "Hippocratic Oath" of *Star Trek: Deep Space Nine* (S04 E04, first aired 1995) which, much like Scribonius, uses the Oath to exemplify the dilemma between the soldier facing the enemy, and the doctor who is obliged to heal. A notable, if unsurprising, exception is Hugh Laurie's Gregory House, of the eponymous tv series (*House M.D.*), who responds to a question about familiarity with the Hippocratic Oath, intended as a challenge of his ethical integrity, with disapproval of the Oath's prohibition of surgery and access to abortion (S01 E05, "Damned if you do", first aired 2004). While the further lament of the prohibition of seduction further demonstrates knowledge of the oath as much as proving lack of ethical integrity after all, he nevertheless includes the commonly misattributed quote of 'first do no harm', on which see King (2019: 101–105).

lifestyle, prevention of snakebite, and wound management across the tripartite organisation of the *Compositiones.*

2.3 Remedies *a capite ad calcem*: Drugs, Regimen and Dietetics

The beginning will be made "from the head (for this occupies the highest and, in a way, first place)" (*initium a capite faciemus* (*summum enim et quasi primum locum hoc obtinet*), ***praef.* 15**), Scribonius tells Callistus as he explains the work's approach at the end of the preface. This is a fairly common structure for medical works, followed also by Marcellus and, at times, by Celsus and Pliny, but what is included and excluded, and what deviated from the structure is illustrative of Scribonius' understanding and classification of his own medical practice. Three aspects will be discussed here: 1. the range and structure – including its omissions and disruptions – of the first 162 chapters; 2. the role of "other means of help" like bloodletting, and 3. the extent to which dietetics and regimen, the first of the three parts of medicine, is reflected in the text.[103]

2.3.1 The anatomical order of ailments and its disruption

Overall, Scribonius' first subsection follows the *capite ad calcem*,[104] or head to toe, scheme reasonably accurately: remedies for headaches are followed by remedies for ailments identifiable by modern and/or ancient physiopathology as occupying lower bodily regions. The generic headache is followed by "epilepsy", the comitial disease (*comitialis morbus*),[105] complaints of nose, mouth throat, chest, abdomen, and eventually the feet. As he apologetically explains in the preface, the work's scope is not as broad or extensive as he or Callistus had hoped, since he only has a limited reference library with him at the time of writing;[106] consequently, the number of remedies for individual body sections or complaints are varied, nor is every type of ailment or part of the body treated with the same diligence, as Table 2-1 shows. For example, only eleven remedies for headaches are featured, as opposed to the 108 (plus 22 on headache in one half of the head, *dolores emigranii et eterogranii*) headache treatments included by Marcellus, and where Marcellus has dedicated sections on hair-related problems, both of cosmetic and medical nature (chapters 6 and 7), Scribonius only includes hairs in the context of hairy eyelids or shaving as a treatment of headaches,[107] and not among the range of head-related matters which may require medical

[103] While the focus is on the *capite-ad-calcem* chapters, suitable examples from the text as a whole are included; the same approach is followed in the two following sections on toxicology (2.4) and surgery (2.5).
[104] The English equivalent is "head to toe", although "head to heel", from *calx, -cis* (f) heel, foot (hence calcaneus, the anatomical term for the heel bone) would be a more literal (and alliteration-preserving) rendering.
[105] Notably placed among the head problems; note also those afflicted by vertigo/scotoma or dizziness (*caligo*, **6**). Marcellus, who is much more extensive in his coverage of individual body sections, notably excludes this recipe group, although he has a dedicated section for *vertigo/scotoma* (*De med.* 3). By contrast, Celsus does not cover the comitial disease as part of his *capite-ad-calcem* approach in book 4, but instead considers it (3.23) among the non-specific diseases that affect the entire body which are covered in book 3 (*ea genera morborum, quae in totis corporibus ita sunt, ut is certae sedes adsignari non possint*, 4.1).
[106] "But forgive me if the recipes seem few to you and not written for all disorders: for we are, as you know, abroad, and no number of manuals accompanies us unless entirely indispensable" (*ignosces autem, si paucae visae tibi fuerint com positiones et non ad omnia vitia scriptae: sumus enim, ut scis, peregre nec sequitur nos nisi necessarius admodum numerus libellorum*, ***praef.* 14**).
[107] The selectivity goes both ways: in addition to the epilepsy chapters, Marcellus also omits the *mala medicamenta* and the beginning of the surgical section, i.e. most of the plasters.

intervention. The different weighing of recipe numbers by anatomical region is to an extent logical, as health problems may be more common or varied for one than another, and it is understandable that the eyes receive significantly more attention than, say, the ears. At other times, however, omissions, or relocations, of entire sections are somewhat more surprising, or at least noteworthy. The head, thorax, and abdomen is unsurprisingly mainly addressed in the *capite ad calcem* section, but the limbs are predominantly covered in the surgical chapters instead (from wounds and fractures thereof to chilblains), especially as Scribonius jumps from lumbago (**154–157**), i.e. the lower back, to gout of the feet (**158–162**) at the end of the section. Similarly, while kidney and bladder problems are included among other abdominal complaints, the female reproductive system is only covered as a further use of remedies treating other ailments (the breasts, however, are covered as part of the chest complaints in **80–82**), while the male reproductive system (**233–234**) is delegated to the surgical section instead. The latter also includes externally treatable rectal (**232**) and anal problems (**220, 222–227**), as well as problems which affect the surface of the body, such as skin diseases (**243–254**), while growths of various kinds are covered in both the surgical and the *capite ad calcem* section.

Table 2-1 Complaints by Anatomical Region

Chapter blocks	**Body part**	**Notes**
1–12	Head (headache)	**1–63** head, **1–75** head and neck
13–18	[Comitial disease]	
19–38	Eyes	
39–42	Ears	
43–45	Parotid glands	
46–52	Nose	
53–60	Teeth	
61–63	mouth	
64–75	Throat (uvula, trachea, windpipe)	
76–79	Breathing	**76–97** chest
80–82	Lymph nodes; breasts	lungs, chest
83–86	Bleeding (throat, chest)	
87–91	Lungs	
92	"stomach"	*Stomachus*/στόμαχος, a broader term which can also refer to the gullet, oesophagus, and alimentary canal
93–97	Chest (lungs, pleurisy)	

98–107	Other applications of Paccius Antiochus [comitial disease, vertigo, breathing and voice, facial paralysis/lockjaw, breasts, stomach, intestines, menstruation, returning to comitial disease and those afflicted by madness but also ending with gout]	Index provides abbreviated list – chapter has much more details
108–110	Stomach	**108**–**153** abdomen
111–122	Bowels	
123–134	Liver, spleen, kidneys, bladder	
135–139	Purgatives	
140–142	Intestinal worms & complaints	
143–153	Kidneys and bladder	
154–157	Lumbago	**154–157** back
158–162	gout	**158**–**162** feet
163–164	Bite prevention	**163**–**177** Toxicology I (prevention, theriacs, antidotes)
165–167/8	Theriacs	
169–177	Antidotes	
178–200	Harmful drugs	**178**–**200** Toxicology II
201–218	Plasters for various wounds and ailments (starting with head wounds but covering wounds & sim. of the entire body, incl. ulcers, animal bites, callouses, burns, chilblains)	
219–220	Chilblains	
220, 222–227	Anal complaints	
228–231	Similar non-surgical remedies for abscesses, lesions, or pains of various body parts	
232	Rectum	
233–234	Male genitourinary system	
235–242	Ulcers of various kinds, scar formation	
243–254	Skin diseases	
255	Tensions, muscle contractions (*tetanus*, *paralysis* and sim.)	
256	Abdominal	emollients
257	Chest and sides	
258	Anodyne	

259	Liver and spleen	emollients
260	Chest/praecordium	
261	Spleen	
262	Lumbar/inguinal pain	
263	Various swellings, abscesses, pains	
264	Anodyne, gout	
265	Chest/sides, liver, abscesses, bruises/distensions,	
266	Sprains, bruises, dog bite, swellings, gout	
267	Gout, spasms/convulsions	
268–271	Soothing slaves for chills, fatigues, pains	

In addition to the anatomical regions relocated to the surgical section, there is some degree of disruption to a clear *capite ad calcem* scheme due to the large number of multi-purpose remedies which are included in the text. While recipes generally have a primary indication which corresponds at least roughly to the anatomical region covered in that position on the head-to-toe ladder –the eye remedy chapters address only eye complaints, although they do cover a range from dimmed vision and eye infections to eyelid- or eyelash-related problems, while the throat remedies address various issues of the respiratory passages more broadly – remedies can additionally cover a range of ailments associated with places across the whole body. Where the effect of a headache remedy against toothache (**6**) is reasonable both in terms of anatomical proximity and the value of analgesic properties for pains of varying types, the "Holy Antidote" (*antidotos hiera*) of Paccius Antiochus, a multi-chapter remedy introduced as part of the chest remedies in **97**, covers an extensive list of further uses and essentially intersperses its own list of head (epilepsy, madness) to toe (gout) ailments until it reunites with the general abdominal and stomach remedies which follow from **108**. Similarly, additional indications of remedies also cover parts of the body far away from what is currently the principal part addressed by the chapter in question, or beyond the end of the *capite ad calcem* section – headaches re-emerge in **99** (and even in the surgical section, which is otherwise mainly concerned with limbs and the lower abdomen, in **206**), while gout is mentioned in a variety of chapters throughout the *Compositiones* beyond the end of the *capite ad calcem* section (in addition to **158**–**162**, there are anti-gout emollients and *acopa* in **264**, **266, 267**, and unsurprisingly Paccius Antiochus' antidote treats gout as well). This phenomenon is further exacerbated by the presence of remedies "against every kind of [ailment]" which occur in various of the later chapters, including (aside from the virtually universal Holy Antidote) the "perfect" antidote of Marcianus

(*telea* | τελεία **[S2]**..., *id est perfecta,* **177**), or the soothing remedies (*acopa,* **268**–**271**) which address more or less the entire body, although admittedly universal anodynes "against every kind of pain of the body" (*ad omnem dolorem corporis,* **156, 264, Ind. 269**) are perhaps most understandably placed in a somewhat unspecified position in the remedy hierarchy. Conversely, similar to the coverage of the Holy Antidote which precedes the toxicology section, recipes that might be expected to feature among the surgical sections already occur in the *capite ad calcem* section, such as plaster-like remedies (**45, 81** with the consistency of a plaster; **56** which is applied to a tooth like a plaster; similarly **175** in the toxicology section, referred to as a plaster three times (**Ind. 175, H 175, 175**), and once (**H 175**) as a plaster-antidote), remedies for wound care and haemostasis (**46**–**47**, **83**–**86**, **121**; while mostly concerned with bleeding from nose and mouth, **47, 84** and **121** also refer to wounds in general, while **85** and **86** addresses bleeding of unspecified source).[108] These disruptions, and the ambiguous division between what falls under the auspices of the surgeon and what follows the anatomical order of the body, illustrate both Scribonius' approach to ordering ailments and a degree of flexibility in the scheme (not to mention the responsibilities of various medical specialties and practitioners) – contrast e.g. the aforementioned discussion of the comitial disease among the chapters concerned with the head, while a kind of facial paralysis, the "doglike convulsion" (*cynikos spasmos*), "when the face is distorted on either side" (*cum in utramlibet partem depravata est facies,* **255**), is instead grouped with the surgical chapters. As both indicated by and resulting from Scribonius' holistic approach to patient care, in practice there is much overlap between the different branches of the tripartite medical model, and the subsequent ordering of ailments according to place and discipline.

2.3.2 "Other means of help" – *Auxilia*

This overlap is further illustrated by the appearance of *auxillia,* "[other] means of help", among the non-pharmacological treatments in the *capite ad calcem* section. The term *auxilia* – a noteworthy military term for supporting remedies (cf. Scribonius' connection to military matters, as discussed in 2.2.1) – is used mainly in the general sense of "help" or "support". In the preface, Scribonius employs the term to emphasise that medicine and doctors must aid their patients (***praef.* 4** *verum aequaliter omnibus implorantibus auxilia sua succursuram se pollicetur*; ***praef.* 5** *omni parte sua plene excubat in auxilia laborantium*; ***praef.* 6** *aegris auxilia, quae per vim medicamentorum frequenter exhibentur),* while it describes the multi-remedy treatment of various ailments (*omnia enim auxilia adhibenda sunt,* **106**), the means to manage poisoning in the index (*singulorum malorum medicamentorum propria auxilia*, **Ind. 178**), and unspecified non-emollient remedies

[108] And vice versa, e.g. in case of the aforementioned 'belated' treatment of male sexual organs in **233–234**, the emollients for liver, chest, and spleen in **259–260**, or those for gout in **264** and **266–7**.

which did not obtain a cure (*cum ad nullum malagma aut auxilium cedebant,* **229**). Additionally, however, **22** defines *cetera auxilia,* useful for the treatment of eye problems in conjunction with medicaments, as specifically fasting and bloodletting: "not without other means of help (I mean abstinence, bloodletting), as the matter requires" (*non sine ceteris auxiliis, prout res postulat, abstinentia dico, sanguinis detractione).* By contrast, **67** sees "other means of help, which are used by doctors rather effectively" (*ceteraque auxilia, quibus medici efficacius utuntur*) as going beyond bloodletting and cupping (*sanguinis detractio, cucurbitarum admissio*), which are mentioned separately. Given that these chapters cover the "composite drugs relevant, for the greater part, to the dieticians" (*ad diaeteticos pertinentes compositiones,* **200**), fasting is an expected inclusion (cf. 2.3.3 below), but the inclusion of bloodletting (and wet cupping as a variety thereof) here, defined as used specifically by doctors (*medici*, **67**) is of interest. As phlebotomy requires incision and in later medical history is associated more with (barber-)surgeons or surgeon-apothecaries than physicians, its absence in the surgical chapters and assignment to the *capite ad calcem* section provides a further example for the degree of flexibility included in both the order of remedies found in the *Compositiones* as well as the division of labour between medical specialties. More speculatively, it may also be taken as a rare indication of an underlying medical model, or a glimpse of what could be a humoral understanding of health and disease: if phlebotomy falls within the repertoire of the doctor rather than the surgeon, then the importance of bloodletting is likely to be understood to lie in its effect on disease and the body, rather than the technical aspects of its performance. If what is a plaster by any other name provides treatment regardless of type of ailment, then the division's key principle is based on ailment rather than remedy type. But conversely, if remedies can be *like* plasters, but – with the exception of the plaster-antidote – are only plasters if falling within the auspices of the surgeons (even if complaints like wounds, ulcers, and other topical complaints also appear to fall under the head to heel ailments) and gout is a surgical matter if treated by emollient rather than electric eel, the division between the treatment of systemic and topical disease seems less important than the division between remedy type. However, this is likely to be over-analysing a pragmatic text which is listing diseases roughly as they or their symptoms affect the body, top to bottom (or, more suitably for an anatomical model, superior to inferior), and then covering specific categories of remedy (antidote, poison remedy, plaster, emollient, soothing salve) – an entirely logical structure, especially if composed half from memory and half from a very sparse reference library while abroad or wandering.

2.3.3 Dietetics and regimen as applied to pharmacy

Returning to the idea expressed in **200** that the first two sections address the remedies "mainly relevant to the dieticians", the tripartite model of medicine, which is emphasised in both preface and **200**, considers food, diet, and associated habits as the first step in treating disease. While

Scribonius' coverage of regimen and dietetics is very sparse compared to the lengthy works dedicated to the topic by other medical writers[109] – including Celsus, whose first four books are mainly concerned with managing health and disease with diet[110] – the important nature of diet, regimen, and food more broadly emerges through the modification of drug administration, avoidance and abstinence during illness or treatment, and the diet suitable for convalescent patients.

While Scribonius predominantly treats gastrointestinal problems with pharmacological remedies, special diets are employed in the treatment of dropsy, stomach complaints, and the recovery of those prone to colonic problems caused by overindulgence. Dropsy, for example, requires a diet consisting of roast meat (especially venison or poultry), unleavened bread, and neat wine (especially dry or sour, **133, 134**). The diet of those recovering from general gastrointestinal complaints – "those for whom food often becomes distasteful" (*ad eos quibus frequenter inacescit cibus*, **Ind. 104**) – necessitates the most extensive food-related discussion of the entire *Compositiones*. Following a list of symptoms and special instructions for those unable to keep down food (*non continentibus cibos*) – administering the remedy in water immediately after vomiting, chewing crushed olives, massages, and purging –, a diet that strengthens (*confirmat*) and stimulates the stomach (*stomachum proritare*) "with a suitable variety of food" (*varietate apta ciborum*) is recommended. This includes a variety of cooked foods – emmer wheat porridge, soft-boiled eggs, and vegetable dishes; shellfish, pig's trotters, and a range of fruits – understood to strengthen the stomach. Other ailments require a more restrictive approach: while Celsus broadly agrees with Scribonius on the strengthening foods,[111] digestive issues (*cita alvus exercet*) in Book 1 of the *De Medicina* necessitate the avoidance of a varied diet (*cibis variis,* 1.6.1), including the otherwise strengthening stews of green vegetables, and while preserved fruit can be beneficial in some cases, Celsus advises that one should best abstain in general as they are badly digested and encourage excessive consumption (1.2.9).

Abstinence and avoidance are particularly important for specific ailments, symptoms, and treatments, as Celsus explains at length in particularly books 3–4. Scribonius' more concise examples include that those suffering from dizziness, vertigo, or epilepsy should stick to water for a few days and fast on the day preceding treatment (*debent autem ii omnes pridie abstinere et*

[109] Examples include Hipp. *Acut.*, *Alim.*, *Vict.*; Galen's *Alim. Fac.*, or Oribasius' *Coll. Med.* On Orib. *Coll. Med.* 1 and 4 and their dietetics, see the translation and commentary by Grant (1997), as well as his translation of various Galenic works on food and diet (2000); for Galen, see also Powell 2003 on *Alim. Fac.* Food in Hippocratic/Greek medicine is e.g. discussed by Touwaide and Appetiti (2015), while Crum (1932) provides a survey of diet in Celsus and Edelstein (1966) covers ancient dietetics more generally. On individual substances and their use by different authors, see e.g. Totelin 2014 on garlic, honey, and silphium in Greek medicine, Fiore et al. 2005 on liquorice in medical history more generally, or Scarborough 1982 on beans and Greek dietetics.

[110] Book 1, role of food in general maintenance of health; 2 properties of individual foodstuffs (*alimenta*, 2.18-33); 3–4 food and diet in disease.

[111] see note **104, 56.5–13** ***atque ita varietate apta ciborum...***

superioribus diebus aquam potare, **6**); more unusually, one of the effects of the remedy described in **105** is that it makes it easy to avoid drinking water (*ut facile abstinere ab aqua proximis diebus possint*). A day of rest and abstinence "from all things" is advised for a cold, *gravedo* (*prodest igitur quies unius diei et ab omni re abstinentia*, **52**), and colonic pain calls for fasting on the day preceding treatment (*pridie abstinetur quam poturus est medicamentum ab omni re*, **122**). Specific foods and drinks to be avoided at times are pork, vinegar, and wine: pork (as well as wine) is prohibited while being treated with a particular remedy for the comitial disease (**16**),[112] while vinegar, although noted as often useful for medicine, should not be taken together with comfrey root as it counteracts its effect (*acetum...quod interdum per se magnifice solet prodesse, sed huius radicis effectum resolvit*, **83**). The use of, or abstinence from, wine – often alongside instructions to take the remedy before a meal – occurs particularly in remedy administration, where the presence of fever indicates the former, its absence the latter: "One <pastille> is given on an empty stomach before noon, another at night with water, should there be fevers: with Signian wine should the body be sound [= without fever]" (*datur unus <pastillus> ieiuno ante meridiem, alter in noctem ex aqua, si febres erunt: ex vino Signino, si sincere corpus erit*, **113**).[113] While the distinction is generally between water and wine (diluted, **112**, or neat, **127**), **115** calls for Surrentian must in the absence of fever, and **114** is administered with a lentil and rose decoction made with either water or wine – unusually, here for injection as a clyster rather than ingestion.

A further example of the food-health connection in Scribonius is abstinence and changes in dietary habits as a sign of disease. As the aforementioned remedy "for those for whom food often becomes distasteful" (*ad eos quibus frequenter inacescit cibus*, **Ind. 104**) illustrates, avoidance of food is not necessarily conducive to health, and the inability to retain food and vomiting following meals (*cum nihil cibi retinere possunt, sed quidquid datum est reiciunt*, **108**; **110**) is likewise cause for concern. It may also be a symptom of poisoning: a particularly unusual example is provided regarding sea hare, where Scribonius relates of those poisoned that

> *stomacho...tento et dolenti sunt aversoque ab omni esca, praecipue pisce. nauseant praeterea et subinde reiciunt spumosa, interdum biliosa aut sanguinolenta et maxime cum simulavit* **[S]**| *si uiderunt* **[J-B]** *aut nominavit | si uiderint aut nominaueri[n]t* **[S2]** *aliquis piscem*.

[112] Celsus goes further, prohibiting not only pork but all meat (*neque caro, minimeque suilla*, 3.23.3), and not only wine (*fugere oportet...vinum*), but a broad catalogue of not only foods but activities, from soft foods (*molles et faciles cibi*) to exposure to the sun, baths, sex, and every kind of worrying thing/view, or business activity (*solem, balneum…venerem …omniumque terrentium…negotia omnia*, 3.23.3).

[113] Another type of modification is based on the strength of patients' stomachs and concerns temperature: "they are given to those who have a weak stomach and vomit blood with two *cyathi* of cold water, to the others with the same number of *cyathi* of warm <water>" (*datur ad stomachum imbecillem habentis et sanguinem reicientis ex aquae frigidae cyathis duobus, ceteris ex caldae totidem cyathis*, **92**).

> .. their stomach is distended, and they are in pain and opposed to all food, particularly fish. Furthermore, they suffer from nausea and repeatedly vomit foamy, from time to time bilious or bloody matter and particularly when someone has imitated or spoken of fish **[S]** | if they have seen fish or if someone has mentioned fish **[J-B]** | should they have seen fish or someone have mentioned it **[S2]**. (**186**)

Nausea and/or abdominal pain, unlikely to make the patient particularly keen to eat, are also among the symptoms of several poisons, such as gypsum, litharge, and white lead (**182–184**). Celsus similarly considers a loss of appetite dangerous, and a distaste for food is generally treated as a symptom of disease (e.g. 2.7.35).[114] Conversely, the presence or return of the patient's appetite is a positive sign: a desire for food indicates the least dangerous form of a disease (thus dropsy in Celsus 2.8.9, an sim. 2.3.3 for fever), and remission of the disease calls for rich foods, like the roast meat and neat wine offered to patients in **134**.

While diet is discernible in some chapters in the *Compositiones*, patients' habits and lifestyle – regimen, whether in acute disease or more generally – is addressed less frequently. Habits such as the times of meals and sleep influence treatment in some chapters, as for example in **77**, where the globules are to be taken on an empty stomach before a meal (*dantur ieiuno ante cibum*), or in relation to specific meals, such **135**, to be taken "before a meal and during luncheon or dinner" (*ante cibum et inter prandium vel cenam*), in the evening during (*nocte super cibum*, **52**) or after (*in noctem secundum cenam*, **121**) dinner, or following its omission on the previous day (*pridie incenato*, **140**). Meanwhile, the remedy against colon pain in **122** requires the consumption of only small amounts of food at lunch or thereafter, and of an easily digestible type at that, "so that one does not take the remedy having undigested food in the stomach" (*hoc facere oportebit per insequens biduum capientem cibi in prandio aut de tempore exiguum, quod facile conficiatur, ne crudus sumat medicamentum*). Sleep and sleeping habits are disrupted by some of the poisons: henbane poisoning causes sleepiness (**181**), sea hare, already detrimental to the patient's diet, leads to troubling dreams where "in their sleep they sometimes seem to hear waves on the shore" (*in somnis litoris pulsi fluctus videntur subinde audire*, **186**), and those poisoned by opium must be prevented from sleeping at bedtime (*a somni tempore prohibere* | *et somno omni ratione* **[S2]**, **180**). The harmful physical and/or psychological effects of night-time disruptions – those troubled "by an incubus", a physical night-mare (*ab incubone deludi,* see note **100, 53.6**), are also noted as something not to be underestimated.

Matters related to lifestyle more generally include exercises, massages, and bath- or heat-based treatments, and form part of the therapeutic arsenal alongside drugs (and diet). Exercise is only referred to once, in **15**, where a quick walk of at least 3500 steps is advised to those with the

[114] Celsus similarly considers a loss of appetite dangerous, and a distaste for food is generally treated as a symptom of disease (e.g. 2.7.35), although **no** loss of appetite can also be a sign of impending death (thus 2.6).

comitial disease (*citatus ambulet milia passuum non minus III et dimidium)*, although walking around "until it is enough" (*quod satis est ambulaverint*) is mentioned in response to waking up from the "nightmare" in **100**. Massages and heat treatment are advised for headaches to relax the skin after is has been shaved for treatment (*et diutius siccum ad relaxationem cutis fricare et aqua calida fovere,* **10**), and for coughs and febrile diseases, which benefit from a thorough and long massage with warm oil (*diutius corpore perfricato ex oleo calido,* **95**),[115] while eye complaints require both application of sponges soaked with hot water and a visit to a hot bath (*ex aqua quam poterint sustinere calidissima spongeis expressis vaporare eos diutius eodem que die in balneum ducere, ita ut cum cetero corpore caput quoque et facies calda immergatur et foveatur,* **20**). Given the importance of public baths in Roman culture, it is not surprising that of all the non-dietetic lifestyles, baths are mentioned most often. Remedies may be administered after bathing (*a balneo,* **134**), or be of the useful consistency that they do not fall off in the bath (*in balineo* | <*nec in solio*> **[S2]** *non excidet,* **214**), while hydrotherapy is also employed for gout, where baths with warm sea water, or salt water if not available, help (*calda aqua marina diu fovendi sunt, vel si haec non erit, aquae purae ferventi salem adicito,* **160**). At times, this may be unpleasant, to the extent that the patient in **130** must held down in a warm bath to prevent them from leaving after the remedy has been applied, as the pain increases with the heat (*postea solio calido demittantur, ubi plures eos contineant, dum desinat dolor; alioquin exilient: maior enim fit dolor calda tactis*). The role of healing waters in the sense of spas and mineral springs is also employed in **146**, where the ferruginous springs in Etruria, 50 miles outside Rome, are praised for their usefulness in bladder complaints (see note **146, 74**. **6-9** ***ab aquis calidis...***, including bibliography on bathing and springs). Finally, one might consider the recipes for tooth powders in this context, as the dentifrices used by Augustus' sister Octavia and Claudius' (then-)wife Messalina, provided in **59** and **60**, might encourage readers to change their dental hygiene routine due to the appeal of the imperial endorsement on the one hand and the combination of the cosmetic effect of a whitening toothpaste with the prophylactic benefit of a means to strengthen the teeth (*quod splendidos facit dentes et confirmat,* **59**; *ad dentium candorem et confirmationem,* **60**).

The specific patient's lifestyle, both regarding diet and otherwise, thus plays an important role in health and illness.[116] Treatment is to be accompanied by food or drink consumption based on and adapted to the patient's customary regimen: the treatment of an eye condition in **20** not only

[115] The latter remedy, named *Lexipyretos* (allaying fever) also indicating effectiveness in febrile diseases; while warm oil was not involved, the application of *Wadenwickel* (shin wrappings), hot bandages applied to the shins, was a common household treatment for colds, fevers, and similar ailments, in 80s/90s Germany.

[116] The overlap between works on dietetics and on regimen is noteworthy – cf. Hipp. *Vict.* (*De dieta*), usually rendered *Regimen* (rather than diet) in English, book 4 of which (= *Insomn.*) is concerned with sleep and dreams.

involves hot water applications and an eye salve, but also involves wine consumption in accordance with the patient' habitual lifestyle (*vinoque uti, ut quisque adsuetus est*);[117] similarly, the patient's dietary habits and taste dictate the way a purgative (**136**) is prepared (*cocta ut solet*) and administered (with cold hydromel, if one is accustomed to it, if not warm, *ex aquae mulsae... frigidae, si adsuetus erit, sin minus calidae*). After successful treatment, gradual adaptation is necessary when returning to the usual, or mildly adapted, diet and lifestyle (*paulatim ad consuetudinem progredientes*, **104**), and the patient is eventually to be "released into the customary manner of his normal lifestyle" (*postea in consuetudinem victus sui, qui colo infestabatur, dimittatur*, **122**); such gradual lifestyle changes are similarly advised by Celsus, as major disruptions are harmful (*ergo cum quis mutare aliquid volet, paulatim debebit adsuescere*, 1.3.2). While the patient's consuetudo is thus integral to recuperation, it can – as in the case of **122** – also be the cause of the complaint if the patient was prone to overindulgence, adopting a more careful lifestyle is required:

> ***oportet*** *tamen* ***non indifferenter*** *remediatos* ***in futurum vivere****: tametsi enim a coli dolore tutisunt,* ***metuere*** *nihilominus* ***debent, ne alia parte corporis aeque adficiantur ob intemperantiam*** *<quam> colo, antequam remediati erant.*
>
> But those who have been cured **should** nevertheless **not live carelessly in the future**: for even though they are safe from colon pain, **they nevertheless ought to worry that another part of the body may be equally harmed by immoderation**[118] like the colon <was>, before they had been cured. (**122**)

Much as the remedy is considered to be a permanent cure, a "magnitude of food" (*multitudo cibi*) can nevertheless cause a return of some, albeit milder, symptoms. While this is the only chapter where Scribonius explicitly mentions disease as the result of lifestyle,[119] the detrimental effects of an inadvisable approach to food and drink are implied in chapters discussing gout (e.g. **158–162**), or the undesired effects of excessive drinking (*haec eadem herba ebrio data copiosa in crapula vinum discutit mentemque restituit*, **12**). As such, both diet and general lifestyle emerges as a concern especially, but not exclusively, throughout the *capite ad calcem* section, albeit in a much more subtle way than it does in e.g. Celsus, who commences book 1 with regimen in health[120] and incorporates matters of diet or lifestyle even beyond the initial four books dedicated to the topic. In

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[117] "and consume wine, as each is accustomed."

[118] Similarly, Celsus 1.1.2–3, 1.2.8 (and elsewhere) on the need for balance and avoidance of unhealthy excess.

[119] Occupational risks are a different matter and include being bitten by dogs (**171, 173, 175, 201, 210, 213, 266**), snakes (**163, 165, 168, 173, 176**), quadrupeds (**213, 214**) or even people (**205**), if travelling or working in such company. The latter is likely to refer to gladiatorial combat rather than brawls, although given the reference to undesired degrees of drunkenness it may also have been intended for the latter.

[120] E.g. advice for those who are prone to spending long hours writing (*cupidi litterarum*, 1.1.2), the relation between food consumption and candlelit study (1.1.5), exhaustion (1.3.3-6), hot baths (1.3.7), being cold (1.3.10), and the prevention of illness during an epidemic (1.10).

this way, dietetics and the individual patient's regimen are not only an important therapeutic approach in their own right, but also crucial to effective pharmacotherapy.

2.4 Specialised Pharmacology: Antidotes, Poisons, and Harmful Drugs

The centre portion of the *Compositiones* is dedicated to toxicology in the wider sense: offering treatment for both general and specific poisons and venoms ("harmful drugs", *mala medicamenta*),[121] and listing the symptoms of poisoning or envenomation in what is the closest the *Compositiones* comes to a "pharmacological" systematic discussion of drugs and their effects.

2.4.1 Antidotes and Theriacs

Scribonius makes a clear break from the *capite ad calcem* chapters in the opening of **163**, which addresses preparedness for the health risks posed by venomous animals as a necessity for travelling, should Callistus choose to do so:

> *Ut sis tutus, etiam si quando rus secesseris, ponam theriacarum compositiones, id est ad serpentum morsus atque ictus medicamenta. sed prius quae cognita habui remedia, ne cui serpentes noceant, dicam.*
>
> So that you may be safe, also if you should at some point withdraw to the countryside, I will put down recipes for theriaca, that is remedies for the bite or sting of snakes. But first I will state the remedies which I have known and approved <which make it> so that snakes would not harm someone.[122]

The list of animal-inflicted injuries includes the bite (*morsus*) of various types of snakes, and the sting (*ictus)* of scorpions in case Callistus went further afield to Africa, or anywhere else featuring scorpions (*in Africa aut sicubi scorpiones sunt nocivi*, **164**).[123] Additionally, the bite of a rabid dog (*canis rabiosi morsus*) is covered (**171, 173, 176,** and later as part of the remit of **201**), while bites of non-rabid and non-venomous animals are otherwise covered among the wound treatments in the surgical section (**213, 214** for the bite of four-footed animals, *quadrupedum morsus*; **210, 213, 266** for general dog bite).

Notably, the preventative measures which form the start of the passage differ significantly from the later compound drugs for treatment. Several prophylactics, as well as some cures, are essentially amulets in nature, specific plants or animal skin and substances to be worn in one's girdle (**163, 164**) or tied to one's arm (**171**, possibly **172**). The example from **163** additionally constitutes one of the only two examples of Dreckapotheke, the "pharmacy of filth", which is influential in some

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[121] Scribonius covers both poisons – ingested substances that cause poisoning – and venoms, transferred by venomous animals through bites or stings (envenomation). Animals can be both venomous and/or poisonous, as illustrated by the *mala medicamenta* chapters which address with ingestion of poisonous animals such as certain types of beetles, or sea hares.

[122] Whether this protective repertoire was built as a necessity for Scribonius' own "being abroad" (*sumus...peregre*, ***praef.*** **14**) is unclear. Luna (Italy) and Britain (**163**), and by implication Rome, are the only explicitly mentioned places; while Zopyros of Gortyn, sent as an ambassador from Sicily, is mentioned as his host – or guest (*hospes*) – it is unclear where they met (*hospite meo legato inde misso nomine Zopyro Gortynense medico*, **172**). His familiarity with Sicily, "where there are very many rabid dogs" (*quia in Sicilia plurimi fiunt rabiosi canes*, **171**), may be due to stories of his teacher Apuleius Celsus, originally from Centuripae (*Centuripas, unde ortus erat*, **171***)* as much as own experience.

[123] As well as that of snakes – the term *ictus*, sting, is thus relatively broadly understood as encompassing lesions inflicted by noxious animals.

strands of ancient as well as medieval medicine but virtually absent from the *Compositiones*.[124] The traditional harvesting method of a plant outlined in the same chapter which follows its botanical description takes on almost an anthropological manner in Scribonius' account of the ritual which features drawing a grain circle around it before harvesting at sunrise on the following day, making sure to use the left hand both times.[125] This highlights the complex nature of the *Compositiones* when it comes to the problematically rendered division between "rational" and "irrational" or, perhaps better phrased, between the superstitious or folkloristic and that which is based on contemporary medical philosophy or approaches.[126] On the one hand, a clear line is drawn under "matters which fall outside the profession" (*extra medicinae professionem cadunt,* **17**; cf. ***praef.* 1** on the treatment success of those who to his shame are operating nowhere near the discipline and profession of medicine), and the source's instruction that iron rings must not be worn when compounding a remedy against calculi is reported as a superstitious notion ("that is to say, the doctor Ambrosius of Puteoli...added this superstition", *hanc enim superstitionem adiecit Ambrosius medicus Puteolanus,* **152**). On the other hand, similar instructions are related without comment and, crucially, judgement: the statement in **13** that "the person who pointed out this remedy said that it is pertinent to the matter for the fawn to be killed with a weapon, with which a gladiator's throat has been cut", *hoc remedium qui monstravit, dixit ad rem pertinere occidi hinnuleum tinctorio, quo gladiator iugulatus sit*), the plant harvesting ritual in **163**, the matters regarding cures which are "agreed amongst many" (*constat inter plures*), as in **14** on crocodile testicle, or the numerological and amulet-featuring elements of **16** (see chapter and associated notes, esp. passage and note **16, 20.17-23 *cum opus fuerit...***). Even for the matters falling outside the profession it is conceded that "they seemed to have been beneficial to some" (*profuisse quibusdam visa sint,* **17**) – medicine's promise to help all (***praef.* 4**) appears to go so far as to include matters beyond its boundaries if necessary.

But while the prevalence of rabid dogs, and the terrible nature of rabies[127] calls for exhausting all medical possibilities, whether they come from Scribonius' esteemed teacher (*Apulei Celsi praeceptoris,* **171**) or a shipwrecked barbarian (*barbarum quendam naufragio ad pulsum maiorem*

[124] "the rank-smelling dirt which is found in the corner of a deer's eye, towards the nose, when it has been captured" (*cervi, cum captus est, inoculi angulo, qui est ad nares versus, quae inveniuntur sordes virosi odoris,* **163**); the only other example is the dried dung of a mountain goat (*caprae montanae stercus arefactum,* **127**), cf. 3.4.3 below. For the most recent discussion of Dreckapotheke in Greco-Roman medicine, see Harris 2020.

[125] *sed utrasque superius dictas herbas [quas] cum inveneris, pridie notare oportet et circumscribere sinistra aure | manu* **[J-B, S2]** *fruges aliquas ponentem, atque postero die solis ortu sinistra manu vellere, ita illigatas habere,* **163**.

[126] The exhaustive study of the *Compositiones* in this respect is Machold (2010). On Marcellus' reintroduction of a substantial part of the 'irrational' into Scribonius' recipes, see Jouanna-Bouchet 2003.

[127] A disease where the resultant hydrophobia "to death with the greatest agony" (*summo cruciatu ad mortem eos compellit*) and an evil (*malum*) considered "more or less incurable" *(quasi insanabile,* **171**) – antidote of Celsus aside – that Scribonius would wish on no one (*opto quidem ne incidat,* **172**). While vaccines exist today and post-exposure treatment is effective, rabies remains incurable and fatal once symptoms have appeared (NHS 2020).

natu, **171**), the remediation of general poison- or venom-related ailments are again by compound drug. Here theriacs and antidotes, two categories of medicaments with broad applications against a wide range of ailments (including but not limited to poisoning and envenomation) occupy much of the middle section of the *Compositiones*. Three theriacs mark the start of the section which treats, rather than prevents; unlike the subsequent antidotes, which are overall named after individuals, the theriacs are more humbly – or perhaps requiring no associated authority – named the first (*theriace prima*, **165** – in the index simply "a theriac for bite and sting of snakes", *ad morsus et ictus serpentium theriace,* **Ind. 165**) and second (*theriace secunda*, **166**; "another theriac for the same", *altera theriace ad eadem*, **Ind. 166**), as well as "another", this time against asps (*altera theriace etiam ad aspidem*, **167** and **Ind. 167**). Like the antidote of Mithridates listed among the following recipes for various antidotes, this is a remedy type with a long afterlife, said to be used extensively by Marcus Aurelius, covered in two (pseudo-) Galenic works[128] and with a prominent material reception in the form of theriac (also called Venetian treacle) vases or containers – for an example of which (and its depiction of Scribonius) see 4.2.2.

The (lengthier) remainder of the general section is dedicated to antidotes, a type of all-purpose poison-et-al cure which in several cases essentially acts as a panacea.[129] In addition to the earlier instance of the "Holy Antidote" of Paccius Antiochus,[130] the longest single-remedy chapter block with its ten subsections as well as one of the most frequently excerpted ones in Scribonius' reception (cf. 2.4.3 and 4.1.3), the "perfect" (*tele*(*i*)*a*/τελεία) antidote of Marcianus (**177**) "lacks nothing" (*nihil deest)* in Scribonius' estimation and, with 42 individual ingredients, is the longest of the extant recipes in the *Compositiones*. The famous antidote of Mithridates (*Antidotos* Μιθριδάτειος/Μιθριδάτου), the universal antidote attributed to Mithridates VI Eupator of Pontus (120–63 BCE),[131] also features both as a recipe (**170**) and a remedy advised in the *mala*

[128] *On Theriac to Piso* (*Ther.*), which establishes the emperor Marcus Aurelius among the recipients convinced of its benefits, see Leigh's (2015) edition with discussion and commentary. Cf. also the pseudo-Galenic *Theriac to Pamphilianus* (*Ther. ad Pamph*.). Totelin (2004), while focussed on Mithridatium, also addresses the theriac and its long afterlife.

[129] As such, "antidote" is here used in a more general and literal sense of a remedy which is given (δίδωμι) to counteract (ἀντι), among other things, the effects of poisoning (cf. Skoda 2001), but is not to be understood in the sense of the modern antidote/antitoxin, a specific counteragent for a specific type of poison (thus Fischer's (2010: 149) criticism of the translation as "unfortunate", *unglücklich*). The German term *Gegenmittel* (a "means against", a re-medium), as opposed to a *Gegengift*, an "anti-poison", antivenom or –toxin, employed e.g. by Brodersen in his 2016 translation, is more neutral, but there is no English equivalent.

[130] On which see Sconocchia 2011, and further below. Mudry (1992: 177-178, 180) discusses this holy remedy in the context of the *potio sacram* mentioned in Apul. *Met*. 10.25 (*potio quam sacram Saluti doctiores nominant*). Ironically, in Apuleius this potion "sacred to health" is replaced by a poison (a potion "sacred to Proserpina", *Proserpinae sacra*) by an unscrupulous doctor (*medicum... quendam notae perfidiae*), thus acting much like Scribonius' *execratissimi pharmacopolae*.

[131] McGing (2012); from the extensive scholarship, see e.g. Watson 1966, Totelin 2004. Recipes are also provided by e.g. Celsus (5.23.3) and Galen (14.152-154 K).

medicamenta section for the treatment of arrow-poison (*toxicum*, **194**), as do five[132] other antidotes associated with presumably more or less famous, but not as illustrious, individuals (Zopyros, Apuleius Celsus, Tryphon, Cass(i)us, Marcianus).

The near-universal nature of these remedies, as well as the inclusion of alternative recipes for such famous remedies as Mithridate and Theriac, makes it all the more frustrating that this is the section of the *Compositiones* where most of the missing or partial chapters are located (in addition to the lacuna in the theriac/antidote section, **72** (a throat medicine) and **235** (for ulcers or cancer) are incomplete, and **236** for scar formation is missing). The second theriac (**166**) stops mid –ingredient list (or, rather, at an indiscernible point *somewhere* in it), after Alpine valerian (*saliunca*), the eleventh ingredient; the third theriac, additionally useful against asps (*altera theriace etiam ad aspidem*, **167**), only survives as an index note, as does a remedy against the bite of vipers (*ad viperae morsum proprie*, **168**) and the antidote of Zopyros (*Antidotos* Ζωπύριος, **169**). Scribonius' take on Mithridatium is incomplete and picks up half-way, or rather at some point (anything prior to yellow flag, *acorum*, is missing), in the assemblage of expensive and extensive components – the incomplete recipe still features 22 ingredients, which include a wide range of imported substances such as cardamom, Illyrian iris, All-heal gum, or balsam-tree gum. A missing manuscript page, as suggested at least since Helmreich's edition,[133] is the likely culprit, but an estimation of the extent of ingredients or content missing is impossible as Scribonius' chapter vs. recipe length can vary greatly, while the size of the original hand is unknown as the page was already missing before Ruellius' now also lost manuscript.

Nevertheless, reconstruction attempts have been made: it has long been suggested (e.g. Schanz 1935: 795; Schonack 1912: 75) that the remedy for viper's bite (*ad viperae morsum proprie*, **168**) corresponds to a treatment *ad viperae morsum* (Suet. *Cl.* 16) named in one Claudius' proclamations (*edicta*) dated to his censorate in 47/48 which mentions yew tree sap (*taxi arboris sucum*) as a remedy for viper's bite (*ad uiperae morsum*).[134] While yew tree (*Taxus baccata* L.) does not appear

[132] Six in total, if counting the earlier antidote of Paccius Antiochus. While antidotes begin in **169** (or possibly **168**, "especially for the bite of vipers" (*ad viperae morsum proprie*), which is missing and may be either a theriac or an antidote), the remedy of Celsus (**171, 173**) occupies two chapters, while the second remedy associated with Zopyros (**172**) is of ambiguous nature and not referred to as an antidote. The remaining chapter of the section (**174**) is concerned with ulcerating drugs, while **178** introduces the following section on harmful drugs.

[133] Thus Helmreich (1887: 68, app. crit. 26), *hic in Ruellii codice* ***folium unum defuisse videtur****, qua iactura et extrema huius compositionis pars et c*. CLXVII *et c.* CLXVIII *et principium antidoti Mithridatis interciderunt,* also discussed by Schonack (1912: 75).

[134] "Other **noteworthy acts of his censorship** were the following: he had a silver chariot of costly workmanship, which was offered in the Sigillaria, bought and cut to pieces in his presence; in one single day he made twenty **proclamations**, including these two: 'As the yield of the vineyards is bountiful, the wine jars should be well pitched'; and **'Nothing is so effective a cure for snake-bite as the juice of the yew tree.'"** (*Fuerunt et illa* ***in censura eius notabilia****, quod essedum argenteum sumptuose fabricatum ac venale ad Sigillaria redimi concidique coram imperavit; quodque uno die* XX ***edicta*** *proposuit, inter quae duo, quorum altero admonebat, ut uberi vinearum proventu bene dolia picarentur; altero,* ***nihil aeque facere ad viperae morsum quam taxi arboris sucum****,* Suet. *Cl.* 16.4, trans. Rolfe).

anywhere else in the *Compositiones*, and a one-ingredient remedy is somewhat unexpected among the complex compound antidotes, this is not unprecedented, as the use of individual substances for the prevention or remediation of animal bites at the beginning of the toxicology sections shows. Simples and single-appearance ingredients are not unusual, and Scribonius emphasises that simple drugs "are sometimes more effective than drugs compounded from many ingredients" (*interdum enim haec efficaciora sunt quam ex pluribus composita medicamenta*, ***praef.*** **15**; cf. sim. the praise of *lycium Indicum verum per se* as more powerful than any compound eye-salve in **19**). As such, the simple antidote of Suetonius is not necessarily an unlikely candidate for the missing recipe – depending on time of writing, one might even imagine a "this remedy was used by our god Caesar" note – but it simultaneously relies entirely on speculation. Even named remedies of much fame have a less than clear or consistent composition between texts and authors and across time, as a comparison of the different lengths and content of the Mithridatium recipes transmitted by Scribonius (**170**, incomplete, the only one featuring two inorganic ingredients[135]), Celsus (5.23.3, twice as many ingredients as Scribonius' incomplete recipe but six ingredients less than that of Galen), and Galen (*Antid*. 2.9 = 14.152–154 K, providing an additional ten ingredient modification) show. Furthermore, if one takes the remedies for headache as an example – 11 in Scribonius, over 100 in Marcellus – it seems highly coincidental that there would be only one remedy for viper's bite in the first century CE, although admittedly headaches are possibly a more frequent and frequently, and thus more diversely, treated ailment.

The antidote of Zopyros, whom Scribonius personally knew and who also related (**172**) the remedy of the unnamed barbarian shipwrecked on Sicily (**171**), illustrates as much. For the historian of medicine, there is something bittersweet about the contrast between Schonack's positive yet resigned note that one would like to have Zopyros's antidote,[136] but as a thorough investigation of even previously unexamined manuscripts almost a century later shows (Fischer 2010; various preceding studies on Scribonian excerpts by Sconocchia, Fischer, and both; analysis of Jouanna-Bouchet (2000, 2016) and various other scholars), there is too much variance to propose a reconstructed recipe which is likely to be that originally provided by Scribonius. "In most cases, our prospects to derive or recognise the original versions, should be rather poor",[137] Fischer's (2010: 158) article concludes, summarising the issues surrounding cases such as Scribonius' missing

[135] That said, Jouanna-Bouchet's as well as Sconocchia's second edition have now reduced the number to one, as *misy* has been corrected to *mium/meum,* spignel (*Meum athamanticum* Jacq.), which also features in Galen's recipe.
[136] "Gern hätten wir nämlich das Gegenmittel des Zopyrus (c. 169), desselben aus Gortyn auf Kreta gebürtigen Arztes, dem Scribonius, da jener sein Gastfreund war, die Mitteilung des angeblich so außerordentlich wirksamen Antidots gegen den Biß toller Hunde (c. 172) verdankte" (1912: 74).
[137] "Unsere Aussichten, die Originalversion erschließen oder erkennen zu können, dürften in den meisten Fällen eher schlecht sein" (Fischer 2010: 158); cf. the similar issue with attempts at finding the "original" version of Mithridate's antidote highlighted by Totelin (2004)

recipes and the impact of their parallels in other writers – the "many various difficulties" encountered in the study of recipe (and, generally, textual) transmission.[138] That said, a version attributed to Scribonius in **V** (117^{v}) is identified and edited by Fischer (2010: 149) and included, with German translation, in Brodersen's 2016 translation (pp. 236–238). The recipe clearly incorporates elements found in Scribonius – the remedy list, the indications, the preparation – but the style is abbreviated and altered in a way that is notably at odds with the rest of the *Compositiones* (e.g. the opening of *volo enim et huius generis te noticiam habere*; the construction of *ad iocineris dolorem, lateris, pectoris* etc. rather than one with *dolorem* in the ultimate position; the expressions *mellis ipsius temperaturam* and *a serpente percusso*), indicating that while this is unlikely to aid the establishment of the missing text, the content is similar enough in ingredients and instructions to be an adaptation of the missing remedy which is based on a mixture of resins, spices, herbs, and animal blood mixed with honey, administered by means of a spoon with wine, *mulsum*, or water.

2.4.2 *Mala medicamenta*

While theriacs, antidotes, and the odd charm-like preventative drug against snakebite and lizards introduce the pharmacological section, the *mala medicamenta* are the toxicology proper of the *Compositiones,* and the part which resembles Dioscorides' systematically drug and drug properties-focussed work most closely. This section is explicitly included by Scribonius to aid recognition of symptoms and treatment of poisoning, considered necessary in part due to the unscrupulousness of some drug peddlers (**200**, cf. implication in ***praef.* 5**), in part due to the dangers encountered while travelling (cf. statement opening **163**), and undoubtedly to address the concern about poisoning in imperial Rome, evident not only in the copious contemporary accounts of intrigue and poisoning/poisoners at the imperial court,[139] but also by the connection of antidotes to the imperial court.[140]

Despite this understandable concern with being poisoned, the language in the *mala medicamenta* section is curiously ambiguous when it comes to whether the cause of poisoning was accidental, deliberate, or self-inflicted. External influence is indicated by a poison which has been given ("coriander which has been given", *coriandrum datum*, **185**; "to whom a salamander has been given", *salamandra quibus data est*, **187**). An ambiguous "those who have drunk" or "those who

[138] "Wir werden bei der Überlieferung von Rezepttexten gleichzeitig mit mehreren verschiedenen Schwierigkeiten konfrontiert" (Fischer 2010: 158).
[139] cf. the numerous references in Juvenal, particularly in satires 6 and 13, or the accounts of the death of (among other famous casualties) Claudius by Suetonius (*Cl.* 44) or Tacitus (*Ann.* 12.66–67).
[140] Marcianus' "perfect" antidote is linked with Augustus in both the index and the recipe itself (**Ind. 177**, *quae Augusto componebatur*; **177** *haec Augusto Caesari componebatur*), while **175**, a plaster antidote which can be used against poisonous bites and stings on account of its ulcerating properties (cf. **173**) was prepared for his sister (*quod Augusta propter eiusmodi casus habuit compositum*).

have taken it" occurs with the majority of remedies (e.g. *toxicum*, "when it has been drunk", *cum potum est,* **194**; "those who have drunk [blister beetles]", *qui biberunt eas,* **189**; "those who have taken [sea hare]", *qui sumpserunt,* **186**), and likewise a general "those harmed by it" (*laesi,* e.g. **192** distaff thistle, **193** autumn crocus). While accidental ingestion is likely the cause for the swallowed leech (*irudinem...devoratam,* **199**, on which see below), other cases indicate a more deliberate patient involvement, like the futile attempt to conceal drinking bull's blood which is visibly retained between the teeth (**196**),[141] although the person attempting the concealment (*quamvis difficile quis celaverit*) could theoretically be taken to refer to outside influences. That detailed practical knowledge of poisons is incompatible with Scribonius' medical worldview is emphatically stressed in **199**, which distinguishes between the importance to recognise potentially harmful drugs and symptoms from the knowledge of the drugs and quantities required to poison someone:

> *Medicamentorum malorum non nocet nominum aut figurarum notitia, sed ponderis scientia. hanc porro medicus nec quaerere nec nosse debet, nisi diis hominibusque merito vult invisus esse et contra ius fasque professionis egredi. illas autem, figuras dico et nomina, necesse est ei scire, utet ipse devitet, ne per ignorantiam aliquam sumat et aliis idem praecipere possit: hoc enim proprium est medicinae, et illud execratissimi | exsecratissimi* **[S2]** *pharmacopolae <e> contrario oppositi virtuti eius.*
>
> The awareness of the names or appearance of harmful drugs does not harm, but the knowledge of their weights <does>. A doctor should furthermore neither ask about nor know these if he does not wish to be deservedly hated by gods and mortals and overstep the limits of his profession against mortal and divine law (*ius fasque*). But it is necessary for him to know those [the former], I mean their appearances and names, so that he both avoids taking something out of ignorance and is able to advise others: for the former belongs to medicine, and the latter to those most accursed drug-sellers on the other side, opposed to its character.[142] (**199**)

The prohibition is somewhat curious, given the poison-remedy duality and the fact that the dose has made something a poison long before Paracelsus' dictum that it is only the dose which makes the difference between a poison and a non-poison,[143] especially in light of Scribonius' reminders that a drug can be harmful if not used with the appropriate care (e.g. **1**, **84**, **114**), or that some individuals are unable to tolerate strong drugs and require milder treatment. While in practice perhaps unrealistic – knowledge of what renders a drug potentially harmful is surely a requirement for preventing accidental harm to the patient – this interpretation follows from Scribonius' definition

[141] Whether this is to be read as in conjunction with social stigma associated with the practice, or imply intent for self-harm by the patient, is a different matter; see discussion below.
[142] *Uirtus*, which also conveys a sense of morality and excellence; cf. Jouanna-Bouchet's translation as "*ce qui est l'essence de la médecine*" (what is the (very) essence of medicine).
[143] "Alle Dinge sind Gift, und nichts ist ohne Gift; allein die Dosis machts, daß ein Ding kein Gift sei", from the "Third Defence on account of the Composition of the new Recipes" (*Dritte Defension wegen des Schreibens der neuen Rezepte*), *Septem Defensiones* (1538; edition 1965, vol. 2, 509).

that "medicine is the knowledge of healing, not harming" (*scientia enim sanandi, non nocendi est medicina*, ***praef.*** **5**), which explains why being aware of details regarding harmful drugs could be considered intrinsically contrary to the profession and its values.

Nevertheless, much like the overlap between food and medicine, the potential of substances to act as both remedy and poison is clearly recognised by Scribonius. Of the 21 specific (plus one generic) harmful drugs, ten – almost half – are also used as ingredients: some, like hemlock (**179**, in **247**), sea hare (**186**, in **80**), blister-beetles (**189**, in **231**), gypsum (**182**, in **46**, **132**), or coriander (**185**, in **244**) only once, others, led by opium (**180,** 32 remedy uses overall), more frequently: milk (**197**, 20 uses of individual types of milk), henbane (**181,** 13 uses), as well as the two lead compounds litharge (*lithargyros/spuma argentea*, **183**, 17 times) and white lead (*cerussa/psimithion/psimythion*, **184**, 15 times), are extensively used in Scribonius' repertoire. While internal and external uses of opium or henbane do occur, a crucial difference for most other substances seems to be not the dose, but the method of application: all *mala medicamenta* chapters are concerned with ingested drugs, whereas all medicinal uses of lead, gypsum, and sea hare are in form of plasters or other topical applications. In the latter case, there are even specific instructions given with the use of a sea hare remedy to thoroughly wash the hands after application (*praecipere autem oportet, ne quis hoc medicamento manus inquinet aut inquinatas, priusquam bene laverit, ad os referat,* **80**), something which may acknowledge its harmful nature in addition to its oily state or smell.

With its inclusion of accidental contact with hazardous substances, favourites of poisoners, and medicinal drugs used ill-advisedly, the range of poisons covered by Scribonius is broad. The *mala medicamenta* include not only animal,[144] vegetable, mineral as well as some complex poisons, but also a wide variety when it comes to what one might consider the severity of poisoning. Unexpected is the appearance of famously poisonous substances such as hemlock, aconite, or various lead compounds. More surprising is the inclusion of drunk bull's blood, swallowed leeches, or drunk milk. The singling out of bull's blood as poisonous seems at first glance curious as animal blood in general appears as an ingredient in several recipes, and only the use of human blood is dismissed as outside the medical profession. Dioscorides' chapter on blood recommends bull's blood mixed with groats as a plaster against hardened skin ("indurations" in Beck, 2.79.2), and does not make any notice of harmful effects; conversely, several types of animal blood are to be drunk against various afflictions, including the use of land turtle blood against epilepsy (cf. Scribonius' use of tortoise and wood pigeon blood in **16**), while others act as poison remedies rather than harmful ingredients.

[144] The distinction between the venomous animal bite, covered under antidotes and theriacs, and the poisoning by ingested animal that is a harmful drug, is noteworthy.

While Pliny lists it among the poisons counteracted by various remedies in several chapters, including 20.25, 20.95, 22.90, 23.123, 28.147, 28.162, and 31.120, it is similarly included as a remedy, e.g. among the treatments for gout (28.220), problems of the rectum and anus (*sedis vitiis*, 28.216), or parotid swellings (28.177). The chapter features in Galen's *Antid.* (14.143 K) among the excerpts from Scribonius, but, as with the other excerpted *mala medicamenta,* only lists the way to remedy the affliction without much comment. Rhodius (1655: 283) is puzzled by anyone's desire to drink it, agreeing with Nicander (*Nicander in Alexipharmacis recte addit*: '*si ex insipientia quispiam atrum tauri sanguinem gustavit.*' *Quis enim mentis compos hauserit crudum sanguinem?* – the poison and its treatment are covered in Nic. *Al.* 312–318, 333–334). However, as Nicander's (as well as other authors') treatment of the substance demonstrates, the association of bull's blood with fatal poisoning is common in antiquity and associated with the death of such figures as Themistocles (thus e.g. Ar. *Eq.* 83–84, although also disputed, e.g. by Cic. *Brut.* 43.5–6) and Midas (thus e.g. Strabo 1.3.21 and Plut. *Flam.* 20.5. The latter passage, in the context of Hannibal's death who by some was said to have died in this fashion, also refers to Themistocles). While Arnould (1993), who explores the trope of suicide by drinking bull's blood in more detail, suggests that the term referred not to actual bull's blood, but to the deep red colour of realgar, arsenic sulphide (α-As_4S_4), used as a pigment of the same name, the explicit reference to bull's blood (e.g. Cic. *Brut.* 43.5–6 mentions its drinking at the altar after sacrifice) in some passages indicates that this was certainly not the view of all ancient authors, as already shown by Touwaide (1979) for similar interpretations of bull's blood as referring to a non-literal and different, demonstrably poisonous, substance in his extensive discussion of the topic.

Meanwhile, leeches (*sanguisuga* or (*h*)*irudino*), despite playing a role in medical treatment even to the present day (albeit not quite in the same way as previously), appear to be more of a health concern than a beneficial means of medicinal bloodletting, being a cause of significant harm when swallowed. Celsus' only reference to the animal (5.27.12) concerns its removal when drunk (*si sanguisuga epota est*), to be obtained through the drinking of vinegar and salt; Dioscorides similarly identifies "leeches that cling to the throat" (βδέλλας τε τὰς προσισχομένας τῇ καταπόσει, 3.80.5, trans. Beck) as a health problem, treatable with a gargle of laser with vinegar, or vinegar on its own (5.13.3). Pliny refers to swallowed leeches several times (28.160, 20.143, 23.55), including in the context of animals (29.62 how to remove then if swallowed, 8.29 that they cause elephants much pain). Notably, while Pliny refers to their ingestion by drink (*in potu*), he explicitly states that they attach to the airways (*in ipso animae canali*), while Dioscorides' use of κατάποσις, gullet, points towards the oesophagus rather than the trachea; Scribonius' use of *fauces* has a degree of ambiguity, but he notably does not use *arteria, transitui spiritus*, or *spiritus via* in this context, expressions for specifically the airways which appear elsewhere. Remediation using vinegar on its own or with

various substances (butter, rue), either drunk or given through the nose (20.143), also plays a key role here, as do a type of bug (*cimex*), which Pliny considers to be the opposite of leeches and useful in a drink given to animals to rid them of leeches (29.62). Conversely, the fumes from cooking leeches are reported to kill bugs (32.124), and they are medicinally used for eye complaints (32.76), hair removal (32.136), and a dye for hair and teeth (32.67-8). Their value in medicinal bloodletting, which finds no mention in Celsus or Scribonius, is addressed in 32.123.

Swallowing of leeches, possibly accidentally and introduced by the water supply, seems to be a widespread concern in antiquity. In addition to the medicinal leech (*Hirudo medicinalis* L.), Beavis (1988: 4–10) identifies the smaller Nile leech (*Limnatis nilotica* Savigny) as relevant to ancient medicine, a freshwater parasite native to several parts of the ancient world and the Roman Empire, including ancient Judea. Awareness of its harmful nature, and the ways to remove it, are not restricted to Greco-Roman medical writers: the Talmud advises against drinking directly from freshwater sources due to the risk of leech ingestion, and drinking of hot water and vinegar is listed among the remedies. Notably, boiling water on the Sabbath, which is normally not permitted, is explicitly allowed if required to aid someone thus affected (*Avodah Zarah* 12b; sim. Jerusalem Talmud, *Berakhot* 9:3, 13c; cf. Feliks 2007; Brown 2018). The Nile leech remains a rare, but extant, source of medical emergencies in countries where it inhabits sources of drinking water: a 2009 Iranian meta study discussed 28 cases of patients treated for swallowed leeches over the course of ten years at Imam Hospital, Ahwaz (Saki et al. 2009). Similar to the approach of ancient authors, the ingestion of irritating substances, including vinegar, is recommended as part of the treatment.

Drunk milk, meanwhile, falls possibly closer to the deeply unpleasant than the life-threatening. Scribonius provides the additional information of *gelatum*, coagulated <milk>, and in Galen's *De Antid.*, the same ailment is called γάλακτος ἐχθρομβώσεις, curdled milk, *lactis grumos* in Kühn's Latin translation (14.142 K). In Celsus' list of harmful substances, curdled milk (*si lac intus coiit,* 5.27.12C) follows directly after leeches, and Dioscorides' treatment of the swallowed leeches is similarly followed by one for "those whose milk curdles inside them" (τοῖς γάλα τεθρομβωμένον ἔνδον ποιοῦσι, 3.80.5, trans. Beck). Pliny likewise mentions the harmful nature of drunk, curdled milk (*lacti coagulato potae*), which in 23.128 is treated with green figs (*grossi caprifici*) alongside poisons such as bull's blood and white lead, while he uses various types of milk as remedies elsewhere (e.g. 28.189 cow's and goat's milk for throat complains), including in the treatment of poisoning (the milk of an ass is particularly recommended – *asinino lacte poto venena restiguntur*, 28.158, as is cow's milk (*lacte bubulo cuncta venena expugnari tradunt,* 28.160). Dioscorides asserts that "in general, all milk is wholesome, nutritious" but "softens the stool, and produces stomach and intestinal gases" (γάλα κοινῶς μὲν πᾶν εὔχυμον, τρόφιμον, μαλακτικὸν κοιλίας, φυσητικὸν στομάχου καὶ ἐντέρων, 2.70.1, trans. Beck), and that both the animal source and its

pasture influence its effect. Goat's milk is beneficial for the stomach, sheep's milk less so, and the milk of asses, cows, and horses "upset the stomach" and "ease more the bowel" (εὐκοιλιώτερα καὶ ταρακτικὰ γίνεται, trans. Beck). However, Dioscorides emphasises that "all milk disturbs the bowel and the stomach" if the animal grazed on particular crops, such as hellebore or scammony (πᾶν δὲ γάλα κοιλίας καὶ στομάχου ἀνατρεπτικόν, ὅπου ἐστὶ νομὴ σκαμμωνία ἢ ἐλλέβορος ἢ λινόζωστις ἢ κληματίς, trans. Beck, 2.70.2), and it is precisely because of the customary diet of goats, consisting of plants which have a constipating effect, that their milk is beneficial (τὸ δὲ αἴγειον ἧττον κοιλίας ἅπτεται διὰ τὸ τὰς αἶγας στυφούσῃ νομῇ τὸ πλεῖστον χρῆσθαι, σχίνῳ καὶ δρυὶ καὶ θαλλῷ καὶ τερεβινθίνῃ, ὅθεν καὶ εὐστόμαχον τυγχάνει, 2.70.1) – cf. Scribonius' emphasis on the milk "from a goat which has only been fed ivy " (*lac caprinum capra tantummodo hedera pasta)* for splenic complaints of children in **132**.[145] Like Scribonius, Dioscorides recommends fresh milk against poisonous substances (2.70.5), including the blister beetle, *bouprestis*-beetle, salamander, henbane, *dorycnion*, and autumn crocus, which are also discussed by Scribonius; Celsus similarly recommends milk specifically against blister beetles and henbane (5.27.12A–B).

Brodersen (2016: 271) suggests a remedy to counteract lactose intolerance, and this or other situations where milk might cause disagreement stands to reason.[146] Furthermore, dairy products may be a cause of food-borne illnesses – a historical case of milk-related illness caused by unsafely stored or transported milk, are reported under the title "milk poisoning" in the hygiene-related section of a London medical journal of 1890 (Anon., 1890: 298–299, attributed to a milk- or cheese-toxin, "galactotoxin" or "tyrotoxin"). Raw (i.e. unpasteurised) milk can contain a range of bacteria (*Camylobacter*, *Salmonella* and *Brucella* spp., *Listeria monocytogenes*, some *Escherichia coli* strains) which can cause blood poisoning and miscarriages as well as mild food-borne illnesses (EFSA 2015; EFSA BIOHAZ 2015; *Safe*food and Cork Zoonoses Committee 2002); its sale has been banned in Scotland since 2006 (any kind of raw milk; cow's milk already since 1983) following twelve deaths potentially linked to its consumption (FSS n.d.). Scribonius does not clarify whether he understands the milk to have disagreed with the drinker, or whether the milk was spoilt before ingestion, nor does he provide any symptoms caused by this type of "bad drug". But the continuity of the term "food poisoning" for a wide variety of illnesses with different causes, symptoms, and pathogens illustrates that both the overlap between food and harm to health, and that

[145] Disease caused by the type of pasture is not restricted to antiquity; "milksick" or "milk poisoning", poisoning by tremetol, following drinking milk of cows which fed on white snakeroot (*Ageratina altissima* (L.) King & H.E.Rob.) or rayless goldenrod (southern goldenbush, *Isocoma pluriflora* (Torr. & A. Gray) Greene), neither of which are native to Europe, was a major health concern in early nineteenth century America (Cone 1993; Furbee and Snively 1968).

[146] It is worth recalling that lactose intolerance was and is relatively widespread globally, with varying severity of sensitivity to different types of dairy and dairy products.

of the concept of poison with what is otherwise a harmless or beneficial substance, extends beyond antiquity.

While the range of poisons and their symptoms are quite broad, Scribonius' treatment of poisoning has significant similarities. In addition to specific substances recommended in individual cases, a general treatment with fatty, salty broths as well as milks of various kinds is common to several chapters, as is the induction of vomiting. The overlap between food and medicine is particularly visible here, as Scribonius' management of poisoning relies heavily on culinary substances: milk, broths, vinegar, oil, hydromel (and thus honey), and wine of different kinds and concentrations are frequently given to drink, including to ease or induce vomiting. Several culinary herbs and spices form part of simple or compound drugs, including to infuse the aforementioned drinks, while the external application of poultices with mustard or grain meal also forms a component of treatment. In addition to treatment similarities of his contemporaries, as well as Asclepiades and Galen, the continuity of such approaches to poison management is noteworthy. Rinne, who like his mentor Kobert had an interest in toxicology,[147] briefly covers eight of Scribonius' *mala medicamenta* at the end of his pharmacological commentary (aconite, henbane, cantharides, hemlock, poisonous mushrooms, gypsum, lead, and opium, 1896: 96–99). As with other frequently positive notes on Scribonius' practice (see 4.4.1, 4.4.3), Rinne overall praises Scribonius' approach as comparing favourably to that of the late nineteenth century: on the matter of lead poisoning (as Rinne interprets one of Scribonius' cases for colic) for example, he notes that Scribonius employs "the same therapeutic measure as a scientifically educated physician of the nineteenth century"[148] and that this constitutes "a rational modern pharmacotherapeutic approach...which demands our greatest admiration".[149] Even on the topic of the less clearly-identifiable poisons, he expresses confidence in Scribonius' accuracy in at least some cases: "I do not doubt that many a correct [matter] appears among our author's statements regarding these poisonings unknown to us" (1896: 99).[150] Two decades later, the dentist Wriedt similarly praises the accuracy of Scribonius' observation of the symptoms of poisoning, e.g. the effects of henbane (1921: 75, coincidentally referring to studies during Korbert's time at Dorpat (Sohrt 1886; Kobert 1887a)). Its remediation with milk and vomiting is likewise received positively, noting the continuation of such therapy in modern

[147] On Kobert, who authored a textbook on poisons and intoxication (*Lehrbuch der Intoxikationen*, 1893; 2nd ed. in 2 vols. 1902, 1906) as well as a compendium (*Compendium der praktischen Toxikologie zum Gebrauche für Aerzte, Studierende und Medizinalbeamte*, 4th ed. 1903), as a toxicologist and forensic chemist, see Tiess (2004).
[148] "dieselbe therapeutische Massregel...wie ein wissenschaftlich gebildeter Arzt des 19. Jahrhunderts", 1896: 65.
[149] "ein rationell modern pharmakotherapeutisches Vorgehen...das uns die grösste Bewunderung abnöthigt", 1897: 35. In both cases, he concedes that this depends on his interpretation of Scribonius' colic as lead poisoning (*Bleikolik*).
[150] "Ich zweifle nicht daran, dass auch in den Angaben unseres Autors über diese uns unbekannten Vergiftungen manches Richtige steht", 1896: 99. *Manches Richtige* here has connotations of "several, many an accurate statement" rather than a more cautious "some correct matters".

treatment, albeit in form of emetics or stomach pumping and alongside other therapeutic interventions (Wriedt 1921: 76). While milk and vomiting remained an element of poison control for much of the twentieth century,[151] current UK advice is to neither give anything to drink nor induce vomiting (thus e.g. British Red Cross 2020), and the German recommendation likewise strongly advises against vomiting (including giving salt water to induce vomiting), as well as giving milk.[152] Small amounts of milk or water are recommended by some US poison control authorities in case of conscious patients and particularly poisoning with corrosive substances (National Capital Poison Control Center 2020a), while the use of ipecac syrup to induce vomiting, previously recommended in cases of paediatric poisoning, is no longer recommended as of 2003/2004 (National Capital Poison Control Center 2020b).

2.4.3 Reception

The toxicology sections, mainly the early antidotes and theriacs part, are among those sections of the *Compositiones* which evidently corresponded to the medical needs of excerpters across time and contexts. Individual antidotes, including the missing antidote of Zopyros (**169**), and the incomplete Mithridatium (**170**), are found both in Galen (**169, 170, 173, 174, 177**) and among the excerpts featured in several of the medieval manuscripts (**169, 170, 173, 176**), including the "misplaced" antidote of Paccius Antiochus (**97-107**) which reoccurs several times (see 4.1.3). Marcellus omits the entirety of the toxicology section, from antidotes to harmful drugs, although Fischer (2010: 151) has identified *De med*. 22.18 as corresponding to **169**; the Holy Antidote is also included. Galen includes one of the theriacs (**165**), which also earn Scribonius a place on an impressive seventeenth century theriac container among seven other authorities associated with the remedy (see 4.2.2). The *mala medicamenta* are among the few sections entirely omitted by Marcellus, but the content is featured in an abbreviated version without the symptoms, a revised order, and with omission of salamander (**187**) and *pharicum* (**195**) poisoning (see 4.1.1) and excerpted in two of the medieval manuscripts, the eleventh century **W** (**178**–**200** up to *antidotos sumere*) and Anconitanus 35 (**179**–

[151] The author recalls advice about drinking milk and vomiting (unless an acid had been ingested) from first aid materials aimed at children in the 1980s and 1990s, as well as remembering that this ceased to be recommended at some point. Similarly, the notion of milk as a prophylactic against poisoning from exposure to toxins in the workplace, originally part of occupational health advice, had been scientifically discredited by the 1950s (Wittgens and Niederstadt 1955) but remained popular: a query regarding the practice's value, relating the common practice of employers to supply up to a litre of milk to each worker, was received by a German occupational health authority (Landesinstitut für Arbeitsgestaltung des Landes Nordrhein-Westfalen) as recently as 2016 (LANRW KomNet-Wissensdatenbank 2016). While working as an apprentice laboratory technician in chemical research, the author's supervisor, who had worked in chemical laboratories for most of his life, would still habitually drink a pint of milk at lunchtime in the early 2000s as a result of this practice (at least according to the circulating laboratory anecdotes/gossip).

[152] Water, tea, or juice is however recommended, especially following ingestion of acidic or alkaline substances (Giftzentrale Bonn, n. d.; Giftnotruf Charité 2020).

199),[153] probably mid-fourteenth century, before making a surprise appearance in an early modern syphilis treatise, the *Liber de morbo gallico* (1535: 275–282, also excerpting **179**–**199**; see 4.2.1).

[153] As a result, Sconocchia's second edition, which incorporates the evidence provided by these excerpts, differs somewhat from the previous edition in some of the toxicology chapters.

2.5 The Surgical Chapters: Avoidance and Wound Treatment

The final 71 chapters of the *Compositiones* are dedicated to the type of recipe that falls under the auspices of the surgeon (*quae ad chirurgos pertinent*, **200**). Scribonius' conception of the surgical is broadly construed: topical remedies, consisting of various plasters, poultices, or healing salves, form the bulk of the recipes, and previous section additionally feature wound treatments, haemostasis, various ointments, and other treatments which are here identified as surgical.[154]

2.5.1 Avoidance, Post-Operative Care, and Anatomy

While wounds are treated, operations mentioned, or even incisions made (for e.g. phlebotomy), Scribonius' contribution are recipes, and not operations, much as the crucial nature of surgery as part of medical practice is emphasised (see 2.1). Apart from covering topical complaints like skin diseases and medicaments "for the comprehensive health of the body" (*ad omnem corporis valetudinem*, **H 255**), the remedies designated as surgical consequently either replace or complement surgical procedures. The former case occurs more frequently than the explicit reference to surgical procedures: acknowledging the unpleasant nature of treatment by the last resort of iron and fire, matters which are "scarcely to be tolerated" (*sane vix sunt toleranda*, *praef.* **2**), remedies are offered which fulfil the function and effect of surgery or cautery without incision or burning. An example is **229**, which drains an abscess by drug application, recommended when "the one to whom this has happened is fearful about surgery" (*et timidus fuerit ad sectionem cui id acciderit*). **230** defines this type of remedy a *tryphera*;[155] while the OLD (s.v. *tryphera*) interprets this to refer to salve that precedes operative practice – "a kind of ointment applied before surgical operation" – Scribonius' intention is rather to avoid it altogether (cf. note **Ind. 230, 15.3 *tryphera***). Cautery specifically is referred to in **240**, where the remedy "is sharp and, almost **like a cauterizing iron**, causes a thick scab" (*hoc acre est et **quasi cauterium** crustam altam facit*, **240**), while earlier the clyster described in **114** should only be used "almost like a cautery under such circumstances" (*quo quasi cauterio tunc tantummodo uti oportet*) as outlined earlier in the recipe – "at other times it harms", *alioqui nocet*). Most of these remedies are used to "restrain/suppress/check" (*supprimere*) or remove various growths, and as such are generally irritating drugs, as confirmed in **231** ("since mention of irritating and ulcerating drugs has been made", *quatenus acrium et exulcerantium medicamentorum habita est mentio*); a further list of such types of ingredients is given in **174**. A

[154] Treatments involving incisions, such as bloodletting and scarification, appear briefly under the *auxilia* (cf. 2.3.2) and one example of deliberate scarification in **262** (discussed below); references to incisions or cutting are otherwise to preceding surgery (e.g. **206**, on abdominal sutures and skull wounds treated with trepanation or sim.), or in the context of types of wounds (e.g. cuts to joints (*incisione/incisum*), **206, 208, 214**).

[155] "A better *tryphera* (for the remedy placed higher up is called by this name)", *melior tryphera (hoc enim nomine superius positum medicamentum appellatur)*, **230**.

such, their use is likely not particularly pleasant either, but evidently preferable to surgical incisions or cauterisation.

While surgical procedures themselves are not described, references to operative surgery do occur. Dental extraction is mentioned in the context of a further case of avoiding operative procedures, the recommendation that conservative dentistry should be attempted first – a tooth "should not be removed immediately" (*eum non suadeo protinus tollendum,* **53**) – much as the use of forceps is acknowledged as a "necessity" (*necessitatem*).[156] Otherwise, where surgical or orthopaedic treatment is implicitly or explicitly mentioned, Scribonius' remedies are intended for post-operative treatment or general management of the site of injury. Here one chapter includes several explicit references to preceding medical intervention: **206**, the plaster of the surgeon Glycon, called Isis, which "surpasses all of its type" in Scribonius' opinion (*quod sui generis meo iudicio superat omnia,* **206**). This plaster does not only treat a wide range of general and injury-related complaints, including dangerous stabwounds (*punctus, nygmata*) – which it heals "without incision or severance" (*sine incisione aut divisione sanat*) – dislocations (*luxum*), and general issues of nerves, tendons, muscles etc. (*nervorum*) where "it works better than all soothing salves" (*ad nervorum vitia omni acopo melius facit*), but also cases where the skull has been opened and the meninges exposed, abdominal sutures following bowel resection, abscesses which have been manually drained, and joints after they have been put back in place:

> *facit hoc emplastrum ad detectam membranam tegentem cerebrum de industria a medicis, cum terebratu exciditur quod laedit eam os, vel alioquin detectam, rosa dilutum et impositum...parotidas initia habentes discutit, suppuratas iungit, si quis emissarium collectionis apto loco, idest infra sinum, ubi collectio est, fecerit, quod hypochysim Graeci dicunt...iungit omnem partem divisam et fibulis coartatam, praecipue cum intestina prolapsa et reposita sunt, atque sartum vulnus, quoda Graecis gastroraphia dicitur...ad luxatum omne atque eiectum et repositum articulamentum bene facit.*
>
> This plaster works for [deliberate] exposure of the membrane covering the brain [= the meninges] by the action of doctors, when a <piece of> bone falls out during drilling, which harms it, or <when it has been> otherwise exposed, diluted with rose [oil] and laid on...It... dissipates swellings of the parotid gland occupying their initial stage, closes up those which have suppurated if someone makes a drain of the abscess in a suitable place, that is below the hollow (*sinus*), where the abscess is, which the Greeks call *hypochysis* | *hyporrhysis* **[J-B, S2]**.[157]...It... closes up every part <which has been> split and brought together with pins, particularly when the intestines were prolapsed and

[156] Celsus, who does dedicate the last two books to operative surgery as well as orthopaedic procedures, takes a similarly conservative approach where possible (6.9.3.5).

[157] normally ὑπόχῠσις, a cataract; here probably a term for the inferior drainage site, literally from ὑπό beneath, from under + χύσις shedding, pouring out, diffusion, abundance. Less confusing is the emendation by Jouanna-Bouchet (and Sconocchia's second edition) to *hypo**rrhy**sis* (ὑπόρρῠσις, from ὑπορρέω, 'to flow under or beneath'), a term used for a drain or drainage (of wounds etc., thus Heliod. ap. Orib. 50.49.1; more generally for a street drain, e.g. Strabo 14.1.37), i.e. the Greek term for *emissarium*.

> have been put back into place, and also the mended wound, which is called *gastroraphia*[158] by the Greeks...It works well for every dislocation and also <for> joints which have been dislocated and put back into place. (**206**)

This chapter illustrates several points about Scribonius' relationship to operative surgery, its practitioners, and its framework. For one, it provides one of the few glimpses of Scribonius' anatomical knowledge: the reference to the membrane covering the brain (*membranam tegentem cerebrum*), the work's main anatomical note aside from mention of a different set of surrounding layers, the tunics of the eye (*prima/alia tunicula*), mentioned in the *collyrium* section (**21, 24**).[159] Of the three separate membranes which are now understood to be the meninges (from Greek μῆνιγξ, -ιγγος, membrane), the single *membrana* is likely to refer to outermost layer, the tough dura mater, which is easily observable when exposing the brain. The other two layers, the arachnoid and the pia, are more difficult to distinguish as the pia is fragile, adheres to the brain, and is difficult to dissect, which explains why ancient anatomists observed two membranes (μήνιγγες δὲ **δύο** εἰσὶ τοῦ ἐγκεφάλου, Hipp. *Loc. Hom*. 2.3; sim. Gal. *De anat. admin*. 9.1–5 = 2.708–729 K): the "thick" outer layer (ἡ μήνιγξ ἡ παχεῖα, Gal. 2.717 K) that also forms the falx cerebri which divides the brain, i.e. the dura, and a thin layer underneath (λεπτὴ μήνιγξ, Gal. 2.716 K; sim. Hipp. *Loc. Hom*. 2.3, ἡ μὲν ἐπάνω **παχυτέρη**, ἡ δὲ **λεπτὴ** τοῦ ἐγκεφάλου ἁπτομένη).[160] The term leptomeninges is still used for the arachnoid and pia together. Meanwhile, Celsus, whose account focusses on the skull rather than the brain, describes the "cerebral membrane" as the layer underneath the bone (*qua cerebri membranam contegit*, 8.1.1), but, like Scribonius, only refers to a single layer.

A further case of both layers and anatomy occurs in the *collyria* chapters, which mention the first (*prima tunicula*, **21, 24**) as well as a further "tunic" (*tunicula oculi...aliave*, **24**) of the eye.[161] Ancient anatomy considers the eye to consist of three tunics/membranes since at least Hippocratic times;[162] Celsus' surgical treatment of cataracts (7.13) describes these and the

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[158] γαστρορραφία, sewing up of a belly wound, from γαστήρ the belly, abdomen and ῥάπτω to sow, stitch, mend; the techniques are described in detail by Galen (*MM* 6. = 10.416–418 K).

[159] A third example is the physiological observation on blood vessels, tourniquets, and bleeding in **84**, cf. 3.1.1.5.

[160] Craik (1998: 105-6) argues that it is the arachnoid which is omitted in this two-membrane model; while the pia is the innermost membrane next to the brain (τοῦ ἐγκεφάλου ἁπτομένη), I am more inclined to see the division as between the dura and the leptomeninges, arachnoid and pia, as the arachnoid is attached to the pia (not the dura, as Craik states, against which it is pressed by the cerebrospinal fluid that fills the subarachnoid space, although the arachnoid granulations extend into the dura in some places) via thin structures called arachnoid traberculae, and the stiff dura is much more easily separated from the arachnoid than the arachnoid from the pia. As such, the description is indeed "broadly correct" (Craik 1998: 106), albeit for slightly different reasons.

[161] The term *membrana* is also used in the context of eyes (**37**) for thin layers which can be easily removed with a finger, probably skin on the inner surface of the eyelid or small sections of the cornea or sclera (as can happen in diseases which cause 'roughness of the eyelids' such as trachoma) rather than the entire *tunicula*.

[162] Thus e.g. *Loc. Hom.* 2.3: "There are **three membranes** which protect the eyes; the **outer one is rather thick**, the **one in the middle rather thin**, and **the third, which is especially thin**, is that which protects the eye's moisture"

anatomy of the eye in general in more detail: there are two thicker outer membranes, the *ceratoides* (s.v. LSJ, κερᾱτοειδής, "like horn", cf. Latin *cornea*) on the outside, followed by the *chorioides* (s.v. LSJ χορῐοειδής, "like the afterbirth/membrane enclosing the foetus") which has a small opening by the pupil, and the thin innermost *arachnoides* (s.v. LSJ ἀραχνοειδής, "like a cobweb"). As mentioned above, the latter term is now applied to the intermediate meningeal layer, inferior to the dura and superior to the pia; Galen additionally calls it ἀμφιβληστροειδής, "net-like" (10.47 K = *MM* 1.6, sim. *UP* 8.6; 10.2), analogous to Latin *retina* (Lat. *rete,* net). This layer contains the glass-like humour, *hyaloides* (cf. Latin *vitreus*), while the *crystalloides* (s.v. LSJ κρυσταλλοειδής, "like ice, the crystalline lens") humour lies in front of it.[163] The structure of the eye is still divided into three layers – fibrous (sclera, cornea), vascular (choroid, the iris which regulates the "small opening", ciliary body), and innermost (retina) –, and while the definition has changed, the ancient names are still reflected in the terminology, albeit (choroid aside) in their Latin form. While the overall extent of Scribonius' anatomical knowledge is unclear, the opening of the work with Herophilus, not only one of the famous physicians (*inter maximos...habitus medicos,* ***praef.*** **1**) but known for his profound contributions to anatomy (cf. e.g. Celsus 1. *praef.* 23–24), does suggest familiarity with anatomical texts, while the treatment of eye afflictions which require remedy application on the inside of the eyelid (e.g. **26**, *subiecto scilicet specillo aut inversa palpebra*; sim. **36, 37***)* would certainly offer some degree of opportunity to study the eye up close.[164]

Aside from demonstrating anatomical knowledge, **206** also shows that the treatment of broken as well as dislocated bones is considered a surgical matter. Fractures and their medical management are covered in **201, 206**, and **209** (*frangatur, laedatur, fractur*), those of the skull (**201, 206**), and those of bones in general (*ad ossa fracta,* **209)**; while the latter makes reference to sometimes curing more quickly than with a bandage (*sine alligatura enim interdum dimidio celerius sanat ea*), this seems to refer more to its wound-healing properties, and Scribonius' treatment of fractures

(**Μήνιγγες** δὲ **τρεῖς** εἰσιν αἱ τοὺς ὀφθαλμοὺς φυλάσσουσαι, ἡ μὲν **ἐπάνω παχυτέρη**, ἡ δὲ **διὰ μέσου λεπτοτέρη**, ἡ δὲ **τρίτη λεπτὴ** ἡ τὸ ὑγρὸν φυλάσσουσα, trans. Craik 1998: 39; see also her commentary (1998: 105–6) on both the membranes (μήνιγγες) of the eyes and the brain).

[163] The two humours of modern anatomy are the vitreous humour inside the eyeball, surrounded by the retina, and the aqueous humour, in the anterior and posterior chambers of the eye, the space between cornea and iris/pupil (anterior), and iris/pupil and lens and ciliary body (posterior). A concise description of the eyeball and its anatomy – with illustrations - is provided in Moore and Dalley (2006: 964–968).

[164] On anatomy in antiquity, see e.g. Edelstein 1935; Kudlien 1969; Longrigg 1988; Potter 1976; Scarborough 1985. The most comprehensive study on Latin terminology to date is André (1991); an exciting ERC-funded project on ancient anatomy has recently commenced at the Hebrew University of Jerusalem ("Anatomy in Ancient Greece and Rome: An Interactive Visual and Textual Atlas" (www.atlomy.org), P.I. Dr. Orly Lewis).

follows presumably – and explicitly in case of **206** – that of splinting or otherwise surgically treating the broken bone, as described by Celsus in 8.4–10. The plaster of Tryphon, **201** is similarly beneficial for additional or wound-related treatment of harmed or broken bones (*os laedatur vel frangatur*), and particularly aids the removal of diseased bone fragments (cf. Celsus' much more extensive section on diseases of bone, 8.2–3). More orthopaedic and physiotherapeutic issues such as sprains and dislocations are also treated in this section. In addition to blunt injuries, such as bruises and contusions resulting from various falls are covered in **101**, a range of dislocations (*luxum, luxatum*; *eiectum articulamentum*) feature in **206, 208, 259, 266,** and **209**, but their relocation, an important non-operative form of surgery for Celsus (8.11–25, strongly drawing on works like Hipp. *Mochlikon* and *On Joints* – Spencer (1938: 624) calls *Med*. 8 "practically an epitome of these treatises"), is likewise not included. The treatment of the dislocated joint commences after it has been put back into place (*eiectum et repositum articulamentum*, **206**), just as the "mended wound" (*sartum vulnus*), the only reference to suturing, is cared for after the prolapsed intestine (treated non-surgically in **142** and **232**)[165] has been returned to its proper place, and the meninges and skull have been exposed by the treatment of others. This makes Glycon's plaster an all-round surgery-related remedy, but exclusively for pre- or post-operative care, and, as a final point, raises the question of the division and distribution of medical work. The latter operation is specifically referred to as the deliberate opening of the skull by **doctors** (*de industria a medicis*), rather than by surgeons, which is an unexpected distinction. The plaster itself is however attributed to a surgeon, Glycon, who presumably used it after his own operations, and Scribonius lists it among those matters which belong to the surgeons (*ad chirurgos pertinent*, **200**), who here also seem to be in charge of post-operative care, in contrast to those matters left to physicians who employ dietetics (*ad diaeteticos*, **200**; cf. 2.3.3), antidotes (**176** *antidotus Cassi medici*, **177** *antidotus Marciani medici*), but also bloodletting and other "means of help" (**22, 67**; cf. 2.3.2). But it also brings once again the tripartite concept of medicine to the forefront, and Scribonius' criticism of "doctors in name only" (*nomine tantummodo medicorum*, ***praef.* 9**), those who "have pursued the entire name of doctor by the knowledge of <only> one part of healing" (*multos...unius partis sanandi scientia medici plenum nomen consecutos*, ***praef.* 10**), shows that *medicus* has a more general meaning which encompasses and embraces the practice of surgery as much as it does that of pharmacy, phlebotomy, and dietetics.[166] Thus, while some forms of treatment are not described or mentioned and may be left to others – the omission of any kind of surgical opening of abscesses, "lancing boils", and other practices associated with medical practitioners throughout history is

[165] Cels. 7.16–17 describes how to perform such operations.
[166] cf. the reference to *inter alia* anatomist Herophilus as a *medicus* in the context of a statement about pharmacology in ***praef.* 1**.

noteworthy – the inclusion of several surgeons' remedies, the provision of complementary and post-operative treatments, and the hints of anatomical and physiological knowledge demonstrates that the inseparable nature of medicine is only harmed by the denial and lack of knowledge of surgery in general, not by the omission of instructions for operative surgery.

2.5.2 Wounds: Haemostasis, Treatment, Scars

Curiously, despite their potential for anatomical observation, wounds are seldom described – nor are they restricted to the surgical section. Haemostasis, the control of bleeding, seems to be a physician's concern if occurring from the internal parts, or at least when occurring in distinct places down the *capite ad calcem* section: Nosebleeds and their dangers are covered in **46** and **47** (the latter also addresses wounds and other sources of bleeding), and the extensive discursive tangent of **84** on the physiology of blood loss and the use of tourniquets draws attention to the importance of this topic. Bleeding coming "from internal parts" (*ad sanguinis eruptionem ex interioribus partibus*, **77**) emerges as a particular concern, whether generally (**77**, **121**), from the airways or chest (**83**), or when vomiting blood (**90,**[167] **92, 193, 186**). Bloody urine also occurs, but together with some types of vomiting blood seems to be treated more like a symptom than a "bleeding" ailment – cf. e.g. **90**, which covers a wide range of ailments from cough to intestinal diseases as well as bloody urine and vomit, to **83**, which is specifically about bleeding. That said, the blending between pills for bleeding (**83-86**), and pills for coughs and other ailments to do with ejection (at either end, **90, 92, 93**) perhaps indicates that Scribonius views internal bleeding in a similar vein, although he slightly, if vaguely, seems to distinguish it from bleeding from wounds (e.g. **47** any kind of bleeding from any part of the body, including wounds; **121** checks bleeding, even from an inner part, prevents wound from expanding and causes it to close).

Furthermore, alum, a mineral with astringent, and consequently haemostatic, properties, features prominently across the *Compositiones*. It is used in the context of wound management and haemostasis in several chapters, including **47** (nosebleeds), **77** (inner parts), **86** (bleeding in general), **149** (blood in urine), and various plasters for fresh wounds (**204, 205, 208**–**9**). Its strong astringent and haemostatic effects are similarly noted by Dioscorides (στύφουσά τε εὐτόνως, 5.106.2; ἴσχουσι..αἱμορραγίας, 5.106.4); among the list of anti-haemorrhagic ingredients listed by Dioscorides elsewhere, others such as gypsum (5.116), Melian earth (5.159), sponges (5.120.2), and vinegar (5.13; 5.15) are likewise employed for similar purposes by Scribonius (cf. e.g. sponges soaked in vinegar against bleeding in **84**, or the application of gypsum to the face for nosebleeds in **46**). Astringency, the "drawing together" caused by the taste of vinegar and sour fruits, or the

[167] Both in Sconocchia's second edition and that of Jouanna-Bouchet, **90** has been emended to a more general *qui sanguinem eiciunt*, omitting the *ore*.

application of alum to the skin, is also a characteristic of tannins; one may note the range of substances "which the tanners use" employed by Scribonius, although only few wound-treatment chapters feature them. An example to the contrary is **47**, which uses both alum and tannin-rich pomegranate peel[168] against nosebleeds. While modern medicine has overall moved to other haemostatic agents, the continuous use of aluminium sulphates in form of a "styptic pen", a solid stick of alum or alum-related substances (aluminium sulphate and potassium alum in the stick [B Braun/Askina Stift] owned by the author) to address shaving cuts acts as a demonstration of its observable effect – both in haemostasis, and in causing an unpleasant astringent and stinging sensation similar to the disinfecting effect of alcohols or similar disinfectants on open wounds.

In addition to the prevention of blood loss, the treatment of wounds old and new, including the prevention of their scarring or suppuration, is the focus of several dedicated recipes. While wound treatment is an element of some of the multi-purpose chapters in the *capite ad calcem* section, the bulk of the chapters are found among the surgical plasters and poultices. A wide range of wounds and injury types is covered, from the minor (*levia*, **212**), such as bruises and abrasions (*contusio, contusum*, **101, 207, 265**; *sugillationes* **250**; *abrasa, aposyrmata*, **215**), and the moderate (*mediocria* **213, 214**; *mediocriter laesa*, **215**), including burns (*ustiones* **26,** *combustas* **219**–**220**), to the serious (*periculosa* **208**, dangerous stab wounds to nerves/muscles/tendons; skull fractures (**201, 206**)), and from fresh (*recens*) or bleeding (**47**) wounds to sutures ("mended", *sartum*, **206**) and old scars (*cicatrices...solutas, extenuendas*, see below). Injuries more generally, such as fractures (**201, 206, 209**), sprains and dislocations (**206, 209**), or cuts to joints (*incisione/incisum*, **206**, **208, 214**), as well as pain resulting from various accidents, are also covered. Various dangers of everyday life, as well occupational hazards of particularly gladiators (also singled out in **203, 207, 208**), are illustrated by the catalogue of accidents or injuries in **101**, ranging from falls, contusion, and "exertion beyond strength" to travel accidents and falling from heights,[169] as well as by the remedies for the bite of non-poisonous animals:[170] dogs (four chapters, **210, 213, 266, 201**), quadrupeds (twice, **113, 214**), and – more surprising but possibly a further hazard of gladiatorial pursuits – humans (*morsus hominum*, **205**; cf. **214**, which deals with a hand injury following a literal punch in the teeth, *ut fit, cum ad dentem pervenit pugnus*). Other than general wounds and gladiatorial combat, there is little specific evidence for Scribonius' military experience, and the only

[168] *mali corticis, quo coriarii utuntur, malum* here probably referring to the green pomegranate *(Punica granatum* L.) rather than apples – cf. *mali granati corticis*, pomegranade skins, in **63** and **142**, and **41** for the definition of unripe pomegranates as used by tanners (*mala granata duo, quibus coriarii utuntur* (*quia semper acida sunt nec umquam maturescunt, rhoas oxias haec Graeci dicunt*))

[169] *ex ictu, casu, conatu aliquo supra vires vel ponderis supra modum portatione vel contusione, quae frequenter gladiatoribus accidere solet in lusionibus et eorum maxime sauciatis, nec minus arbore alta delapsis vel scalis devolutis, excussis a rheda vel curriculo atque ita tractis* (**101**)

[170] The bite of rabid dogs is likewise considered a toxicological matter, and is often treated together with snakebite, e.g. in **173** and **176**, both of which belong to the remedy category of antidote.

reference to weapon use, arrows or missiles (*telum*), is, like the bite of rabid dogs, a toxicological rather than a surgical matter (the two mentions are regarding the antidote of Cass(i)us, against arrow-poison (*toxicum*) and wounding by poisoned missiles in general (*si quis venenato telo percussus est,* **176**); and the toxicological chapter for drunk arrow-poison, **196**, notably described as resulting in a pain akin to being struck by a missile, *velut telo traiectorum*).

Scars and the use or management of scarring in both the healthy and the ill individual is a further aspect of interest to Scribonius. Foremost is the causation of scarring, formation of a scar, or encouragement of healing as indicated by the development of a scar (*cicatrix ducere*). This often occurs in the context of ulcers, sores, or other superficial affliction requiring healing, such as the chronic sores in **205** which resist healing (*ad vetera ulcera, quae nullo modo cicatricem ducunt),* or other matters which do not heal easily (*facit autem ad combusta et vetera omnia, quae non facile cicatricem ducunt,* **220**); other instances do not specify the context, but provide instructions for cases where a scar is to be formed (*sed cicatricem medicamenta haec ducunt,* **240,** with recipes in **241** and **242**; similarly in the heading of the missing chapter **236**, *Si cicatrix ducenda*). The reverse – deliberate causation of scarring, its temporary prevention, or the implicit scarring or healing that eventually follows from irritation also occurs as a form of treatment. In addition to the several remedies listed as causing irritation, ulceration, and scarring of healthy bodies (**174, 231**), the prevention of scarring (i.e. healing) is necessary for snakebite and the bite of rabid dogs in order to allow the poison to leave the wound: "But one should keep the place of the bite from a rabid dog or from a snake in an ulcerated state for a long time, and should not allow a scar to form, so that the poisonous secretion is thoroughly drawn out there" (*oportet autem locum morsum a rabioso cane vel a serpente diu tenere in exulceratione neque pati cicatricem ducere, ut virus illa pertrahatur,* **173**). Unlike deliberate irritation, scarification only occurs once, and only in a mild manner (*leniter*), as a treatment for lumbago that precedes the use of the emollient described in **262** (*ad lumborum dolorem, quos ante leniter scarifant*). For scars that already exists, problems may result from those which are loosened (*solutas,* **Ind. 26** – *non veteres* in the recipe itself; **27**), or those requiring diminishing (*exteuendas,* **28, 35**, *recentes* ~ in **26**). Celsus provides slightly more detail on the types of scars that require medical attention (6.6.25): those which are raised/thick (*crassae*) and need to be diminished (*extenuare*; Spencer translates "thinned"), and those which are depressed (*cavae*) and should be filled (*implere*). The latter might be what Scribonius has in mind with *solutas* – a term denoting weakness in connection with the stomach (s.v. *solutas* 5 (b) OLD), but also a loose, lax, or unrestrained (esp. OLD 3, 1, 6) nature. Modern nomenclature (see e.g. Bayat, McGrouther and Ferguson 2003) likewise distinguishes between raised and depressed or at least flat scars: among the latter are widespread scars (stretched, flat, and usually a cosmetic rather than a symptomatic matter) and atrophic scars (depressed and small, typical examples being those

resulting from acne), while the former include hypertrophic scars (raised, often irritating or painful), and keloid scars (raised scar tissue that has grown beyond the original wound); contracture of scar tissue or combinations can also occur. Treatment of scars may be required due to discomfort experienced by the patient, such as pain or reduced function resulting from scar contractures, or because of stigma and negative psychosocial impact (Bayat et al. 2003: 88). Scribonius does not explain why exactly these types of scars require treatment, but his concern for the individual with the stigmatising facial mark in **231** suggests a similar approach informed by both physical and psychological discomfort.

Notably, treatment is concerned not only with haemostasis or healthy scars, but also with the prevention of any development of the wound that may be detrimental. Several remedies are classified as something which "does not allow" a wound, or similar ailment, to develop symptoms such as swelling, suppuration, or pus. Thus, **208**, a black plaster for fresh and dangerous wounds (*recentia/periculosa vulnera*), particularly stabwounds (*punctus*), bruises (*contusiones*), or cut joints (*articulos incisos*), "in general...does not allow that swelling occurs" (*in totum tumorem non patitur fieri),* while **209**, covering similar ailments as well as broken bones, "keeps them without pain" (*sine dolore servat*). Dionysos' red plaster for moderate and paediatric wounds (*mediocria vulnera et in teneris corporibus puerorum*), **212**, likewise "keeps them without swelling" (*sine tumore servat*), while **214** stands out not only through its practicality – it stays attached without a bandage, even while bathing (*haeret, ut fascia non sit opus; in balineo non excidet*) – but treats a range of moderate wounds and ailments, promotes healing of long-standing ulcers by forming a scar (*cicatricem ducit*), and "does not allow swelling to develop, nor pus" (*tumorem non patitur fieri neque pus*). Suppuration, meanwhile, is prevented by a remedy for ear complaints, which "generally does not allow suppuration to happen" (*fere non patitur suppurationem fieri*), or at least cures it if it did or does happen (*et, si facta fuerit, eadem res persanat*, **40**).[171] With due care to avoid any claims or accusations of retrospective diagnosis, one may nevertheless note that a) swelling, suppuration, and pus formation on wounds is generally a sign of infection or inflammation, b) Scribonius considers at least some forms of suppuration or pus as harmful, although little information is provided regarding the criteria and it is a complex matter, in some cases to be prevented, in others

[171] From a reception perspective, the parallels drawn by Jones in his introduction to volume 2 of the Loeb Celsus (1938: xiii) to the use of other relatively simple means of infection prevention and wound treatment by Celsus (saltwater or sugary applications to wash wounds or encourage suppuration and removal of debris and pathogens) to contemporary approaches resulting from the resource constraints and extreme conditions of WWI and WWII. Scribonius likewise employs fruit or in various treatments; similar examples may be **66**, where treatment of throat suppuration or open abscesses is predominantly by sugary substances (raisin wine, hydromel, figs, honey), while the plaster made of salt (*ex sale, δι' ἁλῶν,* **217**) promotes healing and scar formation of old ulcers, and the application of hot sea water treats parotid swellings in **43**. The ambivalent position on suppuration between healing and sign of infection is noteworthy. The efficacy of such treatments remains recognised even as medical science has advanced - the author recalls a paper given at the RCPSG's Livingstone symposium in the 2010s which addressed the usefulness of sugar-based wound dressings in resource-poor settings.

to be drained, while elsewhere healing is to be prevented and suppuration encouraged to allow the drainage of "noxious matter" from snakebites; and c) while neither pathogens nor exact composition of ingredients can be ascertained, the generally high proportion of lead or copper minerals in the plasters, as well as the use of various resins/tree tar or pitch products, honeys, or similar substances that have at least in one form shown antimicrobial activity against some strains of pathogens,[172] indicates that it is likely some degree of microbial growth inhibition was accomplished by Scribonius' compounds, and that this was considered desirable.[173]

2.5.3 Reception

A number of the surgical recipes are featured in the curative repertoire of Galen, Marcellus, and medieval compilers among the variety of chapters excerpted or adapted.[174] Galen includes all four soothing salves, six emollients, and 13 plasters, including the oily plaster (*lipara*) **223**, but apart from two remedies for shingles (**247**–**248**) and a remedy to remove haemorrhoids (**227**) none of the other chapters are included. By contrast, Marcellus omits almost the entire plaster section (**201**–**221, 238** and **242** – only the two oily plasters **222** and **223** are included), and all remedies for skin conditions apart from **243** and **245,** but includes all soothing salves and all but two emollients (**257**–**271**), as well as most of the remedies against growths and rectal/genitourinary complaints (only **230**–**231, 239, 241**, and the missing chapter **236** are omitted). Three of the medieval manuscripts in particular (**Ca**, **W**, and **Amb** to a lesser extent) include several excerpts from the plaster section, and individual recipes are also found in other manuscripts, such as the *Lorscher Arzneibuch* (**B**) which features an emollient (**258**) and two soothing salves (**268**, as well as one found earlier in **156**), **C** which includes **214**, and the plaster Isis (**206**), found in the *Physica Plinii Bambergensis* (all except the "non-surgical" **156** also in Gal.). Among the excerpted chapters, notable reoccurrences are e.g. the plasters **208** (black plaster of Thraseas, **W**, **Ca**, **Amb**), **212** (red plaster of Dionysos, **Amb**, **Ca**), and **220** (white plaster of Paccius Antiochus, **Amb, W, Ca**), as well as the emollients **255** (**Ca, W;** Gal.), **258** (**B**, **Ca**), **260**, **265** and **267** (**W**, **Ca;** Gal. only **260**); **Ca**, which excerpts 11 plasters and 10 out of Scribonius' 12 emollients, is the only manuscript apart from **B**

[172] Resins and sim.: see e.g. Söderberg et al. 1990; Jokinen and Sipponen 2016; Himejima et al. 1992. Honey: Anthimidou and Mossialos 2013; Cooper et al. 1999; Cooper 2007; Voidarou et al. 2011. Minerals, especially copper: Karpanen et al. 2012; Thurman, Gerba, and Bitton 1989, who also cover the similarly active silver which plays less of a role in Scribonius.

[173] While neither the identity or identification of pathogens or ingredients is certain in medical history (or most of it – the vast improvements of aDNA research have put historians of epidemic disease, especially plague, at a huge advantage), this general antimicrobial effect against generally wound-infecting pathogens points towards the potential role that historical pharmacopoeias and medical works can play in the ethnopharmacological research towards future drug research topics; see e.g. the edited volume by Holland 1996, especially the contributions by Riddle (1996) and van Arsdall (1996), and similarly Fabre (2003), de Vos (2010), van Arsdall (2014), Photos-Jones et al. (2015, 2017) and the work of Touwaide and Appetiti's Institute for the Preservation of Medical Traditions (https://medicaltraditions.org/).

[174] However, there is disagreement on the inclusion of individual chapters that are only partially excerpted or significantly modified, see 4.1.3.

which includes (in addition to **156**) one of the soothing salves from the surgical section (**270**; also Gal.), while only **W** (three plasters, four emollients) features one of the oily plasters (**223**; also in Gal. and **M**).

A more unexpected case is the appearance of Scribonius' plaster remedies alongside those of Celsus in a short clinical dissertation on skin damage caused by a particular type of remedy – "drawing" plasters and ointments (*Zugpflaster, -salben*).[175] John's 1945 work, the last of the German language doctoral dissertations that use Scribonius to a greater extent within a thesis written from a medical or scientific rather than philological perspective,[176] is clinical in nature. Unlike those of Wriedt and Trilk on dentistry (see 4.4.2 below), it uses the historical examples as an adjunct to a modern medical paper rather than a modern analysis of ancient practice – appended to several case studies is the history of the particular type of ointment with quotations of the relevant recipes and sections from Scribonius and Celsus.[177] He refers to several types of ointments in Celsus (1945: 19, 21–24, quoting six in the German translation by Scheller (1906) and covers Scribonius on two pages (1945: 20–21), with particular reference to "Kap. 253", which he identifies as a *Teerschwefelsalbe* (tar-sulphur-salve; from both the name and the quoted text it is evident that the reference is in fact to **251**). In contrast to the passages from Celsus, the Latin text is quoted without translation, accompanied by conversion of the ancient weights into modern ones; that no German translation is provided here is not particularly unusual, given the continuation of Latin terminology in pharmacy – elsewhere (1945: 17) he lists the ingredients of Ilon salve, given in the abbreviated Latin typical

[175] *Zugsalben* are ointments for the treatment of complaints such as ulcers, spots, splinters, and other skin-related afflictions. They are meant to "draw out" the infection to allow for the drainage of pus and similar subcutaneous accumulations and are based on either oil shale components (ammonium bituminosulphonate, also called ichthammol or by its tradename, Ichtyol) or larch and pine turpentine. Zugsalbe is also the name of one of the Ichtyol-based modern products (Zugsalbe effect 20%/50%, InfectoPharm Arzneimittel).

[176] "Skin lesions with particular consideration of Noviform- and Ilon ulcer salve with historical comments on drawing plasters and ointments in Scribonius Largus and Celsus". Noviform® and Ilon® brands, two Zugsalben of different composition, are still available under the name ilon Salbe classic (Cesra Arzneimittel) and Noviform Augensalbe (Novartis Pharma); the latter is now primarily used for eye infections, while the composition of the former has somewhat changed since John's times, but is still based on larch and pine turpentine (John 1945: 17; Cesra Arzneimittel 2019).

[177] The thesis, of which only two copies seem to exit – one in the German National Library (Leipzig location, shelf-mark Di 1948 B 2974), and another in the university library of Bochum (Universitätsbibliothek Bochum, shelf-mark UB4033), which I was able to access – is stamped with the approval of Nazi officials, a formality for academic work of the time and as such unsurprising, but nevertheless an unsettling sight next to Scribonius' name. Curiously, and disturbingly for different reasons, the work is a fairly unremarkable clinical paper that does not provide any glimpses of the horrific times it was written in.

of pharmacy[178] – and as he went to a Gymnasium[179] where Greek and Latin was (and, at least for Latin – Greek less so – still is) taught as part of the curriculum, he would likely have some knowledge of general as well as medical and pharmaceutical Latin. Ultimately, its point is not the discussion of ancient dermatology, or even the history of a pine-tar ointment's use for skin complaints, but a framework for a modern clinical paper which addresses side effects and allergic reactions to remedies based on similar ingredient compositions. As such, it is of interest for the history of dermatology, and that of the use of pine tar ointments, illustrating the longevity of the remedy form, as well as its potentially harmful effects. In this, it is a very different work from the other studies authored by practitioners, which will be discussed in 4.4.

2.5.4 Concluding Comments

Scribonius' surgical section covers both serious ailments and mild scrapes or bruises. Occupational dangers, such as the wounds sustained by gladiators, are addressed as well as the everyday hazards of life, and prevention of chills or reduction of stigma are likewise within the remit of Scribonius' surgical responsibility. Dermatological matters, ranging from the complex terms *lepra* and *ignis sacer* to John's discussion of ointments past and present, are mostly treated here and are, perhaps, indicative that Scribonius considers whole-body topical remedies surgical where internal or body part-related ones are treated earlier. *Malagma* and *acopa* are similarly overall confined to this section, although a *malagma* occurs in **157**, and several of the more general anodynes seem to fulfil a similar role as the *acopa*. This localisation of recipes may indicate that the type of remedy – or source of ailment – is more important than its use. Consequently, bleeding is a physician's concern when coming from nose or mouth, but even the tourniquet chapter (**84**) does not fall under surgical concerns. Bleeding – as in phlebotomy – is a further case where, despite its historical association with surgeons, and despite featuring incisions, its use is mostly restricted to previous sections, although to be fair Scribonius makes few mentions of it overall, and the use of cupping glasses could also be in the context of dry cupping. Furthermore, phlebotomy as a key aspect of humoral pathology is perhaps to be seen as a part of the physician's repertoire due to its treatment of systemic, rather than localised, ailments such as wounds, much as it can feature the use of knives or

[178] While the ointment is still produced under the same name, the composition – now given in German – has slightly changed (Cesra Arzneimittel 2019). The *Beipackzettel* (patient information leaflet) addresses the potentially irritating effect due to allergic reactions, but provides no frequency to its prevalence due to an absence of data. Like some of John's patients, the author reacts badly to its application and can attest to the causation, rather than the remediation, of skin problems. Ammonium bituminosulphate-based drawing ointments also contain warnings for potential allergic reactions (e.g. Zugsalbe effect, InfectoPharm 2020).

[179] The (then-) Staatliches Gymnasium mit Realgymnasium Mülheim an der Ruhr (now Otto-Pankok-Schule, which continues to offer Latin from year 5, including as A-level subject (Otto-Pankok-Schule 2019)), from which he graduated in 1937 before studying in Berlin. As was the case for Trilk (1921: *praef.*), who studied during WWI (begun in Rostock in 1916, military service until 1918), his studies were interrupted by military service on the eastern front in 1940–1941 (John 1945: 28).

other sharp implements. As such, the surgical section (in many ways) illustrates that Scribonius' categorisation of medical treatment reflects the complexities of health, illness, and associated pharmaceuticals.

3 Pharmaceutical Practice in Contemporary Context

Despite Scribonius' emphasis on the tripartite nature of medicine, the work's primary focus is still drug composition and administration. This section will explore how this is reflected in the structure and function of individual chapters and recipes, the praxis of remedy compounding and compilation, and the range of ingredients employed. It will be shown that while the four main sources for first century pharmacy – Scribonius, Celsus, Dioscorides and Pliny the Elder – all take individual approaches, they also resemble each other to a greater or lesser extent.

3.1 Chapters and Recipes: Types and Structure

3.1.1 Chapter Types

While recipes and associated instructions are Scribonius' main focus, the 271 chapters of the *Compositiones* do not exclusively consist of recipes. Here the most obvious division is between the section on harmful drugs (*mala medicamenta*) and the rest of the *Compositiones*, where instead of the common model of indication – recipe – composition/dose/other matters all chapters begin with a description of the symptoms (relatively rare otherwise), followed by instructions to counteract the poison which consist mainly of simples, production of emesis, or more rarely compounds with very few ingredients. Chapters do not differ as substantially between the *capite ad calcem* and surgical sections, but in the latter, there are generally fewer simples, more extensive compounds, and, given the lower overall number of recipes, a greater proportion of recipes featuring only very sparse tangential statements. By contrast, there is a comparatively large number of recipes with very detailed preparation instructions – while some plasters (**215, 218**–**219**) are rather sparse with details, the *acopa*, soothing salves or anodynes, which conclude the book, have particularly complex instructions, with the final recipe (**271**) requiring a particularly elaborate two-step process that occupies several pages. The chapters at the start of the *Compositiones*, meanwhile, are much shorter and concise, such as **5** (and the even shorter preceding headache-chapters), and especially single-remedy chapters such **19** (Indian *lycium/lykion* for eye complaints) or **14** (crocodile's testicles for "epilepsy"). Even the complex multi-ingredient remedies are not necessarily difficult in their preparation – the "perfect" antidote of Marcianus, **177**, with its 42 ingredients, and even the incomplete Mithridatium (**170**) which still lists 22 substances, include virtually no compounding instructions beyond mixing with honey and/or wine until a remedy is produced. Meanwhile, other chapters, like **20** (further details on the use of Indian *lycium/lykion*), **84** (mainly concerned with physiology and tourniquet use/abuse), or the eight recipe-free chapters that constitute the section dedicated to the holy antidote of Paccius Antiochus (**97**–**105**, followed by the two recipes) are more

commentary than remedy. The following is an attempt to classify the main chapter types and/or distinct elements of content or style out of this variety:

3.1.1.1 Chapters describing simple drugs

While simples play a relatively insignificant role in the *Compositiones*, especially if compared to Dioscorides, Scribonius acknowledges their value and explains that in ordering remedies, he is "taking care that we place simple drugs first: for sometimes these are more effective than drugs compounded from many ingredients" (*dantes operam, ut simplicia prima ponamus: interdum enim haec efficaciora sunt quam ex pluribus composita medicamenta,* ***praef.*** **15**). An example is found in the section on *collyria* – itself divided into milder (*lenia*) and sharper (*acria*) remedies – which opens with the statement that of all the eye remedies he knows, Scribonius values "none of the <composite> eye-salves as much as the sap of Indian buckthorn [= cutch-tree sap] on its own" (*nulli collyriorum tantum tribuo quantum lycio Indico vero per se*, **19**). Elsewhere, simples do not necessarily appear at the beginning of sequences but can also be grouped together with compound drugs in one chapter, such as the headache remedies in **2**, which lists a preparation made from rue "on its own" (*per se*) or combined with ivy berries, followed by some compounds with only two or three ingredients.

Aside from the use of *per se* or the absence of any substance to be added to identify a simple, and the conclusions drawn from the presence of itemised recipes or terms referring to compounding, the nature of a drug as a simple or compound is usually only – but not necessarily – explicitly noted in the index. While the index for the simple(s) and compound(s) contained in chapter **2** simply marks it as "another" (*aliud*, notably in the singular) for the same complaint (headaches), **Ind. 39** specifies that the chapter covers "six well-working simples for earache and swelling <of the ear>" (*ad auriculae dolorem et tumorem simplicia bene facientia sex*). Elsewhere, both compounds and simples are noted, e.g. **Ind. 12** "four simples <and> one composite <remedy> for the comitial disease" (*ad comitialem morbum simplicia IIII, compositum unum),* or **Ind. 62** "for *cancer* in the mouth two simples, <and> one composite <drug>" (*a cancer in ore simplicia duo, compositum unum*). However, these two entries illustrate a challenge regarding Scribonius' indexing strategy as well as the definition of a simple. **62** recommends a treatment consisting of *misy* given with honey, followed by a decoction of oleaster or pomegranate skins in water. As they seem to be ideally used together, it is unclear whether the two simples here refer to the alternative provided between oleaster and pomegranate, or the two steps, as it were, of *misy*-honey and decoction, or whether the *misy* and honey are to be understood as either the two simples or the compound referred to in the index. Meanwhile, the following chapter does include a compound – **63**, the remedy of Andronios

against any kind of cancer and not only that of the mouth, but the index considers it simply as a further "for the same" (*ad idem*), and whether this is the *compositum unum* of **Ind. 62** is unclear.

While some degree of a case for a two ingredient compound and two simple drugs can be made for **62**, this is not possible for **12**, which only contains one drug, the herb *oximidia/ocimoides/nervalis*. Here, then, the index entry for **12** seems to cover several chapters, in much the same way as **Ind. 178** acts as a general heading for the *mala medicamenta* section ("suitable means of help for individual bad drugs", *singulorum malorum medicamentorum propria auxilia*), or **Ind. 28** for the "sharp eye-salves and *perichrista"* (*collyria acria et perichrista*)[180] and similar remedies that form the remainder of the eye remedies. Matching **Ind. 12** against the *comitialis morbus* section is difficult, however – **12**–**14** cover simples, followed by two compounds, and several things that "fall outside of the profession of medicine" (*extra medicinae professionem cadunt*, **17**) as well as a note on the therapeutic effect of intercourse (**18** – arguably a chapter including a single remedy). Thus, **18** might be counted as the fourth simple; in **12** *oximidia/ocimoides/nervalis* is recommended against both "epilepsy" and drunkenness, which could be seen as two simples, even if they are the same drug, but then the index promised four simples for "epilepsy". As such, even where the index specifies simples or compounds, it is not always clear how many chapters the entry covers and what Scribonius understands as a simple or compound in the specific circumstances.

Part of this is due to the ambiguity whether substances like honey, wine, or infused water are part of a remedy or to be understood as a convenient way of ingestion or application, as is the case in the different simples and/or compounds described in **62** (cf. above). The issue is illustrated by **25**, a collyrium consisting of honey stored in a bronze container. As Indian *lycium/lykion* is also referred to as a *collyrium*, the term does not exclude simples; honey is qualified by *per se*, something elsewhere found with simple drugs, but the recipe makes clear that it is not quite honey on its own, but honey "stored in a box of Cypriot bronze and put away for no less than two months" (*facit bene et per se mel Atticum purum pyxide Cyprii aeris conditum et repositum mensibus duobus nec minus*). As the storage clearly changes the efficacy of the honey – "for the longer it is stored, the more effective it becomes" (*quanto enim diutius remanet, efficacius fit*) – the remedy is in a way an infused honey, but whether either a honey-metal combination or an infusion is a simple or a compound is not necessarily clear, as the *misy*/honey and pomegranate/oleaster water issue in **62** illustrates. That Scribonius' approach seems to vary is indicated by the four simples and one compound in **12**ff., which contains three simples, one of which is given with water, and at least two compounds of three ingredients each (thyme, honey, vinegar, and ivory, honey, blood,

[180] In Sconocchia's second edition, this now is the overall heading for the section, and **Ind. 28** commences with *Ad cicatrices extenuendas*... rather than *Collyria acria et perichrista ad cicatrices extenuendas*...

respectively); on the other hand, **40** consists of flower of pitch mixed with oil but is distinguished from the preceding six simples (**Ind. 39**) as a two-substance compound in the index (**Ind. 40,** *ad idem compositum ex duabus rebus mirificum*). Given this ambiguity, remedies administered with wine, honey, or other potential "carrier materials"[181] are here also cautiously considered as potentially falling into this category.

3.1.1.2 Chapters describing one compounded remedy

Most of the chapters in the *Compositiones* are for compound drugs, and while there are varieties in the way a recipe is presented or the extent to which additional information is included, this is the closest the text comes to a "standard" chapter. As such, it will form the basis for the recipe structure analysis below (3.1.2).

3.1.1.3 Chapters describing multiple remedies

A fair number of chapters include multiple remedies, including both simples and compounds. Remedies are usually listed in order, with similar transitions or comments as occur between chapters elsewhere. Examples and subcategories include 1. recipes with multiple simples, such as the recipe with six simples against ear complaints (**Ind. 39**), four simples for laboured breathing (**Ind. 76**) and for the skin complaint *lepra* (**Ind. 252**), or a number of "things...to be laid on externally" (*extra...imponenda*) to cause irritation and ulceration (**174**); 2. combinations of compounds and simples, such as the "things opening the bowels" (*alvum mollientia*) listed in **135**, or several of the headache chapters (**2, 7, 9, 10**) which cover two to three simples or compounds made from only a few ingredients. Those with 3. multiple more extensive compounds occur more rarely; an example are the three compounds against the throat infection *angina* in **70**. The index variously notes the multiple remedies contained in a chapter, simply lists the chapter as if it contained one remedy, or abbreviates the reference to "another" <remedy> (*aliud*) for a particular ailment.

[181] The modern concept of most pharmaceuticals is one of a combination of a medicinally active component with one or several medicinally inert materials used as a filler/bulking agent for pills, a medium in which to dissolve, suspend, or mix pharmaceuticals for ingestion or application, or an additive to improve appearance or taste. This model does not lend itself well to ancient pharmaceutical practice with its multiple ingredients and high degree of specificity for liquids (different regional wines), wide range of waxes, fats, and gums/resins (geographic and animal origin; quality), taste- or colour-altering substances (various metal compounds; types of honey; qualities of myrrh), and even application methods for plasters (particular types of cloth or leather). As it is unclear where the line falls between what Scribonius considered part of the remedy proper (i.e. an active ingredient with medicinal properties) and what was considered an aid for its use but otherwise not contributing to the drug's action (i.e. a carrier material or similar) – if there is such a line at all –, the term is used in inverted commas.

3.1.1.4 Connected Chapters

While many chapters are stand-alone recipes for remedy composition, some chapters are connected. The most extensive example of this is Paccius Antiochus's antidote (**97**–**107**), where the recipe itself does not occur until **106** (an alternative version of the recipe follows in **107**). The remaining chapters cover the wide range of indications, the respective dosage and administration, and the background to the remedy and its acquisition. Another type of connected chapter is that which references previous recipes, both those immediately preceding, such as the simple eye remedy (**19**) followed by more details on its use (**20**), or to other parts of the text. Here the remedy of Andronios (**63**) reoccurs most frequently (**225, 232, 235, 248**),[182] followed by the collyrium *cinereum/spodiakon*, which, like the antidote of Paccius Antiochus, is mentioned before its compounding instructions are given (**23**, recipe **24**), and then recommended elsewhere twice (**26, 37**). Paccius Antiochus' remedy is recommended at the start of **156** before the chapter's own recipe for a soothing salve, while the (incomplete) Mithridatium of **170** is among the means used to counteract arrow poison in **194**.

3.1.1.5 Chapters with observations or discursive addenda

As well as information on remedy composition or treatment administration, some chapters include further and more or less tangential observations or discussions. These are often brief notes on natural history (plant descriptions, zoological observations), etymological explanations, or references to socio-economic use of plants. Scribonius covers the appearance and growth conditions of navelwort, "which has leaves resembling cymbals and usually grows on damp walls" (*quae herba similia folia cymbalis habet nasciturque fere in parietibus humidis*, **55**); how to determine the age of a fawn – "the number of days is understood from this, that the ears of fawns lie back initially and are raised up from the ninth day" (*intellegitur...dierum numerus ex eo, quod iacent aures hinnuleorum primis temporibus, a nono die subriguntur* , **13**); that henbane gets its name because those who have drunk it "will wander in mind during some exchange (*altercatione*) of words: for from this the plant draws this name, *altercum*" (*mente abalienabuntur cumquadam verborum altercatione: inde enim hoc nomen herba trahit altercum*, **181**); and that a type of pomegranate is used for tanning and gets its Greek name from its sour nature.[183] While these brief observations are

[182] Assuming that the variant spelling Androneos (**232**) and Andronicus (**248**), which otherwise have no associated recipe, refer to the same person.

[183] "The pomegranates, which the tanners use (because they are always sour and do not ever ripen, the Greeks call these *rhoas oxias* [sour pomegranates])", *mala granata duo, quibus coriarii utuntur (quia semper acida sunt nec umquam maturescunt, rhoas oxias haec Graeci dicunt*), **41.** Tanners occur three more times (**47, 85** pomegranates; **142** sumac), after ointment-makers (*unguentarii*), who appear in the context of plants (**129** ben-nut, **206** aristolochia, **269** reed, spathes), utensils (**66**, a double-container) and more generally (**118**, in connection with patient) the most represented

integrated into the "regular" recipe structure – and it may be debatable whether they should be classed differently from other ingredient descriptions or preparation instructions – some chapters are interrupted by or conclude with lengthier passages. Several of these mark the end of a section: **38**, following the final recipe for eye remedies, ends with a note on compilation strategy that justifies inclusion of recipes with well-known names; the final two chapters of the *mala medicamenta* section, on swallowed leeches (**199**) and harmful drugs in general (**200)**, both end with a more general passage the harmfulness of knowing about poisons (**199**) and the tripartite nature of medicine as applied to the *Compositiones*' structure (**200**); and the final chapter, **271**, is followed by a note on tested remedies and trusted sources, as well as reminding Callistus of ***praef.*** **15** and its emphasis on the individuality of patients and, consequently, drug effects and efficacy. A further example occurs at the start of the toxicology section (**163**) which features a reference to Claudius' excursion to Britain alongside a description of the appearance, habitat, and lengthy harvesting ritual of a type of clover. Perhaps the most noteworthy tangent occurs among several chapters on haemostasis in **84**, which combines angry condemnation of bad practice and insufficient medical knowledge with clear scientific description of physiological processes and experimental observations.[184] Most striking, perhaps, is the self-conscious end to the section which acknowledges the tangential nature of the observation-*cum*-outburst, and which may resonate easily with a wide range of writers or speakers across fields and time: "But we shall return to the subject" (*sed ad propositum revertamur,* **84**). Given this wide and varied range of comments – from the way to tell the age of a fawn by its ears to the toothpowder recipes favoured by the imperial court – it is this element of the *Compositiones* which, in addition to the preface, is perhaps the most important source of information for the broader context and relations of medical practice and scientific observation in the early Roman Empire, and provides useful insights into Scribonius' medical views, botanical and similar knowledge, and other interests.

3.1.1.6 Chapters without recipes

A step beyond the chapter with added tangent is the final category – those which include no recipes or remedies at all. A suitable example to begin with is **178**, the chapter preceding the *mala medicamenta* section, which introduces this part of the *Compositiones*; unlike some of the previous addenda (**38, 199, 200, 271**) which follow on from chapters, this passage is a chapter in its own right. This type of chapter is generally found either preceding or following a remedy mentioned in

socio-economic group; individual appearances are made by cooks (**111**, *rus Syriaci, quo coci utuntur*), fullers/woolworkers (**10**, *struthii, quod est radix lanaria*,), felt-makers (**230**, *cinere lixivia, qua quatiliarii* **[S]** | *quactiliarii* **[J-B]** *utuntur*) and woodworkers (**141**, *lima lignaria).*

[184] As such, it complements the equally illustrative preface in providing a good summary of Scribonius' personality, or at least how he presents himself.

an earlier or later chapter, such as **97**–**105** for the background and uses of Pacchius Antiochus' Holy Antidote, followed by the recipe in **106** and **107** (see 3.1.1.4); **20**, which provides further information on the use of the simple eye remedy described in **19**, is another example. The chapter which provides background to the Sicilian rabies treatments of Apuleius Celsus and an unnamed "barbarian" (**171**), as well as some information on the respective use of these, precede the remedies themselves, which are covered in the following two chapters. The existence of this category is part of what makes the index so valuable: chapter **235**, which mentions the efficacy of Andronios' remedy (**63**), could potentially be a complete chapter without recipes, were it not for the index' reference to two compound remedies (*composita duo,* **Ind. 235**) which were to be expected here. Again, whether this means two recipes in this chapter, or includes one or two of the following chapters as well (**236** is missing, **237** includes three simples and one compound) is unclear.

3.1.2 Recipe Structure

Given this range of chapters and contents, it is difficult to pin down the elements of a recipe and define what constitutes a standard structure, even if the single compound recipe, chapter type 2, is taken as a "typical" recipe. However, focussing on the main components found in most of Scribonius' recipes in some arrangement, some generalisations can be made.[185]

The overall structure of a typical recipe (if there was such a thing) might be summarised as:

1. Indication – 2. Ingredients – 3. Preparation – 4. Application – 5. Addenda.

An exception, as previously noted, are the toxicology chapters, which begin with a description of the symptoms and adhere to a different recipe structure:

1. Poison/synonyms – 2. Symptoms (occasionally incl. detection) – 3. Treatment.

As indicated by the chapter types discussed previously, additional components of recipes may include source/acquisition/attribution, synonyms for disease/ingredients, observations or description, further indications, specific patients/modification, or anecdotes/tangents/further information. Conversely, recipes may be very brief and only mention a modification of the previous

[185] Dietlinde Goltz' studies on recipe structure (1974) have been an invaluable model in framing Scribonius' recipe approach within ancient pharmaceutical practice. For other scholarship which addresses the elements of ancient medical recipes in different contexts, see e.g. Pommerening 2010; Heeßel 2010; Totelin 2010.

recipe, or list a simple. As such, the following discussion of subcategories may in some cases apply to an element found in virtually all recipes (such as indication and ingredients), while other cases are only infrequently incorporated (such as a more detailed preparation section, or addenda).

Some recipes are prefaced by a **heading** which applies either exclusively to the following chapter, or to a larger section of recipes, similar to Scribonius' use of the index (cf. 3.1.1.1). Headings for individual chapters become more common from the toxicological section onwards, where most antidotes and all *mala medicamenta* come with a heading. The plasters similarly mostly have headings – the black plaster of Aristos (**209**), the plaster of the surgeon Meges (**202**) – while titles are more intermittent through the rest of the surgical section. The *capite ad calcem* section, while occasionally using headings for individual remedies (e.g. the Paccius Antiochus block), more typically feature several chapters addressing one complaint or aim under a heading, although sub-headings as well as absence of titles in what seems like a new thematic section also occur.

3.1.2.1 Indication (and attribution)

Recipes (at least in the *a-capite-ad-calcem* scheme) commence with an indication of the diseases the remedy is effective against. This is usually expressed as *facit,* "it works", more typically *bene facit,* "work(s) well", occasionally *mirifice facit,* "works extraordinarily <well>"; *prodest/proderit,* "is beneficial"; *oportet,* "one should"; or less commonly expressions such as *proficit* or *satis efficax*. The ailment or its sufferer follows, usually with the preposition *ad*, e.g. *ad capitis dolorem, ad sanguinis eruptionem; ad* + reference to the sufferer rather than the affecting disease or condition occurs more frequently with Greek terms (*scotomaticos, epilepticos, maenomenos*), but also *lienosos, torminosos, morbo comitiali correptos* etc. Alternatively, a conditional or temporal clause is employed (*cum intestina cancer occupavit,* **Ind. 114***; si os scabrum aut putre vetustate vitii factum est,* **201**). [186] If the recipe follows in a list of those for the same disease, or a list of the type of remedy – especially in the surgical chapters, which often commence with "the plaster of <attribution>", with or without details of its specific effects – "this also works" (*etiam..facit*), "likewise" (*item*), "another" (*aliud*) or "another [remedy]" (*aliud collyrium, aliud medicamentum*) and similar expressions replace the indication in this case. If a recipe contains an attribution to a medical authority, or a name, this is also contained in the opening (e.g. **210**, "the black plaster of Tryphon, called *Basilice*, works for bruises and dog bite and furuncles", *emplastrum nigrum Tryphonis, basilice appellatur, facit ad contusa et canis morsum et furunculos*), although references to famous users or patients may also appear in the middle or the end of the chapter.

[186] Although in the latter case Sconocchia's edition suppresses the *si* (as well as *est*); an alternative example would be *si caro excreverit in foramine auris,* ***42***.

3.1.2.2 Recipe or Ingredients

Ingredients are found in virtually all recipes; those chapters which further qualify previous recipes (such as **97**ff.) may feature individual solvents, administration media, or other accompaniments instead. The chapters discussing simples, which by their nature do not require a recipe as such, may also include administration instructions, such as the type of liquid to be used for ingestion, or provide alternative drugs (including compounds). For simples, emphasis on the remedy "on its own" (*per se*) or statements on the comparative or preferable efficacy (e.g. Indian *lycium/lykion* being better than any compound collyrium, **19**) may be incorporated.

The recipe itself is introduced either by a verb of receiving or compounding, including the name-giving *recipit* ("it receives/is made up of/consists of", usually as *recipit haec*, "it consists of the following"; see note **22, 22.14 *sic componitur*** for variations). The ingredient list follows, with quantities predominantly given in Roman numerals or weight fractions (*bes, quadrans* etc.), and the unit of measurement given either as a symbol or written out. The *denarius*/*drachma* is consistently represented by its symbol ℵ, while most other units appear as words in the manuscript tradition (*pondo, victoriatus,* all liquid measures, *uncia*), although symbols for *scripulus* (or potentially *sicilicus*), *semis, sextans, uncia,* and *sextarius* appear very rarely (cf. Sconocchia 1983: XXIV; Jouanna-Bouchet 2016: CLXXIV).[187] Similar to the pharmacy in Celsus, and the compound recipes found in Dioscorides, weights and measures are the norm rather than the exception; simples may, but frequently do not, include dosage instructions, but beyond main indications and brief observations – and with the exception of the harmful drugs – there is no detailed account of individual substances as there is in the three other contemporary writers.

Where provided, substitutions or alternatives are suggested alongside the original ingredient (see 3.3.2). Liquid media, or occasionally consistency-giving substances such as wax or gum, are frequently listed after the main ingredient list and preliminary preparation instructions; interrupted ingredient lists, where a pattern of ingredient – preparation – ingredient – preparation is followed, are also employed. Conversely, especially in the composition of plasters, all required substances are

[187] The symbols for *uncia* −, *drachma*/*denarius* ℵ, *sextarius* ℘ and *sextans* ƨ [here Z used instead] are included in the Unicode Ancient Symbols block (U+10190); *semis* is represented by S. The apothecary scruple, represented by *ʒ*, ϶, or variations, is not used by the two modern editions due to the variations in the manuscript tradition (see note ***praef.* 15, 5.23–24 *erit autem nota* <X>...**). Jouanna-Bouchet also uses the now predominantly mathematical symbols ÷ (*obelus*/division) and ≒ (geometrically equal) to represent the manuscript tradition for *uncia*. Fractions are written out (with exception of the rare use of Z and S), and the use of combinations of – and = for fractions (e.g. = for *sextans*, ⅙, or = – for *quadrans*, ¼), common in Celsus' recipes (cf. Spencer 1938: lxv–lxvii), does not occur.

given before the compounding is addressed. At times, the preparation of an individual ingredient – e.g. a pumice to be obtained by heating ("*misy*, heated until it becomes 'pumice'", *misys usti, donec pumiceum fiat*, **34**) – is included with the ingredient list, rather than separately.

Grammatically, the standard construction employs the genitive of the ingredients, as well as the abbreviation p. (*pondus/pondo*) to denote the weight measurement (thus e.g. **21**: *aloes Indicae Ӿ p. IIII, croci Ӿ p. II, opii Ӿ p. I, commis Ӿ p. IIII)*. Notably, where particular plant parts are used, these appear in the singular: thus *semen lini* as in the English linseed, rather than a nominative + genitive construction such as "seed of fennel" which is more idiomatically used with the plural in English (seeds of fennel/fennel seeds). Ingredients are given in quantitative amounts, with the exception of some simples; means to counteract harmful drugs are likewise more commonly qualitative, while in both cases dosage instructions may or may not be provided. In some cases, quantities take the form of proportions (*paria pondera*, equal weights, employed in six recipes), and less precise or non-numerical amounts are used in several recipes for ingredient quantity or amount needed to acquire a particular consistency (*exiguo*, "a little": *quantum sufficiat/quod satis erat*, "as much as needed/until it is enough/a sufficient amount"; *quantum manus capit/quantum manu comprehendi possit*, "as much as a hand (can) grasp, a handful"). The use of size comparisons to pulses or nuts, as common for dosage instructions (see 3.1.2.4), is not usually employed in this context.

3.1.2.3 Preparation Instructions

Instructions can include advice on the preparation of ingredients, of the drugs themselves, and of their storage. Ingredients are prepared by soaking them overnight or for several days, by grinding or other division into small pieces, by sieving, and occasionally by other processes (e.g. the aforementioned "pumice", **34**). The latter very occasionally includes notes on ingredient collection (**163** for a type of clover, **13** for rennet) which consequently overlap with the "observation" element, 3.1.2.6 (cf. also 3.1.1.5). Preparation of the ingredients may occur in simple steps – mix together (*commiscere, in unum miscere*), form remedies (*pilulae, collyria* etc. *finguntur*, less commonly *formantur* (e.g. *formantur pilulae viciae magnitudinis*, **88**) – or contain multi-step processes, such as the preparation of a boiled-down wine from must in **111**, or the complex process for some topical remedies, such as the *acopa* in **269** and **271**, which, respectively, require a maturation process with multiple opening, stirring, and sealing of the container, and two separate and extensive preparation steps. The behaviour of drugs during the preparation process, such as boiling over (e.g. **45**, which "boils up vehemently", *effervescit enim valde*) or the comparison of the desired consistency (*temperamentum, spissitudo*) to other substances (predominantly honey) or remedy classes (especially plasters), may also be mentioned.

Specific implements or vessels employed for preparation, such as cooking pots (*olla, caccabum*), sharp implements (*cultellus, tinctorio, aes acutum*), or spatulas (*spatha*, or simply a piece of pinewood, *taeda*) can be mentioned, and often include a material recommendation (or, less frequently, prohibition: *quolibet vase dum ne aereo*, **57**; *anulum ferreum non habeat*, **152**), or requirements for new objects (*vaso fictili novo*, **156**; *olla nova*, **60**). Most preparation vessels with specified materials are made of clay/earthenware (*fictilis*), more rarely bronze (*aereus*), while implements are mainly wooden (*pilum ligneum*, **152, 255, 264**; *spatha fraxinea*, **173**), made of bronze (*clavum Cypri aeris acutum*, *aere acuto*, **16**), or less frequently materials such as bone or ivory (*cultello eburneo vel osseo*, **83**). Time is treated with less specificity than is the case for quantity or consistency: aside from soaking times and rare instances where remedies are to be prepared during a particular season or left to mature for a particular number of days, preparation is more commonly to continue until a mixture is reduced to half (*decoquere ad dimidias, ~ perducantur*, etc.), or has obtained the desired consistency (*in... spissitudinem, cum crassitudinem...habent, donec... spissitudinem habeat*). Where remedies are taking on a particular shape, such as pills or the plaster type called *magdalia*/μαγδαλίδας (**201**) or, in Sconocchia's second edition, alternatively μαγίδας, this also forms part of the instructions, with different degrees of specificity – pills, for example, can be prepared without size indication, in comparative sizes (*fabae/viciae magnitudinis*, the size of a bean, vetch-pea, etc. – cf. note **13,19.21–23 *dare pueris…maioribus fabae solidae magnitudine***), or by weight (of a *victoriatus* or similar).

Instructions regarding the form, material, or requirements for storage form the final part of the preparation instructions. Various pills are shaped for later dilution, *collyria* are formed to be applied as and when needed, and a type of plaster is prepared and stored in bread-like shapes (*magdali(d)as*) *or as small cakes* (*magidas*). Here the material and form of the storage container is often specified – a "vase", an ampulla, or a box made of bronze, lead, or wood, and similar. Container types include the generic *vasum*, but also include boxes (*pyxides*), flasks and oil jars, while materials for storage are mainly glass, metals (the alloy *stagnum*, lead, and copper/bronze, with one occurrence of silver as alternative), and to a lesser extent terracotta/clay, and wood, as illustrated by Figures 3-1 and 3-2.[188]

[188] Scribonius' container shapes and materials have been surveyed and studied by Taborelli (1996).

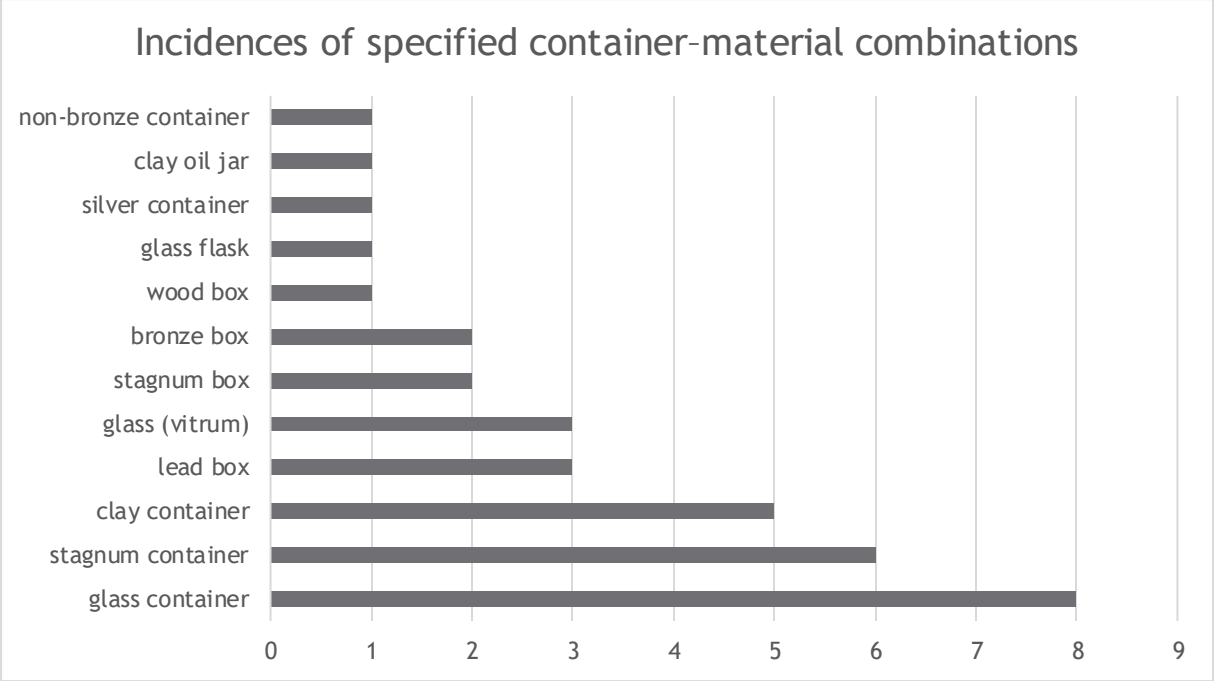

Figure 3-1 Specific material–container-type combinations in order of frequency, illustrating the prevalence of the glass container (*vasum vitreum*).

As Figure 3-1 shows, glass containers (*vasa vitrea*) are the most frequently mentioned storage vessel (eight instances), followed by containers (*vasa*) made of metal or – sometimes provided as alternative option – clay (four metal, three clay, two either *stagnum* or clay), and boxes (*pyxides*) made of different metals (six instances). Other container forms are the three not further specified glass vessels (*vitro reponitur*, **63, 145, 175**), while a flask (*ampulla*) and an oil jar (*olearium*) only occur once each. Wood and bronze are only used twice, silver only once as an alternative to *stagnum*, and one chapter allows for any material except for bronze (*recondere quolibet vase dum ne aereo*, **57**). The overall distribution of specified container materials is illustrated in Figure 3-2.

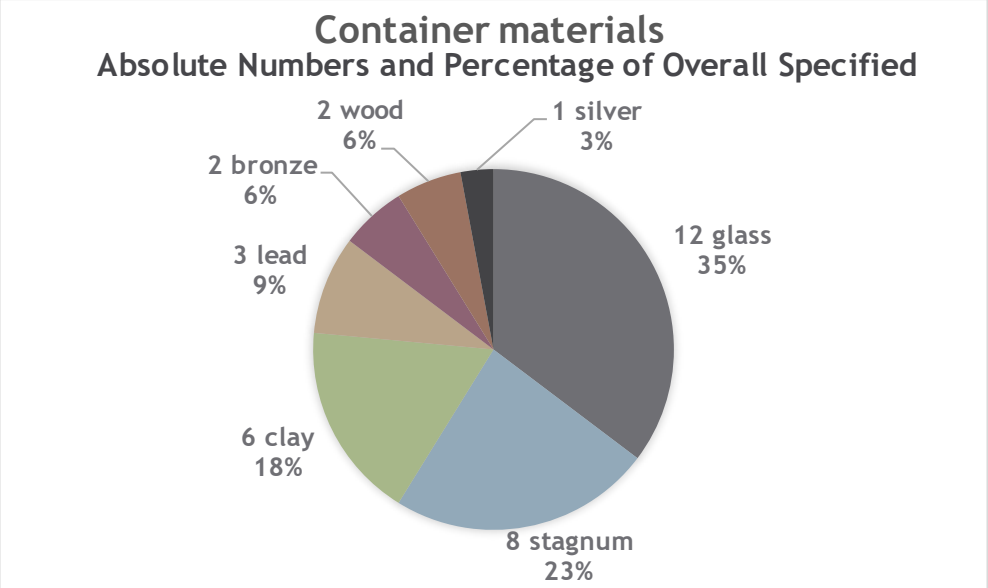

Figure 3-2 Specified container materials (absolute numbers and percentages), including cases where alternative materials are suggested (e.g. 31, silver or *stagnum* represented as 1 silver, 1 *stagnum*).

While general terms such as storing, sealing, or closing (*demittitur, reponitur, conditum*) are most common, special instructions are provided for a remedy to be soldered shut in its container (**271**), stored in a vessel containing vinegar (**208**) or, in one notable instance, to be stored in a smaller black lead box kept in a larger stagnum box and surrounded by lye (**230**).

3.1.2.4 Administration

Instructions regarding drug dosage or administration are found in some, but not all recipes. These can be about adaptation required for individual patients, constitutions, or strength, or consist of more general advice on the quantity, solvent, or content of administration. Recommendations here include the time and frequency of administration, the medium of administration or dilution if the remedy was prepared for storage until needed (*opus est*), the dietary context, or any changes to the lifestyle required by the remedy such as times of abstinence or avoidance of specific foods or activities. Occasionally, warnings of the remedy's potential harmful effects, suggestions of its administration in conjunction with, or as a superior remedy to, another compound drug, or exhortations of its efficacy are also included in this section, although the latter usually occurs together with the remedy's general indications.

3.1.2.5 Additional indications

While the afflictions treated by the remedy in many cases form the start of a recipe – either one ailment, one primary ailment followed by several additional similar complaints, or several ailments – efficacy against additional ailments is often included later in the recipe. This plurality of

indications is one of the reasons why Scribonius' adherence to the head-to-toe scheme is somewhat complex, as remedies for upper body ailments may similarly benefit the lower body, and vice versa (cf. 2.3.1). In more unusual recipes, such as the Paccius Antiochus chapters, discussion of efficacy may occupy multiple chapters which feature respective dosage (**97**–**105**), and it is the recipe which is appended (**106, 107**).

3.1.2.6 Observations, Tangents, and other Addenda

Finally, recipes may include a observations of various lengths and topics, either integrated into the most suitable section (e.g. descriptions of symptoms with the indication, observations on ingredient origin, appearance, or use within the ingredient list), or added at the end, as discussed in 3.1.1.5.

3.1.3 Practical Instructions and Implications for the Audience

The question of the intended audience for Scribonius' work, as indicated by the degree of technical instructions and the socio-economic implications of the required ingredients, follows on logically from the discussion of chapter types and recipe structure. For a text concerned predominantly with pharmaceutical practice, one might expect the *Compositiones* to either expand on the details of remedy preparation, or, depending on the audience, omit them. The reality is a compromise between the two which at times makes understanding or analysing recipes complicated and raises questions about the degree of knowledge Scribonius assumed of his readership. On the one hand, notes on remedy composition can be extensive, not only in length (cf. the *acopa*) but also in detail, featuring instructions on the degree of sieving (e.g. **61** "sieved with a finely pierced sieve", *cribrata tenuiter perforato cribro*; **111** "having been carefully sieved", *cribrata curiose*) and grinding ("ground thoroughly", *teruntur diligenter*, **37**, *contunditur diligenter*, **94**; "but <even> when they are brought down to the highest fineness by the persistence of those who are grinding them", *sed cum in summam subtilitatem deducta sunt perseverantia terentium*, **21**), or the process length ("one should grind these with vinegar for some days, until a green colour appears", *haec terere aceto per aliquot dies oportet, donec viridis color appareat*, **204**; "the remedy is cooked, until it has the colour of saffron", *coquitur medicamentum, donec crocinum habeat colorem*, **173**). The duration of soaking ingredients prior to use is particularly noted: combinations of *pridie* and *maceratus* are frequent – *pridie macerata/-us/-um* alone occurs four times (**85, 21, 131, 141) –** and durations of three days (**268**, *praeter oleum omnia in vino triduo macerare oportebit, quarto die oleum adicere*, **73** *triduo macerata*) or a night and a day ([*uno*] *die et* [*una*] *nocte macerari oportebit*, **74**; sim. **258**) are likewise frequent. Longer periods occur more rarely, but two instances of one and two months occur in **269** ("these are soaked with the must and oil for 30 days in a container made of *stagnum* or

earthenware", *haec cum musto et oleo macerantur vase stagneo aut fictili per dies triginta*) and **25** ("put away for no less than two months: for the longer it is stored, the more effective it becomes", *repositum mensibus duobus nec minus: quanto enim diutius remanet, efficacius fit*).

Similarly, there are comments on the heating process (**23**, "cluster-shaped (botryoidal) calamine, calcined over a potsherd until it becomes red-hot, and plunged into Falernian wine", *cadmiae botroitidos ustae super testam, donec incandescat, et vino Falerno extinctae*; **34,** "*misy*, heated until it becomes 'pumice'", *misys usti, donec pumiceum fiat*; **60,** "bake it thoroughly in a bath oven until it is reduced to charred remains", *percoquunt fornace balneariorum, donec in carbonem redigantur*), and explanations for the given instructions (**22**, "so that as soon as possible (that is, if it can happen, on the same day) eye-salves may be fashioned: for <the mixture> tends to dry in the mortar if abandoned for a long time", *ut quam primum, id est, si potest fieri, eodem die fingantur collyria: solet enim diu neglectum mortario inacescere*), or the warning of the remedy's tendency to boil over (**45,** *traicere in caccabum amplum, ne extrafundatur et effervescat (effervescit enim valde*, "transfer <the mixture> into a wide – in case it should spill and boil over (for it boils up vehemently) – cooking-pot", **267**, "and then withdrawn from the flame, in case the remedy boils up", *tunc subducitur flamma, ne fervescat medicamentum*).

As noted in 3.1.2.3, instructions may also feature details on the type or material of implement required for preparation, whether for stirring (**58**, "stirred with a resinous[189] piece of pinewood", *taeda pingui mota*; **173**, "the plate is placed over the fire again and [the substances] which are in it are stirred thoroughly with a spatula made of ash wood", *rursus patella supra ignem imponitur moventurque quae sunt in ea diligenter spatha fraxinea*), or the type of cooking container (**66**, "[it] should be liquefied in the <kind of> double container, which the ointment-makers are accustomed to use", *in duplici vaso, uti solent unguentarii, liquefacere oportet*; **60**, "in(to) a new pot", *(in) olla nova*; **220**, "the remedy should be put in a new earthenware cooking pot and cooked on a not too strong coal fire and stirred without rest, so that it does not burn", *medicamentum coniciatur innovo fictili caccabo et coquatur pruna non nimis acri moveaturque sine requie, ne aduratur*). **271** calls for a filtration process involving a custom-made filter ("strained through a linen cloth or through a sieve purposely made from rush", *colantur per linteum vel ex iunco facto de industria colo*) and an ingredient's preparation is described by the delightful double alliteration of "hartshorn filed with forester's/feller's file" (less alliteratively "woodworker's ~"), *cornu cervinum limatum lima lignaria* **(141**), while other remedies are prepared and shaped more simply by using one's hands (*manius suigitur*, **204**).

[189] *Pinguis* here can either refer to the oily or resinous nature of the wood, or to its thickness; either would make practical sense.

Remedies are increasingly complex both in number of ingredients (cf. **177**) as well as preparation instructions (cf. **271**). At times, Scribonius includes details regarding the drying, harvesting, or similar preparation of individual ingredients, as with the clover gathering ritual described in **163**, the gathering and drying of rennet in **13,** or the concise "rose petals dried in the shade" (*rosae foliorum arefactorum in umbra*) in **92**. These notes occur rarely and may be intended as natural history observations rather than instructions to be followed by the reader, but could also be an indication that not all ingredients would be purchased pre-prepared from drug peddlers.

On the other hand, assumptions are made about the compounder's knowledge of e.g. preparing an eye-salve or the point at which a remedy has the consistency of a plaster which seems to require expert knowledge – how to make a *ceratum*, *collyrium*, and different plaster and pill types based on the simple instruction "X is/are made". While some instructions are more accessible – identifying the consistency of honey is, after all, not exactly pharmaceutical rocket science –, part of the issue is the limitations of transmitting practical technical knowledge through written instructions, and ultimately the question for whom ancient technical works were intended. Scribonius' position is that he writes for Callistus, upon request, to provide a comprehensive first aid manual-type book of household remedies for the educated and, given the likely cost of ingredients, affluent freedman or courtier. Even if this is not a formulaic statement, it is questionable that Callistus was expected to prepare all the remedies, including the gathering of some ingredients, himself. That students, assistants, or slaves were tasked by doctors with remedy composition is shown in **97**, where Paccius Antiochus let assistants or students prepare ingredients for his remedy while compounding it himself in secrecy, while the colic-remedy of the doctor Cassius (**120**), meanwhile, was usually compounded by his slave Atimetos rather than the doctor or patient. As Nadeau (2015) shows in the context of ancient cookbooks, practical manuals were not necessarily intended for those who would prepare the described compositions, especially given the differing levels of literacy between societal strata. Here the cookbook may be somewhat distinct from the medical recipe, however: given the extensive nature of some compound remedies, the literacy of slaves tasked with medical matters is likely to have been higher than that of those tasked with cooking, and the provision of precise weights and measures in Scribonius' – unlike Apicius' generally qualitative – recipes makes preparation much easier and reproducible.

Ultimately, the precise audience for Scribonius' work, both intended and actual, remains unclear. Those for whom the remedies are intended are to be found among the elite, as shown by the references to illustrious patients, but primarily due to the requirement of large amounts of prohibitively expensive ingredients (see 3.3.3). As Scribonius' ideal of medicine ostensibly

transcends socioeconomic limitations (thus ***praef.* 4** on medicine's lack of interest in people's character or fortune, or **231** on the patient who had fallen on hard times), the work might be used by an altruistic physician working for the public good, or someone paid at public expense (*publice*, used with both Apuleius Celsus' work on Sicily and an unnamed elderly non-Greek speaker resident on Crete in **171**); it may be a paterfamilias or patron like Callistus, or, less charitably, a slave-owner like the unnamed ointment-maker (**118**), who pays for medicine to be dispensed or compounded. Who did the compounding, and how much individual knowledge was required is unclear – perhaps someone provided instructions, like Paccius to his students; or perhaps a sufficiently experienced individual was the intended audience, whether using the book as part of their own practice, or preparing recipes at the behest of a client, like Atimetos did. Scribonius does not necessarily make the best teacher of drug compounding, given the frequent lack of detail and the occasionally confusing passages, but his work demonstrates his knowledge, skill, and experience in the preparation and adaptation of complex remedies. In this, the practical instructions reinforce the self-image of the diligent and knowledgeable physician created in the preface.

3.2 Sources and compilation strategy

Elements of Scribonius' compilation strategy are already outlined in the preface: the tried-and-tested nature of recipes is key for being worthy of inclusion, preferably based on his own experience, although, as the addendum to **271** concedes, he is willing to take the word of friends on a drug's efficacy if they are willing to swear on it. Accepting recipes from others – "but rarely" (*sed raro,* **38**) – is similarly mentioned. In addition to experience, friends, and other practitioners, books play a role (***praef.* 8, 14**), as does obtaining recipes from individuals (sometimes for a price, **122**), or from libraries (**97**). The most extensive note on Scribonius' approach to gathering recipes is found appended to the eye remedy section in **38**, where the inclusion of named recipes, which may be well-known in general, is defended:

> *Non praeterit me habere te prudentes ocularios, quibus si nomina dixeris collyriorum in hoc libro scriptorum, contendant forsan se quoque habere eadem composita; sed si pondera aut effectus comparare voles, longe diversos invenies. ego enim ipse eodem nomine multa composita, non eisdem ponderibus et rebus, interdum habeo, sed his maxime probatis utor. nec utique adfirmo non posse et alios eadem habere; nam et ipse ab aliis accepi, sed raro. scio quosdam ocularios simpliciter tradentes compositiones, meque multum elaborasse, ut veras et incorruptas acciperem, conscius sum mihi. neque illud rursus dico, novas et non aliquibus notas me in hoc libro congesturum compositiones, verum etiam quasdam divulgatas et, ut ita dicam, publicatas: eiusmodi enim, quia efficaces sunt, etiam pluribus in notitiam veniunt.*
>
> It has not escaped my knowledge that you have skilled eye doctors, who, if you tell them the names of the eye-salves written in this book, perhaps claim that they also have the same composite <remedies>; **but if you wish to compare the quantities or effects, you will find them very much different. For I myself sometimes have many composite <remedies> with the same name, <but> not the same quantities and ingredients**, but use these <here> which are most well tested. And by no means do I assert that others cannot also have the same ones; **for I myself have also received <recipes> from others, but rarely**. I know that some eye doctors simply hand down recipes, and I am conscious that I have very much taken pains to acquire genuine and unadulterated ones. And, again, I do not claim this:[190] that I am going to <only> collect recipes in this book which are new and not known to others - but in fact also **some which have been disseminated and, so to speak, made public: for those of that kind, because they are effective, also become known to many**. (**38**)

The presence of recipes found in other authors is here explicitly acknowledged and justified by a) circulation of efficacious remedies on the one hand, and b) different recipes circulated under the same name, of which Mithridatium (**170**, cf. 2.4.1) and the Holy Antidote (**97**–**107**, cf. 2.4.3; 4.1.3) are examples. That Scribonius did indeed adapt recipes is indicated e.g. by the new and improved eye-salve *Diaglaucium* with added opium (*hoc enim ego adicio et ita melius respondet,* **22**) or the recommendation to improve a plaster's efficacy by adding incense (*adicito thuris pollinis pondo*

[190] See **38**, footnote 120 in Vol. II.

trientem et mirum quanto efficacior est, **207**); that not all are as tested as he claimed is admitted both in the concluding note following **271**, and in **172** where he admits that fortunately, he has not had cause to try the newly obtained rabies remedy, on account of the distressing and dangerous nature of the disease – a notable emphasis on patient concern where scientific curiosity may have taken precedence.

3.2.1 Named Sources

In addition to these general comments on recipe acquisition, several individuals are named – or, as the case may be, not named, but at least generally credited – as the source of one or several remedies. Scribonius' list here includes the anonymous and humble as well as the great and good of society and medicine, covering a time period ranging back to at least the early principate and illustrating the diversity of medical practitioners in antiquity. Table 3-1 provides an overview of the medical practitioners mentioned as source or inventor of remedies.

Table 3-1 Medical practitioners mentioned as sources of remedies

Name	Remedy	Dating and References
Ambrosius of Puteoli (*medicus*)	Remedy against calculi (**152**) including *superstitio* regarding iron rings	40–80 CE (Keyser 2012b)
Andron[ios][191] (*medicus*)	Remedy for cancer and skin complaints (**63**), recommended again four times (**225, 232, 235, 248**)	Pre–95 BCE (Jacques 2012a; Stok 2012b)
Antonius Musa	Dry remedy for abdominal complaints (**110**)	40–20 BCE (Scarborough 2012b; Michler 1993: 757–785)
Apuleius Celsus of Centuripae (*praeceptor)*	Cough remedy (**94**), antidote for rabid dogs (**171, 173**)	ca. 20–40 CE; death mentioned in **94**, hence before 48 CE (Scarborough 2012c)
Aristos (*chirurgus*)	source of two plasters (**209, 211**).	Keyser and Irby-Massie (2012: 135) suggest that Aristos could be read as Aristion, the name of two engineers (father and grandson, perh. 200–160 and 140–80 BCE) who designed a pulley system for medical use described by Oribasius (*Coll. Med.* 49.15-27, pp. 26–43).
Asclepiades of Bithynia; *auctor medicinae, Asclepiades noster*)	A highly praised throat medicine (*arteriace*) **75**	ca. 120–90 BCE (Scarborough 1975, 2012d; Rawson 1982; Vallance 1990, 1993, 2012)
Athenippos	collyrium *Athenippium/Athenipp(i)on,* **26**	120 BCE–40 CE, (Keyser 2012c; Wellmann 1896)
Atimetos (*servus*); potentially = *ocularius* Attius Atimetus	Provided recipe for Cassius' colic-medicine (**120**)	10–40 CE (see Keyser 2012d).

[191] Variously spelled Andronius (**63, 225, 235**), Androneos (**232**), and Andronicus (**248**)

Cass(i)us (*medicus*)[192]	Colic-medicine (**120**), antidote for arrow poison (**176**)	10 BCE–30 CE (Stok 2012a)
Dionysos (*chirurgus*)	A plaster (**212**)	a *Dionusios* (ca. 324–300 BCE) is associated with the treatment of wounds, but there is little material available to confirm any connection (Littman 2012).
Euelpistos, Terentius (*chirurgus*)	A plaster (**215**)	30 BCE–10 CE (Touwaide 2012a; Keyser 2012e)
Glycon	Two plasters (the plaster *Isis*, **206;** a black plaster **207**),	250–25 BCE (Keyser 2012f)
Marcianus of Africa (?; *medicus*)	The perfect (*teleia*) antidote, **177**	10 BCE–13 CE (Keyser 2012g)
Meges of Sidon	Two plasters (**202, 213**) and a remedy against ulcers (**239**)	10 BCE–30 CE (Scarborough 2012f)
Mithridates VI, King of Pontos	Alleged source of the famous Mithridatium (**170**, incomplete),	ca. 115–63 BCE (Keyser 2012h)
Pacc(i)us of Antioch/Antiochus	The holy antidote (*antidotos hiera*, **97**–**107**); a white plaster (**220**)	20 BCE–14 CE (Scarborough, 2012a)
Thraseas (*chirurgus*)	two plasters (**204, 208**).	dated 170?–100 BCE (see "Tharseas/Thraseas/Tharrias", Jacques 2012c)
Tryphon of Gortyn (*chirurgus, praeceptor*)	seven plasters (**175, 201, 203, 205, 210, 240, 241)**; an irritating remedy to remove tattoos **(231)**	ca. 15 BCE–20 CE (Scarborough 2012j)
Valens, M. Terentius (*praeceptor*; fellow student)	Pastille against chest complaints (**91**)	25–40 CE (see Scarborough 2012i; Keyser 2012i, and note in 1.1)
Zop(h)yros of Gortyn (*medicus, legatus*)	Rabies treatment (**172**), a missing antidote (**169**)	ca. 20–55 CE (Irby-Massie, 2012)

A special case of remedy association with individuals – as well as the rare named patient – are the members of the imperial family referred to as customary users of individual remedies. Again covering the early principate from Augustus to Claudius, several generations of Julio-Claudians are mentioned in connection with a range of remedy types, from eye-salves and tooth powders to antidotes and soothing salves. Figure 3-3 illustrates both the connections and the references in the *Compositiones*:

[192] The text to **176** reads Cassus (*Cassi*), while the index refers to Cassius (*Antidotus Cassii ad toxicum et tela veneno tincta*).

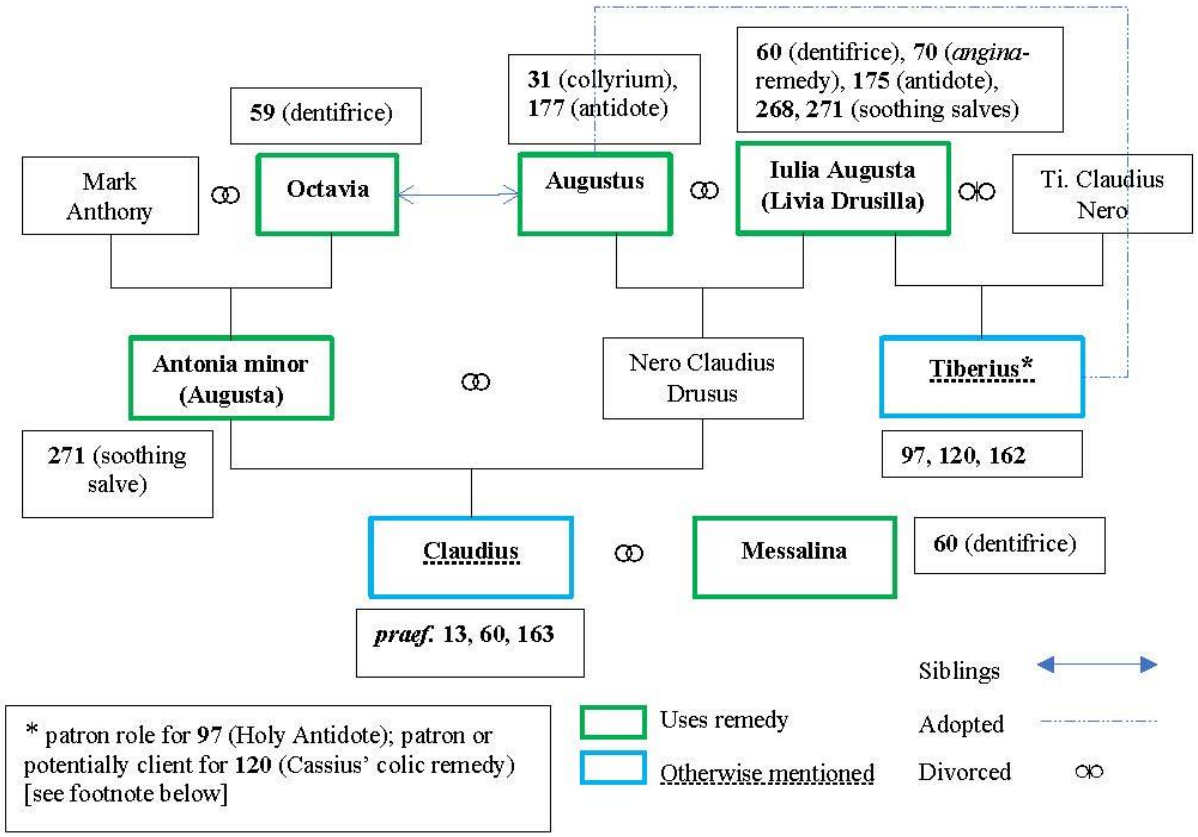

Figure 3-3 Julio-Claudians mentioned in the *Compositiones*; chapter references and remedies (where applicable) [193]

This aspect of the *Compositiones* illustrate the way in which Scribonius' career, or at least his access to sources, overlaps with the health concerns and/or patronage of the imperial court shortly after its establishment. While recipes such as the tooth powders of Augusta, Octavia, and Messalina (**59**–**60**) are perhaps not quite the same as a source, these imperial attributions certainly contextualise and connect a remedy and its composition with a named individual and their entourage.

3.2.2 Unnamed Sources

Further remedies are obtained from, or at least endorsed by, unnamed sources, who are not specified as *medicus* or *chirurgus* and may fall under the category of the "humble…and otherwise unknown" (*humiles...et alioquin ignotos*, ***praef.* 1**) individuals whose success with drug therapy is noted in the preface.[194] Remedies are obtained from "some distinguished matron" (*quandam honestam matronam*, **16**), who successfully treated the comitial disease in Rome, and from "a certain little

[193] In **120**, Tiberius appears as the source of a bequest (*legato*); the Latin is ambiguous as to whether the remedy was compounded for him, or for Cassius (*nam Cassii medici colice bona, multis nota propter effectus, vera haec est, ut ab eius servo Atimeto accepi, legato Tiberii Caesaris, quia is eam solitus erat ei componere*).
[194] Even though some, if not all of them are "removed far from the discipline of medicine, and not even close to the profession" *(longe summotos a disciplina medicinae ac ne adfines quidem eius professioni*, ***praef.* 1**).

woman from Africa" (*muliercula quaedam ex Africa*, **122**), whose remedy for intestinal pain Scribonius obtained "through great care, that is after giving the price, which she had demanded" (*nos per magnam curam compositionem accepimus, id est pretio dato, quod desideraverat*). Opening the toxicology section is an account of the successful rabies treatment devised on Crete by "a certain barbarian of an older age, who landed <there> by a shipwreck*" (barbarum quendam naufragio ad pulsum maiorem natu*, **163**); earlier in the same chapter, Scribonius describes the way in which Sicilian hunters (*Siciliae venatores*) protect themselves against snakebite.[195] Unlike the physician Ambrosius from Puteoli, whose *superstitio* on materials to be used or avoided during compounding is recorded alongside his remedy for kidney or bladder stones (*qui contundit, anulum ferreum non habeat. hanc enim superstitionem adiecit Ambrosius medicus Puteolanus*, **152**), the individual who recommended fawn's rennet against epilepsy as well as procuring it by using a dagger which had previously been used to kill a gladiator (*dixit ad rem pertinere occidi hinnuleum tinctorio, quo gladiator iugulatus sit*) remains an anonymous person "who pointed out this remedy" *(hoc remedium qui monstravit,* **13**). Any further attributions are even more nebulous, such as the entirely unspecified group who endorses certain remedies (e.g. "it is agreed among many", *constat inter plures,* **14**), or that "there are even those who" (*sunt et qui*, **17**) are operating entirely outside the remits of medicine[196] by using cannibalistic medical means and "all things which are of the same type", which "fall outside of the profession of medicine" *(quaeque eiusdem generis sunt...extra medicinae professionem cadunt*) and who are not provided with any individuality beyond the acknowledgement of their existence.

As the short but varied list shows, Scribonius' range of sources includes physicians and surgeons, famous individuals as well as the humble and/or unknown; remedies from medical practitioners are obtained as well as those of more folk medical character. From Augustus' reign to Scribonius' own writing under Claudius, several generations of practitioners and celebrities are covered – all relatively recent recipes when compared to the age of some of the recipes and works excerpted by Galen. Together with the references to Asclepiades, Herophilus, and Hippocrates, this demonstrates Scribonius' engagement with both predecessors and contemporaries and his compilation strategy and practical approach to recipe transmission. What remains to be covered in this section is the range of medicinal substances employed in the text before concluding with a comparative note on the extent to which the *Compositiones* resemble or stand out from contemporary medical texts.

[195] Professional groups, where mentioned, are otherwise connected to either the use of ingredients or implements, or, in case of gladiators, as a group prone to particular injuries best treated by the remedy in question.
[196] As are the "humble and unknown" from the preface, who, much as Scribonius is ashamed to admit their distance from the profession *(quod fateri pudet*), are nevertheless noted positively for their use of pharmacotherapy.

3.3 Ingredients: Types, Geographical Range, Properties, and Implications

3.3.1 Types of ingredients: Matters Vegetable, Animal, and Mineral

Unsurprisingly, Scribonius' range of ingredients include the range of predominantly plant and vegetable material, followed by mineral and animal substances, typical of the *materia medica* prior to the iatrochemical period. A wide variety of **plants** are used – not only various herbs that could be classified as medicinal, but also fruits, vegetables, flowers, and resins. All parts of plants feature, from roots and stems to leaves and flowers to seeds, and even parts as specific as the stigma and style which yields the spice saffron. Both fresh (*viridis, animatus*) and dried (*aridus*) plant parts are used, and occasionally instructions for harvest or drying are included (e.g. **60**, upright pellitory gathered with root when in seed, *herbam urceolarem legunt, cum iam in semine est, quam plurimam cum radice*; or **92**, rose petals dried in the shade, *rosae foliorum arefactorum in umbra*), but overall, there is a certain degree of ambiguity as to whether the freshly harvested plant, or its dried form, is to be used. For some substances, this is easier to estimate – thus, as André (2010: 45) points out, *calamus odoratus*, "fragrant reed", the term for sweet flag (*Acorus calamus* L.), only referred to the plant's root in antiquity as whole specimens were not imported until the sixteenth century. Imported plant resins or gums, of which many varieties are used by Scribonius and are noted to come from as far as Africa and India, can similarly be assumed to constitute the dried variety. Fruit, meanwhile, is usually indicated to be dried when used as an ingredient (raisins appear frequently), or deseeded and prepared in a particular way (e.g. the dates and raisins in **74**), while culinary uses or further processing generally relies on fresh or preserved fruit, demonstrated particularly in **104** with its processed or preserved fruit products. Vegetables seem to mostly feature in the fresh variety when used medicinally (e.g. **39**, juice obtained from fresh grated gourd), while dietetic uses require cooked vegetables (e.g. the mild *holera* made of nettles, sorrel, and mallow, **99**). The food-medicine overlap in ancient medicine is clearly reflected by this wide range of vegetable substances: spices like cinnamon, cardamom, saffron and pepper; herbs like parsley, fennel, dill (often as seeds rather than plants), oregano; vegetables like celery (again mostly as seed), pumpkin, cucumber, onion/garlic; and especially fruits – mainly grapes, pomegranates, and apples, but also dates, figs, and quinces – all form an important part of Scribonius' ingredient repertoire, but are also attested as part of Roman cuisine, from the cook's sumac (**111**) to the range of foods included in the recuperative diet (**104**). And of course, the role of two products of vegetable origin – wine and oil – in both medicine and dietetics cannot be overlooked.

While relatively few **mineral substances** are used in comparison to the range of plants, inorganic material plays an important role in Scribonius' pharmacy. Metals and metal alloys, especially copper/bronze (*aes*), lead (*plumbum*), and the lead-silver alloy *stagnum* (on which see note **30,**

25.25 *pyxide stagnea*), as well as glass, clay, and wood feature as container and implement materials. Metal compounds, particularly copper- (*aes ustum, squama aeris, aeris flos, lepis*) and lead-based (*psimithion/psimythion, lithargyros/spuma argentea, plumbum*) substances, are key ingredients for many plasters and eye-salves, as demonstrated by the explicit distinction between *collyria* with and without metallic substances (**21, 23**; Celsus (5.17.2) similarly explains the difference between remedy types based on the presence (plasters, pills) or absence (emollients) of mineral ingredients). A variety of other elements and their minerals and compounds, such as antimony (*stibium*), arsenic (*sandaraca, arrenicum/arsenicum*), iron (*fer, rubrica, lapis haematites*), sulphur (*sulphur*), and zinc (*cadmeia, pompholyx*) also feature, as do a range of salts and medicinal earths. Here Scribonius distinguishes between several types of salt – rock salt (*sal fossicum*), sea salt (*sal marinum*), salt from Ammon (*sal (H)ammoniacum*, on which see **45, 30.4**–**5** *salis ammoniaci*) –, and earths and clays of varying regions and compositions are employed, including Samian earth (*creta Samia, astera, samias*), Lemnian and Sinopian red ochre (*rubrica Lemnia/Sinopidis*), and shoemaker's earth (*creta sutoria*) used as a black dye; see notes **24, 23.20**–**21 *cretae Samiae;* 208, 97. 1**–**2 *Melanterias)***. Among the most frequently used mineral ingredients is alum in different forms, occurring as flaky (*fictile*), round (*rotundum*), Egyptian, and even liquid (*liquidum*); while its astringent and styptic properties are not specifically highlighted as they are in Dioscorides (5.106), its use features in numerous recipes that benefit from such properties, as show in 2.5.2. Stones, meanwhile, are less of a concern for Scribonius than they are for other contemporary writers – Dioscorides features several more, Pliny covers quite a few, and Damigeron's slightly later *De Lapidibus* illustrates the wide range of medicinal use of stones in antiquity – or indeed in earlier or later medical practice, where the overlap between stone, mineral, and amulet becomes increasingly blurred.[197] Again Scribonius comes nowhere close to Dioscorides' list of minerals, nor does he include as extensive a number of metals, minerals, and stones as Pliny does both in the context of medicine and pigments used in art. But the importance of such substances nevertheless emerges in both the frequency of their use, and in the large quantities required for many recipes.

Animal substances, finally, while less frequent used than plant or mineral substances, also fulfil a key auxiliary role. For example, among the bee products, propolis and honey are employed as ingredients (while the latter also features as comparative for drug consistency), but it is wax in particular which constitutes a key component of ointments or plasters. As ointments, salves, and plasters are generally made with a base of oils or fats, and/or waxes or resins, animal products alternate with plant-based oils, gums, and resins as the main component of these remedy forms.

[197] On medical use of stones and gems, see e.g. Dasen 2014.

Animal fats of various origins in particular, as well as butter, are employed in the composition of remedies, especially of topical nature; animal blood is used as an ingredient of a range of different medicines, as are animal organs, the latter generally used in form of ashes after calcination. Soft-boiled eggs are eaten to recuperate (**104**) and runny goose eggs to counteract poisoning (**185**), while eggs, and especially egg white, are regularly used for applying eye salves, and egg yolks forms part of a pastille (**115**) and a plaster (**221**), although the salted picarels required for the remediation of throat complaints are to be specifically without eggs (**71**). Stock prepared from animal meat or bones finds use, especially in the context of poison remediation, as do different types of milk; milk is additionally used in the treatment of general diseases, including specific forms, such as that of an ivy-fed goat for splenic complaints of children (**132**), or prepared as soft cheese against worms (**140**) or gout (**158**). Animal meat, meanwhile, plays a dietary role in both the feeding of the recuperating and the avoidance of particular substances in certain ailments – pork, for example, plays the double role of a mild restorative food and something to be avoided in certain diseases (cf. 2.3.3) – but Scribonius does not use it to counteract poisoning, as Pliny and Celsus do.[198] However, an amulet-like role is occupied by lizards (**164,** against poisonous scorpions), hyena's pelt tied to the arm (**171, 172**, against rabies), or dog's fur worn in shoes (**161**, for gout – although this may alternatively be advice on how to make shoes more comfortable if one is thus afflicted), while ivory is both ingested and worn to treat epilepsy (**16**). Crocodiles' testicles (**14**), owls' brain (**43**), calcined fox lungs (**76**), and whole snails (**46, 122**) also feature among the therapeutics for ailments ranging from nosebleeds to colonic pain, while living electric eels are applied as TENS-like electrotherapy[199] for pain management, from head (headaches, **11**) to toe (gout, **162**). Shellfish forms part of the recuperative diet (**104**) – as does cooked electric eel (**99**)[200] – while the poisonous sea hare is a source of both remedy (**80**) and harm (**186**), as are blister beetles, listed as poisonous if ingested (**189**) but beneficial when applied externally for the removal of disfiguring marks (**231**). Consequently, animal products are no exception to the dual role of medicinal or dietetic substances which feature as harmful drugs, as illustrated by the pharmacology section. Animals themselves occupy perhaps a somewhat more harmful role than other sources of dual nature, as harm results not

[198] e.g. Pliny 29.78 recommending application of a freshly slaughtered chicken to snakebite, using boiled beef against human bites in 28.156, or treating the bite of the shrew mouse (*muris aranei morsus*, 29.89) with its own flesh; Celsus 5.27.3C similarly recommends a freshly slaughtered lamb or goat kid, or relates that scorpion stings are best treated by the scorpion itself (*nam scorpio sibi ipse pulcherrimum medicamentum est*, 5.27.5), either ingested or applied to the wound. On the similar use of snake meat in this and other medical contexts, see Gaillard-Seux 2012.

[199] I. e. trans-cutaneous electrical nerve stimulation; cf. 1.4.3 for reception and literature. The typo "eelectrotherapy", made while digitising handwritten notes, is an accidentally apt description.

[200] Conversely, Dioscorides (2.15) only uses electric eels therapeutically, but employs similar shellfish as both pharmaceutical remedy and food (e.g. 2.4 πορφύρα, murex; 2.6 τελλῖναι, a type of shellfish called *tellinai)*.

only from their ingestion but also their sting or bite, whether through envenomation or general wounds caused by quadrupeds or non-rabid dogs.[201]

Noteworthy near-absences of animal-derived substances also occur. As briefly noted, Dreckapotheke, the medicinal use of animal or human waste products, is only mentioned in form of the strong-smelling dirt (*sordes virosi odoris*) found around the eyes of deer, used as a snake repellent by Sicilian hunters (**163**), and the use of dried mountain goat dung (*caprae montanae stercus arefactum)* against jaundice (**127**; see comparative discussion in esp. 3.4.3). Similarly, the only examples of corpse medicine – ingesting one's own blood, drinking from a dead man's skull, or consuming the liver of a gladiator –, a topic which occurs with varying degrees of endorsement or condemnation in medical history[202] is only reported as an example for those treatments which are not part of medicine (*extra medicinae professionem cadunt,* **17**).

3.3.2 Drug Properties, Hierarchies, and Substitutions

As Scribonius' interest lies in the provision of recipes rather than a compendium on individual ingredients in the manner of Dioscorides, the specific properties or effect of individual substances, or even compound drugs, is rarely mentioned. Wine is qualified as sharp or sour (*acerbum, austerum,* etc.), as are a type of pomegranate used in tanning (*quia semper acida sunt nec umquam maturescunt, rhoas oxias haec Graeci dicunt,* **41**); remedies are at times divided into mild and strong/sharp (*collyria lenia* **19**–**27** and *acria* **28**–**38**), and some details on their effect on diseases (that it cures headaches by removing some kind of matter (*materiam....detrahere*) from nose or mouth (*per nares vel os*, **6**–**9**), or the impact on the patient (that it does not harm the stomach, *stomachum non corrumpit/laedunt,* **137**, **H 138**), are mentioned on rare occasions. Hierarchies between recipes occur occasionally where one compound is declared better or more powerful than a previous one (thus **Ind. 121**, *Tulli Bassi colice melior;* **Ind. 112**, *Alter melior <pastillus> ad eosdem;* **230**, *Melior tryphera*), or even surpassed by none ("a throat medicine than which there is no better", *arteriace, quae melior non est,* **75**); plaster Isis "which in my judgement surpasses all of its type", *quod sui generis meo iudicio superat omnia*, **206**). Simples (cf. 3.1.1.1) can also be more potent than preceding or following compounds, such as Indian *lycium/lykion* which is recommended before any compound eye remedies (**19**).

The most prominent example of a hierarchy among ingredients, that of Syrian and Cyrenean laser (see below), is simultaneously an example for ingredient substitutions and interchangeable or

[201] Scribonius even covers the bite (alongside other dangerous actions) of the large biped *Homo sapiens* L.
[202] Cf. below for examples from contemporary authors. The approach is enduring beyond the Classical period, as illustrated by the monograph covering the period from the Renaissance to the nineteenth century by Sugg (2011; preceding summarising paper 2008); Moog and Karenberg (2003) discuss the topic specifically in the context of gladiators, blood, and epilepsy.

alternative recipes. As Scribonius emphasises in the preface, several different remedies for the same ailment should be available due to the individuality of patients (***praef.* 14**). The range of alternatives, both simples and compounds, for individual diseases available to those consulting Scribonius' work is further extended by the multi-purpose drugs which cover several or extensive numbers of ailments, much as he apologises for its brief and not suitably diverse nature and promises the publication of a wider range in the future (***praef.* 14**). Already across the first ten chapters, several substances and combinations are listed as effective against headaches, and a wide range of different remedies from the last 70 chapters address wounds, while pain management in general is a concern throughout the text. The chapters on individual harmful drugs, which are already covered to some extent by remedies for poisons and venoms in general (e.g. **200**, or the various theriacs and antidotes which precede the section), generally mention various options, whether in form of different substances used to aid vomiting in opium poisoning (**180**), the several liquids ranging from wine over saltwater to broths suggested against coriander (**185**), or as the range of possibilities to dislodge a swallowed leech (**199**).

In addition to such treatment alternatives, Scribonius may suggest potential ingredient substitutions within recipes. This occurs primarily regarding the geographical origin of ingredients, although similar types of ingredients may also replace each other. Replacement may be 1:1, such as the substitution of Patarian with Indian *lycium/lykion* in **142**, Chian instead of Lesbian wine in **126**, or (in Sconocchia's second edition) calcined with Cypriot copper in **206**, or with the provision of corresponding weights and measures, such as replacing three dates with the equivalent weight of raisins, measured as 8 drachms in **74**. A special case combining geographical origin with difference in quantity is that of the famed and favourite plant laser/silphium. Notably, all instances of Cyrenean laser (**67, 175, 177**) come with alternative equivalents of Syrian laser, a universal replacement that does not occur with any other ingredient. While **67** is used as a simple and the application instructions do not vary, the availability issue of Cyrenean laser is noted: "Cyrenean laser, if it can be acquired, if not, Syrian", *laser Cyrenaicum, si poterit inveniri, sin minus, Syriacum*. In two antidote chapters (**175, 177**), the stronger nature of Cyrenean laser is implied by the different quantities required in each case: 2 or 4 drachms of Cyrenean and Syrian laser, respectively (*laseris Cyrenaici* ℈ p. II *aut Syriaci* ℈ p. IIII, **175**), and 1 victoriatus (i.e. ½ drachm) or 1 drachm respectively (*laseris Cyrenaici victoriati pondus vel Syriaci* ℈ p. I, **177**). In both cases this works out as a 2:1 ratio of Syrian to Cyrenean laser, i.e. that the latter is thought of as having

twice the strength of the former.[203] While there is a clear sense here that Cyrenean laser seems to have been more difficult to obtain than that of Syrian origin, the continuous use of the former implies that it was not as virtually extinct as claimed by Pliny's famous anecdote on its eradication for sheep farming and the only plant in living memory being presented to the emperor Nero[204] – at least it did not seem to be so impossible to find for Scribonius to omit it from his "Recipes for Callistus" compilation. Substitution of remedies is not an unusual phenomenon in pharmacology, and later periods provide extensive lists of substances to be used as alternative – the *quid pro quo*, a useful but somewhat underexplored category of pharmaceutical literature (cf. Touwaide 2012b; note on research potential 2012b: 20). Similarly, Galen's notes on theriac composition illustrate the fluctuation of a recipe based on not only popularity but also lack of availability of ingredients (14.217 K, see Nutton 1985b: 142). Given the large number of imported drugs, the potentially high cost, and the differences in choice provided by the drug markets accessible to practitioners in different areas – obtaining a particular type of cumin or nard, or saffron or wine from a particular region, may have been easy in Rome, but less so for a more rural practitioner, and not everyone would have had an extensive collection of ingredients as those lamented as lost in Galen's *Peri Alypias*[205] – one may wonder to what extent recipes were followed precisely. Nutton (1985b: 143) draws attention to the practicalities of drug purchase, as practitioners as well as patients would have "had to take what was available and do the best they could" from the local markets, peddlers, and environment, questioning whether Galen's careful distinction between different nards or ointments, and similarly writers' distinction between different mineral substances, had a practical impact. Whether Scribonius would have been able to compound even the reduced number of recipes he could recall while away (*sumus enim, ut scis, peregre*, ***praef.*** **14**) and obtain all 42 ingredients for Marcianus' antidote (**177**), including three types of cinnamon, two types of pepper and nard, and four different kinds of dried animal blood at short notice is similarly questionable, if not entirely unlikely.[206] Similarly, given the comments on drug adulteration (and ways to spot it) found in ancient sources, notably Dioscorides and Pliny (and cf. Scribonius on falsified poor quality opium, **22**), one may wonder how often obtained ingredients were not, in fact, what was desired or advertised. As such, there may be an element of idealism to ancient recipes which is not necessarily

[203] It should be mentioned that laser without a geographical qualifier or substitution advice is also used by Scribonius (**70**, **165** in compounds, **174** as simple, against poisoning using variously plant or root in **192, 196**–**7, 199**), suggesting perhaps a distinction of Cyrenean/Syrian laser from the varieties found elsewhere, or an implicit appeal to the reader's digression in using the appropriate quantities if using a more potent import.

[204] *multis iam annis in ea terra non invenitur, quoniam publicani, qui pascua conducunt, maius ita lucrum sentientes depopulantur pecorum pabulo. unus omnino caulis nostra memoria repertus Neroni principi missus est* (Plin. 19.39); Totelin (2014: 4) draws attention to issues with the interpretation of the passage, including the unlikeliness of this claim. See also Keller (2014) on the collection of such rarities, and Gemmill (1966) on silphium in general.

[205] On which see Tucci (2008), who also covers the availability of medical texts and libraries.

[206] To be fair, this seems to be among the remedies he usually had available (*haec ego composita habeo).*

reflected in the everyday practice, or a practical use of recipes which differs between the affluent, urban physician with elite patients and the practitioner away from the big drug markets and operating under more modest circumstances. While Scribonius unsurprisingly does not factor in such socio-economic elements when suggesting replacements to his purported audience of elite freedman Callistus (and, by extension, Claudius), the emphasis on ingredients from specific places, and the consideration availability issues, is evidently a concern.

3.3.3 Geographical range and implications for remedy cost/quality

This availability of ingredients from particular regions is connected to the overall geographical extent covered by the *Compositiones*. As well as indicating the costly and elite nature of the type of pharmacy recorded and practised by Scribonius, the wide range of places mentioned in connection with Scribonius' drugs illustrates the spread of the Roman Empire, and its trade networks, from Spain to India, and Gaul to Trog(l)odytice,[207] up to and in the first century CE, as illustrated by Figure 3-4 (see below for more detailed maps). Furthermore, the reliance on geographical qualifiers demonstrates the extent to which some plants or products were associated with specific places in a manner which defined their specific nature, medicinal properties, or quality.

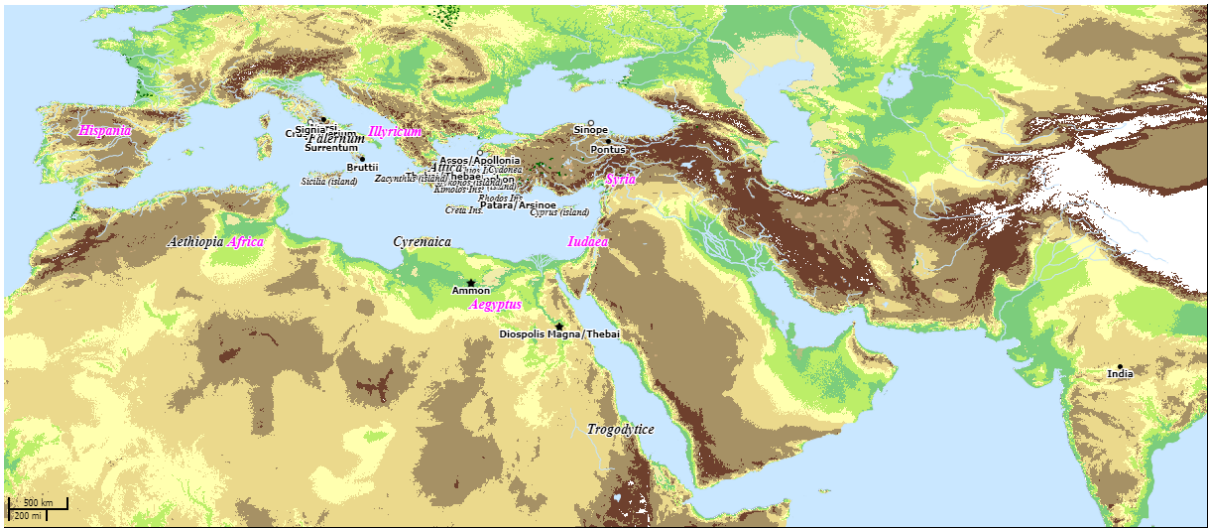

Figure 3-4 Geographical Range of Ingredients – Overview

Ingredients come from most corners of the Roman Empire and the ancient world – Italian, and Hispanic ingredients feature, Celts and Gauls give their names to plants, and substances are associated with areas covering Greece and modern Turkey, the Near East, parts of India, and Africa (see Figures 3-5 and 3-6 for more detailed views). Here location is in part associated with quality: bee products from Attica or Pontus are particularly valued (Attic honey, **147**; good-quality propolis

[207] Both the spellings "Troglodytice" and "Trogodytice" are attested (s.v. LSJ Τρωγοδύται; e.g. Hdt. 4.183, Plin. 6.173, Cic. *Div*. 2.44.93 for Τρωγοδύται, and Strabo 1.2.34, Arist. *HA* 597a9, Diosc. 2.160 for Τρωγλοδύται). Scribonius uses the former; the latter is the one used by *Antiquity À-la-carte* and hence the one that appears on the maps generated with this resource.

"of the kind which the Attic is", *qualis est Attica*, **214**; Pontic wax, **156**), as are wines originating from specific regions (see below). The role of Cyprus in ancient metallurgy and copper production is highlighted by the requirement of especially Cypriot copper/bronze as an ingredient or material in several chapters (e.g. **16, 25** for objects, and **201, 206** for ingredients).[208] For other substances, quality is more frequently defined by appearance, especially for gums and resins: *candidum* with tragacanth (**75**), mastic (**108**), thus (**31**); *album* with tragacanth (**108**), *purum* with galbanum (**195**), and *optima pinguis* with myrrh (**75**); cf. also thus *masculum* (**206, 220, 253**), or the tear-shaped form preferred for gum ammoniac (*gutta*). However, comparison with the much more extensive details on quality and appearance found in Dioscorides shows that the two are connected: thus e.g. Diosc. 1.64.1–3 on myrrh, declaring that from Ethiopia (Troglodytic) to be the best, and mentioning various "fatty" types (λιπαρά, λιπαρωτάτη) of good quality; 1.68.1–2 on frankincense, with "male" (ἄρρην), also called *stagonias*, as the best quality (πρωτεύει δὲ ὁ ἄρρην, καλούμενος σταγονίας), or 3.20.1 on the best tragacanth being "translucent, smooth, light, and somewhat sweet" (ᾗς διαφέρει ἡ διαυγὴς καὶ λείακαὶ ἰσχνὴ καὶ καθαρὰ καὶ ὑπόγλυκυς, trans. Beck). Elsewhere, a high quality of ingredient is asked for, such as the best honey (*mellis optimi*), **66, 125, 144**; good, pure, and apple-coloured **[S, S2]** | soft **[J-B]** propolis (*propolis malinae* **[S, S2]** | *malacae* **[J-B]** *sincerae et bonae, qualis est Attica*, **214**), or an inferior quality warned against, such as inferior opium produced from the poppy leaf (*ex suco foliorum*) rather than milk sap from the heads (*ex lacte ipso papaveris silvatici capitum fit,* **22**), leaving it at the discretion of the compounder to select a substance as they see fit.[209]

[208] On copper production and metallurgy on Cyprus, well-attested in the archaeological record, see e.g. Koucky and Steinberg 1989; Raber 1987; on Galen's account of the mines, see Walsh 1929. On mining regions in the Roman Empire more generally, see Weisgerber 2009: sp. 8–9, and on mining and metallurgy Healy 1978; Craddock 2008.
[209] A caveat to be noted is that geographical drug naming may add confusion – e.g. Egyptian bean = Indian lotus, or the ancient use of geographical qualifiers for a different geographical region of origin (cf. wines) as well as different plants (Indian *lycium/lykion* vs. *lycium/lykion*, the somewhat thorny issue of laser, Celtic nard/valerian, Gaulish comfrey, etc.).

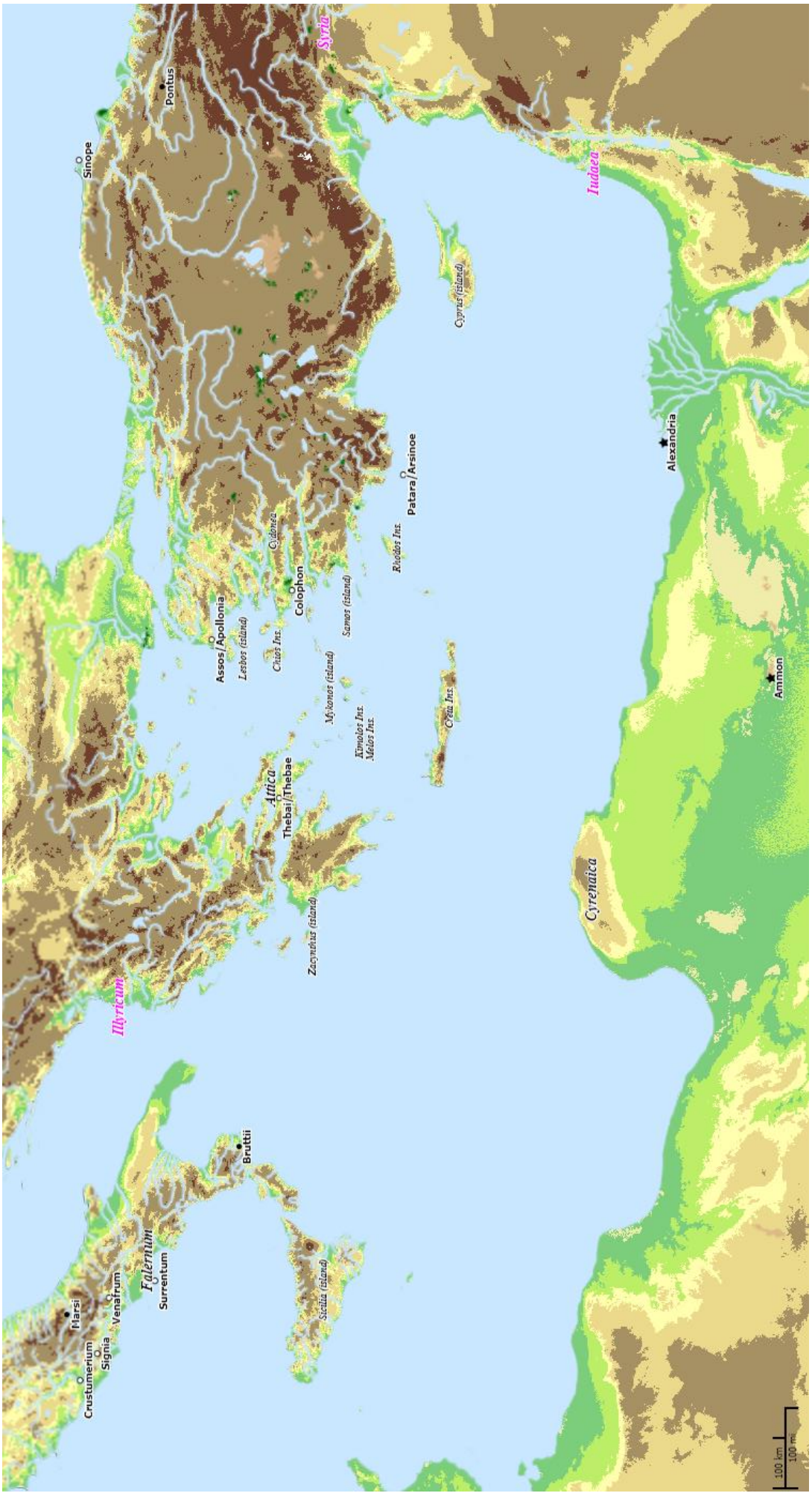

Figure 3-5 Geographical Range of Ingredients – Central Regions

Figure 3-6 Close-up: Ingredients, Products, and Wines from Italy and Greece

A substance particularly associated with places is, unsurprisingly, wine. Regional wines then as now have different implications in terms of taste, quality, and in Scribonius' case, medicinal properties.[210] This occurs in addition to other qualifiers for wine – sharpness, age, mixed/unmixed nature, or subcategories such as raisin wine (*passum*) or must. Specific wines predominantly come from many locations across modern-day Italy and Greece, with that from Falernum and Chios used most frequently; other types of wine include those from Lesbos, Signia, Aminea,[211] and the territory of the Marsi, while must comes from Surrentum and raisin wine from Crete, as shown alongside other Italian and Greek ingredients in Figure 3-6. The grape harvest and the availability of must, whether local or imported, also plays a role in the composition of at least one remedy, a soothing salve (*acopum*) "which is compounded during the grape harvest, before the must ceases to ferment" (*quod per vindemiam componitur, antequam mustum defervescit,* **269**).

A final geographical category to consider is unrelated to ingredients: that of travel, remedy authors' origins, and other matters connected to Scribonius and other individuals, as illustrated by Figure 3-7. Here mention of Crete, Sicily, Africa, various places in Italy, and the statement of being away (*sumus peregre,* ***praef.*** **14**) highlight travel of not only medical substances, but also medical knowledge and practitioners, like the African woman practising in Rome or the non-Greek speaker shipwrecked on Crete, and draws attention to the extent of the Roman Empire and its diversity, from India and Africa to Sicily and Crete, and from Rome to "the countryside" (*rus,* **163**). Additionally, the connection of specific places to healing, as illustrated by the various healing sanctuaries across the ancient world, is noted in the reference to the spa or mineral spring in Etruria,

[210] On this notion of *appellation d'origine contrôlée* and other qualitative or medicinal concerns in connection to ancient wine, see e.g. the volume edited by Jouanna and Villard (2002).
[211] Aminea, used also to describe a type of grape (*uva Aminea*, **64**), is a place of unknown location (see Potts, Talbert, Elliott, and Gillies 2012, https://pleiades.stoa.org/places/40035)

called *vesicaria* due to its benefits against stones and owned at a time by Milo Brochus (**146**; see note and map **146, 74**. **6-9** ***ab aquis calidis...***), as is the potentially harmful connotation of other locations illustrated by notes on the danger of scorpions in some regions, including Africa (**164**), or the prevalence of rabies and rabid dogs in Sicily (**171**).

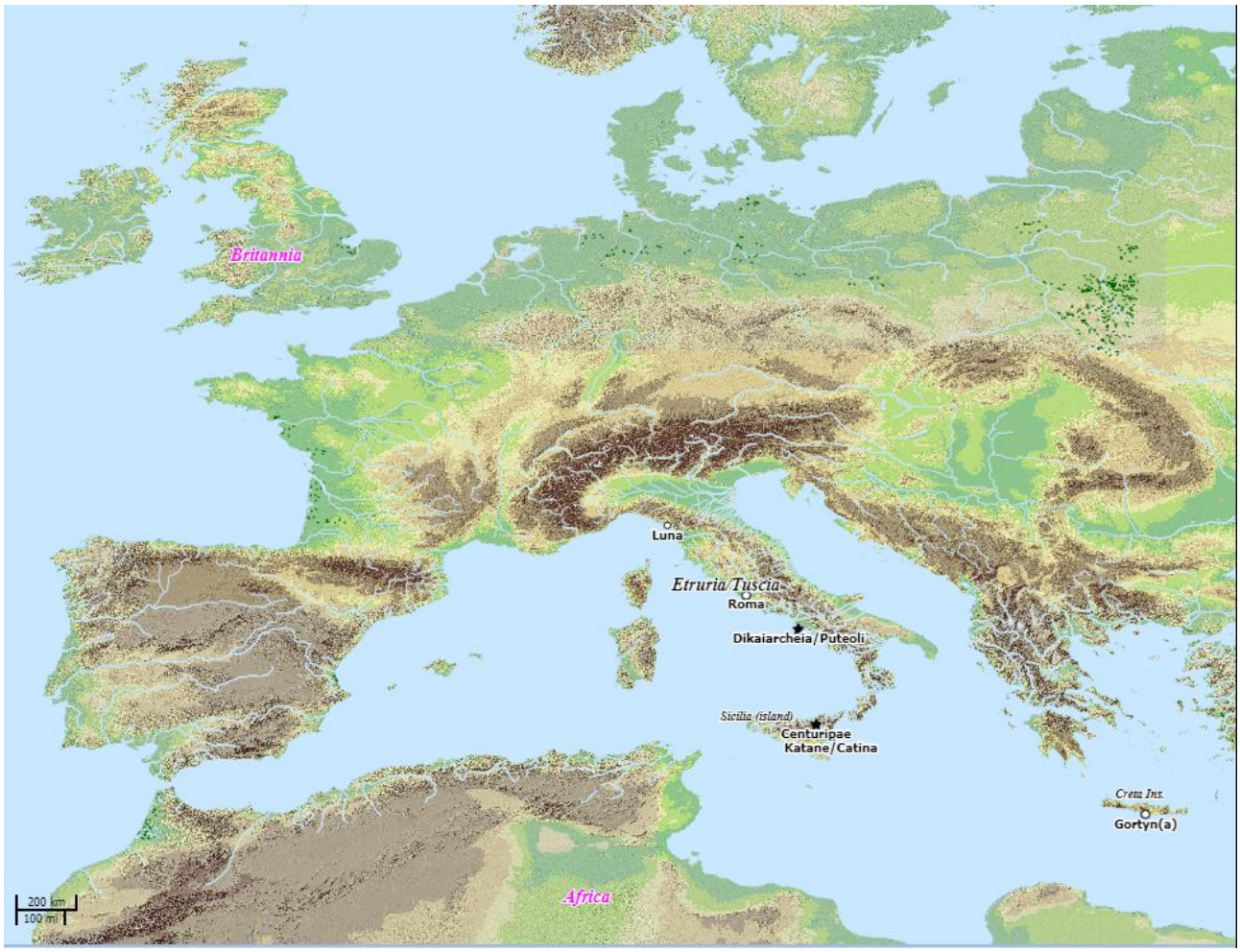

Figure 3-7 Other Places of Note

While the geographical range of ingredients is often explicit, it is to be recalled that in general, many of the medicinal drugs used in Greco-Roman antiquity (and beyond) are not local to the Mediterranean. As such, the presence of plants and spices which require import are to be seen in the context of ancient trade networks in general, and the drug trade in Roman Empire in particular. That is not to say that medicine did not also rely on locally available or native ingredients – Scribonius makes note of "our (native) bean", *faba nostra*, or the herb that grows abundantly in the Italian harbour of Luna, and Pliny in particular addresses many medicinal plants locally available, including their cultivation in some cases (cf. the opening of *Nat.* book 20 with remedies available from the domestic garden). Nevertheless, the fact remains that many ingredients are imported from locations across the Roman Empire, such as cinnamon species which are native to Asia, or several resins associated with different parts of North Africa, a fact lamented by Pliny who favours local

remedies (24.5, cf. sim. Cels. 2.33.1 on the value of local over imported matters) to make Roman health independent from Greek medical philosophy again. Additionally, these ingredients are often used in large quantities, and tend to be overall expensive or luxury goods – saffron is a frequent ingredient, and even if it is imported from nearby Sicily (**29, 30**), the low yield of saffron per crocus plant now as then results in a high price for the drug. The contemporary accounts on cost, as e.g. provided by Pliny, demonstrate the accumulative cost of remedies: in book 12 (esp. 12.26ff.), ingredient costs range from 3 ℥ per pound for bdellium, Gallic nard, cardamom, or the third best incense (12.35–6, 12.43–5, 12.50, 12.65) to 100 ℥ for spikenard (12.43–5), up to 400 for malabathrum (12.129), and 1000 ℥ or more reported for cinnamon (12.93). While adulteration and sub-par quality drugs seem to have been abundant, and prices will have fluctuated depending on the time and the type of market available to doctors – or indeed the ability to obtain ingredients locally based on own botanical knowledge –, the large quantities of expensive drugs in conjunction with the large proportion of imported substances makes for expensive compounding. Scribonius' idea of a medicine which "does not value people either by fortune or by character, but truly equitably promises that it will come to the aid of all who appeal for its assistance" (*non fortuna neque personis homines aestimat, verum aequaliter omnibus implorantibus auxilia sua succursuram se pollicetur,* ***praef.*** **4**) may be genuine sentiment, but in practice, the cost of compiling, let alone paying someone to compile, certainly the more complex drugs would be beyond the means of many.

3.4 Key Similarities and Differences: Celsus, Dioscorides, Scribonius, Pliny

An examination of the respective approaches to pharmacy both supplements Scribonius' account of first century pharmacy practice and enhances the comprehension of the *Compositiones* through contextualisation in the broader medical and pharmaceutical literature.[212] Here similarities and/or differences emerge particularly with regard to the respective role of dietetics, surgery, and pharmacy; the engagement with medical theory and authority; and the prominence and type of pharmacological matters, especially the type and prevalence of recipes. As the following brief overview shows, a key element of pharmaceutical and pharmacological difference is not so much the philosophy or approach of the individual authors, but the scope and aim of their respective works.

3.4.1 Celsus

As already illustrated by the preface to book one of the *De Medicina*, Celsus' work is of a different nature from that of Scribonius. The lengthy introduction, not addressed to anyone, covers medical history (and authority) much more extensively than Scribonius' "herbs and their roots", and theories and medical schools are covered explicitly rather than requiring scholarly interpretation. By virtue of writing a comprehensive encyclopaedia as an educated member of the elite, Celsus, like Pliny, does not need to placate a patron, provide his credentials, or justify his writing, whereas demonstrating a balance between confidence, favourable arguments, and a degree of humility and deference to the patron is in Scribonius' best professional and personal interest. Throughout the work, Celsus engages with medical theory and justifies or argues with authorities (as in the *Compositiones* and Pliny, Asclepiades features frequently), especially when discussing the aetiology or prognosis of disease in the first four books. By contrast, Scribonius – preface and tangential comments aside – first and foremost presents medical recipes (which may even include descriptions of symptoms) but has little time for the broad range of medical theories and philosophies that inform substantial parts of ancient medical writing. While book learning and philosophy influences both Scribonius' medical knowledge and his views on professional practice, his emphasis on experience-based treatment on the one hand, and pharmacological responses on the

[212] A comparative analysis of the main first century medical/pharmacological authors is of course no novel concept: previous studies comparing some or all of the relevant authors include Capitani (1972) on Roman popular medicine, Martinéz Saura (1995) on pharmacotherapy in Celsus and Scribonius, Gaidé (2002) on terminology of mixing in Scribonius and Celsus, Rippinger (1987) on disease terms in Celsus and Scribonius, and several comparative works investigating medical terminology in general (most prominently Langslow 2000; Önnersford 1993). Studies investigating particular aspects of ancient medicine have likewise included comparative discussions, such Flemming (2000) on the impact of Roman medicine on women, or Harcum (1918a, 1918b) on Roman dietetics. Particular credit for comparative analysis is of course due to the commentators on the *Compositiones* (Jouanna-Bouchet 2016, 2000; Sconocchia *inter alia* 2000, 2001, 2010, 2020; the historical commentaries of Rhodius (1655), Sperling (ca. 1658/9) and Rinne (1892, 1896) should also not be overlooked).

other, is part of why and how the role of regimen, drugs, and surgery differs between the two authors, even as their overall understanding of medicine and approach to therapeutics overlaps.

Like Scribonius, Celsus' medicine consists of dietetics, pharmacy, and surgery (1 *praf.* 9, repeated in 5 *praef.* 2–3), and is consequently divided into three parts: books 1–4 of the *De Medicina* are concerned with dietetics and "those maladies of the body in which the regulation of the diet is most helpful" (5.1, *iis malis corporis, quibus victus ratio maxime subvenit*, trans. Spencer), books 5–6 deal with pharmacy including simples, compounds, and some toxicology, and the two final books 7–8 cover surgery, including the anatomy of bones, operative surgery, and dislocations. Unlike Scribonius, Celsus dedicates extensive sections – particularly in books 1–4, but to some extent also in the remainder of the work, to general medical theory, comments on pathology and aetiology, and management through dietetics and other means. The properties of foodstuffs are covered at length in book 2 (esp. 2.18–33), as well as across the first four books in general – at times even in the pharmacological section (5–6), albeit more briefly and to complement pharmacotherapy. The use of *auxilia* is much more extensive, notably regarding various forms of bloodletting, and dietetics, baths, and treatment instructions for each disease or case, something that is particularly noticeable in the detailed discussion of different fevers, their symptoms and prognosis, and the regulation of the patient's diet depending on type and time in the disease's progress (e.g. 3.6.5–ca. 17). Similarly, surgery, including discussion of anatomy, dislocations, fractures, and operative surgery, are covered extensively in the final two books (7–8), very dissimilar from Scribonius' "surgical" section with its focus on wound management, topical remedies, and above all the avoidance of operative surgery. The type of remedies covered in *Comp*. **201**ff, which Celsus also considers surgical, are predominantly featured among the compound drugs in 5.26ff. and elsewhere,[213] while the final books are occupied by the making, rather than healing, of wounds: "I have myself kept for this part cases in which the practitioner does not find wounds but makes them, and in which I believe wounds and ulcerations to be benefited more by surgery than by medicine" (*ipse autem huic parti ea reliqui, in quibus vulnus facit medicus, non accipit, et in quibus vulneribus ulceribusque plus profici manu quam medicamento credo*, 7 *praef.* 5, trans. Spencer). In many ways, Celsus provides a more comprehensive and "traditional" medical work than Scribonius, one in which the sections of interest to the dieticians address food and regimen, and the surgical chapters cover anatomy and surgery. As a result, much what Scribonius addresses with drugs is managed with diet, regimen, operative surgery, or physical manipulation instead.

[213] "But it can be asked what is the proper province of this part of my work **because surgeons claim for themselves the treatment of wounds as well, and of many of the ulcerations which I have described elsewhere**" (*potest autem requiri, quid huic parti proprie vindicandum sit,* ***quia vulnerum quoque ulcerumque multorum curationes, quasi alibi* [= 5.26ff.] *executus sum, chirurgi sibi vindicant***, 7 *praef.* 5, trans. Spencer).

The extensive coverage of theory, regimen, and surgery comes at the expense of the details on drugs, toxicology, and recipes, including Scribonius' "surgical" pursuits of plasters, poultices, and ointments; both remedies and ingredients are much less broad in range and number. The pharmacological part of the work, book 5, opens with the medicinal properties of individual substances (not including those of harmful drugs, although poisoning and venomous animals are covered in various places throughout the work). Unlike Dioscorides, Celsus' organisation is by effect rather than category, commencing with styptics and including a variety of further categories, such as those preventing inflammation, those promoting suppuration, and purgatives as well as irritating substances. Where Scribonius only covers the latter two as separate section – styptics, anti-inflammatories, etc. are mentioned throughout the text either as simples or compounds, but not grouped together – Celsus, by contrast, does not begin covering compounds until 5.17.2, and essentially reverses Scribonius' structure by beginning with poultices and plasters, drugs useful for treating wounds, topical ailments and poisons, before concluding, at the end of book 6, with a short *capite-ad-calcem* section. The recipes themselves are similar to those of Scribonius: they consist of quantitative lists of ingredients utilising either equivalences or weights and measures displayed as both text and symbols, and Celsus likewise uses the sign for the *drachma*, Roman numerals, and the *p./pondo* to denote "by weight", although as noted above (3.1.2.2) the manuscripts feature a wider range of symbols, particularly those for fractions. The indication is generally also mentioned, and the dose or use may or may be not included, but overall there are less preparation instructions than in Scribonius.[214] The types of ingredients – animal substances, inorganic substances, gums and resins, plants – are broadly similar to those of Scribonius, but the range is less extensive, and Meyer (1855: 33–39) highlights the increase of plants used medicinally between the *Compositiones* and Celsus' *De Medicina* by drawing attention to those featured or more extensively noted in Scribonius, but not in Celsus.[215] This may point towards a gradual expansion of Roman *materia medica*, or at least an increase in the availability of imported drugs over the course of the first century – and here both Scribonius and Celsus are certainly eclipsed by Pliny – but given the available data it seems more prudent to attribute the discrepancy to the differences between the respective texts. Scribonius' work is clear in its function as a practice-oriented manual of pharmacy, drawing on limited sources but extensive specialist experience and a repertoire of ingredients, while Celsus, aside from the practising doctor – well-read lay person divide, writes a medical work in

[214] To be fair, Celsus' introductory description of the differences between plasters, emollients, and pills in 5.17 includes general preparation instructions. Additionally, brevity of instructions is also the case for many of Scribonius' chapters, which may at their sparsest only consist of a list of substances (and Scribonius has the benefit of offering a much larger sample size than Celsus).

[215] The list is not exclusively one of addenda to the Roman pharmacopoeia, but also includes synonyms or other notes of botanical interest found in Scribonius. Martinéz Saura's list (1995: 452–474) is both more extensive and more user-friendly in this respect.

which only a quarter is concerned with pharmacy, while dietetics and surgery – much as Scribonius asserts he has addressed these respective medical domains as well – occupy the remaining 50 and 25%, respectively, which gives the *Compositiones* the advantage of having effectively dedicated 100% of its content to pharmacy. Ultimately, part of the differences between the works remain their different approach and focus, as Meyer (1855: 133) points out regarding the differences in drug scope between Pliny and Dioscorides in particular: in the end, both authors (and indeed all of the first century authors) employ different selection strategies when compiling their works, which leads to works with different focus and agenda.[216] This theme of similarity but difference due to aim and compilation strategy likewise characterises the following comparison between Scribonius, Dioscorides, and Pliny.

3.4.2 Dioscorides' *Materia Medica*

Dioscorides' Περὶ ὕλης ἰατρικῆς, more commonly called *Materia Medica*, has perhaps had more influence on the history of pharmacy and pharmacology than any of the other works discussed here.[217] Originally written in Greek (see e.g. Riddle 1980; Jacobsen 2010; Funk 2016 on later Latin translations and adaptations) and towards the end of the first century, the text provides a detailed discussion of the medicinal properties of a wide range of botanical, mineral, and animal substances, organised in five books in a relatively systematic way.[218] As illustrated by the overall preface preceding book 1, Dioscorides similarly speaks to his addressee as a fellow doctor/expert (which Scribonius does to some extent, cf. 3.1.3), but expands more on practical matters, such as the storage of ingredients, the ways to harvest and dry plants, or how to obtain plant sap (1 *praef.* 6-9), all of which are only briefly addressed in the *Compositiones*, if at all. Like Scribonius, he engages with medical authority knowledgeably, but critically (and primarily in the preface), contrasting (relatively) positive assessment of ancient authors with shortcomings in more recent practitioners: "Yet one must give high marks to the ancient writers for being accurate, even though they were not comprehensive, and this certainly cannot be said of the modern ones, among whom are Julius Bassus, Niceratus, Petronius Niger, and Diodotus, all of them followers of Asclepiades" (πλὴν τοῖς μὲν ἀρχαίοις μαρτυρητέον μετὰ τῆς ὀλιγότητος τῶν παραδοθέντων καὶ τὴν ἀκρίβειαν

[216] After all, Scribonius' coverage of significantly less foodstuff does not correspond to a massive decline of the food supply in mid-century Rome, but a less dietetics-focussed approach (of the individual author, not necessarily of the medicine at the time), and the low number of quantitative compounds in Pliny does not reflect a loss of pharmaceutical compounding by weight and volume, but instead a focus on an extensive range of topics that are of no interest to Scribonius (or Celsus, or Dioscorides, for that matter).

[217] Although Pliny's medical content has certainly not been neglected, as the existence of two separate later medical digests – the *Medicina Plinii* and the *Physica Plinii* – shows.

[218] Thus, minerals are covered in book 5, animals in book 2, and recipes for compounds in books 1 (oils, ointments) and 5 (wines, vinegars); while plants are found in in all five books, some types of plants are more concentrated in individual books (e.g. trees and resins in book 1, cereals in book 2). That said, book 3, which covers mostly herbs, seeds, or roots, also features some resins (e.g. galbanum and gum ammoniac, 3.83–84) and animal products (glues, 3.87–88).

προσπαραλαβοῦσι, τοῖς μέντοι νέοις οὐ συγκαταθετέον, ὧν ἐστι Βάσσος Ἰουλαῖος καὶ Νικήρατος καὶ Πετρώνιος Νίγερ τε καὶ Διόδοτος, Ἀσκληπιάδειοι πάντες, Diosc. 1 *praef.* 2, trans. Beck). While it is unclear whether he agrees (like Scribonius) that there is rampant misrepresentation of Asclepiades' views, or disagrees (like Pliny) with Asclepiades himself, both prefaces emphasise that medicine must incorporate pharmacology (Diosc. 1 *praef.* 5) and rely on empirical tests and experience (1 *praef.* 2; 5). While the similarities between Dioscorides' note of gratitude to his patron/addressee (*praef.* 4) and that of Scribonius may be due to literary convention, the biographical note on a long-standing interest in medicine and experience gained through travels and a military background show some degree of biographical overlap between the two.[219]

As outlined in the preface (1 *praef.* 5), Dioscorides' focus is very much on the properties of medical substances, and to some extent their origin, preparation, botany, or falsification; consequently, dietetics or medical elements such as symptoms and surgery are nearly absent. Compound recipes are less common, as the description of simples and their use is Dioscorides' main focus and aim, supported by the organisation of the text into categories of plants, animals, and minerals, although some books demonstrate varying degrees of overlap. While the qualitative use of simples against a range of ailments, supplemented by the substances' description, origin, quality, effect, or similar occupies the majority of Dioscorides' chapters, compound drugs are not entirely absent. Here Dioscorides aids substantially with the understanding and interpretation of ancient pharmacy, as he includes several quantitative recipes for compound substances used as ingredients in their own right by other contemporary authors. Examples are the ointment *psoricon*/ψωρικὸν (5.99.3; Celsus also includes a recipe in 6.6.31B) and the residue *crocomagma*/κροκόμαγμα (1.27, obtained from the ointment described in 1.54), both used as ingredients by Scribonius; the compound incense *kufi/cyphi*/κῦφι (1.25), which features in Galen's Mithridatium recipe; and oxymel (5.14), a common ingestion or application medium in ancient medicine consisting mainly of vinegar and honey, for which Pliny likewise includes a recipe (33.60). Other "stock substances" such as infused oils, wines, and vinegars are also included, for example squill vinegar (5.17), *omphacium* (5.5, sim. Pliny 12.130–131), or two types of myrtle wine (5.28, 29), all of which appear in the

[219] Thus, compare "I, on the other hand, having had from a very young age, so to speak, an abiding interest in *materia medica* and having covered much territory – for you know that I have led a military life – have collected at your encouragement my findings in five books" (ἡμεῖς δὲ ὡς εἰπεῖν ἐκ πρώτης ἡλικίας ἄληκτόν τινα ἔχοντες ἐπιθυμίαν περὶ τὴν ἐπίγνωσιν τῆς ὕλης καὶ πολλὴν γῆν ἐπελθόντες–οἶσθα γὰρ ἡμῖν στρατιωτικὸν τὸν βίον–συναγηόχαμεν τὴν πραγματείαν ἐν πέντε βιβλίοις σοῦ προτρεψαμένου, Diosc. 1 *praef.* 4, trans. Beck) with "For our part, having followed the proper path from the start..." (*nos vero ab initio rectam viam secuti..., Comp.* ***praef.*** **11**); "But what further need is there to justify that the use of drugs is indispensable, especially to you, who, because you have perceived their usefulness, have for that reason requested some recipes from me?" (*sed quid ultra opus est probare necessarium usum esse medicamentorum, praecipue tibi, qui, quia percepisti utilitatem eorum, idcirco a me compositiones quasdam petisti?, Comp.* ***praef.*** **12**); "for we are, as you know, abroad, and no number of manuals accompanies us unless entirely indispensable" (*sumus enim, ut scis, peregre nec sequitur nos nisi necessarius admodum numerus libellorum, Comp.* ***praef.*** **14**).

Compositiones, but without any provision of preparation instructions. Furthermore, the preparation of various mineral substances (5.74–5.115), such as different lead compounds (washed lead 5.81, litharge 5.87, white lead 5.88), or verdigris (5.79), as well as the way to produce calcined or washed forms of different minerals (calcined copper 5.76, calcined verdigris 5.79.11; washed lead 5.81, washed zinc oxide 5.75.8–11) is described in book five alongside their properties and medicinal use. In contrast to the medicinal vinegar and similar recipes, these are frequently qualitative, but make up for this by being rather detailed in their description of the process (e.g. zinc oxide, 5.75.3–6, which requires a specific type of building to be built), or offering several alternative methods of production or sources, such as the several different ways of preparing verdigris (5.79.1–3), including information on how it is adulterated (5.79.4–5), as well as multiple processes for producing ἰός σκώληκος, "worm verdigris" (Latin *aerugo vermicularis*; 5.79.6–7). Some of these do however include weights and measures, such as the production of an alternative "worm verdigris". The majority of these "stock recipes" are found in book one, which covers several oils (1.30–42) and ointments (1.43–63) and book five, which covers preparations made with vinegar, honey, or grape products (5.1–17, flavoured wine alone 5.18–73) in addition to mineral substances (5.74–115). Individual chapters in book two also include (qualitative) instructions for preparing animal-derived substances, such as fat from greasy wool (2. 74), soot from burnt butter (2.72.3), or bleached wax (2.83).

Like Scribonius, Dioscorides' focus is pharmacy, not aetiology, surgery, or regimen: details on symptoms are sparse, surgery all but absent, and regimen mostly relegated to references to taste or culinary use of substances. Theory plays a more important role in that Dioscorides provides and describes a system of drug properties (classifying individual plants or substances as hot, cold, etc.), where Scribonius at most features notes on astringency or effects such as causing suppuration or haemostasis, but as the emphasis is similarly on experimental basis and empirical proof, there is little space for medical philosophy. Knowledge, however, is paramount, and like Scribonius Dioscorides combines practice-based methods and experimentation with extensive learning derived from reading (both accurate works and those lacking in quality, as noted in the preface) as well as less book-based sources of knowledge, as indicated by the detailed references to metallurgical processes, or the origin, growth, production, synonyms, or adulteration of different substances. With each individual chapter covering a different substance (and sometimes more than one variety thereof), Dioscorides' five books unsurprisingly cover a substantially broader range of plants, inorganics, animals, and products than Celsus or Scribonius. This extensive list is only eclipsed by the 38 books of Pliny's *Natural History*.

3.4.3 Pliny the Elder

While the focus of Pliny's work is – as indicated by its title – *Natural History* in general, including subjects such as geography, anthropology, agriculture, and history of art, many of his topics are relevant to medicine in some way or another, from the agricultural chapters on processing olives and grapes which ultimately provide oils and wines used in medicine composition (books 14–15) to the art history which includes valuable notes on pigments of both artistic and medical relevance (33–37). As the existence of digests – the *Medicina Plinii* (ed. Önnerfors 1964; trans. and comm. Hunt 2020) and later the *Physica Plinii* (ed. Önnerfors 1975; cf. Adams and Deegan 1992; Löfstedt 1979) – illustrates, Pliny's role in ancient medicine/pharmacy and its reception is important, but required some degree of selection and revision of his work to be more manageable and suitable for the medical practitioner.

The work in general, and thereby the medically relevant parts, share the encyclopaedic and elite lay perspective with Celsus, and to some extent the ingredient-based systematic approach with Dioscorides. Pliny's medicine- and pharmacy-related content is spread across several books of the work – interspersed with the agricultural discussion of plants, trees, grains, etc. (12–19) and the mineralogical and art historical sections (33-37); in the extensive sections on zoology (general 8–11; specifically medical 28–32); and in the dedicated sections on the medicinal use of plants, products and substances (20–27) – and covers a great many simples as well as (mainly modest) compound drugs. Other medical matters such as surgery, orthopaedics, or dietetics do not receive a focus as they do in Celsus, or to a lesser extent Scribonius, although appearances are dispersed among the range of comments on agriculture, horticulture, animals, or treatments, such as the brief comments on food and diet, including the dangers of excess, in the conclusion of one of the zoology books (11.282–284). In the description of substances, Pliny is frequently more extensive than even Dioscorides, and similar material on topics such as appearance, production, uses, quality, or adulteration is supplemented with notes on price (thus particularly in book 12, e.g. the section noting the profitability of *balsamum* adulteration in 12.123 which could push the cost up to 1000 ℵ) or elaborate harvesting rituals.[220] Going beyond Scribonius' brief references to numerology, *superstitio*, or those things which "fall outside the profession of medicine", Pliny also records incantations and magical rituals that are to accompany treatment, similar to the type of remedy

[220] Thus e.g. 24.103, which combines a complex ritual with the prohibition of iron and the use of plants as amulets: "It is gathered without iron with the right hand, thrust under the tunic through the left arm-hole, as though the gatherer were thieving. He should be clad in white, and have bare feet washed clean; before gathering he should make a sacrificial offering of bread and wine. The plant is carried in a new napkin. The Druids of Gaul have recorded that it should be kept on the person to ward off all fatalities, and that the smoke of it is good for all diseases of the eyes" (*legitur sine ferro dextra manu per tunicam qua sinistra exuitur velut a furante, candida veste vestito pureque lautis nudis pedibus, sacro facto prius quam legatur pane vinoque. Fertur in mappa nova*, trans. Jones). Cf. Scribonius' iron ring prohibition (**152**), the remedy tied to one's arm (**172**), and the complex gathering ritual (**163**).

Marcellus intersperses with his herbal or quantitative selection of remedies (see 4.1.2), such as an incantation invoking Minerva said by the gatherer (24.176), or the different properties of grass with different amounts of knots/knees (*genicula*) used as an amulet, to be made and used while fasting and accompanied by an incantation (24.180–281).

By contrast, recipes feature less frequently, and those in the form found in Scribonius are very rare. Among the few examples are the instructions for preparing oxymel (14.114, and a different version "as made by the ancients", *oxymeli antiqui...hoc modo temperabant*, in 33.60), which features exact measures and some rudimentary instructions, as does a compound remedy prepared from *misy* (34.122), and a collyrium consisting in large parts of verdigris (34.114), both covered in the mineralogical section, much as Dioscorides' *psoricon* is part of the chapter on *chalcites*, 5.99.3. In contrast to Scribonius' compound-heavy work which features few simples, Pliny's medicinal notes include a great many substances used either as simples or as small-scale compounds mixed or taken together with two or three other substances. These are discussed sometimes with (e.g. 24.77, 25.103, 24.6), more commonly without details on dosage or quantity, or both, and the way in which these very short non-recipes are listed as part of broader chapters on individual substances or diseases additionally creates a very different effect from the *Compositiones'* dedication to individual (or less commonly multiple) recipes collected in one chapter for a specific range of ailments.[221] More detail is provided in production-related matters such as winemaking (book 14) or smelting (books 34–36); as with Dioscorides' instructions on the preparation of mineral matters or animal products, any detailed instructions are offset by a lack of information on weights and measures. The most complex compounds are ointments and perfumes covered at the beginning of book 13, but here Pliny only provides the substances that make up the composition, not the quantities or compounding process (although 13.19 covers the best way to store and preserve scented preparation in general). One of the most extensive scented mixtures is the "royal ointment" (*regale unguentum*), described in 13.18; Pliny lists its 27 ingredients, but either does not know further details on the quantities or composition – secret recipes, especially for expensive luxury goods, are hardly surprising – or this is of less interest to him than its reliance on primarily imported goods, or its connection to the kings of Parthia. In fairness, this and other sections seem to be intended primarily as parts of encyclopaedic knowledge, rather than as recipes: Pliny is documenting the contents of a perfume, not providing instructions for its composition. Given this variety, there are both areas of overlap with the type of recipe found in the *Compositiones* (simples and compounds of few ingredients, dosage or quantities given by comparison to nuts, beans, or "a

[221] Notably, *lycium/lykion*, which is listed as a simple in Scribonius (and similarly in Dioscorides, whose chapter on λύκιον (1.100) covers the process for extraction of the plant sap; cf. **19**, footnote 87 in Vol. II), features as a recipe with qualitative preparation instructions in Pliny (24.135–6), a further example of the at times unclear line between simples and compounds as well as the identity of substances.

handful", and selected instructions which are either detailed regarding the preparation and heating processes, or quantitative in their ingredient listing), and those which are more similar to Dioscorides' pharmacological approach. The latter include qualitative measurements, more prevalence of simple drugs, detailed information on individual substances, organisation and coverage of similar substances together (plants, minerals, animal substances, etc.), and information of the preparation of "stock" substances.

Finally, in terms of the types of remedies covered, Pliny relates both superstitious or magical treatments and the use of bodily fluids and other type of Dreckapotheke to a much greater extent than the three other authors. Both kinds of medicine are combined in book 28, which is concerned with animal-derived medicines as well as lengthy discussions regarding the nature of superstition and magic. Pliny lists the purported medical properties and uses of bodily fluids such as urine (28.65–69), menstrual blood (28.80–86), or human saliva (28.35–39); the latter makes human bites dangerous,[222] which are then treated with earwax (28.40), while "people's dirt" (*sordes hominis*), the mixture of oil and dirt scraped from the skin in gymnasia, has various medical applications (28.50–52). Dioscorides' less extensive Dreckapotheke includes excrement and urine (2.80–81) and features a note on the various types of filth (ῥύπος) found in baths, gymnasia, wrestling schools, and on statues among the olive oil-based medicines (1.30.6). The less extensive range of Celsus' pharmacological remedies also has less use for such substances, although the gymnasium-dirt (*sordes ex gymnasio*) is suggested for topical applications in 5.9 and 5.15.

As for the magical and ritualistic substances and treatments, Pliny records similar types of examples to those found in the *Compositiones*, but unsurprisingly covers a much more extensive variety of popular or magical substances, objects, and rituals. There are complex drug harvesting rituals, material prohibitions of especially iron, and the use of plants and other materials carried or tied to the body used in an amulet capacity – sometimes all three, as in the harvesting and use of tamarisk, 24.68, or the two plants *selago* and *samolus* in 24.103–104. Pliny's critical position on such methods is overall relatively clear: the entire section on miraculous plants (24.156ff.) seems almost sarcastic (cf. Scribonius' exasperation regarding the misrepresentation of Asclepiades in the preface),[223] and many of such remedies are reported in distancing language of things being said or

[222] An accurate observation, given the risk of infection from the bacteria found in saliva (see e.g. Patil, Panchabhdi and Galwankar 2009).

[223] Like Celsus, who engages with medical authorities much more frequently and in-depth than Scribonius, Pliny covers various medical theories and individuals with different levels of approval or respect. Unlike Scribonius' defending position towards Asclepiades, Pliny is, like so often in his approach to Greek or otherwise 'foreign' medicine, rather scathing (26.12–19), and accuses him, among other things, of only turning to medicine to make more profit (26.12), building a reputation by providing 'easy' treatments that catered to people's desires rather than needs (26.14), and ignoring herbal for magical remedies (26.18–20) rather than drawing on medical experience, of which he had none (26.12–13). Even taking Pliny's bias against Greek medicine into account, this sounds very unlike Scribonius'

reported or held to be true by *some*. Variations of "they say" are frequent (*aiunt,* 25.72; *tradunt, dicunt* 25.168–170), and while matters are done or related by a respected medical author (*gravis autem auctor in medicina*, 24.68) or the Druids of the Gauls (*prodidere Druidae Gallorum*, 24.103), recording does very much not equal endorsement, and a sense of at least mild dismissal or disapproval ("if we believe it", *si credimus,* 28.41) hangs over such sections – especially if it involves the Magi (as much of the beginning of book 28 and the sections on magical plants do), of whom Pliny disapproves on principle. More explicit is the position on specific types of substances, like abortive drugs or magical matters, in 25.25: "I personally do not mention abortives, nor even love-philtres...nor yet any other unholy magic, unless it be by way of warning or denunciation, especially as I have utterly condemned all faith in such practices" (*ego nec abortiva dico ac ne amatoria quidem...nec alia magica portenta, nisi ubi cavenda sunt aut coarguenda, in primis fide eorum damnata*, trans. Jones).[224] The cannibalistic remedies against the comitial disease are likewise listed with dismay and disapproval (28.4–5);[225] an "endorsed" herbal treatment is covered, notably among the diseases of the whole body rather than following the headaches as they do in the *Comp.*, in 26.113–114. Much like Scribonius' stance on "unmedical", if at times apparently helpful, remedies of this kind, Celsus' disapproval is likewise clear, but voiced with more sympathy – terrible diseases encourage resort to horrible cures – but here as well as in the other authors, this is contrasted with matters which do fall within the auspices of medicine and subsequently provide more suitable treatment, which here consists mainly of different forms of bloodletting.[226] The similarly critical positions on some types of magical or pseudo-magical remedy between these authors, while nevertheless including such material with varying degrees of presence or absence of judgement, shows the complicated and complex position of such remedies in ancient medicine, and the different levels of tolerance for this type of folk medicine between Scribonius' and Celsus' more or less sympathetic disapproval and Pliny's overall tendency towards a more overtly hostile

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Asclepiades, and Jones (Loeb Pliny, 1956: 274), with reference to Allbutt (1921: 180), points out that this may be a case of confused identities).

[224] cf. *Comp*. **199,** and the implicit disapproval in *Comp*. ***praef.* 5**, although Scribonius' stance on abortifacients is much less clear.

[225] "The blood too of gladiators is drunk by epileptics as though it were a draught of life, though we shudder with horror when in the same arena we look at even the beast doing the same thing. But, by Heaven!, the patients think it most effectual to suck from a man himself warm, living blood, and putting their lips to the wound to drain the very life, although it is not the custom of men to apply their mouths at all to the wounds even of wild beasts...And, by Heaven!, well deserved is the disappointment if these remedies prove of no avail. To look at human entrails is considered sin; what must it be to eat them?" (*sanguinem quoque gladiatorum bibunt, ut viventibus po<c>ulis, comitiales [morbi], quod spectare facientes in eadem harena feras quoque horror est. at, Hercule, illi ex homine ipso sorbere efficacissimum putant calidum spirantemque et v<iv>am ipsam animam ex osculo vulnerum, cum plagis om<nino> ne ferarum quidem admoveri ora mos sit humanus...egregia, Hercules, frustratione, si non prosit. aspici humana exta nefas habetur: quid mandi?,* trans. Jones).

[226] "Some have freed themselves from such a disease by drinking the hot blood from the cut throat of a gladiator: a miserable aid made tolerable by a malady still most miserable. But as to what is really the concern of the practitioner..." (*quidam iugulate gladiatoris calido sanguine epoto tali morbo se liberarunt; apud quos miserum auxilium tolerabile miserius malum fecit. Quod ad medicum vero pertinet* (...), 3.23.7, trans. Spencer).

position.[227] As Marcellus' reintroduction of such "magical" types of remedies without any kind of caveat shows, the *Compositiones* were perhaps considered too sparse in addressing this potential source of relief among everything that medicine had at its disposal (*nisi omni parte sua plene excubat in auxilia laborantium*, *praef.* **5**), nor did the reception of Pliny (here predominantly via the *Medicina Plinii*) necessarily incorporate or share the encyclopaedist's disapproving stance on such "un-Roman" matters as magic and superstition – or of Greek medicine, for that matter.

3.5 Summary and Concluding Comments

As the preceding discussions illustrate, Scribonius' pharmacy and medicine both resembles and diverges from his contemporaries' treatment of the topics, and similarities and differences in approach and coverage are distributed evenly between topics and works. All four use a variety of remedy types consisting of simples and compounds to different degrees of simple/compound ratio and compound complexity, and recipes or practical instructions for drug composition of varying nature are likewise found across all texts. As even a cursory comparison of these four texts illustrates, first century medicine uses an extensive range of substances understood to have a wide range of similar and conflicting properties, informed by implicit or explicit models of medicine, which can draw on, or expressively disagree with, various medical authorities and philosophies. First century medical literature is a wide field, ranging from Scribonius' recipe compilation based on the concept of a tripartite dietetics-pharmacy-surgery medical model to Celsus' much clearer and extensive coverage of dietetics and operative surgery which leaves less space for recipes, and from Dioscorides' far more extensive number and discussion of medicinal substances and their properties including some interest in substance preparation and stock recipes, but little time for dietetics and surgery, to Pliny's exhaustive (and somewhat exhausting) encyclopaedic coverage of, among other things, notes of medical relevance regarding a wide range of ailments, foodstuffs, and medical treatment via various substances, more or less extensively described, with few quantitative and various qualitative recipes or preparation instructions, and little to no notes on surgery. Examined together, these sources provide an insight into the importance and use of different medical ingredients and therapeutics in Greco-Roman antiquity more broadly, and increase the understanding of the period's wide range of healthcare practices and perspectives. Additionally, analysed specifically in comparison with Scribonius, they have the potential to clarify and illuminate puzzling passages and sparsely described diseases/substances, and permit the study of Scribonius' sparse medical and pharmaceutical theory in the context of first century knowledge. The *De Medicina*, *Naturalis Historia*, and *Materia Medica* thus provide background or

[227] Then again, Pliny's position errs on the side of hostility in general, as the more "rational" Greek approach to medicine is not necessarily to his liking either.

supplementary information to the varying depths of information on *materia medica* and pharmacopoeia presented by Scribonius.

4 Reception and Afterlife of the Compositiones

4.1 Scribonius' Afterlife from the second to the seventeenth Century: an Overview

The afterlife and reception of the *Compositiones* provides a case-study for the varied ways in which the medicine and pharmacy of classical antiquity was received and used in different periods and places throughout the history of science and medicine. While the fourth century CE inclusion of much of the *Compositiones* in Marcellus Empiricus' *De Medicamentis* is particularly noteworthy (partly due to its importance for textual criticism), the engagement of Greek pharmacologists with the text which culminated in the inclusion of selected recipes in Galen's oeuvre, and the extensive Humanist edition-with-commentary of Rhodius and its challenge in Sperling's *Animadversiones*, are further important cornerstones in the afterlife of Scribonius. Less extensive, but of great value for both editors and medical historians, are the small but illustrative number of recipes copied or adapted in medieval medical manuscripts (ca. 9th–13th century), while the somewhat unexpected inclusion of Scribonius in a treatise against the "French disease" (*morbus gallicus*) and among the ancient authorities depicted on a Theriac vase suggest a reasonably good reputation, or at least circulation, of the *Compositiones* in the early modern period. Additionally, the substantial pieces of German scholarship on Scribonius following Helmreich's 1887 edition, authored not only by the expected audience of Classicists – Helmreich himself (1888, and a preceding study in 1882), Wilhelm Schonack (1912, 1913), and Joseph(us) Lottritz' philological study published in Latin (1913) – but also by pharmacologists (Felix Rinne, 1892, 1896), dentists (Walter Wriedt, Fritz Trilk, both 1921), and general practitioners/dermatologists (Klaus John, 1945) – provide a remarkable case study for the reception of ancient science. Used to provide a historical basis for contemporary practice and contextualising Scribonius' pharmacy in 1890s, 1920s, and 1940s science and medicine as part of the professionalisation and establishment of pharmacology and dentistry as academic disciplines, these texts are sources for the history of pharmacy, dentistry, and medicine, and the wider German medical historiography of the period, as much as they are medico-historical analyses of Scribonius informed by classical philology and scholarship.

As this lengthy introductory paragraph illustrates, there is substantial material available for and deserving of an in-depth discussion of the afterlife of Scribonius in late antiquity, the middle ages, the early modern period, and the nineteenth and twentieth centuries. To do the subject some justice, this section will focus on one of the parts of the afterlife which have received the least scholarly attention so far, namely the nineteenth and early twentieth century German reception of the

Compositiones. Key aspects of the early reception, particularly the recipes and chapters of the *Compositiones* which have been excerpted, adapted, and/or referenced, and the implications for the perception and reputation of Scribonius by contemporaries, will also be covered, but as an overview rather than an in-depth study.[228] The modern reception of Scribonius and his work – as epitome of a new medical ethic, founder of electrostimulation-based pain management, or example of the misinterpretation of ancient sources – provides material for some concluding notes on the use and abuse of the history of medicine in modern science. This process and phenomenon, partly a result of the shift from ancient medicine as used, edited, or analysed by practitioners to the modern division of disciplines between the sciences and the humanities, is already visible in the later stages of the afterlife of the *Compositiones*.

4.1.1 Galen: indirect excerption and the chapters missing from the *Compositiones*

To say that Galen's excerpt saved Scribonius is not an exaggeration, Deichgräber states,[229] an assertion based on the preface to Ruellius' *editio princeps* which expresses gratitude for the desired edition of an author not only endorsed but frequently cited by Galen (*quem Galenus non commendarit modo, sed* ωερϊ (sic) κατὰ τόπους *pluribus locis sequeretur,* 1529: i). Galen's use of Scribonius forms part of Ruellius' emendation and/or reconstruction of the text, as the preface explains (*nonulla etia[m] ex Galeno, quod ex notulis deprehendas licet, reddidit*); a little more than a century later, it receives a brief appendix to Rhodius' edition and commentary – *Auctarium ex Galeno de Compositione medicamentorum secundum loca, Iano Cornario interprete* (1655: 142–144, also reproduced in Bernhold's subsequent edition) – which features four Galen passages, in Cornarius' Latin translation, attributed to Scribonius but not found in the *Compositiones* (discussed below).[230] The passages are *Comp. med. loc.* 4.7 = 12.738 K (an eye remedy), 7.3 = 13.67 K (a cough remedy), 7.5 = 13.98 (various pains, bleeding), and 9.4 = 13.284 K (a colic and pain remedy

[228] Given the extensive nature of particularly Rhodius' 1655 Scribonius edition and Sperling's *Animadversiones*, as well as their ambivalent position between philological/textual critical note and medical reception, the Humanist commentaries are better served by a separate, detailed analysis alongside the text of the *Compositione*s and in the context of Neo-Latin scholarship. As such, they have particularly suffered from an overly brief treatment here.

[229] "Es ist nicht zuviel gesagt, wenn man feststellt, daß Galens Zitate den Scribonius gerettet haben" (1950: 871 = 19).

[230] Listed by Rhodius as: 1. *Lib*. IV *Cap*. VII (*Liquidae oculares compositiones ad ficosas eminentias, ac omnem extuberantiam carnis*) = *Ad Scribonii Cap*. III. *Comp*. XXXII.; 2. *Lib*. VII *Cap*. III (*Confecctiones ad Tussim*) = *Ad Scribon. Cap*. XXII. *Comp*. LXXXVII., 3. *Lib*. VII *Cap*. V (*Confectiones dolorem sedantes, tabescentibus sanguinem reiectantibus commode*) = *Ad Scrib. Cap*. XXIII. *Comp*. XCII, 4. *Lib*. IX *Cap*. IV (*De Pharmacis dolorem sedantibus, anodynis, & colicis*) = *Ad Scrib. Cap*. XXIX. *Comp*. CXXII. Somewhat peculiarly, the fourth quote combines another colic remedy (= 13.280 K), which is Galen's version of **121**, with the remedy attributed to Scribonius found four pages later (at least in Kühn's edition, 13.284 K). Rhodius subdivides the *Compositiones* into chapters based on the thematic headings, thus *Cap*. III = *Collyria composita levia* (*sic*), *Cap*. CIV = *Acopi genera et compositiones*. The named chapters cover similar ailments and/or remedy types, e.g. *Comp*. **87** a cough remedy, **92** against spitting blood, **122** a colic remedy, and **32** among the *collyria* (Scribonius' other liquid eye remedies are however featured from **37**ff.).

made from willow bark).[231] Slightly earlier, Marsilio Cagnati's 1587 collection of medical, medico-historical, and philosophical essays[232] also notes and discusses the Galenic excerpts, including their implications for the language of the *Compositiones*, as part of a section on Scribonius (*De Scribonio medicine auctore*, 1587: 222–231).

Recipes from the *Compositiones* or those directly attributed to Scribonius are listed in sections of Galen's work derived from older pharmacological writers, showing that the *Compositiones*, or at least a version of Scribonius' work(s), were both available to and used by Greek medical authors before Galen, but in all likelihood not consulted by Galen himself. Most of the recipes are transmitted via Andromachus (cf. Sconocchia 1983: VIII; Jourdan 1919: 10) and Asclepiades Pharmakion (cf. Guardasole 2014; 2015),[233] for whom Jouanna-Bouchet (2016: LXXIV–LXXV) lists 52 and 34 of excerpted Scribonian chapters, respectively. Less substantial are the number of passages excerpted from Heras (11), while only one or two passages are attributed to Kriton, Damocrates, or Archigenes, as Jouanna-Bouchet (2016: LXXIV–LXXV) notes, while cautioning that this is not an exhaustive list.[234] Thus, while Galen's most likely indirect use of Scribonius is of interest for tracing the text's afterlife, the reception of the *Compositiones* also occurred independently of Galen's engagement, whether through pre-Galenic Greek pharmacological writers, Marcellus' extensive use of the *Compositiones*, or the range of medieval excerpts independent of both Galen and Marcellus (see Sconocchia 1995; cf. 4.1.3). The following section will provide a brief survey of the types of recipes featured in Galen's works, their adaptation and attribution, and, perhaps most importantly, the recipes attributed to Scribonius which are not found in the *Compositiones* and as such might possibly provide evidence of Scribonius' other medical works, as implied by ***praef.* 13** (*scripta mea Latina medicinalia*).

Recipes or content from the *Compositiones*, and/or recipes attributed to Scribonius, are found in three of Galen's pharmacological works: two of the treatises on drug composition (*Drugs according to place* and ~ *according to kind*, respectively (*De compositione medicamentorum secundum locos*, *Comp. med. loc.*; *De compositione medicamentorum per genera*, *Comp. med. gen.*), and the two books on antidotes (*De antidotis*, *Antid.*), which are included in volumes 12–14 of Kühn's edition.

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[231] Curiously, the additional recipe attributed to Scribonius which features two (rather brief) recipes further along (on the next page in Kühn's edition, 12.99 K), similarly not found in the *Compositiones*, is omitted in the list.

[232] *Marsilii Cagnati Veronensis doctoris medici et philosophi variarum observationum libri quattuor, quorum duo posteriores nunc primum accessere. Eiusdem disputatio de ordine in cibis servando* (Rome, 1587).

[233] On Galen's engagement with previous authors, see Fabricius (1972, esp. 222, 229–230 for Scribonius, 185–189 Andromachus the Younger, 192–198 Asclepiades Pharmakion); on his harsh position on doctors with less-than-perfect command of Greek, see Kollesch (1994).

[234] Additionally, the excerption strategy is such that there is some overlap between the chapters attributed to one or another authority, while some chapters can be linked to more than one passage in Galen.

The featured recipes come from all sections of the *Compositiones* and include *collyria*, nose complaints, throat and colic medicines, styptics, three of the "antidotal" remedies, and a few different plasters and topical remedies. Notably, several of the remedies featured by Galen are already excerpted from other sources by Scribonius – plasters by surgeons Tryphon (2), Glycon, Meges, Thrasea, a remedy by Asclepiades, the colic medicine of Bassius Tullius, and the elusive antidote of Zopyros. Additionally, Galen's *Antid.* are associated to some extent with the chapters concerning the remediation of poisoning by *mala medicamenta* (*Comp.* **178**–**200**), which are excerpted more fully by later treatises (cf. 4.1.3 and 4.2.1 below). The Galenic reception of selected Scribonian recipes has been addressed in several places, most extensively by Guardasole (2014 on c. **50**–**52** in Galen (*Comp. med. loc.* 3.3), and 2015 on the recipes directly attributed to Scribonius, including the six that have no corresponding chapters in the *Compositiones*) and Sconocchia (*inter alia* 2014). As such, the following is intended mainly as an overview and contextualisation of Scribonius' afterlife.

According to the list featured by Sconocchia (1983: VIII). Galen includes 34 of Scribonius' recipes across several books of the three aforementioned works (*Comp. med. loc.* 3, 4, 7, 9; *Comp. med. gen* 2, 4, 5, 6; *Antid.* 2). Jouanna-Bouchet's more recent list (2016: LXXIV–LXXV) is far more extensive, listing Galenic correspondences to a further 50 recipes while making no claim to completeness. As with some of the later excerpts from the *Compositiones*, the content featured in Galen is generally adapted to various degrees, rather than copied or, here, translated, verbatim. This is the case for the **50**–**52** chapters adapted by Asclepiades, as Guardasole (2014: 324) stresses: "Asclepiades did not simply translate Scribonius' Latin text into Greek; he reformulated it".[235] A particularly clear example of this is the different ordering and content of the toxicology ("harmful drugs") chapters. Galen incorporates most of the section (**181**–**199**, excluding **179, 187, 195, 200**), alongside some of the antidotes and theriacs, in his *De Antidotis*. However, the passages, featured in *Antid.* 2.7 under the heading of Ἀσκληπιάδου πρὸς τοὺς τὰ θανάσιμα πεπωκότας, ὡς αὐτὸς ἔγραψε κατὰ λέξιν (*Asclepiades antidota, ad eos, qui lethalia biberunt, ut ipse ad verbum scripsit*, trans. Kühn) focus entirely on the treatment, as opposed to the symptomatic description, while also completely restructuring Scribonius' order of substances.[236] Opening with two sections on poppy sap (*papaveris sucum*, and meconium ("i.e. *papaveris cocti succum*", trans. Kühn) and closing with a section on white lead, Galen discusses twenty poisonous substances in total; Scribonius'

[235] As such, Kühn's Galen edition, which retranslates the excerpts into Latin, adds a further layer of complexity to the exchange between Greek and Latin texts.
[236] Thus, aconite (**188**), henbane (**181**), coriander (**185**), sea hare (**186**), arrow poison (**194**), autumn crocus (**193**), *dorycnion* (**191**), mushrooms (**198**), distaff thistle (**192**), *buprestis*-beetle (**190**), blister beetles (**189**), litharge (**183**), gypsum (**182**), milk (**197**), bull's blood (**196**), leeches (**189**).

salamander (**187**) and *pharicum* (**195**) are missing alongside the introductory (**178**) and concluding sections (**200**), including the latter's general discussion "for the inkling of a bad drug" (*ad suspicionem mali medicamenti*, **200**), but added between blister beetles and litharge is *psilothrum*/ψίλωθρον, a synonym for the plant *ampeloleuce*, ἄμπελος λευκή (Plin. 23.1.16.21; Nic. *Th*. 902, Diosc. 4.182), bryony (*Bryonia dioica* Jacq.).[237] One may also note the range of remedy types and the inclusion of recipes against ailments from all parts of the *Compositiones*; this indicates the availability of most, if not all, of the *Compositiones* to the authors excerpted by Galen, as well as the relevance of the medical concerns and treatment approaches addressed by Scribonius.

While all chapters are ultimately excerpted from other medical writers, Galen directly attributes 15[238] of the recipes to Scribonius, variously rendered as Σκριβωνίος Λάργος (ten instances, once twice in one recipe: **50**–**52** block, **26, 27, 75, 223** plus four others), Σκριβωνίος (one instance, **121**), or Λάργος (four instances, **227, 247** plus two others). These are of particular interest as only nine can be clearly identified in the *Compositiones*, as Table 4-1 illustrates:

Table 4-1 Direct references and attributions to Scribonius, including chapters not found in the *Compositiones*

Compositiones	**Galen**	**Notes**
50–52	12.683 K (*Comp. med. loc*. 3.2)	Against warts/ sim. growths (ἐξοχήν); *Comp*. **50**–**52** nose complaints, polyps
26	12.774 K (*Comp. med. loc*. 4.8)	A *collyrium* for eye complaints
27	12.764 K (*Comp. med. loc*. 4.8)	The *collyrium* called *psittakion/psittacium* (parrot-coloured)
75	13.51 K (2x) (*Comp. med. loc*. 7.2)	(passage in l.8 and 13, first instance in brackets)
– [Rhodius' 2.]	13.67 K (*Comp. med. loc*. 7.3)	βηχικὴ Σκριβωνίου A remedy, possibly a *catapotium* (like the previous remedy), for a cough
– [Rhodius' 3.]	13.98 K (*Comp. med. loc*. 7.5)	ἄλλο Σκριβωνίου Λάργου. A remedy and anodyne for various complaints, particularly of the chest (cf. 13.96 K)
–	13.99 K (*Comp. med. loc*. 7.5)	Ἄλλο Σκριβωνίου Λάργου καταπότιον A catapotium, among others for chest complaints and bleeding
– [2nd part of Rhodius' 4., following **121**]	13.284 K (*Comp. med. loc*. 9.4)	Ἄλλη Σκριβωνίου Λάργου τὸ διὰ τῆς ἰτέας, ἀπαλλάττει τῆς ὅλης διαθέσεως. A universal remedy, made from willow-bark
223	13.737 K (*Comp. med. gen*. 4.13)	"a proven remedy" (φάρμακον ἐπιτετευγμένον); *Comp*. **223,** a red oily plaster (*lipara rufa*)

[237] Under the name *bryonia*, its root is used once in **79**, a remedy for laboured breathing, lumbago, dropsy, paralysis and afflictions of the spleen, but it is never mentioned as a harmful drug.
[238] Eight are not included in Sconocchia's list (cited above); Guardasole (2014, 2015) identifies a further two instances (12.683 K ~ **50-52,** 13.314 K ~ **227**).

121	13.280 K (*Comp. med. loc.* 9.4)	A colic-remedy; forms the beginning of Rhodius' 4.
214	13.930 K (*Comp. med. gen.* 6.14)	A dispersing remedy, a plaster (**214** "of ambiguous colour")
–	13.938 K (*Comp. med. gen.* 6.16)	ἄλλη, ἡ διὰ τοῦ ἀφρονίτρου, ὑπὸ τινῶν δὲ Διονυσία λεγομένη, φάρμακον ἐπιτετευγμένον πρὸς τὰς προειρημένας διαθέσεις, ᾗ ἐχρήσατο Λάργος. Swollen lymph nodes, hardened sections of breast, to be drained and healed (thus 13.937 K)
– [Rhodius' 1.]	12.738 K (*Comp. med. loc.* 4.8)	ὀξυδερκικὴ Λάργου for sharpening eyesight
227	13.314 K (*Comp. med. loc.* 9.7)	A remedy for haemorrhoids
247	13.828 K (*Comp. med. gen.* 5.11)	"a proven remedy"; *Comp.* **247** for shingles

These six recipes cover a range of ailments and remedy types: *catapotia,* anodynes, and topical remedies treating eye, chest, or abdominal problems and providing relief for swellings and abscesses, as well as one multi-purpose remedy to treat everything (cf. Rhodius' four remedies, addressed above; see Guardasole 2015 for detailed discussion). The recipes are similar to those found in the *Compositiones* both in content and style; one may note several *catapotia*, as well as similar remedies for chest complaints and bleeding, e.g. those covered in **83**–**91**; the extensive list of eye remedies (**19**–**38**), which also include those for vision-related problems (*caligo*), among which **25**, like 12.738 K, features honey stored in a copper box; or the universal remedies – notably, Galen's Scribonian example is followed by one attributed to Paccius Antiochus, but not the Holy Antidote of **97**–**107**. Similar to the overlap in ingredients despite the different recipes for Mithridatium, the *materia medica* used is similar to that of the *Compositiones*; the use of willow bark as the basis for a universal remedy is perhaps an interesting example, given that the ingredient is used by Scribonius only once (**252**, cooked with vinegar and applied topically against scabies), but is famously the historical basis for the painkiller and blood thinner 2-Acetoxybenzoic acid (Acetylsalicylic acid, tradename Aspirin).[239] While the way in which these recipes made their way to Galen (and to the authors he excerpted) is unclear– whether through a lost (Greek or Latin) work, or through individual recipes obtained by others either from Scribonius (like Scribonius obtained Cassius' colic remedy from Atimetos) or a deposited notebook, like that of Paccius Antiochus –, they are thus sufficiently similar in type and *materia medica* that a non-spurious attribution to Scribonius is a possibility.

[239] via Stone (1763) and several eminent nineteenth century organic chemists; Mahdi et al. (2006) provide an overview of some relevant milestones and scholarship. Unsurprisingly, perhaps, this is one of the substances chosen for pharmacological discussion by Gellens (2019: 41–47) despite its rarity in the *Compositiones*.

As the Galenic excerpts show, Scribonius' work was both sufficiently important and available over the course of the first and second century to be read and used by the pharmacists excerpted by Galen. Even within Galen's extensive range of sources and knowledge of pharmacy, Scribonius' pharmacy was considered of suitable quality and usefulness to both be excerpted by the Greek writers on which Galen drew, and to be included in three of Galen's own works, albeit with only 15 direct attributions. Additionally, as the Ruellius quotes and Deichgräber's assessment show, the Galenic excerpts have had an impact on (at the very least) the early modern scholars analysing or editing Scribonius. Marcellus' approach, as summarised below, is different, but equally (if not more) important for both reception and textual survival of the *Compositiones*.

4.1.2 Marcellus: Inclusions, Exclusions, and Modifications

The *De medicamentis* of Marcellus Empiricus (also called Marcellus of Bordeaux), is a fourth century compilation which consists of an extensive range of remedies, framed by several prefaces (including Scribonius' *epistula dedicatoria*)[240] and a concluding medical poem. Marcellus incorporates the majority of Scribonius' *capite ad calcem* chapters as well as selected surgical recipes, but as Marcellus includes substantially more ailments (and recipes), large sequences of chapters are excerpted, reorganised to varying degrees, and placed in the corresponding sections in Marcellus' *capite-ad-calcem* structure. While some chapter groups are transmitted in order (e.g. the headache remedies *Comp*. **1**–**11** as 1.1–1.11, the *collyria* **19**–**24** as 8.1–5, or **128**–**132** as 23.1–6), other recipes are spread across sections of a work. The remainder of the eye remedy block, **25**–**38**, is spread across chapter 8 in Marcellus (8.1–6, 8–10, 17; 8.69–72; 8.116–120), with e.g. **19**–**24** = 8.1–5, **25**–**26** = 8.116–117, **27** = 8.6, etc. More extremely, Scribonius' section of chest complaints, **76**–**96**, is reorganised by Marcellus across three chapters (17, then 15, 17 again, and 16). Additionally, individual recipes are at times omitted from a copied series of chapters (thus **127, 133**–**134, 161, 230**–**231, 238**–**241, 244**), while other thematic blocks are completely omitted, such as **12-18**, the "epilepsy" remedies. Similarly, aside from the earlier Holy Antidote (**97**–**107** = 20.1–17) virtually the entirety of the toxicological chapters (**163**–**200** with the exception of **169** (22.18) – which is missing in the extant Scribonius instead), and large parts of the surgical section are

[240] Curiously attributed to Celsus, which raises the question whether another text attributed to Celsus, the letter to Pullius Natalis, might also come from a now lost part of Scribonius' work. The letter discusses issues encountered in translating and adapting medical texts and seems to come from a very practice-oriented perspective; while Celsus writes with a high level of education on matters of Greek and Latin vocabulary, the misattribution of Scribonius' preface to Celsus and significant stylistic differences from Celsus' approach makes it highly unlikely that the attribution is correct, as Schulze (2003) shows. While this still leaves a third, unknown writer as the potential author instead of Scribonius (Schulze 2003: 494–495), aspects such as the mention of the medical writings, the Greek Scribonius implied by the preface of the *Comp*., the Galenic excerpts (e.g. thus Nutton 1995: 5–6), and the high prevalence and of knowledge of Greek terms is consistent with the content of the *Compositiones*.

excluded. Surgical recipes are much more sporadically featured than the *capite ad calcem* section: aside from some irritating drugs (**222**–**229**), **232**–**235**,[241] **237**, **243** and **245** (skin complaints), **257**–**271** (pains, emollients, soothing salves), the remainder, notably most of the plasters, is omitted. In contrast to Scribonius' crucially tripartite medicine, Marcellus presents a more strictly *capite-ad-calcem* approach, and Scribonius' surgical section is not so much of interest for its wound treatments, but rather for its management of various skin complaints, growths, and pains via emollients, anodynes, or irritants.

What is also of interest to Marcellus is the inclusion of multiple magical and pseudo-magical remedies, drawn in part from local Gaulish practice, which are featured alongside Scribonius' quantitative recipes. Meid's 1996 work, which demonstrates the importance of Marcellus for Celtic linguistics due to his inclusion of regional Gaulish terms and remedies among the excerpts from Scribonius and the *Medicina Plinii*, is aptly titled "Healing plants and healing spells" (*Heilpflanzen und Heilsprüche*), a suitable summary of Marcellus' range between two vastly different approaches to medicine – the "rational" and the "irrational" in Jouanna-Bouchet's (2003) terms for the respective approaches in Scribonius and Pliny, or perhaps the pharmaceutical and the folkloristic. That the distinction is already complicated in Scribonius' case is illustrated by the dismissal of cannibalistic cures for the comitial disease as un-medical (**17**) immediately after a remedy which combines numerological elements and amulets with dietetics and pharmacological compounding (**16**); as Machold's (2010) careful analysis shows, several of Scribonius' chapters fall into categories which can be viewed as intrinsically or extrinsically magical or pseudo-magical.[242] While this illustrates one of the differences between Scribonius' and Marcellus' understanding of what falls within the profession and scope of medicine, the collection of similar material in Pliny (cf. 3.4.3), albeit from a critical perspective, shows that this is not so much due to different medical approaches of the first and fourth centuries in general, but a result of individual practitioners' views and selections.

While it is true that Marcellus copies and incorporates much of the *Compositiones*, this does not mean there is no evidence for engagement with or adaptation of the material. The following are four

[241] **235**, which is incomplete in the *Comp*., is likewise only reproduced as the general recommendation of Andronios' remedy at the start of the chapter; **236** is omitted by Marcellus and missing in Scribonius, which may indicate that the chapters were already missing in the version of the *Comp*. which was available to Marcellus.
[242] Curiously, Marcellus omits the entire section on "epilepsy", a disease on the boundary between science and superstition in antiquity as already lamented in the Hippocratic *Morb. Sacr*.; given even Scribonius' admission of the existence of those who drink blood or make use of killed gladiators, its treatment would fit well into Marcellus' complementary approach to medicine.

examples of typical changes to recipes that go beyond a simple alteration of wording, or abbreviation of text, that are noticeable when comparing Marcellus and Scribonius and demonstrates the way in which Marcellus modifies Scribonius' work to be more suitable for contemporary audiences:

1. **The addition of clarifying or explanatory words or statements:** the somewhat confusing *supraperunctum* in **20** is replaced with the much clearer *hoc medicamentum etiam supra oculos inlitum* in 8.1; what is implied by Scribonius is stated plainly by Marcellus, e.g. 8.1. *balineum duci eum, qui inuntus fuerit* instead of *in balneum ducere*, or 8.117 = **26** that the remedy *bene inponitur cum lacte mulieris* for Scribonius' concise *ad papulas...cum lacte muliebri*. Preparation instruction are more extensive and detailed, e.g. in 8.4 = **23** *id est cum sunt fingenda collyria* added after *cum tollendum est*, while in 8.72 = **35** the instructions for preparations are less condensed and more specific (*primum cum aqua pluuiali teritur aerugo, postea cetera adiciuntur macerata aqua pluuiali et tum collyria finguntur*). Elsewhere, processes are explained: Scribonius' instruction to shave and rub the head in **10** is turned into a causal clause in 1.10 – the head is to be shaved <u>because</u> this makes it easier to rub it (*adtonderi pressius et adradi prodest, ut possit diutius fricari*).

2. **Additional comments are not only made to aid the overall comprehension of the recipe, but also to provide further details not included by Scribonius**: 1.2 = **2** provides a Latin synonym name for *polygonos* (*quae Latine sanguinaria dicitur*), whereas Scribonius much later mentions the plant's Greek etymology, but no Latin name (**46** *herbam, quae, quia multa est et ubique nascitur,* polygonos *appelatur*); 1.8 = **8** specifies what should flow from the nostrils, which includes blood as well as the *umor* implied by Scribonius (*cum satis visum fuerit fluxisse umoris aut sanguinis*). The remedy in 1.2 = **2** is to be applied in a lukewarm state *(capiti tepide infusa),* while that in 8.120 = **37** is to be applied with a probe (*per specillum adponitur*) and rubbed in the eye (*suffricatur curiose in oculo*) – Scribonius only specifies thorough application (*suffricatur curiose*). Remedy preparation in 8.69 = **32** is to be quick (*collyria statim inde finguntur, ne confectio dilata uanescat),* similar to Scribonius' advice in **22** (*ut quam primum, id est, si potest fieri, eodem die fingantur collyria: solet enim diu neglectum mortario inacescere*), while 8.117 = **26** adds that the remedy should be dried in the shade (*confestim collyria finguntur atque in umbra siccantur*), an approach not taken in conjunction with *collyria* by Scribonius, and refers to soft bodies rather than bodies in general (*etiam in corporibus tenerioribus aspritudinem facit* rather than *aut in corporibus...aspritudinem*). For the colic-remedy of Cassius (29.5 = **120**), Marcellus

also records modifications to the recipe made by Acilius Hyginus of Kappadokia (20–55 CE, cf. Keyser 2012a), an addition which also falls into **4.** below.

3. **Measurements are at times altered**, both increasing and decreasing the amounts given by Scribonius, and at times adding specificity: e.g. in 1.1 = **1**, 1 ounce (1/12 pound) of wild thyme (*serpyllum*) and 2 ounces (1/6 pound) of rose instead of ¼ pound each (= both decreased); 1.8 = **8**, using two drachms each of cyclamen sap and stavesacre instead of Scribonius' single drachm (= both increased); 8.4 = **23**, 20 instead of 12 drachms of "cooked" antimony and 3 instead of 4 drachms of saffron; 8.72 = **35**, 1/2 pound instead of 1 pound verdigris, and I pound rather than ¼ for gum (= one in-, the other decreased). Elsewhere, measurements are retained, but expressed differently: 8.117 = **26** both use 2 ½ drachms of haematite, but given as Ж II S and Ж p. II *et victoriati*, respectively. At other times, quantities are specified where Scribonius is less specific, e.g. 1.2 = **2** *rosaque duplici mensura simbla aceti commixta* for Scribonius' *rosaque folia residuo aceto commixta*, or 1.3 = **3** *rosa admixta dupliciter* instead of *rosa admixta;* 1.4 = **4** differs not only in weights (*crocomagmatis uncia* I instead of *pondo sextans*), but also specifies both sharp (*acri aceto*) rather than generic vinegar and gives weights for *rosa* (*duplicis ponderis*).

4. **Ingredients or other content are at times omitted, added, or changed,** as the previous example shows, where rose [oil] are substituted for rose petals; 8.6 = **27**, *cadmiae lotae* instead of plain *cadmiae;* and 8.72 = **35** requires a particularly good quality of gum ammoniac (*quae sit sine sorde*), while 1.3 = **3** reads *sabuci* (*sambucus* – elder) instead of *sampsuci* (sweet marjoram), although admittedly this may be an error introduced by the manuscript tradition or recipe transmission rather than deliberate. Elsewhere (29.5 = **120**), Acilius Hyginus' substantial modification of Cassius' colic remedy is recorded, which includes the addition of equal weights of cassia, celery, cinnamon, the replacement of black pepper with white pepper, and the reduction of the amount of castoreum by 1/3 *victoriatus* (*in hac conpositione Acilius Hyginus Cappadox chirurgus Romae dicit adiecta cassiae fistulae, apii, cinnami paria pondera et pro pipere nigro album et castorei minus partem tertiam uictoriati*). At times, the modification of individual terms even changes the approach in a subtle way: in 8.1 = **20** Marcellus writes *uinumque post balineum ita ut adsuetus est sumat*, making the patient the active participant, while in Scribonius' version (*vinoque uti, ut quisque adsuetus est*), it is the doctor who is getting the passive patient to consume (cf. in the same recipe *et uinum bibere* instead of Scribonius' *vinum dare eodem modo*).

A chapter which exemplifies the way in which Marcellus engages with Scribonius is 8.71 = **34**:

Table 4-2 Marcellus 8.71 and Scribonius 34 in direct comparison

Marcellus 8.71 (ed. Nidermann and Liechtenhan 1968)	**Scribonius 34 (ed. Sconocchia, 1983/2020)**
Collyrium, quod stacton vocant Graeci, ad eadem fere, quae supra scripta sunt, utile, sed magis mulieribus prodest. Accipit haec: Cadmiae ℈ II, stibii ℈ VI, piperis albi ℈ II, aeruginis et misui, donec pumiceum fiat, rasi ℈ singulos semis, aeris floris ℈ I S, gummis ℈ V; quidam his addunt opobalsami ℈ II. Trita haec diligenter pluviali aqua asperguntur et in collyriis colliguntur.	*Stacton quod vocant ad eadem, fere autem magis mulieribus prodest. habet haec: cadmiae ℥ p. XII, stibis ℥ p. VI, piperis albi ℥ p. II, misys | misyos* **[S2]** *usti, donec pumiceum fiat, ℥ p. II, aeruginis rasae ℥ p. I et victoriati, aeris floris idem, commis ℥ p. V; aqua pluviali teritur.*

Marcellus specifies that it is the Greeks (rather than Scribonius' more general "they") who call this remedy *stacton* (*collyrium, quod stacton uocant Graeci*), and adds *quae supra scripta sunt* when specifying that it works for the same ailments. He uses 2 rather than 12 drachmae of *cadmia*, and ½ drachma rather than I ℥ and a *victoriatus* of verdigris is used. The weight of *aeris flos* is the same but expressed differently – Marcellus gives ℥ I S instead of *idem* [= ℥ I *et victoriatus*], which both works out at 1 ½ drachm. The preparation instructions are slightly more extensive, specifying that it needs to be sprinkled and thoroughly ground with rainwater and formed into *collyria* (*trita haec diligenter pluuiali aqua asperguntur et in collyriis colliguntur*). Finally, a note is added that some modify the recipe by adding 2 drachms of opobalsamum (*quidam his addunt opobalsami*). Thus, while it is true that Marcellus copies much of the *Compositiones* verbatim, and often only makes minor changes in orthography, order of ingredients, or word choice, these examples illustrate that Marcellus adapted Scribonius to clarify some sections, omit – but often also expand – others, and modify recipes as required to suit fourth century medical practice.

As these different aspects illustrate, Marcellus' approach to Scribonius' work is complex: copying large amounts, including the preface, but making no reference to him and attributing the *epistula dedicatoria* to Celsus instead; critically excerpting specific sections and omitting others, while at times copying Scribonius' comments on recipe reproduction verbatim[243] and reintroducing those "things which fall outside the profession of medicine" (**17**) or constitute a *superstitio*, like the prohibition of wearing iron rings (**152**). Marcellus' extensive use of Scribonius demonstrates that

[243] Noteworthy is the inclusion, with only small orthographical or grammatical changes, of Scribonius' statement on his compilation strategy (**38** = Marc. 8.17) which is written in the first person and refers heavily to his own experience and testing of drugs. One might even briefly wonder where an authentic recipe starts, and if Scribonius, lofty ideals and claims aside, likewise copied sections with little or no modification.

the *Compositiones* were both available and had sufficient authority/relevance to be substantially excerpted alongside e.g. Pliny (in condensed form), in the fourth century Roman Empire, including Gaul. In addition to its value for textual criticism and as evidence for a distinct Gaulish terminology of plants and medical matters, the *De Medicamentis* and its use of Scribonius' *Compositiones* provides a case study for the engagement of fourth century authors in places such as Burgundy with the medical literature of the early imperial period, and its adaptation to suit local needs, pharmacological knowledge, and approaches to healing.

4.1.3 Medieval *Rezeptliteratur*

Scribonius' practice-oriented and theory-slim approach fits well with the early medieval medical approach, and the recipes lend themselves to inclusion in e.g. monastic manuals due to their relatively concise and easy-to-follow Latin descriptions. The seven medieval manuscripts and/or works which contain excerpts or adaptations from the *Compositiones* identified so far range from the eighth to the fourteenth century, with ninth and eleventh century MSS featuring more prominently than that of the remaining centuries (3-4 ninth; 3 eleventh; 1 eighth, fourteenth; 0-1 tenth, twelfth, thirteenth).[244] The range of manuscripts and chapters excerpted illustrate that, as in Galen's and especially Marcellus' time, the *Compositiones*' content reflected the medical needs and interests of subsequent centuries. The reception of Scribonius in this diverse range of sources ranges from loose adaptation of individual recipes to excerption of entire sequences. Manuscripts focus on different Scribonian content: for example, the late eleventh century **W** excerpts not only several of the surgical recipes, as well as some of the *capite ad calcem* recipes, but also the section on recognising and treating various poisons (*mala medicamenta*, **179**–**200**). The latter is also excerpted in the mid-fourteenth Century Anconitanus 35,[245] and selected plasters and other surgical recipes are found in six manuscripts ranging from the eighth to the thirteenth Century (*Cod. Bamb. Med.* 2, **Amb**, **Ca**, **C**, **W**, **B**). While the excerpted chapters vary overall, several sections are excerpted time and again, including the Holy Antidote from the *capite ad calcem* section (**97**–**107**), found in seven of the discussed nine manuscripts and covering a timeframe from the eighth to the thirteenth century, as Table 4-2 shows.[246]

[244] The numbers reflect that some manuscripts cannot be dated exactly. Key discussions of the medieval reception include Fischer and Sconocchia (2008) and Fischer (2010).
[245] The former also includes **200**, formally the final of the "toxicological" chapters (*ad suspicionem mali medicamenti*), a general response to harmful remedies. In Anconitanus 35, Scribonius' addendum on the unity of medicine and the content of the remainder of the *Compositiones* is omitted and the excerpt ends after *antidota sumere* (*antidotos sumere* in Scribonius).
[246] The antidote is additionally included in the *Antidotarius magnus* (eleven to twelfth century, see Sconocchia 1995: 279–282 on this and other inclusions; cf. Jouanna-Bouchet's note on Scribonius and *antidotaria*, 2016: CXXVI). Its reception has been discussed by Sconocchia (2010), Jouanna-Bouchet (2016), and more generally in the context of Apuleius' "holy potion" by Mudry (1992).

Table 4-3 The *Antidotos Hiera Paccii Antiochii* as identified by different scholars (S = Sconocchia, J-B = Jouanna-Bouchet) in seven manuscripts, eighth – thirteenth century

Manuscript and location of Scribonius excerpts	**Dating**	**Chapters**	**Edited/Discussed**
Bodmerianus 84ff. [**C**], 43^{r}–49^{v}	9th C.	**97–102, 104–107** (J-B)	Mazzini 1983[247]
Lorscher Arzneibuch (Bambergensis Medicinalis I) [**B**], 23^{r}, 64^{v}–65^{r}, 67^{v}, 71^{r}–71^{v}	Late 8th C.	**97–107** (S); **101–104, 106** (J-B)	Ed. Stoll 1992;[248] cf. Fischer 2010: 148, 150; Stoll 1992: 21–22
Ambrosianus M sup. 19 [**Amb**], 49^{v}–52^{r}, 68^{r}–69^{r}	12th or 13th C.	**97–107**	Sconocchia 1995
Casinensis 69 [**Ca**], p. 304a–307a, 427a–439b, 416a–422b, 348a–b	9th C.	**97–107** (S), **101–107** (J-B)	Sconocchia 1995; Fischer 2010
Vindocinensis 109 [**W**], 107va–107^{vb}, 112va–112^{vb}, 113^{rb}–113^{vb}, 92^{vb}–94ra, 122^{vb}–126ra	Late 11th C.	**98–101, 103, 106–107**	Fischer 2010; Fischer and Sconocchia 2008
Sangallensis 751 [**G**], pp. 25–260, 277–278, 282–290	Late 9th C.	**97–107** (J-B)	Fischer and Sconocchia 2008
Vindocinensis 175 [**V**], 109^{v}, 110^{r}–110^{v}, 117^{v}–119^{r}	Late 11th C.	**97**(2nd half)–**102** (first half), **103–107**(first half)	Cf. Fischer 2010; Fischer and Sconocchia 2008

Like Galen and Marcellus, different compilers take varying approaches to excerpting and adapting Scribonius' recipes: the ten chapters of the Holy Antidote, which in the *Compositiones* provides context and indication for eight chapters before the two versions of the recipe itself in **106**–**107**, is transmitted much more to the point: **B, C**, and **Amb** all begin with the recipe, and then provide a more or less condensed list of further indications. The version from the *Lorscher Arzneibuch* (**B**) is given in Table 4-3 to illustrate one example of this approach:

Table 4-4 Adaptation of the Holy Antidote of Pacchius Antiochus (*Comp.* 97–107) in the *Lorscher Arzneibuch* (B)

***Lorscher Arzneibuch* 5.3 (ed. Stoll)**	***Compositiones* 106 (ed. Sconocchia)**
ANTIDOTUS IERA Recipit haec: Marrubii, camedriae, agarizi et colocyntidae dg denas, opopanaci, sagapino, petrosilino, terrae mali, piperis, folii et croci dg quaternas. Simul omnia ponderata ac tusa cribrantur praeter opopanicem et sagapinum; haec enim in mortario teruntur adiecto melle tenui quam liquidissimo; deinde ceteris miscentur, quae et ipsa accipere debent tantum mellis quantum ad ea conprehenda et contidenda sufficiat. Reponitur in uase uitreo, datur secundum uires	*recipit autem haec: stycadis, **marrubii, chamaedryos**, quae herba similia quercus folia habet, **agarici**, cucurbitulae silvestris, quam **colocynthidam** appellant, singulorum **ℋ p. X, opopanacis, sagapeni, petroselini, terrae mali, piperis** albi, singulorum X p. V, cinnami, nardi spicae, myrrhae, **folii, croci**, singulorum **ℋ p. IIII**. in unum omnia ponderata contunduntur et cribrantur, praeter opopanacem et sagapenon: haec enim mortario teruntur adiecto melle tenui, id est quam liquidissimo;*

[247] Manuscript available online: http://www.e-codices.unifr.ch/en/fmb/cb-0084/46r/0/Sequence-833
[248] Manuscript available online: http://www.nbn-resolving.de/urn:nbn:de:bvb:22-dtl-0000003730

id est ad podagram; nam et in praesenti leuat et in futurum omni molestia liberat.	*deinde ceteris miscentur, quae et ipsa recipere debent tantum mellis, quantum satis erit ad comprehendenda et continenda ea. reponitur medicamentum vaso vitreo. datur, ut supra diximus, ad cuiusque vires et est prorsus sacrum, ut auctor huius nominis appellat.*

The recipe is presented in a condensed form which omits the explanatory comments on the leaf shape of *chamaedryos* and the alternative name of *cucurbitula silvestris* for colocynth. While its eleven ingredients overlap with those of Scribonius (marked bold in the text of **106**), the latter adds French lavender, cinnamon, spikenard, and myrrh, and specifies white pepper. Quantities overlap for six of the substances, but the *Lorscher Arzneibuch* asks for 4 instead of Scribonius' 5 drachms of all-heal gum, sagapenum, parsley, birthwort, and pepper.[249] A key difference is the organisation of the section in terms of recipe and indications: 5.3 begins with the recipe and condenses Scribonius' preceding nine chapters of indications and administration methods (**97**–**105**) into a single long paragraph of just under 200 words, compared to the nearly 1000 words (just over five pages in the Teubner edition, albeit incl. app. crit.) before adding a different and unrelated recipe (*Antidotum eia,* p. 136 in the PDF version of the *Arzneibuch*). By contrast, in **C** the *antidotus* likewise begins with the recipe itself, followed by a list of the various indications, and overall reproduces Scribonius' texts very closely aside from omitting the introductory section on Paccius' secrecy, whereas in **Amb** the recipe is closer in structure to that of the *Lorscher Arzneibuch* but concludes with a comment on podagra, illustrating the different styles of adaptation employed by different compilers and/or the different versions of Scribonius' recipes in circulation at the time.[250]

A brief local note: a recipe attributed to a "Largus" is found in the Glasgow Antidotarium (Codex Hunterian 94), dated to the eighth or ninth century. The *antidotarium*, which like Marcellus' compilation contains both quantitative recipes and remedies from folk medicine,[251] is discussed and edited by Sigerist (1923: 99–160) and described by Young and Aitken (1908: 103–105).[252] The recipe in question, found on 164^{v} (p. 142 Sigerist), has the title *Medicamen quod dicitur gallieni, tribuni* ***largi,*** *cesaris adriani, quod accepit thifon he dictas condiui uirtutes.* A different remedy called *Galieni* (*Antidotum siue pul<uer>, que dicitur Galieni*, 76^{v}, p. 74 Sigerist) is found in the

[249] As the following line lists 4 drachms of "leaf" and saffron, this could be due to a scribal oversight.
[250] For comparison to previous adaptations: Marcellus 20.1–14 meanwhile follows Scribonius' structure, beginning with **97** on the difficulties of obtaining the recipe, and listing the various indications before concluding with the two recipe variants in 20.13–14; the recipes generally overlap, but Marcellus omits *stoechas* and has *(Cha)macropis* instead of *chamaedryos*.
[251] Thus Sigerist's summary (1923: 99) of several "scientific recipes" as well as "simple and superstitious folk remedies" ("Neben einer ganzen Reihe wissenschaftlicher Rezepte finden sich zahlreiche einfache und abergläubische Volksmittel").
[252] For the catalogue description, see: http://collections.gla.ac.uk/#/details/ecatalogue/296466 [Accessed 27/02/2020]

Berliner Antidotarium (Codex Philippicus 1790 37r–39r, 70v–77v, ninth/tenth century), but without connection to any individual, while the reference to *thifon/thifon he* recalls Scribonius' eight remedies attributed to the surgeon Tryphon (**175, 201, 203, 205, 210, 231, 240, 241**). However, as Jouanna-Bouchet shows (2016: LI–LII), the recipe, while using similar ingredients to Scribonius' plaster recipe **206**, does not correspond to the text of the *Compositiones*,[253] nor is there any resemblance between the single antidote attributed to Tryphon (**175**) and the recipe other than the inclusion of *sal ammoniacum*, wax, and oil.[254] Sigerist (1923: 170, 185–6) lists Scribonius among the sources for the recipes in the edited *antidotaria*, and the eleventh century *Cambridge Antidotarium* (Codex (1567) G. g. V. 35, 427v–431v) certainly includes a *sternutum* to clear the head (427v, p. 160 Sigerist) corresponding to the compound producing the *sternutamentum* in *Comp.* **10** (with the addition of *nitrum*). However, there is the possibility that the recipe is simply attributed to a tribune of the name Largus (a not uncommon cognomen – Kind's RE entry on Scribonius is only in fifteenth place after several more eminent Largi), associated with Hadrian (*cesaris adriani*) rather than Claudius (although it might be the remedy which is associated with him), and does not refer to the physician of the same name.

While relatively condensed, the medieval reception of Scribonius illustrates the relevance of ancient pharmacy for both early and later medieval medical practice. The *Compositiones* may be much more humble than the extensive opus of Galen, or the detailed and erudite commentaries of Arabic and Syriac scholars, but Scribonius' practice-oriented, theory-sparse work clearly resonated well with strands of (particularly early) medieval medicine. As the selective inclusion and adaptation of a diverse range of recipes illustrates, the interaction between early medieval medical practice and ancient pharmacy is not only one of copying, but also involves critical engagement and at times substantial adaptation and restructuring. The different strategies of reworking the *Antidotos hiera* in particular shows that, much as Scribonius' work is more user-friendly than that of Galen (not the least because it is in Latin), the lengthy catalogue of details and indications which precedes the recipe was not quite as concise and suitable for practical needs as medieval compilers would have liked. While it is a relatively small sample, the early medieval reception of Scribonius provides an example for this complex, nuanced approach of scribes and practitioners of this period to the

[253] While there is some overlap between the ingredients, the resemblance is rather limited: the recipe is more complex than that of Scribonius, is attributed to Tryphon and not Glycon, and does not cover the post-surgical treatment which makes this recipe stand out in the *Compositiones*. It also references migraines, and the wide range of applications is more reminiscent of the *Holy Antidote* than of any of the plasters. A more detailed analysis would be beneficial.
[254] However, the latter two are generic where Scribonius requires specific types (Pontic, old), and the former has or at least might have changed to mean a different substance by this time (cf. note **45, 30.4**–**5** ***salis ammoniaci***).

medical works of Greco-Roman antiquity, and their incorporation into contemporary literature and practice.[255]

[255] On the unfounded maligning of medieval, and especially early medieval medicine, see Horden's (2011) summary and defence of the field and van Arsdall's (2002: 35–67) analysis of the detrimental impact Cockayne's 1864–6 work and views have had on the reputation of Anglo-Saxon medical works.

4.2 A Pox Treatise, a Theriac Vase, and a Tale of Two Commentaries: Summarising Scribonius' early reception

As the relative popularity of individual multi-purpose "antidotes" and the sparse excerpts from the *mala medicamenta* show, interest in Scribonius' toxicological content has been mixed. Two final cases of the section's afterlife (one from each subsection) appear in somewhat unexpected places: an early sixteenth century pox treatise,[256] which reproduces the *mala medicamenta* (almost) completely, and a seventeenth century metal container for theriac with an engraved image of Scribonius.

4.2.1 The Book on the French Disease (*Liber de morbo gallico*, 1535)

Among the extensive range of Medical Humanities sources held in University of Glasgow Library and Special Collections is the "Syphilis Collection", covering fifteenth to nineteenth century sources on venereal disease.[257] These include the *Liber de morbo gallico,* a 1535 "Book on the French/Gallic Disease" (Sp Coll Ferguson Af-b.51, item 2)[258] which compiles several pox treatises published between 1497 and 1533, predominantly in Italy (a 1519 treatise from Mainz and a 1532 work from Basel are also included). Among various treatises of more diagnostic or clinical relevance, on pp. 275–282[259] one unexpectedly finds Scribonius' *mala medicamenta,* placed between Lorenz Fries' *Epitome opusculi de curantis pustulis, vlceribus, & doloribus mali Fra[n]tzoss* (Basel, 1532) and the *Libellus de morbo Gallico qui ita perfecte eradicare ipsum ostendit...* of Juan Almenar (Venice, 1502). Only chapters **179**–**199** are included (both the introductory chapter **178** and the final general chapter **200** are omitted), and, as already noted by Schonack (1912: 79) as well as above (2.4.3), the end of 1**99** (*ad irudinem*) is missing and the recipe is declared *FINIS* after *quam plurimum devoratae,* without the following emphatic condemnation of poisons and their distributors. As the chapters retain their titles (a functional description *ad cicutam*, *ad opium,* etc.), Schonack (1912: 79) may mean that they lack a reference to the respective numbers in Scribonius when stating that they are listed "without title descriptions" (*ohne Titelbezeichnungen*). The entries are introduced by the following paragraph on p. 275:

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[256] Given the complexity of early modern venereal disease terminology, I used the term 'pox' rather than syphilis; I am grateful to Dr Mona Ní Bhriain and Dr Francis Osis for introducing me to this issue.
[257] Catalogue available from https://www.gla.ac.uk/myglasgow/specialcollections/collectionsa-z/syphiliscollection/
[258] *Liber de morbo Gallico in quo diuersi celeberrimi in tali materia scribentes, medicine contine[n]tur auctores videlicet* (Venice: Ioannes Patauinus & Venturini de Ruffinelli, 1535) = *Collectio veneta II* (designation Proksch, v. 1, p. 1). Bound together with Nicolai Poll's *De cura morbi Gallici per lignum guaycanum libellus* (Venice, 1535) = Proksch v. 3, p. 543, Sp Coll Ferguson Af-b.51 item 1.
[259] Based on the item description; there are no page numbers in the book. The equivalent numbers in the digitised PDF are pp. 278–286 (https://archive.org/details/liberdemorbogall00unkn/page/n277/mode/2up).

> *LECTORI S<ALUTEM>.*
> *Ne subsequentes inutiliter vacarent chartae, adiecimus quoque istis pharmacis antidota, quibus curantur qui malam potionem (vnde graues saepe oriuntur infirmitates) sumpserint, ex Scribonio Largio,* ***qui inter medicos veteres non minimum locum possidet.***
>
> Greetings to the Reader.
> So that the following pages are not left unused, we will also add remedies (*antidota*) for certain drugs, with which someone who has taken a bad draught (from which serious illness often arises) is cured, from <the work of> Scribonius Larg(i)us, **who occupies not the least place among the ancient doctors.**

The contextualising note gives the impression that Scribonius is simultaneously considered of relatively high rank among the ancient medical authors (*inter medicos veteres* – cf. Scribonius' own *inter maximos quondam habitus medicos Herophilus*, ***praef.* 1**) – perhaps due to his printing alongside other medical authors in the 1547 Aldina edition (*Medici antiqui omnes...*), and as the sort of author suitable to fill a space that would otherwise be left empty. Additionally, the recognition and treatment of such matters "from which serious illness often arises" seems to have resonated with the compiler of the Pox treatises, a useful addition to make the work more comprehensive in its coverage of illness, in a similar way in which the holy antidote was included in recipe compilations that were not *Antidotaria*.

4.2.2 Theriac Vase

A similar high-ranking position is granted to Scribonius on an example of medical material culture: the top of a seventeenth century theriac vase features the only known depiction of Scribonius[260] among the decorative illustrations of eight historical physicians. The large tin container (90 cm in height and with a capacity of 45 L), from the region of Languedoc and dated to 1624, is now housed in the Musée Paul-Dupuy (Toulouse) as part of the display of the historic Apothicairerie du Collège des Jésuites.[261] Intriguingly, Scribonius, depicted as a bearded individual wearing an anachronistic hat and robe and holding a scroll, is in the company of some generally much better-known physicians: Hippocrates, Galen, Abū ʿAlī al-Ḥusain bin ʿAbd Allāh ibn Sīnā (Avicenna), Celsus,

[260] i.e. a seventeenth century idea of Scribonius' appearance and not a portrait from life. The existence of the image has been known since at least the nineteenth century (Bonnet 1897–1898, with a photo of the vase facing page 610, available here https://archive.org/details/janus09wiskgoog/page/n649/mode/2up; Schonack 1912: 23).
[261] A more recent image of the vase including description can be found on the museum website https://www.ampdupuy.fr/collection-portfolio/pot-a-theriaque/?portfolioCats=40. In context, it can be seen e.g. on the image by Descouens (2018) uploaded to wikimedia commons (CC BY-SA 4.0 license), https://commons.wikimedia.org/wiki/File:Le_Mus%C3%A9e_Paul_Dupuy_-_Apothicairerie_du_Coll%C3%A8ge_des_J%C3%A9suite_de_Toulouse.jpg [both links functioning 26/03/2020]. Scribonius' image, which faces towards the back of the vase, can be seen in the close-up images in Jouanna-Bouchet (2000: 65–66).

Andromachus the Elder, Paul of Aegina, and ʻAlī ibn al-ʻAbbās al-Maǧūsī (Haly Abbas). The inclusion of some of the key figures of medical history – Hippocrates, Galen, and Avicenna – is unsurprising, as is that of Andromachus the Elder, whose theriac version the vase contained (*Theriaca Andromachi Senioris*). Paul of Aegina was a further important figure for particularly medieval medicine, especially for the Arabic and Syriac medical traditions, and influenced, among others, Ibn Sīnā and Haly Abbas (Pormann, 2012: 629). Similarly, the *Kāmil al-ṣinā'ah al-ṭibbīyah or Kitāb al- al-Malakī* (*Complete Book of Medicine* or *Royal Book*) of Haly Abbas, translated by Stephen of Antioch as *Liber regalis* and, partially, by Constantinus Africanus as the *Pantegni*, was one of the key medical texts of the medieval period, and in the latter version/translation formed part of the curriculum at the famous school of Salerno.[262] It also contains a theriac (cf. Micheau 2010), unlike Celsus' work, but then it should be recalled that the *De medicina* was the first medical text to be printed (*Cornelii Celsi de medicina liber*, Florence: Nicolaus [Laurentii], 1478, cf. Donaldson 2014a, 2014b) and as, Langslow (2012) points out, Celsus' general influence tends to be underestimated. Scribonius, however, is an unexpected addition to this illustrious group, even if the *Compositiones* contain three recipes for theriac (**165, 166, 167**; only **165** and the beginning of **166** survive); compared with the 64 ingredients of Andromachus'[263] theriac, specifically for viper bite and named Γαλήνη (Androm. apud Gal. 14.32–45 K = Gal. *Antid.* 1.6–7), Scribonius' first theriac (*theriace prima*) is relatively modest with its 16 ingredients.

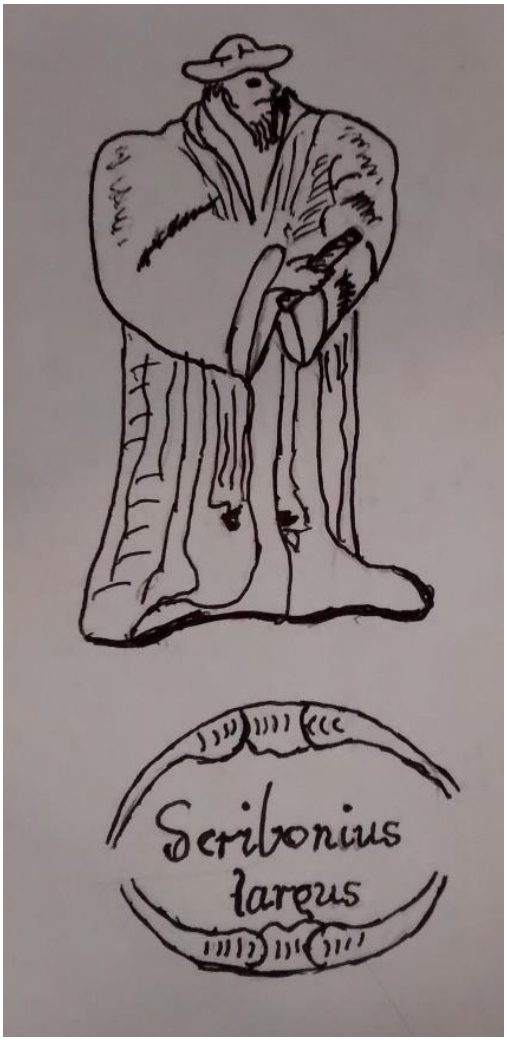

Figure 4-1 Line-drawing of engraved Scribonius image.
Based on a photograph by Jouanna-Bouchet (2000: 66), included in her thesis.

The vase is an intriguing example of the material culture of pharmacy (and artisanal skill), illustrating the reception of ancient and medieval medicine/medical authority as represented by Latin (Scribonius, Celsus), Greek (Galen, Andromachus, Paul of Aegina) and Arabic (Avicenna, Haly Abbas) physicians. The compound pox treatise, while a

[262] See e.g. Conrad (1995: 113-114; 93-125 more generally on the Islamic medical tradition); on the *Kāmil al-ṣinā'ah al-ṭibbīyah*.. and the *Pantegni*, see e.g. the edited volume by Burnett and Jacquart (1994). Monica Green's blog on Constantinus Africanus and related work (https://constantinusafricanus.com/) provides an excellent introduction to various sources, topics, and scholarship in the Islamic and medieval medical traditions.
[263] The Elder as well as the Younger, rendered in verse and prose, respectively; cf. Gal. 14.32, 42 K; Nutton, 2012:181. For the theriac of Andromachus, see Boudon-Millot, 2010).

relatively normal work of its time, similarly surprises by including a section from Scribonius which has nothing to do with either venereal disease or disease in general (although, like the anonymous author of the preface to the section, one could interpret poisons as "something which hastens sickness"). If placed in the context of print editions of Scribonius, which, as the remainder of this chapter will show, can have a direct impact on the reception of the *Compositiones*, it is worth noting that the pox treatise compilation is published relatively soon after Ruellius' 1528 *editio princeps*, while the theriac container predates Rhodius' 1650/1655 edition and belongs to a period with a reasonably large gap between the last Scribonius print edition (Stephanus, 1567). Rhodius' edition, and/or the accompanying commentary, meanwhile, provides both an unprecedented range of interpretations and supplementary materials, and generates an unflattering response which is in itself remarkable in its composition and context.

4.2.3 A Tale of Two Commentaries: Sperling's *Animadversiones* and Rhodius' *Notae*

Johannes Rhodius' edition and commentary was in all likelihood written between 1639 and 1642 (Wuttke 1975: 254), and the initial 1650 print of the edition (*Scribonii Largi de menticmentis quae supersunt omnia, Ioannes Rhodius recensuit notisque illustravit. Accedit eiusdem lexicon Scribonianum*, Padua) was followed by the extensively annotated and expanded work of 1655 (*Scribonii Largi Compositiones medicae. Joannes Rhodius recensuit, notis illustravit, lexicon Scribonianum adjecit*). It is a remarkable work – the text is provided with woodcut initials, the full index, four examples of the Galenic reception (see 4.1.1), and a "*Lexicon Scribonianum*" which functions as a mixture between an index, endnotes, and a very condensed explanatory commentary. In addition, Rhodius provides an introduction about weights, a general introduction, as well as a dedication; a section by Ianus Cornarius on Scribonius and the imperial/medical authorities mentioned in the text is also included. The extensive *Emendationes et notae* cover a good 2/3rds of the 600-odd page book and address not only philology and textual criticism, but also medical and pharmacological aspects; the densely printed text also includes illustrations of coinage, surgical instruments, spas and baths, and similar sights and archaeological sources.

Despite its impressive scope, Rhodius' work has received mixed responses. It is viewed favourably by Schonack (1912: 81), who praises it as "exemplary/a model both with respect to antiquarian-philological as well as medical-pragmatic matters",[264] as well as by Wriedt (1921: 7), while the latter notes that by contrast Kleinert argues "that the future editor of Scribonius Largus could entirely neglect Rhodius' commentary, as it offers nothing new despite its verbosity/expanse".[265] The height of criticism comes from Otto Sperling in the form of his *Animadversiones in Scribonium*

[264] "Ein Muster sowohl in antiquarisch-philologischer, als medizinisch-pragmatischer Hinsicht" (Schonack 1912: 81)
[265] "Dass der zukünftige Herausgeber des Scribonius Largus den Kommentar von Rhode vollkommen vernachlässigen könne, da er trotz seiner Weitschweifigkeit nichts neues biete" (Wriedt 1921: 7, on Kleinert)

et notas Johannis Rhodii, written in 1658/9 (ed. Wuttke 1974) as both a commentary on Scribonius' text and work, and in particular a critique and response to Rhodius' edition and own commentary. Kühn, who published three excerpts in 1825/6,[266] notes Sperling's detailed study of Rhodius and correction of the latter's mistakes[267] with approval and calls him a "most learned man" (*vir eruditissimus*) in the final excerpt (*specimen tertium*).

Examined in conjunction, both commentaries provide an example for the reception of ancient medicine in the period of late humanist scholarship, and for the literary genre of iatrophilology (Wuttke 1975: 254). Like the works of Rinne, Wriedt, and Trilk, as works written by practitioners they provide both historical perspectives on analysing and interpreting the *Compositiones*, and source material for the medical views and practices of the respective time periods.[268] While Rhodius' (and to a lesser extent Sperling's) work has been used for textual criticism, both remain little used for the study and interpretation of Scribonius and his reception, as already noted by Wuttke several decades ago (1975: 254–255).[269] As such, these two examples of historical scholarship remain a source of much research potential for examining the medicine and scholarship of the time, and the analysis and use of the *Compositiones* in the early modern period.

4.3 Early Reception: Summary/Conclusion

As demonstrated by the variety of examples for the *Compositiones*' reception discussed so far, Scribonius addressed several topics of interest to both Greek and later Latin-writing physicians and authors. His inclusion in ancient pharmacological authors, including Galen's testimony of earlier works compiled in the *Comp. med. gen.*, *Comp. med. loc.*, and *Antid.*, as well as Marcellus' *De medicamentis* and medieval texts such as the *Lorscher Arzneibuch*, indicates that the explicitly practical nature of Scribonius seems to have appealed to subsequent authors. While also incorporated into Galen's extensive and often theoretical or philosophical work, the focus on reproducible recipes clearly fit well into the practice- and self-help oriented medical care of the early middle ages and its continuation into the early modern period. While the range of remedies excerpted is broad, the strong interest in specific sections, such as the semi-universal and as such

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[266] K. G. Kühn, *In Scribonium Largum animadversionum Ottonis Sperlingii specimen* (1825), ~*alterum* (1826), ~*tertium* (1826), Leipzig. Included are predominantly some of Sperling's comments on *Comp*. **19-23** [**19-22** in the second *specimen*, **21** cont. and **23** s. in the third], and **1**, **16**, as well as a note critiquing Rhodius poor use of *(inter alia)* Galen testimonies [first *specimen*].

[267] Thus in the introductory remarks to the first specimen: *Multum autem SPERLINGIUS in Io. Rhodii commentario diligentius examinando, et iis, quae minus apte vereque ab illo ad firmata fuerant, emendandis occupatus est.* Consequently, Rinne's note that the printed sample is "full of healthy criticism" (voll gesunder Kritik, 1896: 27 = 1892: 10), which is grammatically ambiguous in its construction and could both refer to Sperling's criticism of Rhodius and Kühn's criticism of the sample, is more likely to be about the critical analysis of Rhodius' work.

[268] In Sperling's case, there is even an element of a "Consolation of Philology" in the spirit of Boethius' *De consolatione philosophiae*, given that he wrote it while imprisoned for spying (Wuttke 1975: 253).

[269] There are of course exceptions, and e.g. Jouanna-Bouchet's commentary also draws on Rhodius' more medico-historical elements, such as the discussion of hot springs (see note **146, 74**. **6**–**9** ***ab aquis calidis...***).

highly versatile antidote of Paccius Antiochus, or the more selective approach to others, such as the toxicological chapters, is particularly notable. The theriac vase provides not only a further example for the interest in versatile drugs with multiple purposes, but also the tradition of anachronistic depictions and associations of remedies with ancient authorities; Scribonius' inclusion among the triad of ancient medical authority (Hippocrates–Galen–Avicenna) and other illustrious names points to a high reputation lost over time, or at least an intriguing familiarity of the artist or commissioner with Scribonius' work. Rhodius' and Sperling's commentaries, aside from illustrating Neo-Latin verbal scholarly sparring, exemplify the nature of Scribonius scholarship written by practitioners of medicine or science – and, indeed, much scholarship on ancient medicine and medical history in general – up to the early twentieth century, which is situated somewhere between medicine and philology, medical practice and medical history.[270] The following final section on the late nineteenth and early twentieth century German language reception illustrate both this tradition and the shift from philological to science/medicine-informed interpretation, well underway by the time.[271]

[270] Cf. Wuttke (1975: 270): "So belegen beide Kommentare die Unzeitgemäßheit des medizinisch-philologischen Kommentars in der Mitte des 17. Jahrhunderts und damit das fortschreitende Auseinanderbrechen des seit je labilen Verhältnisses zwischen Philologie und Medizin" (Both commentaries thus document the outdated nature of the medico-philosophical commentary in the middle of the seventeenth century, and with it the advancing fracturing of the ever fragile relationship between philology and medicine).

[271] The split is also noticeable in the language of writing: while Schonack's two works on Scribonius are entirely in German, both his thesis on Hippocrates and that of Lottritz on Scribonius' language are written in Latin, while the medical and scientific practitioners all analyse Scribonius in German for their own doctorates.

4.4 The nineteenth and early twentieth century German Language Reception

Following Helmreich's Teubner edition of 1887, the *Compositiones* received renewed interest in form of several short monographs and dissertations. While some are of the expected philological nature or otherwise related to classical scholarship,[272] the remaining three studies, all in German and written by scientists and/or practitioners for their doctorates, focus on Scribonius' pharmacology as analysed by Felix Rinne (1892, revised form published 1896), and his dentistry as examined by Walter Wriedt (1921) and Fritz Trilk (1921).[273] These three works are illustrative not only for the reception of Scribonius, but also the history of science, medicine, and dentistry in a late nineteenth/early twentieth century European/Germanic context.[274]

4.4.1 Kobert's *Historische Studien* and Rinne's Pharmacological Commentary

During the mid-to late nineteenth century, the University of Dorpat, now Tartu in Estonia, was one of the main centres of the then-new science of pharmacology.[275] While the use of medicinal substances and the practice of pharmacy has a long history – cf. Scribonius' note on "herbs and their roots" as forming the beginning of medical practice (***praef.* 2**) – pharmacology as a science distinct from *materia medica*, i.e. analysing the chemical and pharmacological properties of drugs, only established itself as a separate scientific discipline in the nineteenth century. The field of organic chemistry, another simultaneously ancient and new discipline, also came into its own in this period; unsurprisingly, the strong connection between the eventual source of sulphonamide

[272] Jourdan (1919a, also published as several articles in the *Revue de philologie, de littérature et d'histoire anciennes* in 1918/9) provides philological comments and textual criticism, Lottritz (1913) analyses Scribonius' language, and Schonack provides a short general study of Scribonius with particular interest in his relationship to Nicander (1912) as well as translating the work into German (1913).

[273] On John's 1945 study on a dermatological topic, likewise for a practitioner's doctorate, see 2.5.3.

[274] A note on availability: of these studies, only Rinne's 1892 dissertation (http://dspace.ut.ee/handle/10062/6061) and Schonack's two works (1912: https://archive.org/details/b24850482; 1913: https://publikationsserver.tu-braunschweig.de/receive/dbbs_mods_00000875). Rinne's revised dissertation with translation is included in Kobert's *Historische Studien*, reprinted in 1968. Among the dissertations, that of Klaus John on dermatology (discussed in 2.5.3) is the rarest, with only two copies found by Worldcat/DibiBib catalogue searches [University Library Bochum, German National Library - Leipzig branch], followed by six copies of Wriedt's study [Staatsbibliothek Berlin, Nationalbibliothek Leibzig, University Libraries Frankfurt, Göttingen, and Kiel, and Center for Research Libraries, Chicago. This research is based on the Staatsbibliothek Berlin's microfiche copy.]. Somewhat surprisingly, Trilk's dissertation, which covers a similar topic but is much shorter than that of Wriedt (or indeed that of Rinne, which yields 11 search results), is found in 14 libraries spanning four countries: Lausanne, Bibl. de l'institut des humanités en médecine, UB Zürich, DNB Leipzig, SBPK Berlin, Charité Medical Library Berlin, UB Frankfurt, UB Mainz, Niedersächs. Staats- und UB Göttingen, UB Freiburg, Sächs. Landes-, Staats- and UB Dresden, UB Leipzig, Johns Hopkins Library Baltimore, Centre for Research Libraries, Chicago. [Rinne: SBPK Berlin, UB/LB Jena, Austrian National Library, University Library Tartu, Center for Research Libraries, Chicago, University of Kansas Archives, University of Texas Medical Branch Library, National Library France, University Library Braunschweig [worldcat, not found through German catalogues], National and University Library Strasbourg, Bavarian State Library Munich.]

[275] On the history of pharmacology and specifically the role of Dorpat, see Kuschinsky (1968); on the university and its pharmacological institute, see Jack (1983) and Pfrepper (2012: 23–37).

antimicrobial drugs and the study of drug chemistry and -action emerges clearly in the cross-references found in Kobert's studies.[276]

From 1886 to 1897, the pharmacological institute of the University of Dorpat, established by Buchheim in 1860 and operating in German until the re-russification of Tartu in the late 1890s, was under the leadership of Rudolf Kobert, an eminent pharmacologist of his time who also had a keen interest in the history of science and medicine.[277] Formally professor of both pharmacology and history of medicine (Professor der Pharmakologie und der Geschichte der Medizin zu Dorpat), Kobert stressed the importance of medical history for modern medicine in his inaugural lecture on Dioscorides' pharmacy (1887b), and the institute's research output included a historical as well as the expected "scientific" series,[278] covering topics from ancient (Babylonian, Greco-Roman) pharmacy to contemporary folk medicine. In this environment and based on Kobert's encouragement and suggestion,[279] the doctor – and, presumably, pharmacologist - Felix Rinne (1867–1899) wrote his 1892 doctoral thesis on "The most important aspects of Scribonius' *Compositiones* from a pharmacological perspective" (*Das vom pharmakologischen Standpunkte aus Wesenlichste aus Scribonii Largi* "Compositiones"), based on his own translation, published revised and with ca. 1/3 of the translation as "The Recipe Book of Scribonius Largus, partially translated into German for the first time and supplied with pharmacological commentary" (*Das Rezeptbuch des Scribonius Largus zum 1. Male theilweise ins Deutsche übersetzt und mit pharmakologischem Commentar versehen*) in volume 5 of Kobert's *Historische Studien* (1896).[280]

Rinne's work is in part translation, in part general study, and in part pharmacological commentary. His translation (pp. 1–26), based on Helmreich's edition (i.e. without the index), includes the preface and the first 79 chapters, ending somewhat arbitrarily in the middle of the throat and chest complaints. Rinne considers this a representative sample – "what has been communicated is sufficient to get to know our author in his peculiarities"[281], but it is not entirely clear whether this

[276] It is noteworthy that to this day, the line between medicinal chemistry and pharmacology is somewhat ambiguous, with university research and teaching conducted in either chemistry or biology departments, and courses being labelled a life science or a science depending more on administrative structure than subject content.
[277] On Kobert, see e.g. the Rudolf-Kobert-Symposium conference proceedings (Universität Rostock, 1992), especially Busch (1992) on Kobert as a medical historian; on Kobert's influence on toxicology, see Tiess (2004).
[278] *Historische Studien aus dem Pharmakologischen Institute der Kaiserlichen Universität Dorpat*, 1889–1896, 5 vols; hereafter (Kobert's) *Historische Studien*.
[279] Thus Rinne's acknowledgements in his thesis, "Kobert, dem ich die Anregung und Anleitung zur vorliegenden Arbeit danke" (Rinne 1892, no page numbering).
[280] Aside from the translation, the two works are at times identical, while differences can include minor, but noticeable rewording and addition of the text: an example are two of the passages discussed below, the reference to the contrary advice of the pharmacologists regarding opium use (Rinne 1896: 65) and the praise of Scribonius as an "extremely interesting author" (ein hochinteressanter Schriftsteller; 1896: 99), which do not appear in the earlier work's respective sections. More substantial is the restructuring of the work's end: where poisons are addressed in an appendix to the thesis, the published version expands and reworks this section into the final part of the work; instead, the thesis concludes with six postulates omitted from the revision, see below. Kobert's preface to this volume of the *Historische Studien* also includes some mostly minor corrections (1896: V). The focus will be mainly on this revised version.
[281] "da das Mitgetheilte genügt um unsern Autor in seiner Eigenart kennen zu lernen" (Rinne 1896: 26)

was ultimately his or Kobert's choice. Kobert's preface mentions that Rinne translated the entirety of the *Compositiones*, but that he decided to only publish a sample and would gradually publish the rest following reviews and critical notes;[282] Rinne's own comments on the matter indicate a hesitant willingness to publish more, again depending on the reception.[283] The publication never occurred, probably not as a result of unfavourable reviews but because Kobert had to leave his post in Dorpat shortly after the publication and there were no further volumes of the *Historische Studien*,[284] and because of Rinne's early death.[285] Later critical voices include Schonack (1912: 83–84), who takes issue with some scholars' erroneous reports that Rinne's translation covers the entirety of the text (thus Pagel 1898: 106,[286] Schelenz 1904: 165), overall disapproves of Rinne's "deliberately literal translation sample" (absichtlich wörtliche Übersetzungsprobe; Rinne, 1896: 26), and notes that he has identified a variety of mistakes, inaccuracies, and gaps, such as Rinne's omission of **49**, which he intends to publish as part of a more thorough critique (like his announced studies on Nikander, these *Fercula Scriboniana* never appeared). Wriedt similarly finds critical words, particularly in the context of Rinne's translation of the preface, and expresses his disagreement with Rinne's translation, although often in a relatively benign manner.[287] While some criticism is justified, Schonack in particular is perhaps unduly harsh – Rinne's translation has its flaws, but then so does Schonack's, and both are perfectly useable, if outdated and at times erroneous, translation of a text which is admittedly often "extraordinarily difficult" (ausserordentlich schwer), as Kobert (1896: V) explicitly notes in defence and recognition of Rinne: "Auf den ersten Blick sieht nämlich dieser Text viel leichter verständlich aus, als er es in Wahrheit ist" (For at first sight the text appears much more easily understandable than it actually is).[288] One may also wonder whether Schonack's

[282] "Es möge hier verrathen warden, dass der Uebersetzer den ganzen Schriftsteller ins Deutsche übertragen hat, dass der Herausgeber jedoch es für richtiger hielt, das Ganze erst, nachdem die Kritik sich über die Probe ausgesprochen hat, gelegentlich auf den Markt zu bringen." (Kobert 1896: V)

[283] In this he rather humbly draws attention to potential shortcomings – "as soon as the critics will have expressed themselves about its probably not scarce mistake, I am potentially willing to publish the rest" (Sobald die Kritik sich über die vermuthlich nicht spärlichen Fehler derselben wird ausgesprochen haben, bin ich eventuell bereit, auch den Rest zu veröffentlichen, 1896: 27).

[284] As a result of the russification of Dorpat in the 1880s which, together with its renaming to Iur'ev/Yuryev/Jurjew University (Юрьевский университет), established Russian (instead of German) as the language of instruction at the university, Kobert had to leave the university and took up a post in Germany (Pfrepper 2012: 33–34; Haltzer 1981: 174–178 on the russification of the university more generally).

[285] Rinne died of a heart condition at the young age of just under 32 years (31 11/12 years, the death record notes precisely) in Võnnu/Wendau and was buried in Dorpat on the tenth of August 1899. National Archives of Estonia, Lutheran Church Records, Võru county, Võnnu Parish, German congregation birth lists (1847–1940), EAA.3172.1.89, p.83.

[286] This is corrected in the second edition of Pagel's work (1915, ed. K. Sudhoff) which clarifies that Rinne's translation was partial and includes reference to Schonack's complete translation and study (Pagel and Sudhoff, 1915: 104).

[287] E.g. "…are we here and in other cases not always of the same opinion as he" (…sind wir hier und in anderen Fällen mit ihm nicht immer einen Sinns; 1921: 24).

[288] Rinne acknowledges help from a Prof. Mendelssohn "with translation of translating passages difficult to understand for the physician" (bei Uebersetzung der dem Mediciner schwer verständlichen Stellen, 1896: 99), indicating a similar awareness of the philological challenges of the text. Ludwig Mendelssohn (1852–1896) was professor of classics at the University of Dorpat from 1876 until his death. His work includes critical editions of Appian's and Zosimos' histories,

misgivings are not more due to the fact that Rinne is not writing as a philologist for philologists and as such takes a different approach to translation, rather than any inherent major flaws in his translation.[289]

Rinne translates Scribonius less to provide a translation of Scribonius (which is part of Schonack's aim) and more for practical reasons – he considers a translation to be a requirement for conducting a study, and in the absence of a translation he decided to produce his own (Rinne 1896: 27), a very different approach from e.g. Schonack's 1912 study. The focus is on the work's pharmacological aspects: a brief introduction outlines the different remedy forms (external, internal, pills, plasters, decoctions etc.) used by Scribonius (pp. 26-37), followed by a discussion of the identity and pharmacology of a large proportion of Scribonius' ingredients – around 242 vegetable (pp. 38–77), 36 mineral (pp. 77–87), and 27 animal remedies (pp. 87–95), with multiple ingredients discussed in some entries. He concludes with comments on eight of the poisons mentioned by Scribonius (aconite, henbane, cantharides, hemlock, poisonous mushrooms, gypsum, lead, and opium, pp. 96-99). Rinne's commentary balances contemporary pharmacological and medical views with classical sources supplemented by scholarship on medical history as well as on the classical texts, a hybrid approach which is also illustrated by the six postulates (*Thesen*) on the last page of the doctoral study (1892: 167), of which only three seem to relate to the *Compositiones*, and only one explicitly so:

1. "The first historical data which refers to opium preparation is found in Scribonius Largus" (Die ersten historischen Daten, welche auf die Opiumgewinnung Bezug nehmen, finden sich bei Scribonius Largus): in reference to Scribonius' description of genuine vs. low quality opium in **22** (see note **22, 22.16**–**19 *opium*...**), discussed by Rinne alongside other descriptions in ancient writers on pp. 68–71.

2. "Lincti are a rational [scientifically proven to be effective] drug form" (Die Lecksäfte sind eine rationelle Arzeneiform): a *Lecksaft* (lit. "licking-syrup" or -juice) or Linctus is a slightly thinner remedy of the consistency of a syrup (Vogt, 1829: 129–130); while the term is otherwise not mentioned in Rinne's text, this is likely to be in reference to Scribonius' use

as well as some of Cicero's letters). He is mentioned, but has no entry of his own, in the New Pauly's *History of Classical Scholarship: A Biographical Dictionary* (Supplement 1, vol. 6); a very brief biographical note is included in Glucker (1986, reprinted 2020: 363).

[289] It is worth pointing out that Schonack's own translation, which is similarly outdated but not majorly flawed, was not received without criticism by contemporaries: Kind's virtually entirely critical review of Schonack's critical study (1913) also finds fault with translated passages included in this work. By contrast, Giarranto (1915: 124) considers it to be accurate ("l'interpretazione dell' A. è sempre esatta e perspicua"), although he spends hardly any words on the translation in his three-page review of both the critical study and the translation.

of electuaries (*Electuarien/Latwergen*), i.e. remedies of thick syrup- or paste-like consistency, usually with a sweet honey or fruit-based component, discussed on p. 20.

3. "Fever is a counterindication for giving inorganic acids" (Fieber ist eine Contraindication für die Darreichung anorganischer Säuren): unclear. Rinne discusses some examples of Scribonius' treatment of fever, and that he generally avoids giving remedies with alcohol to those who are feverish, but does not mention acids and fever in conjunction with each other. Scribonius' only reference to avoiding an acid is the avoidance of vinegar while taking a remedy for bleeding in **83**, but vinegar is an organic rather than inorganic acid, and there is no reference to fever.

4. "Lobeline [an alkaloid derived from *Lobelia* spp. plants] should be made available in <medical/pharmaceutical> practice" (Das Lobelin sollte der Praxis zugänglich gemacht werden): likewise unclear. Rinne does not mention Lobeline elsewhere, nor does Scribonius use plants identified as *Lobelia* spp.; furthermore, Lobeline, while found in several *Lobelia* spp., was mainly isolated from Indian tobacco, *Lobelia inflata* L., which is only native to North America. The extract, eventually the isolated alkaloid, and finally a synthetic form marketed as Lobeton were used to treat asthma and respiratory diseases in the 19th and early 20th century (Vaupel 2008: 136–140); modern use as a support for smoking cessation has limited clinical evidence (Stead and Hughes 2000, 2012).

5. "Honey is a keratoplastic [a substance which improves elasticity of calloused skin]" (Honig ist ein Keratoplasticum): in reference to Scribonius' use of honey, specifically that of honey stored in a bronze container and used topically in **25**, discussed on p. 117.

6. "Only a pelvic measurement taken from a standing person has any claim to exactness" (Nur eine an der stehenden Person vorgenommene Beckenmessung darf Anspruch auf Exactheit erheben): unclear. Rinne does not discuss pelvic measurements, nor does Scribonius address anything of this nature (the closest are perhaps the remedies for a retained placenta and similar birth-related matters, but these are uterine rather than pelvic in nature and make no reference to any kind of physical examination). Rinne presumably refers to external pelvimetry, where the distance between several anatomical landmarks is measured with a type of callipers (Lippert 1989: 81–83); while instruments for internal pelvimetry had been

> invented in the late 18th century (Hadra 1906), these were not intended for use on the standing individual.

As such Rinne's study is of interest for its "pharmacological perspective" on the types of substances and remedies covered by Scribonius, as well as the first attempt of a translation, but also acts as a primary source for late nineteenth century pharmacy, the emergence of pharmacology as an academic subject and distinct science in the nineteenth century, and a snapshot of contemporary research in Kobert's institute. In lieu of the more extensive discussion which the work deserves, this will be further addressed in a brief comparative discussion of all three studies (4.4.3 below).

Biographical notes were typically included in German doctoral dissertations of the time, and those of Wriedt, Trilk, John, and Schonack's earlier Hippocratic study all provide a one-page overview of the otherwise obscure doctors (Schonack's output was more prolific). None is included in Rinne's thesis, but university and Parish records supply an overview: He was born in 1867 in Reigi (German Roicks), a village on Hiiumaa (Dagö), the second largest island of the West Estonian archipelago, to parents Gustav Felix Rinne, a Lutheran priest, and Clara Julie Henriette (née Sesemann, from St Petersburg), as one of five siblings.[290] He became a medical student at the University of Dorpat (now Tartu) in 1885, and is listed as such in the *Album academicum der Kaiserlichen Universität Dorpat* (Hasselblatt and Otto eds.) of 1889 (p. 846, under the matriculation number 12786), and married Margarethe Alexandra Kaibel in 1893, with whom he had three surviving children.[291] It is not clear when he began to be interested in pharmacology as well as medicine, or whether this interest and/or collaboration lasted beyond his Scribonian studies with Kobert; the latter only left Dorpat in 1896, while Rinne lived south-east of the city in Võnnu/Wendau and was involved (or at least registered) in the University Church's parish until his early death in 1899 (cf. footnote 285 above).

[290] National Archives of Estonia, Lutheran Church Records, Järva county, Järva-Peetri Parish (1898–1929), EAA.1235.1.218, p. 356.

[291] A fourth child died after one day in 1895 – the entry in the parish record immediately preceding that of Rinne's own death four years later. The children's births were registered in Peetri, Kareda parish, Järva county, in what is now central Estonia (Martha Johanna, 23.06.1894 – 04.11.1975), and Võnnu borough, Tartu county (the unnamed girl born in 1895; Edith Clara, 1896; Gustav Felix, 1898), which indicates that Rinne had moved from Hiiumaa to Tartu by 1885, been around Tartu to submit and defend his thesis in 1892, lived in or visited Peetri at some point before or in 1894, and had returned to Tartu to live in Võnnu/Wendau, south-east of Tartu, by 1895. National Archives of Estonia, Lutheran Church Records, Tartu University Parish, Personalbuch Universitätskirche zu Dorpat (1902–1928), EAA.1254.1.223, p. 269.

4.4.2 Wriedt, Trilk, and Academic Dentistry

The two dental studies of Scribonius are very different in scope – Trilk's is very short, Wriedt's is rather extensive – but complement each other as case studies for the reception of ancient pharmacology by modern practitioners and fall into a similar context of emerging disciplines and legitimisation strategies as that of Rinne.

Despite its similarly long history, dentistry occupied a relatively low position in the medical hierarchy for a long time (much like practical pharmacy, for that matter), and only developed first into a subspecialty of surgery (itself a field with a long history of low medical and academic reputation) and then as a profession in its own right in the nineteenth century. While dentistry was a recognised and reasonably respected profession by the early twentieth century, German dentists were struggling to obtain recognition as practitioners and lecturers of an academic discipline, a problem exacerbated by the absence of a doctorate in dentistry in Germany at the time, forcing German dentists to either obtain an additional qualification as a medical doctor, pursue a humanities degree and doctorate, or go to America to study and graduate with the Doctor of Dental Surgery (DDS) qualification.[292] Both Trilk's and Wriedt's studies date to 1921, shortly after the establishment of German dental doctorates in 1918/1919, which connects the reception of Scribonius perhaps even more strongly to the context of professional legitimisation than in Rinne's case. Dissertations about the history of dentistry form a significant proportion of the early dental PhDs, and the long history of dentistry and its importance are emphasised in these studies. The motto of Wriedt's study is a simple exhortation to dentists to study the history of their profession,[293] while Trilk's thesis opens with a quote from the Hippocratic *On Ancient Medicine* and closes (1921: 36) with a statement on the value of studying Scribonius, and medical history in general, as well as thanking Karl Sudhoff, one of the most eminent medical historians of the time and also interested in Scribonius, for his suggestion and endorsement of the research topic and publication of the thesis.[294] As such, both studies situate themselves firmly in both the emerging academic nature and research of their own discipline, and the contemporary German historiography of medicine and particularly dentistry.

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[292] Cf. Albers et al. (2003, esp. 6-12); Gründel (1999, esp. 29); Münsterman (1992, esp. 41–43); Franken (1977, esp. 67, 94).

[293] "Man sollte in unserem Fach mehr Geschichte desselben treiben" (Wriedt 1921: 1), a quote from Otto Walkhoff (1860-1934), an important figure for both the movement for dental doctorates and academic recognition, and of the establishment of dental radiography and endodontics (Groß 2003: 72–74; Rezai and Salamat 1985).

[294] Sudhoff's position in German medical historiography and interest in Scribonius is similarly demonstrated by Schonack's dedication of his translation to Sudhoff, following the latter's support for and partial involvement in its publication (Letter Wilhelm Schonack to Karl Sudhoff, Berlin 03.02.1913. Universitätsbibliothek Leipzig, Teilnachlass Karl Sudhoff, Ms. 01246-69; 7; 69 // DE-611-HS-1754676). Sudhoff's influence on German medical historiography, which is substantial but overshadowed by his support for the NSDAP despite and instead of his many eminent Jewish colleagues, is critically analysed by Rütten (2004).

Wriedt's more substantial work is particularly useful for the study of Scribonius' reception. In addition to a more "classical" overview, including topics such as whether Scribonius wrote in Greek or Latin and the quality of his language (albeit from a different perspective and in less detail than e.g. in Schonack's study), there is also some overlap with Rinne's pharmacological reception: he analyses the use of henbane in Scribonius' work, particularly in the context of the dental chapters, and including the issues raised by the different uses of *altercum/apollinaris herba* by Scribonius (see note **90, 48.5 *alterci albi***). The main and eponymous focus of his study, however, is the role of Scribonius in the development of the theory that dental disease is caused by worms, a theory which, as the wording of "angeblicher Begründer" (alleged founder) indicates, Wriedt opposes. The theory, and its refutation, hinges on the translation and interpretation of a short line from **54,** *interdum enim quasi vermiculi quidam eiciuntur*. Two interpretations have been put forth for this passage, which in context reads

> *Suffire autem oportet ore aperto alterci semine carbonibus asperso, subinde os colluere aqua calida: interdum enim quasi vermiculi quidam eiciuntur. levat dolorem et bitumen suffitum*.
>
> But one should fumigate the open mouth with henbane seed sprinkled on coals, thereafter one should rinse the mouth with warm water: for from time to time, almost like little worms, some [burnt seeds] are spit out. Bitumen burned as a fumigant also relieves the pain.[295]

Despite agreement that the "little worms" can be explained by the effect of the heat on the henbane seeds, which creates light seed fragments of a shape resembling little worms,[296] the debate centres on determining Scribonius' position on teeth and worms: depending on the respective interpretation of *quasi vermiculi*, the passage has been either taken to relate the observation that henbane seeds when heated look like little worms (hence *enim **quasi** vermiculi quidam eiciuntur* and not *enim vermiculi quidam eiciuntur*), or that Scribonius thought he observed actual worms, with or without implications for their role in dental disease. The latter associates Scribonius with Wriedt's titular "worm theory of dental caries", a belief that a "tooth worm" was responsible for dental disease, and which dates to at least Mesopotamian times and survives long after Scribonius.[297] To Wriedt's dismay, this position

[295] The translation gives away my stance on the matter; more ambiguously, it could be "for from time to time little worms, so to speak, are cast out", or "things resembling..."
[296] Already known and used by early modern scholars to explain the worm theory (thus e.g. Schäffer 1757; Hollerius 1543), as noted, among others, by Geist-Jacobi (1896: 37) and Wriedt (1921: 61).
[297] In addition to the other sources cited in this passage, cf. the concise summary by Jouanna-Bouchet (2016: 255–256).

is taken by numerous dental historians, such as Geist-Jacobi (1896: 37), who in his *Geschichte der Zahnheilkunde* explains the appearance of worm-like shapes but understands Scribonius to consider actual worms responsible for the dental pain.[298] Scribonius re-emerges as inventor of the tooth worm to the present day (thus e.g. Gerabek 1991: 2), and the passage and its interpretation has divided scholars and translators preceding as well as – despite his best efforts – following Wriedt, perhaps a sign of the work's obscurity.[299]

Wriedt's criticism of this misinterpretation is an intriguing analysis of a primary Latin source in a text written by a practitioner, with a strong emphasis on the need to study primary sources rather than derive errors from poor translation or erroneous scholarship (e.g. 1921: 60). His introduction reveals his philological as well as dental and medico-historical interests, as does his engagement with a great variety of sources which one might not necessarily expect in scientific literature, such as Rhodius' commentary, Bernhold's edition, and Helmreich's scholarship. As such, it is a remarkable study which engages extensively with the literature, including the Latin primary sources, while also providing a contemporary scientific perspective on both ancient and current medicine. In many ways, it even resembles the iatrophilological tradition of Rhodius and Sperling more than the contemporary study of Trilk, or even Rinne's study which is otherwise similar in thoroughness.[300]

By contrast, Trilk's thesis on the "dental pharmacotherapy" of Scribonius' *Conpositiones* (sic), *Die zahnärztliche Pharmakotherapie in den "Conpositiones" des Scribonius Largus,* is significantly shorter and arguably less nuanced. He discusses the dental chapters (**53**–**60**) as well as a number of chapters on broader maxillofacial topics across the *Compositiones*, and as indicated by the titular pharmacotherapeutic interest there is some degree of overlap with Rinne's study. Beyond being framed in medical history and historiography, as noted above, Trilk (1921: 36) states the particular interest of Scribonius for the history of dentistry explicitly in the context of a historical "base" for dentistry as a "newer branch of science"

[298] Sudhoff's work on dental history (1921: 92) similarly interprets the passage as referring to actual worms.
[299] Jouanna-Bouchet (2016: 255–256), like Wriedt, notes that many dental historians have found this to be the first literary source on the tooth worm, but draws attention to the nuanced expression and the lack of any connection of the *quasi vermiculi* with the cause of the disease, something likewise noted by Rhodius (1655: 95–96) with approval – "Scribonius wisely asserts nothing certain" (*Scribonius prudenter nihil certi affirmat*) before discussing the henbane seed explanation in more detail. Trilk (1921: 11–12) also follows Geist-Jacobi and Sudhoff in the interpretation of a belief in the tooth worm, but noting with the two historians that the idea predates Scribonius considerably. While the German "manchmal werden gewissermaßen einige Würmchen ausgespien" is ambiguous, both Schonack's (1912: 43) and Brodersen's (2016: 22) explanatory notes imply that Scribonius observed non-existent worms in the henbane seed remains; Rinne's translation, with minor changes, conveys the same sense.
[300] While focussing on pharmacy, the recent dissertation of Gellens (2019) takes a similar hybrid approach between surveying the more "classical" angle and commenting on modern pharmacological thought and practice.

provided by the work of this "extremely interesting author of antiquity".[301] Thus, despite the different style and scope of their studies, both Wriedt and Trilk draw on the *Compositiones* as a historical precedent which highlights the ancient roots of the new science of dentistry, and which provides a framework to demonstrate both the academic nature of dentistry, their own clinical and scientific competence, and a respectable level of classical education and grasp of ancient language and literature.

4.4.3 Comparative discussion: Scribonius' role in and for the history of medicine

While these three studies differ in length, theme, and depth, they demonstrate many similarities – emphasis on both rationality and irrationality of the treatment, parallels drawn to contemporary research and practice, the emphasis on the study of medical history using appropriate methods – and illustrate contemporary approaches to the reception of ancient medicine and practices, as well as the practices and debates of contemporary pharmacy, chemistry, and dentistry.

Unsurprisingly for the medical historiography of the time, all studies compare Scribonius' pharmacological and dental therapy to current practice, with varying degrees of approval on the one hand and awareness of the approach's methodological problems on the other. This takes the form of direct comments regarding the rationality, or lack of reason, of Scribonius' treatments, as well as comparative approaches which highlight the parallels between Scribonius' practice and that of the present day. The rationality of Scribonius' pharmacology treatments is frequently noted by Rinne, who goes so far as to say that Scribonius uses the same "therapeutic guidelines...as a scientifically educated physician of the nineteenth century",[302] overall praising the *Compositiones* for "a rational modern pharmacotherapeutic approach...which demands our greatest admiration".[303] The assessment of Scribonius' dentistry is similarly overall positive: Trilk comments frequently on the work's rationality[304] and highlights the modernity of Scribonius' approach,[305] arguing that it is beyond reproach in the context of ancient medicine, at times even acceptable to modern dentistry,

[301] "So ist Scribonius Largus für die Geschichte der Zahnheilkunde ein hochinteressanter Autor des Altertums und sein Werk, die '*Conpositiones*' (sic), mit ein Stück Basis in der Therapie dieses neueren Zweiges der Wissenschaft." (1921: 36)

[302] "therapeutischen Massregeln...wie ein wissenschaftlich gebildeter Arzt des 19. Jahrhunderts" (65)

[303] "ein rationelles modernes pharmakotherapeutisches Vorgehen...das uns die grösste Bewunderung abnöthigt" (35, cf. 2.4.3)

[304] Noted variously as "rational", e.g. the treatment or composition of a dentifrice ("eine rationelle Therapie", 8; "die Zusammensetzung dieser Zahnpulver war also ganz rationell", 20) or "not irrational", e.g. a treatment; an understandable use ("Jedenfalls eine nicht unrationelle Therapie", 17; "ebenfalls nicht unrationell und durchaus verständlich", 27).

[305] E.g. commenting applications also used in modern dentistry ("Pinselungen, die auch in der modernen Therapie ihre Anwendung finden", 20); nothing objectionable in Scribonius' therapeutic approach ("Gegen diese Therapie ist nichts einzuwenden", 26); approach suitable and analogous to modern treatment ("Durchaus zweckmäßig und ganz analog unserer modernen Therapie", 31)

and requires no serious criticism from modern science.[306] Wriedt similarly praises his bedside observation skills on the effects of poisoning[307] and expresses his view that Scribonius is an "outstandingly educated physician and botanist" (hervorragend gebildeter Arzt und Botaniker; 1921: 59) whose practice is "more to be praised than criticised" (mehr zu loben als zu tadeln; 1921: 58) on account of its rationality. In historical context Wriedt sees him as one of the better pharmacologists before Galen – although of course not comparable to Dioscorides;[308] as such, he stresses the value of Scribonius as a source for both "knowledge of folk remedies" and for botanical interest in the development of Roman plant knowledge.[309] At times his positive assessment of Scribonius is somewhat exuberant and not entirely supported by the text:

> Durchaus ohne Übertreibung wird Scribonius Largus zu den arbeitsamen und aufopferungsfähigen Ärzten gerechnet, welche das Vertrauen und die Dankbarkeit ihrer Kranken im hohen Grade besaßen, die Zuneigung und die Hochachtung von Seiten ihrer Schüler, die Bewunderung der Städte, für deren Einwohner sie Sorge trugen, die Wertschätzung der Fachgenossen, welche in einer späteren Zeit lebten.
>
> Scribonius is indeed without exaggeration counted among the hard-working and selfless doctors, who had the trust and gratitude of their patients to a high degree, the affection and respect of their students, the admiration of the cities where they cared for the residents, the appreciation of colleagues living in later times. (Wriedt, 1921: 19–20)

While Scribonius' concern for his patients emerges strongly in the preface and throughout the *Compositiones*, and it is implied that certainly his patron held him in some regard, the elevation of Scribonius to such a high status is perhaps somewhat excessive, although it may in part be

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306 "Seine Therapie der Mund- und Kieferkrankheiten und die Ordinationsweise sind nach damaliger Zeit ausgezeichnet und größtenteils durchaus rationell, mitunter sogar recht moderner Art, so daß unsere heutige wissenschaftliche Kritik gegen sie kaum etwas Ernstliches einwenden kann" (36)

307 "ein glänzender Beobachter am Krankenbett" (75)

308 "Wenn auch Scribonius Largus mit dem bedeutendsten pharmakologischen Schriftsteller des ersten nachchristlichen Jahrhunderts, mit Pedanius Dioscorides nicht zu vergleichen ist, so muß doch unser Autor zu den besseren Pharmakologien der vorgalenischen Zeit gerechnet werden." (44) Given the relative paucity of pharmacological writers before Galen, this may be damning with faint praise. The emphasis on Dioscorides' work as exemplary of high quality pharmacological writing highlights the type of treatise Wriedt considers to be of value – a systematic work which comments on the properties of ingredients and includes some degree of theorising, something which Scribonius' practice-oriented work does not. Indeed, Wriedt theorises that due to his "established thoroughness" Scribonius would have expanded on the nature of diseases in his supposed lost works ("Bei der doch sicher feststehenden Gründlichkeit unseres Autors ist die Möglichkeit durchaus nicht von der Hand zu weisen, daß Scribonius Largus in seinen übrigen medizinischen Schriften, über das Wesen der Krankheiten sich näher ausgelassen hat, als es tatsächlich in den "Conpositiones" der Fall ist", 48). This attempt to establish Scribonius as a scientific writer also emerges in Wriedt's subsequent criticism of Schanz, who in contrast argues that the *Compositiones* do not constitute a "scientific accomplishment" (wissenschaftliche Leistung, 48).

309 "so daß sein Werk noch heute von Bedeutung ist, weil es für die Kenntnis der Volksmittel seiner Zeit eine gute Fundgrube bildet, aber auch für den Botaniker nicht ohne Interesse ist wegen der zahlreichen Pflanzen und Pflanzenprodukte, welche sich bei Celsus noch nicht erwähnt finden" (48). The plants not found in Celsus are listed by Meyer (1855: 33–39, cf. 3.4.1). That Scribonius should be considered a source for the folk remedies of his time is slightly odd, given that most of the recipes in the *Compositiones* are for highly elaborate and expensive remedies and only include a few which would be relatively easily obtainable. If Wriedt understands folk medicine as "unscientific", "superstitious" medicine, Scribonius is not the ideal source either given the relatively small number of remedies which can be considered to fall into this category, but then this somewhat misguided assessment reappears periodically.

explained by Wriedt's erroneous assumption that Scribonius is court physician to Claudius (1921: 1). The emphasis on his positive reception, possibly counting himself among the *Fachgenossen* (colleagues, literally "field/subject comrades") who value his work, is noteworthy, particularly as Wriedt laments the poor assessment of Scribonius by, one assumes, historians of medicine when he draws attention to the degree to which he is misjudged and unrecognised ("der so verkannte Arzt", 18). While somewhat excessive, this praise also positions Scribonius a suitable candidate for the role of a predecessors of a long tradition of practitioners of patient-oriented and educated dentistry, and as such a fitting topic for a dental dissertation of this time.

This positive assessment also emerges in direct comparison to specific aspects of contemporary practice, which highlights some of the current research, international differences, and medical controversies of the time. Rinne in particular frequently draws parallels to research, both historical and contemporary, at Dorpat when discussing ingredients and the use of therapeutics. He comments on recent research into hyssop (54) and the isolation of alkaloids of *Veratrum album* (76), as well as analytics of Egyptian make-up (85). His comments on research on *Spermin* illustrate that even the seemingly least "rational" remedies – here the use of crocodiles' testicles – are considered unexpectedly appropriate by contemporaries.[310] Rinne's study also provides insights into which practices have only just recently been adopted in contemporary pharmacology,[311] and all three studies highlight differences in medicine and pharmacy on an international level. Here Rinne points out that a charcoal-based tooth powder is still in use in Austria in the context of Scribonius' tooth powders (**59**–**60**) which both feature ingredients burnt to ash,[312] and mentions the continuity of use of a resin in English pharmacopoeias,[313] while Wriedt (1921: 80), drawing on Kobert's work, comments on the medicinal use of nightshade plants as analgesics in Japan.[314] Debates in

[310] "Unsere Spermintherapie ist analog" (90). *Spermin* was the term for a basic substance isolated from human sperm in 1887 with the suggested formula C_2H_5N, initially thought to be equivalent to piperazine (1,4-Diazacyclohexane, $C_4H_{10}N_2$), but ultimately of unknown precise composition (Fischer 1893: 202–203). The eminent French neurologist Brown-Séquard, whose work includes the description of a type of spinal cord injury with paralysis named after him, advocated for the use of *Spermin* as a rejuvenating agent, reporting that in self-experiment (he was 72 at the time), he found his strength and vigour much improved following regular injections (Brown-Séquard 1889). It is unclear whether this is the therapy Rinne has in mind here – Brown-Séquard, whom Fischer specifically mentions in the context of therapeutic *Spermin*, also worked on epilepsy, but the main use for piperazine at least was the treatment of gout and other conditions characterised by excess urea (Fischer 1893: 205) – or whether the statement is meant to show that drugs similarly derived from testicles are also found in contemporary medical practice. A disparaging sense, dismissing both Brown-Séquard and Scribonius, is unlikely as Rinne is not prone to sarcasm.

[311] E.g. in the commentary for *gluten taurinum* that *Leimpasten* (glue pastes, *Gelatinae medicamentosae*) have been used in dermatology since 1886 (91), and for *lana* that "sulphurated wool fat is indeed one of our most modern external remedies" ("Schwefellanolin ist nun in der That eines unserer modernsten äusserlichen Arzneimittel", 91).

[312] "In Oesterreich ist noch heutigen Tages ein aus Kohle bestehendes Pulver zum Zähneputzen officinell" (36–7), a brief overlap with the dental reception as much as a sign that certain things, such as charcoal-based cosmetics, reappear in different times and contexts throughout history.

[313] "in England…ist das genannte Harz [i.e. *resina Scam(m)onia /Colophonia*] noch immer in Gebrauch" (72)

[314] It should generally be noted that both Trilk's and Wriedt's studies draw on that of Rinne; interestingly neither of them seems to draw on the German language study of the Classicist Schonack, although Trilk does reference him in the bibliography.

contemporary medicine and disagreements between practitioners similarly emerge in the context of analysing specific recipes and therapeutics: Rinne comments on the continuous use of hemlock plasters by old physicians despite ambiguous evidence,[315] and on the use of opium in various contexts even though pharmacologists advise against it,[316] while Wriedt illustrates the continuity of empiricism in dental practice by discussing the contemporary debate surrounding root resection (apicoectomy, *Wurzelspitzenresektion*, 65). As such, the sources provide various insights into the research and international therapeutic practice of the time, as well as contemporary debates in science and medical/dental practice.

While Scribonius' therapy remains certainly not without criticism – for example, Trilk, at times more dismissive than the other two, notes with disapproval regarding Scribonius' treatment of headache by the removal of *materia* in **8** and **9** that "this therapy, which appears heavily folk-medical <and> empirical to us, can, after all, have hardly been of any success"[317] – the verdict is overall in Scribonius' favour. This results in the curious situation where historic medical practice is dismissed by modern practitioners in favour of even older historic practice: while the *Compositiones* compare favourably, the medicine of the more recent past, including folk medicine up to the present day, is judged harshly. Rinne, in his praise of Scribonius, has few positive words for the medicine of the 1500s and thereafter: in contrast to the pharmacotherapy of the early principate as exemplified by the *Compositiones*, he argues, the situation in both in Germany and in Riga, whether 300 years ago or more recently, was so dire that returning to Scribonius' therapeutics would have been an improvement.[318] Wriedt finds little positive words for Rhodius, who is "stuck in the errors of his time" (in den Irrtümern seiner Zeit befangen, 6), or Marcellus, whose work is "just a household medicine book" (es handelt sich hierbei lediglich um ein Hausarzneibuch, 9), perhaps following a tradition which has few good things to say about the works of late antiquity or the middle ages; his comments on the "decline" of medical education and practice in Scribonius' time as a result of the rise of freedmen into power (18–9) similarly attests to the views of a different time in classical scholarship (and/or perhaps an uncritical reading of Tacitus). Wriedt, like Rinne, is also dismissive of the folk medicine and the gullibility of people – "the masses" – who fall for advertising ("der nach wie vor auf viel Reklame hereinfallenden Masse", 3) and were, even in his own time and his native Kiel, consulting a quack (*Kurpfuscher*) who offered to dispose of

[315] "Koniumpflaster sind noch heute bei alten Aerzten im Ansehen; ob mit Recht, ist noch nicht sicher entschieden" (48).
[316] Opium was still ingested as "hypnoticum" and styptic, and used against eye complaints externally "despite pharmacologists' advice against <this practice>" ("trotz Abrathens der Pharmakologen", 1896: 65).
[317] "diese uns stark volksmedizinisch-empirisch erscheinende Therapie ja kaum von Erfolg gewesen sein" (1921: 14)
[318] "sah es mit der Pharmakotherapie und Pharmacie nicht nur vor 300 Jahren sondern auch noch später so schlecht aus, dass ein Zurückgehen auf Scribonius ein Fortschritt gewesen wäre" (96).

toothache-causing worms.[319] Scribonius thus seems to occupy a special position, and while not exempt from criticism, he is treated much more sympathetically than one might expect in the literature of the time, and less harshly than other historical – or even contemporary – practitioners.

Addressing a methodological issue in the historiography of medicine, the Classicist Wilhelm Schonack points out that Scribonius has to be studied within the context of his own time, and not compared against current practice – those who do attempt to measure him against modern medicine will, of course, find little positive to say.[320] The three practitioner-writers likewise demonstrate awareness of this issue. Wriedt emphasises that he is not proposing to draw parallels between modern and Scribonian scientific level[321] – although this may admittedly be intended to imply that Scribonius is not of the same standard rather than critiquing the approach in historiographic practice. Trilk is more explicit in his awareness of the problems inherent in comparing historical with modern practice, emphasising that "We must not measure the discoveries of Scribonius with the false/incorrect measurement of our modern time, but must, as with all authorities of past epochs, attempt to understand him within the context of his time".[322] Nevertheless, all three do compare Scribonius against modern standards, but, contrary to Schonack's expectation (and perhaps that of medical historians), Wriedt, Trilk and Rinne all find predominantly and remarkably positive words regarding Scribonius' practice. By contrast, other sources of the time place the emphasis on the "irrational" elements in Scribonius' medicine, whether it is the curious case of the tooth worm (e.g. Geist-Jacobi 1896 – see 4.4.2 above for details) or the "superstitious" nature of Scribonius' recipes (e.g. Hirsch 1911) – not to mention the various dismissive views on Scribonius' language and overall composition found in both medico-historical and philological scholarship, as addressed in the introduction and elsewhere. As such, these three studies constitute a remarkable, and perhaps unusual, case study for the reception of ancient medicine, and for a relatively nuanced approach to the history of medicine, by contemporary practitioners.

[319] "sogar noch zu unserer Zeit ist es hier in Kiel vorgekommen, dass ein Kurpfuscher sich öffentlich erbot, der leidenden Menschheit die den Zahnschmerz verursachenden Würmer zu beseitigen" (2).
[320] "Man kann dem Scribonius allerdings nur dann gerecht werden, wenn man ihn, wie man es bei allen Persönlichkeiten der Vergangenheit halten muß, aus seiner Zeit heraus versteht. Wer nicht diesen allein richtigen Maßstab anlegt, sondern ihn an den medizinischen Autoritäten neuerer Zeit mißt, der kann natürlich nur wenig Gutes an ihm entdecken" (1912: 89).
[321] "Selbstverständlich soll durchaus keine Parallele zwischen dem wissenschaftlichen Niveau von Scribonius Largus und demjenigen moderner Autoren gezogen werden" (1921: 54).
[322] "Nicht mit dem falschen Maßstab unserer modernen Zeit dürfen wir die Erkenntnisse des Scribonius messen, sondern müssen, wie bei allen Autoritäten einer vergangenen Epoche, ihn aus seiner Zeit heraus zu verstehen versuchen" (1921: 8). It is noteworthy that he, like well as the compiler of the early modern pox book or the instigator of the theriac vase, considers Scribonius among the authorities of the past.

As doctoral dissertations of emerging disciplines, it can be argued that the studies of Rinne, Trilk, and Wriedt attempt to situate their respective modern practice within a long history with predecessors in classical antiquity. In addition to the contribution to the historiography of medicine (and the fulfilment of thesis requirements), it forms part of an effort to legitimise the newly emerging science of pharmacology and the discipline of academic dentistry through engagement with ancient medical writers, even some as relatively obscure as Scribonius Largus. It highlights the reception of ancient medicine in the writings of contemporary scientific and medical practitioners, and the way in which contemporary writers employed the study of ancient medical texts to aid in both the reflection on contemporary medical practice and the improvement of their profession's standing. Additionally, the studies act as sources for nineteenth and early twentieth century pharmacology and dentistry in a German language context in their own right, providing insights into new treatments, current research, controversial methods, and international differences. As such, the texts highlight the somewhat artificial boundary between historiography and classical reception when it comes to ancient medicine; the studies of Rinne, Wriedt, and Trilk – and the study of their studies – are as much reception of Scribonius as they are sources for medical history. Above all, they demonstrate the relevance of Scribonius Largus – "an extremely interesting author" ("ein hochinteressanter Schriftsteller", Trilk 1921: 36; Rinne 1896: 99) – for dentistry and pharmacology in the nineteenth and early twentieth century, and act as case studies for the reception of a Roman/(Classical) Latin medical text by scientists and medical practitioners.

4.5 Conclusion: Compassion, Eels, and Misconceptions: an adventurous afterlife

In many ways, the reception of Scribonius illustrates some common themes in the afterlife of ancient medicine, texts and manuscripts, and the challenges faced in their study, interpretation, and editing more generally. Galen features prominently, although here not so much as a medical authority in his own right, but as a key figure in the transmission of pre-second century CE medicine, and considered more deserving of note than the manuscript on which Ruellius' edition is based. Parts of a work, here individual chapters, are partly copied, partly adapted in various ways and to differing degrees, whether because of modifications already found in the source manuscript or made based on the need of the text's author/compiler/scribe. And author and/or text, Scribonius himself as well as his work, is subject to continuous repetition of the same aspects and tropes, whether correct, arguable, or plainly wrong. That little new is added on his biography is critically noted already in Schonack's days (Kind 1913; Giarratano 1915), and whether or not Scribonius ascribed to the existence of a tooth worm seems to have remained a matter of debate far beyond

Wriedt's defence against the accusations in contemporary medical historiography (see footnote 299 above). Even in light of scholarly consensus to the contrary, Scribonius still appears as Claudius' court physician from time to time. On the side of accuracy, the *Compositiones*' preface with its ethical implications and reference to the Hippocratic Oath has featured in many discussions of medical ethics, both detailed and as a footnote, while the two chapters using live electric eel for pain management have made Scribonius the go-to throwaway historical note for many a scientific paper on TENS and similar electrotherapeutic approaches. Elsewhere, references are less prone to accuracy, or more puzzling. The electric eel chapters and Scribonius' biography are used rather creatively in a New Scientist article about the eighteenth century self-proclaimed doctor James Graham and his electrical treatments: Scribonius is described as "celebrity doctor of the day", with Claudius as his "most illustrious patient" (Pain 2003: 50); Anteros is credited as giving Scribonius the idea for electrotherapy, even though there is no indication that either of the treatments was invented before the other and Anteros is mentioned as the patient being cured, not necessarily the source; and the narrative of Scribonius' electrical experiments, leading to the invention of the headache cure in 46 CE and treatment of Claudius, who is not mentioned in any of the torpedo or indeed headache chapters, in 47 CE has absolutely no basis in the text. Questionably worded as well as a puzzling choice is also the reference to Scribonius' electrotherapy to introduce a paper on natural gas and electricity energy management (Crawley 2014), which seems to credit Scribonius not only with inventing electrotherapy, but as the first example of human energy use and innovation altogether.[323] Scribonius has even made it into the alternative medicine section of the *Telegraph*, in a brief article about "Garum armoricum", an ancient "elixir" rediscovered as a marketable complementary health treatment, which includes the baffling information that it "was used by Roman practitioner Scribonius Largus, personal physician to emperors Claudius and Nero and co-founder of the first known medical school" (Lonsdale 2001). That none of these claims are correct surprises little – Scribonius as personal physician to the emperor is a persistent error, and attribution of questionable remedies to ancient authorities are common throughout medical history.[324] But the connection with Nero and the idea of co-founding a school[325] is unprecedented in the literature consulted as part of this research project, and the choice of Scribonius, who, aside from not using

[323] "Ever since the physician Scribonius Largus slapped an electric torpedo fish on the forehead of a headache sufferer in the early days of the Roman Empire, energy resources have been pursued by mankind to solve problems" (Crawley 2014: 18).

[324] Then again, the article also opens with a reference to Ridley Scott's *Gladiator* – seemingly treated more like a documentary here – claiming that the initial battle depicted in the film was won thanks to garum, and a link to the source (in French) of the manufacturer's research-based product, which no longer functions, both of which sets the tone for the level of accuracy.

[325] An article by Moog (2001), who has also written on Scribonius and gladiators (2013, 2017, 2018), discusses Scribonius' fellow student and teacher, Valens, and his role as "only Roman school founder" (einziger Römischer Schulgründer), but as the article is both difficult to access and in German, it seems like an unlikely source for the confusion.

anything resembling garum, let alone to "fight anxiety and fatigue" (Lonsdale 2001),[326] is hardly the first ancient medical authority that springs to mind, is as baffling as it is a somewhat amusing example of the reception/misconception of classical antiquity. An adventurous afterlife indeed for a comparatively obscure little pharmacopoeia.

Of vastly different scholarly calibre, yet still somewhat surprising by their selection of Scribonius, of all people, are the three German studies by a doctor-pharmacologist and two dentists of the *Compositiones* discussed in the previous section. On the topic of medical practitioners researching medical history, Leven (2004: 379) writes that "they are driven by the unconscious wish to find their own object of research in Hippocratic times, to underline its importance". In the 50-odd years of interest in Scribonius as exemplified by the work of Rinne, Trilk, and Wriedt, ancient medicine is certainly used to provide a pedigree-of-sorts of the respective professions of pharmacology and dentistry, but the connection is made consciously and explicitly.[327] While the engagement with the *Compositiones* undoubtedly shows elements of retrospective diagnosis – or perhaps retrospective pharmacognosy in Rinne's case – and several examples highlight the pitfalls of analysing ancient medicine through the lens of contemporary medical and progress-oriented scientific perspective, the medical and scientific response to Scribonius is noteworthily conscious and critical of bias and anachronistic perspectives. This has implications for the practice of medical historiography at the time, and raises questions about the extent to which a dismissal of ancient authors and practices (thus Hirsch, Haecker, etc.) is norm or exception, and whether ancient authority takes precedence before more recent "unscientific" practice (thus the dismissal of recent practice by Rinne, or current folk medicine by Wriedt), or whether the latter reflects contemporary bias and prejudice more than appraisal for medical history (thus Rinne's disregard for Estonian folk medicine – an issue further complicated by the complex demographic situation at the time and Rinne's German-Estonian background – and Wriedt's consternation about the foolishness of "the people" which allows quackery to proliferate). With these caveats in mind, the reception of Scribonius is perhaps less to be seen as an unexpected approval of ancient medical practice, but rather as an attempt to establish the equivalent of an "origin myth" of the respective practices. Similar to the use of mythography to establish a historical basis for a claim to political power and a national identity, whether in Augustan Rome or medieval and early modern Scottish and English sources, the practical, "rational", quantitative, and ethically framed practice of Scribonius' *Compositiones* provides a

[326] To entertain the notion and examine Scribonius' use of fish: fish and shellfish are used as food in the recuperative diet, to treat *dorycnion* poisoning, and the heads of salted picarels are burned and mixed with gall apples and copper bloom, neither of which belongs in garum, to produce a powder for throat complaints. Sea hare in oil is used topically, but with strict instructions to avoid accidental consumption.

[327] And arguably with more justification: after all, matters regarding "herbs and their roots" and "the use of forcipes" against aching teeth do without a doubt occur in Scribonius' text.

historical example of good practice in pharmacology and dentistry that lends ancestry to the newly established academic disciplines. Brought to contemporary attention again by Helmreich's edition and made accessible by a combination of the classical tradition in German education and, for the post-1913 works, Schonack's translation, Scribonius is identified as a particularly suitable source, a "good introduction to medical history for practitioners" (Schonack 1912: 87). It provides "a chance to acquire authentic knowledge of old Roman pharmacy and medicine" (thus Raubenheimer's 1926 review of Schonack), which allows writers to prove the long historic and academic provenance of the disciplines as well as the practitioner's academic distinction in classical learning and professional knowledge.

As a final remark, the context of Scribonius' reception beyond the strictly medical-historical should not be entirely overlooked. The afterlife of Scribonius provides not only cause for wonder and interest, but also reminds us that reception, and medical history in general, occurs within contexts overshadowed by personal hardship or historic horrors and tragedies: one may mention Sperling's prison-based *Scriboniana,* the war-dominated biographies of Wriedt and Trilk, John's writing during the Third Reich (and the strong endorsement of Hitler and Nazi policies by the German association of medical history under Sudhoff), and the early deaths and unfulfilled potentials of Rinne and Schonack. As such, the *Compositiones* and its afterlife are a remarkable case study of ancient concepts of holistic, comprehensive medical practice, patient care, and ethical conduct; of resilience and piecemeal transmission in a period dominated by the great names of ancient medical history; of relevance throughout the middle ages and the advent of the printing press all the way to the modern era; and of the role of ancient medicine, medical history/history of science, and Classics in the consolidation and establishment of professional identity. But they also – here to a minor, but still noticeable extent, especially given the strong emphasis on ethics and compassion that frame the *Compositiones* – alert us to the way in which medical history is often shaped by war, socio-economic and political power distribution, and the use of science and medicine to justify or even aid discrimination, oppression, and murder. This highlights not only the interconnection of medicine, science, and socio-historical context, (and the uncomfortable aspects of the classical tradition), but also the relevance of medical history for understanding the role of science and the use and abuse of scientific authority in modern history.[328]

[328] This was intended as a general statement on the value of contextualising science and the role of the Humanities at the time of writing. Concluding a thesis on medical history during the first 2020 Covid-19 lockdown, and as such not only during a period that will become future medical history, but one which in many ways proves the point of the statement, is as surreal as it is concerning.

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