CHAPTER 1

Practicality and Applicability

A Dual Approach to Carolingian Medical Knowledge and Practice

1 Introduction: The Case of Terenti(an)us

> A potion for gout, which is called *calapodia*,
> which I, Terentianus, received…[1]

So begins an entry within a collection of medical recipes found in an early ninth-century medical manuscript located in the Stiftsbibliothek St. Gallen, cod. sang. 759 (see Figure 1).[2] This collection, covering roughly the second half of the manuscript (pp. 58–94), includes a vast range of material, from recipes for scented ointments to treatments for blindness, skin conditions, and kidney problems; the recipe in question presents a potion intended to alleviate the agonising pains associated with gout. These opening lines appear to bring a personal dimension to early medieval health and medicine. Terentianus' autobiographical note illustrates the relationship between medical knowledge and practice during this period: his written record not only plays a critical role in the transmission of medical knowledge but testifies to his application of this knowledge in the context of therapy.

An examination of a sample of eighth- and ninth-century manuscripts, however, complicates this neat picture. Another early ninth-century manuscript also located in St Gall, cod. sang. 751, contains a nearly identical phrase at the start of an antidote for gout: *Antidotum podagricum quod dicitur calipodium quod ego Terentius Eoticianus accepi* (see Figure 2).[3] There are intriguing parallels between these two entries: both claim to treat gout, are from early

1 Stiftsbibliothek St. Gallen, cod. sang. 759, p. 60: *Potio ad podagra que dicitur calapodia quem ego Terentianus accipi…* Note: manuscripts held in St Gall are paginated not foliated. For a transcription of the entire recipe, see Appendix 2, entry 11.8; on the textual evidence examined in this book, see Chapter 2. Although *calopodium*, καλοπόδιον, can mean 'clog', the word recorded in the treatment, *calapodium*, is likely from κατάποτον, 'pill', and has undergone some orthographic changes through the process of transmission.

2 On the identification of 'medical manuscripts' as a distinct genre, see Chapter 2; see also Meg Leja, *Embodying the Soul: Medicine and Religion in Carolingian Europe* (Philadelphia: University of Pennsylvania Press, 2022), 12–13.

3 Cod. sang. 751, pp. 489–90. For a transcription of the entire recipe, see Appendix 2, entry 9.38.

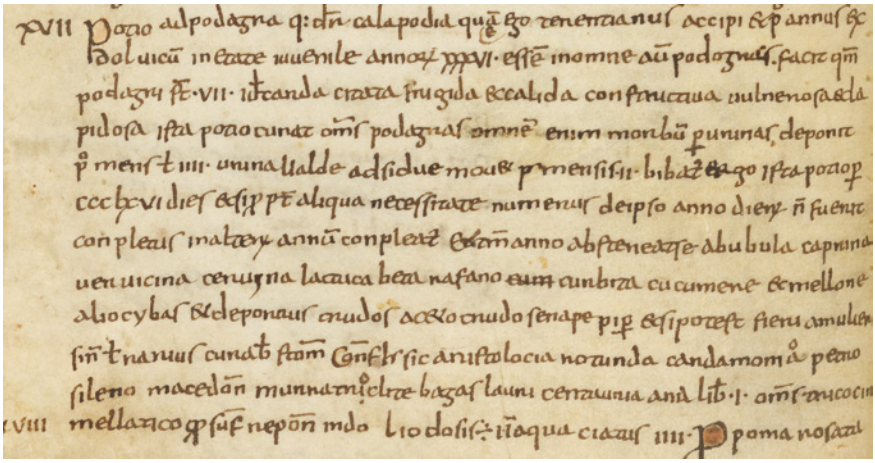

FIGURE 1 *Potio ad podagra* in St. Gallen, Stiftsbibliothek, cod. sang. 759 (p. 60), a ninth-century manuscript with a collection of medical texts (https://www.e-codices.unifr.ch/de/csg/0759/60)

ninth-century medical manuscripts housed in St Gall, and were allegedly used by someone with the name Terenti(an)us. These features demand a closer look. Do the codicological contexts and histories of the two manuscripts indicate that they were written by the same St Gall scribe, a certain Terenti(an)us? Or is there evidence to suggest that these codices have different origins?

Palaeographical analysis supports the latter possibility: an investigation into codd. sang. 751 and 759 indicates that the recipes in question were not written by a single individual. First, it is unlikely that either manuscript originated in St Gall, let alone in the same writing centre. According to Bernhard Bischoff, cod. sang. 751 was probably written at a northern Italian site, whereas cod. sang. 759

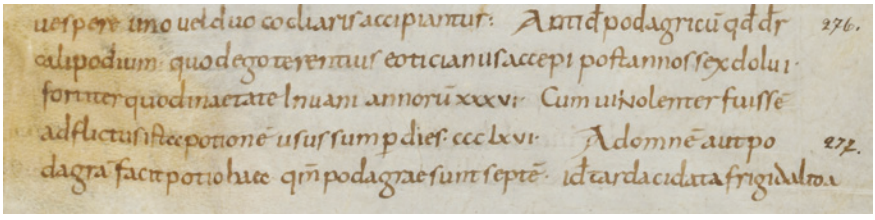

FIGURE 2 *Antidotum podagricum* in St. Gallen, Stiftsbibliothek, cod. sang. 751 (p. 489), a large compendium of medical texts produced in the ninth century (https://www.e-codices.unifr.ch/de/csg/0751/489)

was copied in Brittany (see the map for possible sites of manuscript production in these regions).[4] While the well-documented movement of manuscripts and individuals during this period does not rule out that a scribe such as the hypothetical Terenti(an)us could have moved between multiple intellectual centres, the scripts employed in the two codices are entirely unlike one another, indicating that different scribes were responsible for these compositions.[5] As seen in Figures 1 and 2, the *Potio ad podagra* of cod. sang. 759 is written in a pre-Caroline script with Insular influences, whereas the antidote in cod. sang. 751 is written in a regular, early Caroline hand. These features suggest that codd. sang. 751 and 759 were composed in two different writing centres and by two distinct scribes who copied similar, related recipes.

Indeed, the differences between the contexts in which these treatments are situated—two unique collections of recipes—indicate that they are not based on a single shared exemplar. The collection in cod. sang. 759 is immediately preceded by a contents list on pp. 53–8. While the list contains 446 entries, many pages have been lost from the manuscript, such that only 199 of these entries are extant. The *Potio ad podagra*, located on p. 60, is the seventeenth entry. In contrast, the collection in cod. sang. 751 covers pp. 430–96 and, according to a list of recipe titles on pp. 424–8, contains 319 entries. The *Antidotum podagricum*, found on pp. 489–90, corresponds to entry 277. Although certain individual entries in these collections share overlapping information, it is clear that they represent distinct compilations of medical material.[6]

This example highlights some of the many challenges arising from an investigation into the practice of medicine and its relationship to recorded medical

4 Bernhard Bischoff, *Katalog der festländischen Handschriften des neunten Jahrhunderts* (*mit Ausnahme der wisigotischen*), 3 vols. (Wiesbaden: Harrassowitz, 1998–2014), vol. 3, nos. 5844 and 5846.

5 Rosamond McKitterick, *The Carolingians and the Written Word* (Cambridge: Cambridge University Press, 1989). On the movement of early medieval manuscripts with medical texts specifically, see Florence Eliza Glaze, 'The Perforated Wall: The Ownership and Circulation of Medical Books in Medieval Europe, ca. 800–1200' (PhD diss., Duke University, 1999), 73–5, 92–8.

6 At least one additional example of a Terenti(an)us recipe survives: Ernest Wickersheimer recorded another version of the recipe, in this case listed as *Potio ad podagram quae dicitur calapodia quem ego Terrentianus accepi*, in Paris, Bibliothèque nationale de France (hereafter BnF) lat. 11219. While a selection of recipes in this manuscript are also analysed in the present book, its version of the Terenti(an)us recipe is located within a section of the manuscript that does not form part of the textual sample under consideration; see Chapter 2 for further details. Ernest Wickersheimer, *Les manuscrits latins de médecine du haut Moyen Âge dans les bibliothèques de France* (Paris: Éditions du Centre national de la Recherche scientifique, 1966), no. 77.

knowledge in the early Middle Ages. At first glance, Terenti(an)us' seemingly personalised note might have appeared to provide a window into the use of medical texts circulating during the Carolingian period, offering direct evidence for the application of the medical knowledge contained within these writings. Yet, as this case demonstrates, an analysis of individual examples in isolation can easily lead to false conclusions. Since it remains unclear who Terenti(an)us was and when he was writing (or even if he existed), his commentary does not necessarily provide evidence of medical practice during the Carolingian period.

So, what do these recipes tell us? While they can shed light on certain aspects of the medical knowledge circulating in ninth-century Francia, they also indicate a) the dangers of drawing conclusions based on a limited textual sample and reading texts in isolation, and b) the challenge of trying to understand the relationship between medical knowledge and practice in this period. The present book seeks to address both issues. First, this study is grounded in a large and diverse sample of written material: over 5000 newly transcribed and analysed recipes.[7] These recipes are found outside of more established textual traditions (i.e., pharmaceutical writings known from (late) Antiquity)

7 Note: three recipe collections included in this study, all located in cod. sang. 44, were transcribed and published in the early twentieth century (see *Studien und Texte zur frühmittelalterlichen Rezeptliteratur*, ed. Henry E. Sigerist (Leipzig: Johann Ambrosius Barth, 1923), 78–99; *Frühmittelalterliche Rezeptarien*, ed. Julius Jörimann (Zurich: Orell Füssli, 1925), 37–61), while Peter Köpp has published a transcription and translation of a recipe collection I have included from cod. sang. 217 (*Vademecum eines frühmittelalterlichen Arztes: Die gefaltete lateinische Handschrift medizinischen Inhalts im Codex 217 und der Fragmentensammlung 1396 der Stiftsbibliothek in St. Gallen*, ed. and trans. Peter Köpp (Aarau: Sauerländer, 1980)). I have produced new, revised transcriptions in all cases. More recently, material on one folio (p. 392) within a recipe collection in cod. sang. 751 included in this study was published by Rocío Martínez Prieto (Rocío Martínez Prieto, 'A Short Approach to the Analysis of the Textual Tradition of an Extract about Phytotherapy from the Codex Sangallensis 751', in *II Jornadas Predoctorales en Estudios de la Antigüedad y de la Edad Media. Κτῆμα ἐς αἰεί: el texto como herramienta común para estudiar el pasado: Proceedings of the Second Postgraduate Conference in Studies of Antiquity and Middle Ages, Universitat Autònoma de Barcelona, 19–21st November 2014*, ed. Núria Olaya Montero, Manuel Montoza Coca, Alba Aguilera Felipe, and Roser Gómez Guiu (Oxford: BAR, 2015), 115–19) and an entire collection in BAV pal. lat. 1088 was published by Arsenio Ferraces Rodríguez after I completed my transcription and analysis of this material (see Arsenio Ferraces Rodríguez, 'Un recetario médico altomedieval (Città del Vaticano, BAV, Pal. lat. 1088, ff. 50r-66r): ensayo de edición crítica', in *'Cui tali cura vel remedio subvenitur': De animales y enfermedades en la Edad Media europea*, ed. Gerardo Pérez Barcala (Avellino: Edizioni Sinestesie, 2019), 41–80), so these recipes are still included in the present study. In sum, all analyses of the textual selection delineated in Chapter 2 are based on my own transcriptions; see Appendix 2 for specific examples of recipes cited in the text.

and, consequently, have often been described as 'miscellaneous' collections of recipes or as compilations of brief extracts, assorted recipes, and additional material.[8] That is, while some individual recipes or short sections of text found in these collections are associated with specific sources, the collections as a whole are not derived from a single earlier tradition. Given that past scholarship has tended to focus on the reception and dissemination of classical medical writings (as discussed below), the recipes analysed in this book were often overlooked by earlier generations of philologists and historians. Secondly, by combining investigations into the practicality *and* applicability of this recipe literature, drawing on both textual and osteological evidence, this book casts fresh light on the relationship between medical knowledge and practice. The integration of multiple bodies of evidence in concert with the focus on understudied recipe literature offers new perspectives on medicine in the early Middle Ages, situating the study of early medieval medical texts within the world in which they were produced and read.

Building on the Terenti(an)us example, this opening chapter reviews the existing scholarship on early medieval medicine, explaining the rationale for analysing both the practicality and applicability of the treatments recorded in eighth- and ninth-century manuscripts as well as the significance of setting this work within the long ninth century.

2 Definitions

At the outset, it is essential to define the two key concepts of practicality and applicability that underpin this book. The 'practicality' of recipes considers whether the medical knowledge they present was practical with respect to both intention *and* use in the context of therapy. To evaluate a recipe's intention or design, we can ask: does the text contain user-friendly features suggesting that it was *intended* to be consulted for therapeutic purposes? It might be possible to identify, for example, changes in terminology reflecting adaptations made to accommodate individuals from different linguistic backgrounds. To assess a recipe's potential useability in the context of treatment, it is important to consider whether recipes rely on ingredients that could have been *obtained* in

8 For catalogue descriptions of 'miscellaneous' medical material, see Augusto Beccaria, *I codici di medicina del periodo presalernitano* (*secoli IX, X e XI*) (Rome: Edizioni di Storia e Letteratura, 1956) and Wickersheimer, *Les manuscrits*. See Chapter 2 for a more detailed discussion of recipe literature and the specific recipes under consideration in this book.

the Carolingian world. That is, would it have been possible to put the recorded knowledge into practice?

The question of applicability, on the other hand, relates to the health needs of individuals during this period. Are the conditions and symptoms described by the texts reflected in the osteological evidence? In other words, did people in early medieval Europe suffer from any of the ailments which the recipes claim to treat? While limitations of both textual and skeletal evidence—as well as the challenges posed by bringing together these two bodies of evidence—complicate this question, it remains possible to investigate the applicability of recipes. By taking account of these limitations and challenges from the start, pursuing carefully selected case studies, and adopting a cautious approach to data analysis and interpretation, we can productively reassess the written record within the framework established by the osteological evidence.

3 Foundations

To explain the significance of this book's aims and evidence base, it is necessary to situate its focus on the questions of practicality and applicability in relation to previous scholarship. Philological approaches to medical texts have long formed the backbone of the study of early medieval medicine and remain vitally important to the field. In addition to reflecting the continuing influence of philological studies, the dual approach pursued over the following chapters builds on and responds to a) the ways in which perceptions of and investigations into early medieval medicine dramatically shifted over the course of the twentieth century, and b) more recent research directions and methodologies in the histories of health and medicine.

3.1 *A Philological Underpinning*

Across many areas of study relating to the ancient and medieval past, philologists have been the pathbreakers: they have been the first scholars to identify and investigate the relevant texts, explore their relationships, and make their content more accessible through the publication of critical editions and commentaries.[9] This is certainly the case for late antique and early medieval medicine, though its current relationship with philological studies differs from many subfields of premodern history. Broadly speaking, the nineteenth and

9 On the development of textual criticism, see Sebastiano Timpanaro, *The Genesis of Lachmann's Method*, trans. Glenn W. Most (Chicago: University of Chicago Press, 2005).

early twentieth centuries can be seen as a heyday of philologically-centred research; consider, for example, major undertakings such as the *Monumenta Germaniae Historica*, the Rolls Series, or the *Patrologia Latina* and *Patrologia Graeca* that have provided the essential foundations on which modern historical research continues to build.[10] While medieval medical writings were studied and published during this period, they received comparatively less attention than the written record of other subfields of medieval history, such as legal texts, patristics, history writing, literature, hagiography, and so on.[11] As a result, the work of transcribing, editing, and translating medical texts remains fundamental to the study of early medieval medicine, and disentangling the relationships between classical, late antique, and early medieval traditions continues to hold a central place. Recent decades have witnessed an efflorescence of research in this area, with scholars such as Arsenio Ferraces Rodríguez, Klaus-Dietrich Fischer, David R. Langslow, Brigitte Maire, María Teresa Santamaría Hernández, and Manuel Enrique Vázquez Buján, among others, producing many much-needed critical editions and commentaries while simultaneously exploring the transmission of (late) ancient texts in the early Middle Ages through rigorous philological studies.[12]

10 Justin Lake, 'Current Approaches to Medieval Historiography', *History Compass* 13, no. 3 (2015): 89–109, https://doi.org/10.1111/hic3.12222, see especially pp. 89–90. On the *MGH*, see David Knowles, *Great Historical Enterprises. Problems in Monastic History* (London: Nelson, 1963), 66–97; on the Rolls Series, or *Chronicles and Memorials of Great Britain and Ireland during the Middle Ages*, see M. D. Knowles, 'Presidential Address: Great Historical Enterprises IV. The Rolls Series'. *Transactions of the Royal Historical Society* 11 (1961): 137–59 (note: this is reprinted in Knowles, *Great Historical Enterprises*, 99–134); and on Jacques Paul Migne and his *Patrologiae cursus completus*, see R. Howard Bloch, *God's Plagiarist: Being an Account of the Fabulous Industry and Irregular Commerce of the Abbé Migne* (Chicago, University of Chicago Press, 1994).

11 Modern editorial and translation projects continue to play an important role in these areas (e.g., the *Corpus Christianorum* is working to replace the less reliable editions of the *Patrologia Latina*, and the *MGH* remains highly active), but they are less prominent than in past generations of scholarship. In contrast, as Vivian Nutton highlights, some of the early editorial enterprises that focused on medical writings, such as Karl Gottlob Kühn's monumental twenty-volume edition of Galenic works, were *medical* in purpose rather than philological; see Vivian Nutton, *Galen: A Thinking Doctor in Imperial Rome* (Abingdon: Routledge, 2020) and Galen, *Claudii Galeni Opera Omnia*, ed. K. G. Kühn, 20 vols. (Leipzig: Carl Cnobloch, 1821–33). However, other projects, including the still active *Corpus Medicorum Graecorum* and *Corpus Medicorum Latinorum* series, have always focused on philological research.

12 While it is impossible to do justice to these scholars' extensive outputs in a single footnote, significant contributions in recent years include *Ars medicinalis de animalibus: Estudio introductorio, edición crítica y traducción*, ed. and trans. Arsenio Ferraces Rodríguez (Santiago de Compostela: Andavira Editora, 2016); Arsenio Ferraces Rodríguez,

Yet, paradoxically, as Faith Wallis has noted, the emphasis on producing editions of texts appears to have slowed the development of a broader early medieval medical history due to the ways in which creating editions can generate

ed., *Tradición griega y textos médicos latinos en el período presalernitano: actas del VIII Coloquio Internacional "Textos Médicos Latinos Antiguos"* (*A Coruña, 2–4 septiembre 2004*) (La Coruña: Servizio de Publicacións, Universidade da Coruña, 2007), including chapters from Arsenio Ferraces Rodríguez, Klaus-Dietrich Fischer, María Teresa Santamaría Hernández, and Manuel Enrique Vázquez Buján; Klaus-Dietrich Fischer, 'A Most Sovereign Herb: Pseudo-Antonius Musa on Betony', *Cuadernos de Filología Clásica. Estudios griegos e indoeuropeos* 30 (2020): 131–48, https://doi.org/10.5209/cfcg.68480; Klaus-Dietrich Fischer, 'Die vorsalernitanischen lateinischen Galenübersetzungen', *Medicina nei secoli* 25, no. 3 (2013); 673–714; Klaus-Dietrich Fischer, 'Unbekannter und seltener Wortschatz in den Pseudosoranischen *Quaestiones medicinales*', *Voces* 23–24 (2012–13): 29–74; Alexander of Tralles, *Alexandri Tralliani Latini Liber tertius: De febribus singulis. Introduction, Edition, Translation, Notes, Indices*, ed. and trans. David R. Langslow (Santiago de Compostela: Andavira Editora, 2020); David Langslow and Brigitte Maire, eds., *Body, Disease and Treatment in a Changing World: Latin Texts and Contexts in Ancient and Medieval Medicine. Proceedings of the Ninth International Conference "Ancient Latin Medical Texts", Hulme Hall, University of Manchester, 5–8 September 2007* (Lausanne: Éditions BHMS, 2010), including chapters from Arsenio Ferraces Rodríguez, Klaus-Dietrich Fischer, Brigitte Maire, and Manuel Enrique Vázquez Buján; Caelius Aurelianus, *Caelii Aureliani operum omnium quae exstant Concordantiae*, ed. Brigitte Maire and Olivier Bianchi, 4 vols. (Hildesheim: Olms-Weidmann, 2003); Cassius Felix, *Cassii Felicis libri de medicina Concordantiae: Accedunt numeri, voces Graecae Graecis Latinisque litteris scriptae, index nominum notabiliorum, index frequentiae decrescentis formarum*, ed. Brigitte Maire and Anne Fraisse (Hildesheim: Olms-Weidmann, 2003); María Teresa Santamaría Hernández, *Estudios sobre Galeno Latino y sus fuentes* (Cuenca: Ediciones de la Universidad de Castilla-La Mancha, 2021); and Manuel Enrique Vázquez Buján, ed., *Tradición e Innovación de la Medicina Latina de la Antigüedad y de la Alta Edad Media: Actas del IV Coloquio Internacional sobre los "textos médicos latinos antiguos"* (Santiago de Compostela: Servicio de Publicacións e Intercambio Científico da Universidade de Santiago de Compostela, 1994), including chapters from Arsenio Ferraces Rodríguez, Klaus-Dietrich Fischer, David R. Langslow, Brigitte Maire, and María Teresa Santamaría Hernández. For lists of editions, translations, commentaries, and lexicographical studies Guy Sabbah, Pierre-Paul Corsetti, and Klaus-Dietrich Fischer, *Bibliographie des textes médicaux latins: Antiquité et haut Moyen Âge* (Saint-Étienne: Publications de l'Université de St. Étienne, 1987); Klaus-Dietrich Fischer, *Bibliographie des textes médicaux latins. Antiquité et haut Moyen Âge: premier supplement* (Saint-Étienne: Publications de l'Université de St. Étienne, 2000); Klaus-Dietrich Fischer, *Bibliographie des textes médicaux latins: Antiquité et haut Moyen Âge: second supplement* (Saint-Étienne: Bibliothèque Interuniversitaire de Médecine, 2000), https://www.biusante.parisdescartes.fr/histoire/medicina/documents/fischer.php; and Klaus-Dietrich Fischer, *Bibliographie des textes médicaux latins. Antiquité et haut Moyen Âge: addendum 2002* (Saint-Étienne: Bibliothèque Interuniversitaire de Médecine, 2002), https://www.biusante.parisdescartes.fr/histoire/medicina/documents/fischer2002.php.

and reinforce assumptions about the texts themselves.[13] The idea that texts are stable constructs that maintain 'a specific and definitive form from manuscript to manuscript', for example, or that 'there is a single author whose intentions the editor can intuit' are problematic suppositions given the complexity, diversity, and dynamism of early medieval medical literature.[14] Moreover, editions tend to focus on tracing a single source or family of texts, isolating the selected material from its wider context, such as the other writings with which it was transmitted.[15] While editorial projects are crucial for understanding individual texts, their relationships, and their linguistic evolution, it is important to build on these studies by a) pursuing complementary types of research that take into account the issues raised by Wallis, and b) expanding the research framework to engage with broader questions of intellectual, social, and cultural history.[16] By reading a text in isolation and without a full consideration of its manuscript context, intended audience(s) and purpose(s), and use over time, we can lose sight of how scribes and readers engaged with a manuscript and its contents and the ways in which the knowledge it transmits was perceived.[17] Ultimately, as Anna Grotans, Julian Hendrix, and Bernice Kaczynski highlight, while editions remain invaluable tools, they are not 'amenable' to all types of research

13 Faith Wallis, 'The Experience of the Book: Manuscripts, Texts, and the Role of Epistemology in Early Medieval Medicine', in *Knowledge and the Scholarly Medical Traditions*, ed. Don G. Bates (Cambridge: Cambridge University Press, 1995), 101–26, at p. 102.

14 Wallis, 'The Experience of the Book', 102.

15 Eric Knibbs, 'How to Use Modern Critical Editions of Medieval Latin Texts'. *History Compass* 5, no. 5 (2007): 1521–49, https://doi.org/10.1111/j.1478-0542.2007.00452.x. See also Sabbah, Corsetti, and Fischer, *BTML*; Fischer, *BTML 1*; Fischer, *BTML 2*; and Fischer, *BTML 3*.

16 Wallis, 'The Experience of the Book', 102; Monica H. Green, 'Moving from Philology to Social History: The Circulation and Uses of Albucasis's Latin *Surgery* in the Middle Ages', in *Between Text and Patient: The Medical Enterprise in Medieval and Early Modern Europe*, ed. Florence Eliza Glaze and Brian K. Nance (Florence: SISMEL Edizioni del Galluzzo, 2011), 331–72.

17 Indeed, a drive to centre manuscripts—which has surely been augmented by the increasing number of libraries and archives that are digitising and making their manuscript collections freely available online—can be felt across many subfields within early medieval history. See, for example, Carine van Rhijn, *Leading the Way to Heaven: Pastoral Care and Salvation in the Carolingian Period* (London: Routledge, 2022); Monique Goullet, Martin Heinzelmann, and Christiane Veyrard-Cosme, eds., *L'hagiographie mérovingienne à travers ses réécritures* (Ostfildern: Thorbecke, 2010); Alice Rio, *Legal Practice and the Written Word in the Early Middle Ages: Frankish Formulae, 500–1000* (Cambridge: Cambridge University Press, 2009); and Rosamond McKitterick, *History and Memory in the Carolingian World* (Cambridge: Cambridge University Press, 2004). On the impact of digitisation projects, see, for example, Benjamin Albritton, Georgia Henley, and Elaine Treharne, eds., *Medieval Manuscripts in the Digital Age* (London: Routledge, 2021).

questions, including those regarding the presentation of material on the page or the interpretation of the signs of how a manuscript was used or a text was read and/or adapted over time.[18]

Related to the emphasis on philological research within the traditional approach to the study of early medieval medicine, there has been an understandable prioritisation of those writings that can be linked to a known classical or late antique tradition.[19] Consequently, medical writings with clearer (late) ancient pedigrees have typically received more focus than the many so-called 'miscellaneous' medical writings and compendia that draw on combinations of sources, though there are a number of important early exceptions, such as the early medieval recipe collections published by Henry Sigerist and Julius Jörimann in the 1920s.[20] The field's interests, however, have shifted and expanded over time, such that many studies in recent decades are now focusing on precisely the type of material that was overlooked in the past. Much of the recent work by scholars such as Arsenio Ferraces Rodríguez and Klaus-Dietrich Fischer has recalibrated and enriched our understanding of the composition of early medieval compilations, tracing the links between recipe collections, extracts, or even individual recipes that appear across a range of manuscripts. Their research emphasises the degree to which (late) ancient medical knowledge underpinned the so-called 'miscellaneous' and previously

18 Anna Grotans, Julian Hendrix, and Bernice Kaczynski. 'Understanding Medieval Manuscripts: St. Gall's Virtual Library'. *History Compass* 7, no. 3 (2009): 955–80, https://doi.org/10.1111/j.1478-0542.2009.00603.x, at p. 955–6.

19 For editions and the categorisation of texts, see Sabbah, Corsetti, and Fischer, *BTML*; Fischer, *BTML 1*; Fischer, *BTML 2*; and Fischer, *BTML 3* as well as Beccaria, *I codici* and Wickersheimer, *Les manuscrits*.

20 On the emphasis on classical and late antique medical writings in earlier research, see, for example, the publications of the *CML*, including Celsus, *A. Cornelii Celsii quae supersunt*, ed. Friedrich Marx, *CML* 1 (Leipzig: Teubner, 1915); Quintus Serenus, *Liber medicinalis*, ed. F. Vollmer, *CML* 2 (Leipzig: Teubner, 1916); *Plinii Secundi Iunioris qui feruntur De medicina libri tres*, ed. Alf Önnerfors, *CML* 3 (Berlin: Akademie-Verlag, 1964); *Antonii Musae De herba vettonica liber. Pseudoapulei Herbarius. Anonymi De taxone liber. Sextii Placiti Liber medicinae ex animalibus etc.*, ed. Ernst Howald and Henry E. Sigerist, *CML* 4 (Leipzig; Teubner, 1927); Marcellus, *De medicamentis liber*, ed. Eduard Liechtenhan and Maximilian Niedermann, trans. Jutta Kollesch and Diethard Nickel, *CML* 5, 2 vols. (Berlin: Akademie-Verlag, 1968); Caelius Aurelianus, *Celerum Passionum Libri III. Tardarum Passionum Libri V*, ed. Gerhard Bendz, trans. Ingeborg Pape, *CML* 6, 2 vols. (Berlin: Akademie-Verlag, 1990–93); and Anthimus, *De observatione ciborum ad Theodoricum regem Francorum epistula*, ed. and trans. Eduard Liechtenhan, *CML* 8 (Berlin: Akademie-Verlag, 1963). On early exceptions, see *Studien und Texte*, ed. Sigerist; *Frühmittelalterliche Rezeptarien*, ed. Jörimann.

unidentified material.[21] At the same time, more work has turned to individual manuscripts: Ulrich Stoll, for example, published an edition and translation of the *Lorscher Arzneibuch*, while Peter Köpp and Monica Niederer have each produced studies of distinct recipe collections in cod. sang. 217 (with the former including related fragments in cod. sang. 1396).[22]

By concentrating on material found outside the established corpus, such as recipes in anonymous collections that appear to have been compiled in the early Middle Ages as well as individual recipes added to manuscripts during this period, this book builds on and contributes to these studies, continuing to broaden the current discourse on early medieval recipe literature. These recipes and their contexts will be discussed in Chapter 2 (and see Appendix 1 for a more detailed review of the specific manuscripts involved in this study).

3.2 *Histories of Early Medieval Medicine: From Negative Stereotypes to Revisionist Approaches*

Scholars of the early Middle Ages have been relatively slow to turn to the history of medicine: Loren MacKinney's *Early Medieval Medicine, With Special Reference to France and Chartres*, now over eighty years old, remains the only general monograph on the topic, and discussions of health and medicine have rarely featured in more general studies of the period.[23] As Meg Leja has

21 Arsenio Ferraces Rodríguez, 'Reutilización de fuentes en recetarios médicos de la antigüedad tardía: Teodoro Prisciano-*Teraupetica-Tereoperica*', *Acta Classica: Proceedings of the Classical Association of South Africa* 64, no. 1 (2021): 212–36; Arsenio Ferraces Rodríguez, 'El recetario *Ut pili evulsi non recrescant* (Paris, BNF, Lat. 13955, ff. 146r-147v)', *Galenos* 5 (2011): 71–90; Klaus-Dietrich Fischer, 'Two Latin Pre-Salernitan medical manuals, the *Liber passionalis* and the *Tereoperica* (Ps. Petroncellus)', in *Medical Books in the Byzantine World*, ed. Barbara Zipser (Bologna: Università di Bologna, 2013), 35–56; and Klaus-Dietrich Fischer, '*Antidotum cui nomen est acharistum*', in *Between Text and Patient: The Medical Enterprise in Medieval and Early Modern Europe*, ed. Florence Eliza Glaze and Brian K. Nance (Florence: SISMEL Edizioni del Galluzzo, 2011), 173–99.

22 *Das 'Lorscher Arzneibuch': Ein medizinisches Kompendium des 8. Jahrhunderts* (*Codex Bambergensis medicinalis 1*)*: Text, Übersetzung und Fachglossar*, ed. and trans. Ulrich Stoll (Stuttgart: Franz Steiner, 1992); *Vademecum eines frühmittelalterlichen Arztes*, ed. and trans. Köpp; and *Der St. Galler* Botanicus*: Ein frühmittelalterliches Herbar: Kritische Edition, Übersetzung und Kommentar*, ed. and trans. Monica Niederer (Bern: Peter Lang, 2005).

23 Loren C. MacKinney, *Early Medieval Medicine, With Special Reference to France and Chartres* (Baltimore: Johns Hopkins Press, 1937). For overviews of Carolingian history and culture, and the conspicuous absence of health and medicine from these works, see, for example, Marios Costambeys, Matthew Innes, and Simon MacLean, *The Carolingian World* (Cambridge: Cambridge University Press, 2011); Rosamond McKitterick, ed., *The New Cambridge Medieval History* II, *c. 700-c. 900* (Cambridge: Cambridge University Press, 1995); Rosamond McKitterick, *The Frankish Kingdoms under the Carolingians,*

suggested, perhaps Einhard's claim that Charlemagne did not listen to his physicians has coloured modern historians' approach to this area: 'scholars have followed Einhard's lead—unconsciously or not—in discounting medicine as an important aspect of the Carolingian renaissance'.[24] Regardless of Einhard's influence, however, the realm of medicine has traditionally been seen as a field comparatively unaffected by the Carolingian focus on learning and writing. Although the copying of classical and late antique medical texts during this period may seem to fit with the more general Carolingian interest in studying writings from Antiquity, it has been shown that few of these medical texts were actually rediscovered at this time.[25] The surviving written record has thus been interpreted as continuing late antique trends rather than marking a new phase in relation to Carolingian cultural and intellectual developments. As a result, the primary medical achievement of this period has often been characterised as an increase in the production of manuscripts containing medical content rather than as an increase in the production of *new* medical material.[26]

If early medievalists have, by and large, begun to engage with medical history only in relatively recent years (as discussed below), earlier generations of historians of medicine often dismissed the early Middle Ages entirely. The now outdated, though still influential, teleological approach to medical history understood medicine to be on a path of inevitable progress from Antiquity to the present day, excepting a period of stagnation coinciding with the 'Dark Ages'.[27] These centuries—the millennium or so between the heights of classical learning and the reintroduction of Greek medical knowledge in the central

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751–987 (London: Longman, 1983); and Joanna Story, ed., *Charlemagne: Empire and Society* (Manchester: Manchester University Press, 2005). Michael McCormick's contribution to *The Long Morning of Medieval Europe: New Directions in Early Medieval Studies* is a notable exception: Michael McCormick, 'Molecular Middle Ages: Early Medieval Economic History in the Twenty-First Century', in *The Long Morning of Medieval Europe: New Directions in Early Medieval Studies*, ed. Jennifer R. Davis and Michael McCormick (Aldershot: Ashgate, 2008), 83–97.

24 Meg Leja, 'The Sacred Art: Medicine in the Carolingian Renaissance', *Viator* 47, no. 2 (2016): 1–34, https://doi.org/10.1484/J.VIATOR.5.111224; see especially pp. 1–2.

25 Vivian Nutton, 'Early Medieval Medicine and Natural Science', in *The Cambridge History of Science 2: Medieval Science*, ed. David C. Lindberg and Michael H. Shank (Cambridge: Cambridge University Press, 2013), 323–40, at p. 336.

26 MacKinney, *Early Medieval Medicine*, 99; Peregrine Horden, 'What's Wrong with Early Medieval Medicine?' *Social History of Medicine* 24, no. 1 (2011): 5–25, https://doi.org/10.1093/shm/hkp052, at p. 17. For a reassessment of medicine's place in the Carolingian world, see Leja, *Embodying the Soul*.

27 See, for example, the general assessments of late antique medicine in Vivian Nutton, 'From Galen to Alexander, Aspects of Medicine and Medical Practice in Late Antiquity', *Dumbarton Oaks Papers* 38 (1984): 1–14, https://doi.org/10.2307/1291489, and for a more

and later Middle Ages thanks to the translation of Arabic texts—have been described as a 'refrigerator, in which the medical knowledge of antiquity [was] merely preserved'.[28] Early medieval medicine, therefore, was largely ignored (or even ridiculed) by numerous earlier scholars.[29] Accordingly, it remains less well established than many other comparable subfields in both Carolingian history *and* medical history.[30]

Already in the early twentieth century, however, a handful of researchers, including Henry Sigerist and Loren MacKinney, bucked the general trends and took seriously the study of early medieval medicine.[31] Although their landmark

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recent assessment, Vivian Nutton, *Ancient Medicine*, 2nd ed. (Abingdon: Routledge, 2013), 299–317.

28 Peter van Minnen, 'Medical care in late antiquity', in *Ancient Medicine in Its Socio-Cultural Context, Volume 1: Papers Read at the Congress Held at Leiden University, 13–15 April 1992*, ed. H. F. J. Horstmanshoff, Philip J. van der Eijk, and P. H. Schrijvers (Amsterdam: Rodopi, 1995), 153–169, at p. 153.

29 While many earlier historians may have viewed medieval medical writings simply as witnesses to the blind copying of older sources, others went further, comparing early medieval pharmacy to the potion produced by the witches in Macbeth and even labelling some material as 'absurd and childish'; Charles Singer, 'A Review of the Medical Literature of the Dark Ages, with a New Text of about 1110', *Proceedings of the Royal Society of Medicine* 10 (1917): 107–60, see especially pp. 158–60. Similar views are espoused in J. H. G. Grattan and Charles Singer, *Anglo-Saxon Magic and Medicine: Illustrated Specially from the Semi-Pagan Text* Lacnunga (Oxford: Oxford University Press, 1952). On the development of these perceptions, see *Medieval Herbal Remedies: The* Old English Herbarium *and Anglo-Saxon Medicine*, trans. Anne Van Arsdall (New York: Routledge, 2002), 35–100.

30 On general Carolingian histories, see n. 23 above. For an overview of western medical history, and the relatively limited space given to early medieval medicine, see Lawrence I. Conrad, Michael Neve, Vivian Nutton, Roy Porter, and Andrew Wear, *The Western Medical Tradition: 800 BC to AD 1800* (Cambridge: Cambridge University Press, 1995). For medicine in the ancient world, see especially Nutton, *Ancient Medicine*; and for later medieval medicine, see, for example, Nancy G. Siraisi, *Medieval and Early Renaissance Medicine: An Introduction to Knowledge and Practice* (Chicago, University of Chicago Press, 1990); Monica H. Green, 'Bodies, Gender, Health, Disease: Recent Work on Medieval Women's Medicine', *Studies in Medieval and Renaissance History* 3 (2005): 1–46; Michael R. McVaugh, *Medicine before the Plague: Practitioners and their Patients in the Crown of Aragon, 1285–1345* (Cambridge: Cambridge University Press, 1993); Michael McVaugh, *The Rational Surgery of the Middle Ages* (Florence: SISMEL Edizioni del Galluzzo, 2006); and Piers D. Mitchell, *Medicine in the Crusades: Warfare, Wounds and the Medieval Surgeon* (Cambridge: Cambridge University Press, 2004). These titles offer only a fraction of the available scholarship on these topics.

31 See, for example, MacKinney, *Early Medieval Medicine*; *Studien und Texte*, ed. Sigerist; Henry E. Sigerist, 'A Summer of Research in European Libraries', *Bulletin of the Institute of the History of Medicine* 2, no. 10 (1934): 559–610; Henry E. Sigerist, 'The Latin Medical Literature of the Early Middle Ages', *Journal of the History of Medicine and Allied Sciences* 13, no. 2 (1958): 127–45.

studies remain valuable today, they still perpetuated many of the prevailing ideas about medical knowledge and practice during this period, such as its perceived backwardness and superstitious nature. Consider how, on the one hand, Sigerist's opening remarks in *Studien und Texte zur frühmittelalterlichen Rezeptliteratur* assumed medicine's stagnation in the 'Dark Ages' while, on the other hand, his concluding analyses recognized the production of new, original compilations that reflected the needs and conditions of the communities in which they were produced.[32] Negative stereotypes of medieval medicine may persist in popular culture but, thanks to these pioneering scholars, more researchers began to question these assumptions.[33]

Expanding from this foundation, the study of early medieval medicine experienced a significant swing of the historiographical pendulum in the second half of the twentieth century. Led by historians such as John M. Riddle, Jerry Stannard, and Linda Ehrsam Voigts, a wave of revisionist scholarship radically altered the field, and especially with respect to topics concerning the relationship between medical knowledge and practice.[34] Although Riddle and Stannard concentrated on continental material, much of the research into the practicality of medical texts has been rooted in the study of Old English recipe literature.[35] Voigts's 1979 article, 'Anglo-Saxon Plant Remedies and the Anglo-Saxons', for example, provided one of the first in-depth reassessments of early English herbal medicine and contends that texts such as the *Old English*

32 *Studien und Texte*, ed. Sigerist, iii-v and 182–95.

33 On medieval medicine and popular culture, see Lucy Barnhouse and Winston Black, eds., *Beyond Cadfael: Medieval Medicine and Medical Medievalism* (Budapest: Trivent Publishing, 2023).

34 See, for example, John M. Riddle, 'The Introduction and Use of Eastern Drugs in the Early Middle Ages', *Sudhoffs Archiv für Geschichte der Medizin und der Naturwissenschaften* 49, no. 2 (1965): 185–98; John M. Riddle, 'Theory and Practice in Medieval Medicine'. *Viator* 5 (1974): 157–84, https://doi.org/10.1484/J.VIATOR.2.301620; John M. Riddle, 'Pseudo-Dioscorides' *Ex herbis femininis* and Early Medieval Medical Botany', *Journal of the History of Biology* 14, no. 1 (1981): 43–81; Jerry Stannard, 'The Herbal as a Medical Document', *Bulletin of the History of Medicine*' 43, no. 3 (1969): 212–20; Jerry Stannard, 'Marcellus of Bordeaux and the Beginnings of Medieval *Materia Medica*', *Pharmacy in History* 15, no. 2 (1973): 47–53; Linda Ehrsam Voigts, 'The Significance of the Name Apuleius to the *Herbarium Apulei*', *Bulletin of the History of Medicine* 52, no. 2 (1978): 214–27; and Linda E. Voigts, 'Anglo-Saxon Plant Remedies and the Anglo-Saxons', *Isis* 70, no. 2 (1979): 250–68. For collections of Riddle's and Stannard's groundbreaking articles, see John M. Riddle, *Quid pro quo: Studies in the History of Drugs* (Aldershot: Variorum, 1992); Jerry Stannard, *Pristina Medicamenta: Ancient and Medieval Medical Botany* (Aldershot: Ashgate, 1999); and Jerry Stannard, *Herbs and Herbalism in the Middle Ages and Renaissance* (Aldershot: Ashgate, 1999).

35 Horden, 'What's Wrong with Early Medieval Medicine?', 6.

Herbarium could have been used in practice.[36] While arguments for the practicality of early medieval recipes will be reviewed in more detail below, Voigts's analysis, alongside Riddle's work on the evolving relationship between medical theory and practice, has proved pivotal. In particular, Malcolm L. Cameron, Anne Van Arsdall, Maria Amalia D'Aronco, and Audrey Meaney, among others, have built on Voigts's arguments by exploring the transmission of medical information, the processes involved in translating knowledge into practice, the allegedly 'magical' or 'superstitious' elements within recipes, as well as their potential efficacy.[37]

Although this significant body of scholarship has provided great insights into early medieval medicine whilst simultaneously overturning the traditional,

36 Voigts, 'Anglo-Saxon Plant Remedies'. On medieval herbals more generally, see Minta Collins, *Medieval Herbals: The Illustrative Traditions* (London: British Library, 2000) and on the Old English *Herbarium*, see Maria Amalia D'Aronco and Malcolm L. Cameron, *The Old English Illustrated Pharmacopoeia* (Copenhagen: Rosenkilde and Bagger, 1998) and *Medieval Herbal Remedies*, trans. Van Arsdall.

37 M. L. Cameron, *Anglo-Saxon Medicine* (Cambridge: Cambridge University Press, 1993); M. L. Cameron, 'Anglo-Saxon Medicine and Magic', *Anglo-Saxon England* 17 (1988): 191–215; Anne Van Arsdall, 'Challenging the "Eye of Newt" Image of Medieval Medicine', in *The Medieval Hospital and Medical Practice*, ed. Barbara Bowers (Aldershot: Ashgate, 2007), 195–205; Anne Van Arsdall, 'The Transmission of Knowledge in Early Medieval Medical Texts: An Exploration', in *Between Text and Patient: The Medical Enterprise in Medieval and Early Modern Europe*, ed. Florence Eliza Glaze and Brian K. Nance (Florence: SISMEL Edizioni del Galluzzo, 2011), 201–15; Maria Amalia D'Aronco, 'Anglo-Saxon Plant Pharmacy and the Latin Medical Tradition', in *From Earth to Art: The Many Aspects of the Plant-World in Anglo-Saxon England. Proceedings of the First ASPNS Symposium, University of Glasgow, 5–7 April 2000*, ed. C. P. Biggam (Amsterdam: Rodopi: 2003), 133–51; Maria Amalia D'Aronco, 'The Transmission of Medical Knowledge in Anglo-Saxon England: The Voices of Manuscripts', in *Form and Content of Instruction in Anglo-Saxon England in the Light of Contemporary Manuscript Evidence: Papers Presented at the International Conference, Udine, 6–8 April 2006*, ed. Patrizia Lendinara, Loredana Lazzari, and Maria Amalia D'Aronco (Turnhout: Brepols, 2007), 35–58; *Medieval Herbal Remedies*, trans. Van Arsdall; Audrey Meaney, 'The Practice of Medicine in England about the Year 1000', *Social History of Medicine* 13, no. 2 (2000): 221–37, https://doi.org/10.1093/shm/13.2.221; and Audrey L. Meaney, 'Extra-Medical Elements in Anglo-Saxon Medicine', *Social History of Medicine* 24, no. 1 (2011): 41–56, https://doi.org/10.1093/shm/hkq105. For more recent work on efficacy since Cameron's research, see Barbara Brennessel, Michael D. C. Drout, and Robyn Gravel, 'A Reassessment of the Efficacy of Anglo-Saxon Medicine', *Anglo-Saxon England* 34 (2005): 183–95; Freya Harrison, Aled E. L. Roberts, Rebecca Gabrilska, Kendra P. Rumbaugh, Christina Lee, and Stephen P. Diggle, 'A 1,000-Year-Old Antimicrobial Remedy with Antistaphylococcal Activity', *mBio* 6, no. 4 (2015), https://doi.org/10.1128/mBio.01129-15; and Rebecca Brackmann, '"It Will Help Him Wonderfully": Placebo and Meaning Responses in Early Medieval English Medicine', *Speculum* 97, no. 4 (2022): 1012–39, https://doi.org/10.1086/721680.

disparaging stereotypes regarding the topic, there are certain limitations with its scope as well as potential pitfalls in its approach. On the one hand, the extensive focus on Insular material has yet to be replicated for continental sources, though claims for the practicality of the latter are sometimes based on extrapolating from analyses of the Old English texts. On the other hand, much of the work investigating the relationship between medical knowledge and practice has started with assumption that the texts were, by their very nature, intended to be used in practice, creating a circular argument. The present book aims to offer an intervention that addresses both points.

While the heightened focus on Insular recipe literature may stem largely from the interest it has generated as medical knowledge recorded in the vernacular, it has also been facilitated by its size. As Peregrine Horden explains, scholars of Old English medicine 'have to work with a substantial corpus of around 500 folios but embodying only five major works, three of which survive in unique manuscripts. Many difficulties remain, but the focus is at least clear'.[38] By comparison, the Latin continental material, with over one hundred extant early medieval manuscripts containing medical texts, presents a rather different picture than the handful of codices with Old English medical writings.[39] Yet, despite the challenges raised by this considerably larger volume of recipe literature, it deserves to be studied in its own right as well as in comparison with the Old English corpus, (late) ancient texts, and later medieval writings.

Although earlier scholars' emphasis on the distinctiveness of the Insular medical texts has been revised and the significance of pan-European medical traditions recognised, it is still dangerous to base claims for continental recipe literature's practicality primarily on the analyses of the Old English

38 Horden, 'What's Wrong with Early Medieval Medicine?', 6. The major surviving recipe collections in Old English include three *Leechbooks* (*Bald's Leechbook I* and *II* as well as *Leechbook III*), the *Lacnunga*, and translations/adaptations of several late antique Latin recipe collections.

39 On the numbers of surviving manuscripts, see Beccaria, *I codici* and Wickersheimer, *Les manuscrits*; the former includes 158 manuscripts produced between the ninth and eleventh centuries while the latter, which only focuses on manuscripts held in French collections, gives 119 manuscripts for the same period. Both catalogues, however, are in need of revision and the Corpus of Early Medieval Latin Medicine (CEMLM, formerly the Beyond Beccaria Project (2020–23)), a British Academy-funded cataloging project (https://cemlm.wp.st-andrews.ac.uk/), is working to produce a new, expanded catalogue of early medieval manuscripts containing medical texts that includes manuscripts missed by Beccaria and Wickersheimer. A preliminary handlist is in preparation that covers these additional manuscripts (approximately 200 in number).

corpus.[40] In contrast to the evidence for practicality identified by Voigts and others, Florence Eliza Glaze, in a critical study of Latin continental medical manuscripts, challenges the idea that the texts in these codices were inherently useable, writing, 'after examining numerous manuscripts studded with Greek anatomical terminology, much of it hopelessly corrupt, it has become clear that in many cases, neither scribes nor readers had the critical linguistic skills to grasp appreciably the meaning of the material in hand, to unlock the obscurity of the Greek, and parse the texts before them'.[41] Faith Wallis, too, has questioned the utility of certain medieval medical writings, in her case treatises on urine and pulse analysis, having identified corrupted passages that would have changed their meaning.[42] Wallis suggests that such treatises would have had limited practical use in the context of therapy. These examples serve as helpful cautions, reminders of not only the possible differences between the Latin and Old English traditions but also the potential dangers of overemphasising signs of practicality in medical texts. Consequently, arguments regarding recipe practicality that are built on extrapolations from Insular evidence or that rely on the handful of early published Latin collections, such as the works of Sigerist and Jörimann, are in need of reassessment and must take into account a larger sample of the surviving recipe literature. This book, though not comprehensive in its analysis of early medieval Latin recipes, examines a much more extensive body of the extant recipes and thus begins the process of re-evaluating earlier scholarship while offering new insights.

The second issue raised above, namely, that much recent research on the practicality of recipes begins with the assumption that pharmaceutical writings were naturally intended to be used in therapy, reflects how far the field has moved: this idea stands in stark contrast to the traditional view of *Mönchsmedizin*, monastic medicine, in which medical writings were understood to be the result of the blind copying of earlier texts. The number of surviving early medieval manuscripts containing medical texts, for example, has

40 On pan-European traditions, see Gundolf Keil and Paul Schnitzer, eds., *Das Lorscher Arzneibuch und die frühmittelalterliche Medizin: Verhandlungen des medizinhistorischen Symposiums im September 1989 in Lorsch* (Lorsch: Laurissa, 1991); *Medieval Herbal Remedies*, trans. Van Arsdall, 68–100; Riddle, 'Theory and Practice'. On the Latin sources of Old English medical writings, see Conan T. Doyle, *The Reception of Latin Medicine in Anglo-Saxon England: Evidence from Old English Medical Texts* (York: York Medieval Press, forthcoming).

41 Glaze, 'The Perforated Wall', 5–6.

42 Faith Wallis, 'Signs and Senses: Diagnosis and Prognosis in Early Medieval Pulse and Urine Texts', *Social History of Medicine* 13, no. 2 (2000): 265–78, https://doi.org/10.1093/shm/13.2.265, at p. 273.

been interpreted as evidence for their practical value.[43] Yet the sheer number of extant manuscripts containing a certain genre of texts does not indicate *how* these texts were used. Furthermore, these manuscripts actually comprise a relatively small percentage of the total number of codices that survive from this period. According to Vivian Nutton, 'out of roughly 9,000 codices surviving from the ninth century, barely 100 can be classed as medical'.[44] While the full story of the manuscript evidence is more complicated—not least because hundreds of recipes have also been identified as additions to fly-leaves, margins, and other blank spaces in early medieval manuscripts otherwise unrelated to medicine—Nutton's point still stands: medical writings make up but a small percentage of the surviving textual record. The simple existence of medical literature should not be read as evidence of its use in medical practice.

A variety of other features, including signs of wear and tear, the presence of glosses, the lack of theoretical writings, and the size and shape of manuscripts, have also been employed as indications of the use of these texts in medical practice.[45] The dimensions and folds of several manuscripts containing recipes considered in this study, such as Paris, BnF lat. 11218 and cod. sang. 217, have been interpreted as evidence of their use by medical practitioners. In the case of BnF lat. 11218, this small, rectangular manuscript dated to the late eighth or early ninth centuries contains a diverse collection of medical and pharmaceutical texts.[46] Based on its proportions (23.2 cm x 13.3 cm) and lack of writings on medical theory, it has been described as having 'the appearance of a manual [intended] for practical use'.[47] While the portability of a manuscript does indicate that it could have travelled with ease—and thus could have accompanied a Carolingian *medicus*—its size cannot be conclusively linked to its deployment in medical contexts. Small volumes may have been made for many reasons entirely unrelated to their use in therapy, such as the constraints of available parchment and other resources. The jump from portability to practicality, moreover, assumes much about how medicine was practised and imagines that a physician-figure would have needed a portable medical guide

43 Van Arsdall, 'The Transmission of Knowledge', 210.

44 Nutton, 'Early Medieval Medicine and Natural Science', 336.

45 Voigts, 'Anglo-Saxon Plant Remedies'; Riddle, 'Theory and Practice'; Bernhard Bischoff, 'Über gefaltete Handschriften, vornehmlich hagiographischen Inhalts', in *Mittelalterliche Studien. Ausgewählte Aufsätze zur Schriftkunde und Literaturgeschichte*, ed. Bernhard Bischoff, vol. 1 (Stuttgart: Hiersemann, 1966), 93–100, at p. 99; Horden, 'What's Wrong with Early Medieval Medicine?', 10 and 16.

46 See Chapter 2 for more information about this manuscript and the others under analysis.

47 Beccaria, *I codici*, no. 34: 'Il volume, che nelle proporzioni ha l'aspetto di un manuale per l'uso practico' (p. 161).

to assist in his or her practice.[48] And what does this say about medical manuscripts with larger folia? Would the use of wider or longer pieces of parchment, as seen in many of the manuscripts considered in this book, suggest that such compendia were impractical with respect to medical practice?

Regarding glosses, consider, for example, those in cod. sang. 878, Walahfrid Strabo's *vademecum*, another manuscript analysed in this study. On p. 333, a number of recipes have been glossed in Old High German, translating many of the ingredients into the vernacular.[49] In mixed linguistic communities, this would have been a very practical addition for an individual who was less familiar with Latin. Such glosses, however, could also reflect the manuscript's role in teaching vocabulary. Regardless, in this case, they date to the eleventh century and therefore cannot be used to comment on the Carolingian use of these texts. London, BL Harley MS 585, a manuscript containing the *Lacnunga*, a copy of the *Old English Herbarium*, and other medical texts, provides a parallel from the Insular world. It has been described as 'a complete manual for a physician's use', which 'has the aspect of a manuscript intended for use, study, and/or reference'.[50] While its texts do include many recipes and other writings related to therapy, as Katharine Park highlights, the degree to which they were intended for use in the practice of medicine remains unknown, even in manuscripts that that appear 'decidedly practical in orientation' to a modern reader.[51] This final point is crucial: while it is tempting to assume that medical texts that *look* practical were intended for medical practice—and then to read all evidence of practical features as supporting this conclusion—it is a circular argument and ignores the possibility that such texts may have been used in other ways.[52] While the evidence mobilised in these arguments does confirm the *use* of these manuscripts, rarely does it pinpoint the specific contexts in which they were read, handled, annotated, and otherwise used. In fact, with respect to the glosses in London, BL Harley MS 585, the comments that most

48 All surviving records of a term for a professional medical practitioner are masculine (*medicus*), though the possibility of female healers with access to medical texts should not be automatically discounted. See also Leja, *Embodying the Soul*, 137.

49 Emil Elias von Steinmeyer and Eduard Sievers, *Die althochdeutschen Glossen*. 5 vols. (Berlin: Weidmann, 1879–1922), vol. 4, 455.

50 D'Aronco, 'The Transmission of Medical Knowledge', 50.

51 Katharine Park, 'Medicine and Society in Medieval Europe, 500–1500', in *Medicine in Society: Historical Essays*, ed. Andrew Wear (Cambridge: Cambridge University Press, 1992), 59–90, at p. 66.

52 Peregrine Horden, 'Prefatory Note: The Uses of Medical Manuscripts', in *Medical Books in the Byzantine World*, ed. Barbara Zipser (Bologna: Università di Bologna, 2013), 1–6.

clearly connect the texts to the practice of medicine have been dated to the fourteenth century, reinforcing the need for caution.[53]

Studies of cod. sang. 217 paint a similar picture. Based on its 'very practical orientation and simple decoration', it has been argued that the manuscript served as the *vademecum* of an early medieval physician.[54] A number of elements, including its a) shape, size, and folds, b) exclusive focus on recipes and bloodletting treatises, c) lack of writings on medical theory, d) simplicity of decoration, and e) signs of wear and tear, support this as a possibility. That is, the evidence suggests that it *could* have been used in the context of therapy and *could* have accompanied a practising early medieval *medicus*. Yet to understand these features as proof of the manuscript's use in medical practice assumes that it was designed with this single purpose in mind: the argument presupposes that *any* signs of use are indicative of its use by a medical practitioner in the context of therapy.[55]

Instead, as Peregrine Horden emphasises, it is essential to recognise the variety of ways in which medical texts could have been used.[56] Although the 'simple preservation of a text for its own sake … should be automatically suspect', we should not entirely rule out the possible influence of antiquarian impulses in the drive to copy certain texts.[57] Alternatively, some surviving medical manuscripts, such as the richly decorated Vienna Dioscorides, may have been intended as markers of prestige and involved in elite gift exchange.[58]

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53 D'Aronco, 'The Transmission of Medical Knowledge', 52.

54 Clare Pilsworth, *Healthcare in Early Medieval Northern Italy: More to Life than Leeches?* (Turnhout: Brepols, 2014), 81. On the interpretation of the manuscript's use, see the studies by Monica Niederer and Peter Köpp: *Der St. Galler* Botanicus, ed. and trans. Niederer (see especially pp. 9–23, 51–61); *Vademecum eines frühmittelalterlichen Arztes*, ed. and trans. Köpp (see especially pp. 12–13). The manuscript itself is discussed further in Chapter 2.

55 Despite reiterating many of the standard views regarding the use of cod. sang. 217, Clare Pilsworth also cautions against assuming that medical texts were intended exclusively for use in therapy and extends the discussion of manuscripts' potential to be used in multiple ways based on her analysis of Modena, Archivio Capitolare, O.I.11: Pilsworth, *Healthcare in Early Medieval Northern Italy*, 81–93.

56 Horden, 'Prefatory Note', 1–6. See also Horden, 'What's Wrong with Early Medieval Medicine?', 5–25.

57 Horden, 'Prefatory Note', 4.

58 Vienna, Österreichische Nationalbibliothek, Med. gr. 1. On this manuscript, see, for example, Leslie Brubaker, 'The Vienna Dioskorides and Anicia Juliana', in *Byzantine Garden Culture*, ed. Antony Robert Littlewood, Henry Maguire, and Joachim Wolschke-Bulmahn (Washington, D.C.: Dumbarton Oaks, 2002), 189–214 and Ernst Gamillscheg, 'Das Geschenk für Juliana Anicia: Überlegungen zur Struktur und Entstehung des Wiener Dioskurides', in *Byzantina Mediterranea. Festschrift für Johannes Koder zum 65. Geburtstag*, ed. Klaus Belke, Ewald Kislinger, Andreas Külzer, and Maria A. Stassinopoulou (Vienna: Böhlau, 2007), 187–95. On illustrated herbals, see Collins, *Medieval Herbals*. See also Monica

Medical texts also seemed to have a played an important role in scholarly pursuits more broadly, ranging from literary models to works of scientific information, thereby offering additional non-therapeutic uses of medical writings.[59] The presence of medical texts alongside works on the liberal arts and technical subjects, such as computus, in a number of manuscripts involved in this book, certainly supports the possibility that they were used in teaching, whether they were intended to provide guidance for specific medical matters or form part of the broader curriculum—or both.[60] Indeed, these varied purposes should not be seen as mutually exclusive: a single medical text may have been copied, read, and consulted for multiple reasons and its use(s) may have evolved over time.

Overall, in the process of reclaiming the study of early medieval medicine, historians have, at times, been overly positive in reading the evidence, falling into circular arguments and reaching premature conclusions. Claims regarding the relationship between knowledge and practice that have been built on the idea that a text's practical adaptations present proof of its consultation *in* medical practice and, relatedly, that any signs of a manuscript's use indicate its use *in* medical practice, must be reassessed. Although medical texts *could* have been used in the practice of medicine, it is inappropriate to jump to such a finding without additional evidence. The relationship between knowledge and practice must be interrogated more critically, and that investigation lies at the heart of this book. At the same time, given the past focus on Old English medical texts, further assessment of Carolingian material is particularly needed. As this book demonstrates, a more thorough contextualisation of the manuscript evidence and the analysis of a larger volume of data have significant implications for the question of practicality. The examination of an extensive sample of understudied recipes and recipe collections enables a re-evaluation of the conclusions of earlier research. This investigation begins without presuming that medical texts were exclusively intended for use in medical practice. Rather, *that* is the question: do recipes provide evidence that can shed light on not only whether they were used but also how they were used? Part 1 tackles

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Green's compelling argument regarding the advertising purposes of deluxe, illustrated surgical treatises in Green, 'Moving from Philology to Social History'.

59 Horden, 'Prefatory Note', 4; Glaze, 'The Perforated Wall', 103.

60 Horden, 'Prefatory Note', 1–6. Faith Wallis also links the arrangement of manuscripts to the context of education, connecting 'the transmission of texts through florilegia' to medical training; Wallis, 'The Experience of the Book', 106. On medicine's place within a general education, see James T. Palmer, 'Merovingian Medicine between Practical Art and Philosophy', *Traditio* (forthcoming).

these questions through the lens of practicality. In doing so, it takes the topic in a new direction by distinguishing between general evidence for the use of these texts and more specific signs suggesting that they were intended to be used in medical practice.

3.3 *New Directions in Early Medieval Medical Research*

In recent decades, there has been a significant increase in the number of scholars studying early medieval Europe who either specialise in the history of health and medicine or integrate this field into their work on other areas of early medieval history. As a result, early medieval medical history is now being productively connected to a wide range of different subfields, intersecting with and contributing to research in social, cultural, intellectual, political, religious, legal, and environmental history and beyond.[61] Among the most important developments have been the diversification of the types of evidence employed in analyses and the drive to explore health as part of medical history.[62] The history of medicine, moreover, has traditionally taken a top-down approach that has primarily concentrated on practitioners—and, more specifically, the subset of practitioners who left a written record of their practice (or at least appear in the surviving written record), thereby privileging an elite, western, and male perspective. By concentrating on this limited group of individuals, not only have other types of practitioners been largely ignored, but so, too, have patients. In earlier generations of scholarship, the lack of attention given to patients, their experiences, and the wider cultures of healing in which they

61 For connections between medicine and other subfields of Carolingian history, see, for example, Leja, *Embodying the Soul*; Zubin Mistry, *Abortion in the Early Middle Ages, c. 500–900* (Woodbridge: Boydell & Brewer, 2015); Palmer, 'Merovingian Medicine'; and Faith Wallis, 'Medicine in Medieval Calendar Manuscripts', in *Manuscript Sources of Medieval Medicine*, ed. Margaret R. Schleissner (London: Garland, 1995), 105–43. For more focused assessments of health and disease, medicine, and medical practitioners in early medieval Europe, see, for example, Timothy P. Newfield, 'Malaria and Malaria-like Disease in the Early Middle Ages', *Early Medieval Europe* 25, no. 3 (2017): 251–300, https://doi.org/10.1111/emed.12212; Pilsworth, *Healthcare in Early Medieval Northern Italy*; and Patricia Skinner, *Health and Medicine in Early Medieval Southern Italy* (Leiden: Brill, 1997); and on the integration of medicine into the study of medieval history, see Monica H. Green, 'Integrative Medicine: Incorporating Medicine and Health into the Canon of Medieval European History', *History Compass* 7, no. 4 (2009): 1218–45, https://doi.org/10.1111/j.1478-0542.2009.00618.x.

62 On the increasing range of evidence and methodologies available to historians, see McCormick, 'Molecular Middle Ages'. On the history of health vs. the history of medicine, see, for example, Monica H. Green, "History of Medicine' or 'History of Health'?', *Past and Future: The Magazine of the Institute of Historical Research* 9 (2011): 7–9.

lived and died is striking.[63] Indeed, the general dearth of named practitioners and few glimpses of *medici* in the early medieval west may help to explain why this period's medical history has suffered neglect in comparison to earlier and later periods: though *medici* occasionally appear as witnesses in charters and their presence is alluded to in law codes, poems, and other documentary evidence, only two royal *medici*, Wintar and Zedechias, are named in the surviving sources.[64] This book, through its examination of the lived experiences, and especially the experiences of injury and disease, of individuals in early medieval Europe, in concert with the textual record, thus expands on current trends in the field by drawing together different types of evidence to investigate questions of health alongside the transmission of medical knowledge.

Sources outside of the standard textual corpus are of particular interest and relevance to the study of health and disease in past populations. Genetics, for example, now provides previously unimaginable evidence for tracing the histories of pathogens, while the integration of the osteological record can, as Robin Fleming writes, help historians 'to re-animate the historical dead'.[65] Indeed, combinations of multiple lines of written and archaeological evidence

63 Monica H. Green, 'Gendering the History of Women's Healthcare', *Gender & History* 20, no. 3 (2008): 487–518, https://doi.org/10.1111/j.1468-0424.2008.00534.x, at p. 492. On the framework of 'cultures of healing', see Peregrine Horden, *Cultures of Healing: Medieval and After* (Abingdon: Routledge, 2019), ix-xi.

64 On Wintar, see Heiric of Auxerre, *Miracula S. Germani* 86, *PL* 124, cols. 1207–72, at col.1248B and Eigil of Fulda, *Vita Sturmi* 25, in Eigil of Fulda, *Die Vita Sturmi des Eigil von Fulda: Literarkritisch-historische Untersuchung und Edition*, ed. Pius Engelbert (Marburg: N. G. Elwert, 1968), 161. On Zedechias, see the *Annales Bertiniani*, ed. G. Waitz, *MGH SS Rer. Germ.* 5 (Hanover: Hahn, 1883), 136–7 (note: his name recorded as 'Sedechias') and *The Annals of St-Bertin*, trans. Janet L. Nelson (Manchester: Manchester University Press, 1991), 202. For examples of *medici* named in charters, see Pilsworth, *Healthcare in Early Medieval Northern Italy* and Skinner, *Health and Medicine in Early Medieval Southern Italy*. On doctors in early medieval law codes, see Lisi Oliver, *The Body Legal in Barbarian Law* (Toronto: University of Toronto Press, 2011).

65 Maria A. Spyrou, Kirsten I. Bos, Alexander Herbig, and Johannes Krause, 'Ancient pathogen genomics as an emerging tool for infectious disease research', *Nature Reviews Genetics* 20 (2019): 323–40, https://doi.org/10.1038/s41576-019-0119-1; Monica H. Green, 'Genetics as a Historicist Discipline: A New Player in Disease History', *Perspectives on History* 52, no. 9 (1 December 2014), https://www.historians.org/research-and-publications/perspectives-on-history/december-2014/genetics-as-a-historicist-discipline; Monica H. Green, ed., *Pandemic Disease in the Medieval World: Rethinking the Black Death* (Kalamazoo, MI: Arc Humanities Press, 2015); Robin Fleming, 'Bones for Historians: Putting the Body Back into Biography', in *Writing Medieval Biography, 750–1250: Essays in Honour of Frank Barlow*, ed. David Bates, Julia Crick, and Sarah Hamilton (Woodbridge: Boydell & Brewer, 2006), 29–48 (note: quotation is from p. 29); and Robin Fleming, 'Writing Biography at the Edge of History', *The American Historical Review* 114, no. 3 (2009): 606–14.

have been productively incorporated in a growing number of social and cultural histories of early medieval Europe, such as Paolo Squatriti's studies of chestnuts and weeds, Jamie Kreiner's work on pigs, and Caroline Goodson's investigation of urban gardening.[66] Human osteological material, however, has not often been studied in these types of histories that effectively draw on multidisciplinary evidence bases (though notable exceptions, such as Piers Mitchell's discipline-bridging research, will be addressed below). Overall, as Michael McCormick stresses, 'the mortal remains of people are among the most abundant yet least scrutinized archaeological remains to have survived from the Middle Ages,' despite their potential to enrich our understanding of past population's lived experiences.[67]

Osteological evidence can provide information about individuals' diets, living and working conditions, and experiences of injury and disease. Crucially, this source material is not limited to those whose lives are recorded in the texts. The possibility of investigating the health of people who lived in early medieval Europe therefore adds another angle to studying the practice of medicine in this period, and especially the relationship between medical knowledge and practice. Part 2 of this book surveys osteological evidence to gain insights into the health of individuals who lived in the early Middle Ages and then reconsiders the recipe literature from this new perpsective. As Jennifer Davis and Michael McCormick underline, 'in the light of archaeological results, the texts must be reanalyzed, and our conventional wisdom, rewritten'.[68] It is necessary to ask whether skeletal remains preserve evidence of the conditions recorded in the texts. To put it another way, were the treatments listed in eighth- and ninth-century manuscripts applicable to individuals in this period?

It may seem surprising that this book questions the applicability of recipes to the medical needs of individuals in early medieval Europe: a remedy

66 Paolo Squatriti, *Landscape and Change in Early Medieval Italy: Chestnuts, Economy, and Culture* (Cambridge: Cambridge University Press, 2013); Paolo Squatriti, *Weeds and the Carolingians: Empire, Culture, and Nature in Frankish Europe, AD 750–900* (Cambridge: Cambridge University Press, 2022); Jamie Kreiner, *Legions of Pigs in the Early Medieval West* (New Haven: Yale University Press, 2020); and Caroline Goodson, *Cultivating the City in Early Medieval Italy* (Cambridge: Cambridge University Press, 2021).

67 McCormick, 'Molecular Middle Ages', 90. See also Raphaël G. A. M Panhuysen, 'Demography and Health in Early Medieval Maastricht: Prosopographical Observations on Two Cemeteries' (Diss., Universiteit Maastricht, 2005), 10–12.

68 Jennifer R. Davis and Michael McCormick, 'The Early Middle Ages: Europe's Long Morning', in *The Long Morning of Medieval Europe: New Directions in Early Medieval Studies*, ed. Jennifer R. Davis and Michael McCormick (Aldershot: Ashgate, 2008), 1–10, at p. 5.

for, say, gout must have been preserved because people suffered from gout. Much scholarship has made this assumption, but there is little direct evidence to indicate that the recording of recipes represented a response to the medical concerns of individuals in early medieval Europe.[69] There are no case notes accompanying these texts and, as the opening example of Terenti(an)us demonstrated, even seemingly personal comments should not be automatically interpreted as a reflection of the scribe's experience with a treatment. Just as with the question of practicality (where it is tempting to assume that medical texts were, by definition, used in medical practice), the existence of medical writings does not *prove* their applicability. Many of the recipes analysed in this study, though they are not directly attributable to classical and late antique writings, are related to this body of knowledge. As Peregrine Horden succinctly puts it, 'early medieval medicine is ancient medicine'.[70] Although there are important developments in the recorded medical knowledge of the early Middle Ages (on which, see Chapters 3–5), the content is largely derived from (late) ancient texts. The overarching influence of classical medical traditions demands that we question the texts' assumed applicability because the climate, living conditions, and lifestyles of the Mediterranean world of Antiquity and of ninth-century western Europe were different in many ways. These fundamental differences may have resulted in vastly altered experiences of disease, injury, and overall health between the original authors of these medical writings and the scribes responsible for the manuscripts discussed in this book. The question of a text's relevance to contemporary individuals is therefore essential for understanding the relationship between medical knowledge and practice, and recent research trends have laid the groundwork for such an investigation.

Although there has traditionally been a 'non-relationship between historians and researchers in more scientific disciplines', historical studies integrating evidence from the archaeological sciences have greatly increased in recent years.[71] Scholarship relating to past experiences of and responses to health and

69 Take, for example, Vivian Nutton's comment on the content of early medieval medical manuscripts: 'most medical manuscripts before 1100 are largely recipe lists, often well organized and well suited to the needs of the community'; Nutton, 'Early Medieval Medicine and Natural Science', 335.

70 Horden, 'What's Wrong with Early Medieval Medicine?', 19.

71 Fleming, 'Writing Biography', 614. For an overview, see McCormick, 'Molecular Middle Ages', and for a sample of the current diversity of research areas uniting evidence from archaeological sciences with traditional historical sources, see, for example, A. Radini, M. Tromp, A. Beach, E. Tong, C. Speller, M. McCormick, J. V. Dudgeon, et al., 'Medieval women's early involvement in manuscript production suggested by lapis lazuli

disease has been particularly enriched by a number of historians' multidisciplinary approaches incorporating various palaeo- and archaeological sciences, such as Monica Green's pioneering work on plague genetics and Timothy Newfield's analyses of palaeoclimate data in relation to disease outbreaks.[72] Turning to osteological evidence, as Piers Mitchell has demonstrated, the skeletal record can be effectively studied alongside the written record.[73] Mitchell's work, however, concentrates on the central and later Middle Ages, and few of the studies involving early medieval skeletal remains have assessed the osteological record in concert with medical writings.[74] Yet, some scholars, such

identification in dental calculus', *Science Advances* 5, no. 1 (2019), https://doi.org/10.1126/sciadv.aau7126; Sam Leggett, 'A Hierarchical Meta-Analytical Approach to Western European Dietary Transitions in the First Millennium AD', *European Journal of Archaeology* 25, no. 4 (2022): 523–43, https://doi.org/10.1017/eaa.2022.23; Tianyi Wang, Craig Cessford, Jenna M. Dittmar, Sarah Inskip, Peter M. Jones, and Piers D. Mitchell, 'Intestinal parasite infection in the Augustinian friars and general population of medieval Cambridge, UK', *International Journal of Paleopathology* 39 (2022): 115–21, https://doi.org/10.1016/j.ijpp.2022.06.001; and Sarah Fiddyment, Natalie J. Goodison, Elma Brenner, Stefania Signorello, Kierri Price, and Matthew J. Collins, 'Girding the loins? Direct evidence of the use of a medieval English parchment birthing girdle from biomolecular analysis', *Royal Society Open Science* 8, no. 3 (2021), https://doi.org/10.1098/rsos.202055.

72 Monica H. Green, 'A New Definition of the Black Death: Genetic Findings and Historical Interpretations', *De Medio Aevo* 11, no. 2 (2022): 139–55, https://doi.org/10.5209/dmae.83788; Robert Hymes and Monica H. Green, *New Evidence for the Dating and Impact of the Black Death in Asia*, ed. Carol Symes (Leeds: Arc Humanities Press, 2022); Monica H. Green, 'The Four Black Deaths', *American Historical Review* 125, no. 5 (2020): 1601–31, https://doi.org/10.1093/ahr/rhaa511; Joris Roosen and Monica H. Green, 'The Mother of All Pandemics: The State of Black Death Research in the Era of COVID-19—Bibliography,' last modified 26 February 2024, last accessed 3 March 2024, https://drive.google.com/file/d/1x0D_dwyAwp9xi9sMCW5UvpGfEVH5J2ZA/view?usp=sharing; Timothy P. Newfield, 'Mysterious and Mortiferous Clouds: The Climate Cooling and Disease Burden of Late Antiquity', in *Environment and Society in the Long Late Antiquity*, ed. Adam Izdebski and Michael Mulryan (Leiden: Brill, 2019), 271–97; Newfield, 'Malaria and Malaria-like Disease'; and Timothy P. Newfield, 'Domesticates, Disease and Climate in Early Post-Classical Europe: The Cattle Plague of c.940 and its Environmental Context', *Postclassical Archaeologies* 5 (2015): 95–126.

73 Piers D. Mitchell, 'Palaeopathology of the Crusades', in *Crusader Landscapes in the Medieval Levant: The Archaeology and History of the Latin East*, ed. Micaela Sinibaldi, Kevin J. Lewis, Balázs Major, and Jennifer A. Thompson (Cardiff: University of Wales Press, 2016), 349–59; Piers D. Mitchell, 'Improving the Use of Historical Written Sources in Paleopathology', *International Journal of Paleopathology* 19 (2017): 88–95, https://doi.org/10.1016/j.ijpp.2016.02.005; and Mitchell, *Medicine in the Crusades*.

74 E.g., Simon Mays, 'A Biomechanical Study of Activity Patterns in a Medieval Human Skeletal Assemblage', *International Journal of Osteoarchaeology* 9, no. 1 (1999): 68–73, https://doi.org/10.1002/(SICI)1099-1212(199901/02)9:1%3C68::AID-OA468%3E3.0.CO;2-M; Joanna R. Sofaer Derevenski, 'Sex Differences in Activity-related Osseous Change

as Clare Pilsworth, have made initial moves in this direction, and these brief investigations have served to emphasise that further research is desperately needed to reassess recipes in the light of skeletal evidence.[75] Part 2 responds to this need, using osteological evidence to reinform our understanding of the recipe literature and its potential applicability to early medieval individuals.

3.4 *Summary*

As the example of Terenti(an)us revealed, the relationship between medical knowledge and practice in the Carolingian world is far from straightforward and, as the preceding pages have demonstrated, requires further study and critical re-examination. This book's dual investigation of the possible practicality and applicability of the medical knowledge recorded in recipes bridge the knowledge-practice divide and provide new perspectives on early medieval medicine. This study, therefore, explores, first, the potential practicality of the recorded knowledge, questioning its useability in the context of therapy rather than presuming an intended use in therapy. That is, do recipes recommend ingredients that could have been sourced in Carolingian Europe? Do recipe collections contain user-friendly features suggestive of their application in medical practice? And secondly, this book investigates whether there is a correlation, a connection, or any overlap between the medical issues recorded in the texts and those seen on skeletons dated to the same period. In other words, is there evidence to suggest that individuals in the early medieval west suffered from the conditions and symptoms described in the texts? These guiding questions consider whether it was possible that those individuals in possession of the recorded medical knowledge could have used the texts in an attempt to treat people during this period. The twin concepts of practicality and applicability thus provide the analytical framework for the book and delineate its use of evidence, with Part 1 a study of practicality and Part 2 an examination of applicability. This dual approach, in conjunction with the examination of a large sample of understudied material, breaks new ground in the field of Carolingian medicine.

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in the Spine and the Gendered Division of Labor at Ensay and Wharram Percy, UK', *American Journal of Biological Anthropology* 111, no. 3 (2000): 333–54, https://doi.org/10.1002/(sici)1096-8644(200003)111:3%3C333::aid-ajpa4%3E3.0.co;2-k; Fleming, 'Bones for Historians'; and Fleming, 'Writing Biography'.

75 Clare Pilsworth's chapter on diet and health within her study of healthcare in early medieval northern Italy offers one such exception: Pilsworth, *Healthcare in Early Medieval Northern Italy*, 47–72, see especially pp. 68–71 for the section on joint diseases and fractures, 'Joint Conditions and Fractures in the Osteo-Archaeological Evidence'.

4 The Carolingian Context

Before outlining the following chapters, it is essential to address the book's chronological positioning. The date range, *c.* 775–900, covers the 'long ninth century', from the late eighth century to the cusp of the tenth century. This period has been selected on the basis of the manuscript evidence. While this context is discussed in more detail in the following chapter (and the codices themselves are reviewed in Appendix 1), there are several key features to note with respect to the selection of this timeframe. First, based on the surviving evidence, a burst of manuscript production followed the reforming legislation promulgated by Charlemagne's court in the late eighth and early ninth centuries; this increase in the written record can be seen across many genres, and, as noted above, medicine is no exception.[76] While this intensification of manuscript production has meant that a significantly larger number of codices containing medical writings have survived from this period than the preceding centuries, the selected dates are underpinned by more than the sheer number of extant manuscripts.

Although the concept of a Carolingian 'renaissance' has been revised in recent years, the intellectual culture that developed in the wake of the reforms stemming from Charlemagne's court provides the framework within which the written sources must be understood.[77] Despite the fact that, as noted above,

76 On the extant medical manuscripts see Beccaria, *I codici* and Wickersheimer, *Les manuscrits*. On medical texts listed in Carolingian library catalogues, see Glaze, 'The Perforated Wall', 268–71. On writing and manuscript production in the Carolingian period, see McKitterick, *The Carolingians and the Written Word* and Rosamond McKitterick, 'Eighth-Century Foundations', in *The New Cambridge Medieval History* II, *c. 700-c. 900*, ed. Rosamond McKitterick (Cambridge: Cambridge University Press, 1995), 681–94. James Palmer, however, highlights the need for caution when comparing numbers of surviving manuscripts, especially with respect to medicine; see Palmer, 'Merovingian Medicine' and, on the shift from papyrus to parchment, see Dario Internullo, 'Du papyrus au parchemin. Les origines médiévales de la mémoire archivistique en Europe occidentale', *Annales. Histoire, Sciences Sociales* 74, nos. 3–4 (2019): 523–57, https://doi.org/10.1017/ahss.2020.52.

77 Much has been written about the related topics of reform, manuscript production, and literacy in the Carolingian world; for a sample of the range of assessments of the Carolingian 'renaissance' in recent decades, see Giles Brown, 'Introduction: The Carolingian Renaissance', in *Carolingian Culture: Emulation and Innovation*, ed. Rosamond McKitterick (Cambridge: Cambridge University Press, 1994), 1–51; Rosamond McKitterick, 'The Carolingian Renaissance of Culture and Learning', in *Charlemagne: Empire and Society*, ed. Joanna Story (Manchester: Manchester University Press, 2005), 151–66; van Rhijn, *Leading the Way to Heaven*; Carine van Rhijn, 'Manuscripts for local priests and the Carolingian Reforms', in *Men in the Middle: Local Priests in Early Medieval Europe*, ed. Steffen Patzold and Carine van Rhijn (Berlin: De Gruyter, 2016), 177–98; Carine van Rhijn,

early medieval historians have not tended to see medical writing as affected by or contributing to this evolving intellectual culture, Meg Leja has convincingly argued for medicine's direct engagement with these developments.[78] Many of the same impulses seen in other genres of writing, such as legal, liturgical, exegetical, grammatical, and computistical texts, are likewise apparent in the medical literature produced in this period. Recipe collections, for example, bear witness to an interest in compiling and reordering knowledge from earlier sources, a strong focus on the presentation and structure of texts, intersections with other fields of learning, and engagement with contemporary theological discourses.[79] It is therefore essential to study the medical texts written at this time within the particular intellectual and cultural climate in which they were produced in order to grasp more fully their significance.

By beginning this study in *c.* 775, it captures the start of the major increase in manuscript production.[80] This upswing not only provides the sources of this book but also documents the evolving intellectual and cultural environment of the Carolingian world, an environment inherently linked to the ecclesiastical and elite networks of the period. The movement of manuscripts and dissemination of knowledge, themes that emerge in Part 1, were dependent on the intellectual, socio-cultural, ecclesiastical, and political dynamics of this period. In the decades after *c.* 900, changes in these dynamics, including in the intellectual culture of medicine, begin to emerge. Building on the increasing number of medical texts in circulation, scribes and scholars started moving in new directions. A growth in cathedral schools can be seen in France, with centres such as Laon, Chartres, and Reims recorded as places of medical teaching

'Charlemagne's *correctio*: A Local Perspective', in *Charlemagne: les temps, les espaces, les hommes. Construction et déconstruction d'un règne*, ed. Rolf Grosse and Michel Sot (Turnhout: Brepols, 2018), 43–59; Janet L. Nelson, 'Revisiting the Carolingian Renaissance', in *Motions of Late Antiquity: Essays on Religion, Politics, and Society in Honour of Peter Brown*, ed. Jamie Kreiner and Helmut Reimitz (Turnhout: Brepols, 2016), 331–46; Rutger Kramer, 'Monasticism, Reform, and Authority in the Carolingian Era', in *The Cambridge History of Medieval Monasticism in the Latin West*, ed. Alison I. Beach and Isabelle Cochelin, vol. 1 (Cambridge: Cambridge University Press, 2020), 432–49; and Rutger Kramer, *Rethinking Authority in the Carolingian Empire: Ideals and Expectations during the Reign of Louis the Pious (813–828)* (Amsterdam: Amsterdam University Press, 2019).

78 Leja, *Embodying the Soul*; Leja, 'The Sacred Art'.

79 Leja, *Embodying the Soul*; Wallis, 'Medicine in Medieval Calendar Manuscripts'; and Claire Burridge, 'Healing Body and Soul in Early Medieval Europe: Medical Remedies with Christian Elements', *Studies in Church History* 58 (2022): 46–67, https://doi.org/10.1017/stc.2022.3.

80 See n. 76 above.

in the tenth century.[81] Around the same period, sites in southern Italy, including Montecassino and Salerno, appear to have begun to reintroduce more theoretical elements into their medical writings.[82] While the growth of a tenth-century 'School of Salerno' continues to be debated, recent work on Cassinese and early Salernitan manuscripts has suggested that new impulses can be seen in the medical literature produced in this period.[83] Simultaneously, the introduction of a basic vocabulary that differentiated between various kinds of medical specialists (i.e., terminology that named physicians, surgeons, herbalists, and bleeders as distinct types of practitioners), reflects further changes in the medical culture of the Latin west around the turn of the millennium.[84]

Determining *c.* 775 to *c.* 900 as the book's chronological focus thus centres the manuscript sample around the shared cultural and intellectual framework of the Carolingian world while avoiding overlap with new developments in the study and recording of medical knowledge that emerged in the wake of the long ninth century. It must be remembered, however, that the selected dates are guidelines rather than strict boundaries, and manuscripts whose dating has been debated or that contain hands dated beyond this timeframe are discussed further in Appendix 1. The dating of archaeological sites, and the osteological remains found within them, must likewise be approached with some degree of flexibility given that a) many sites were used over a longer period of time than the years considered in this book, and b) much dating is relative rather than exact. The specific challenges presented by this material are considered in Chapter 6.

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81 Loren C. MacKinney, 'Tenth-Century Medicine as Seen in the *Historia* of Richer of Rheims', *Bulletin of the Institute of the History of Medicine* 2, no. 6 (1934): 347–75; Park, 'Medicine and Society', 66–7; Nutton, 'Early Medieval Medicine and Natural Science', 337; Florence Eliza Glaze, 'Master-Student Medical Dialogues: The Evidence of London, British Library, Sloane 2839', in *Form and Content of Instruction in Anglo-Saxon England in the Light of Contemporary Manuscript Evidence: Papers Presented at the International Conference, Udine, 6–8 April 2006*, ed. Patrizia Lendinara, Loredana Lazzari, and Maria Amalia D'Aronco (Turnhout: Brepols, 2007), 467–94.

82 Wallis, 'The Experience of the Book', 119.

83 Florence Eliza Glaze, 'Gariopontus and the Salernitans: Textual Traditions in the Eleventh and Twelfth Centuries', in *La* Collectio Salernitana *di Salvatore De Renzi. Convegno internazionale, Università degli Studi di Salerno, 18–19 giugno 2007*, ed. Danielle Jacquart and Agostino Paravicini Bagliani (Florence: SISMEL Edizioni del Galluzzo, 2008), 149–90; regarding developments in Cassinese manuscripts, I have also benefitted from hearing Glaze's papers at several conferences, including 'The Confluence of Latin, Byzantine, and Arabic Pharmacy: Southern Italy c. 1050–1150 CE', a paper delivered at 'Drugs in the Medieval World (ca. 1050-ca. 1400)' (King's College London, 7 December 2018).

84 Park, 'Medicine and Society', 70.

5 Structuring the Dual Approach

As noted above, this book is divided into two parts, aligning with its dual approach. Part 1 focuses on the textual evidence for practicality. Chapter 2 introduces the investigation into the question of the recipes' practicality by reviewing the relationship between medical knowledge and practice as documented by the written record and outlining the recipe literature under analysis. Chapters 3–5 each explore a different aspect of the recipe literature's practicality, shedding light on these treatments' potential useability in the context of therapy from multiple directions. Chapter 3 traces the introduction (or, in some cases, reintroduction) of *materia medica* from the east, following the appearance of ingredients such as camphor, musk, and ambergris. Recipes that include these types of exotic products highlight the dynamic nature of this body of knowledge in the Carolingian world and may reflect the practicality of these treatments—if only for a very restricted and elite clientele. Chapter 4 then looks at the other end of the spectrum, turning to the appearance of beer and mead (specifically as *medus*) in medical contexts. The assimilation of these non-classical beverages in medical texts points to the active adaptation of the written record to meet local conditions. While Chapters 3 and 4 concentrate on case studies of ingredients, Chapter 5 examines other features within recipes: units of measurement and the inclusion of instructions for substituting ingredients. By considering how knowledge is presented in recipes, these two aspects explore the practicality of their design, complementing the preceding chapters' focus on the possibility of their use via the availability of ingredients. The combination of case studies thus addresses the potential practicality of the recipe sample from a variety of perspectives to reconsider whether this material was intended to be used in medical practice.

Part 2 unites the textual and skeletal evidence to investigate the potential applicability of this body of knowledge. Chapter 6 introduces the process of reconsidering the recipe literature in view of the evidence provided by the osteological record, addressing key conceptual challenges, such as retrospective diagnosis, and outlining the analytical approach to the following case studies. Chapters 7–9 each concentrate on different types of pathologies that have the potential to be recorded in skeletal remains, using palaeopathological reports from excavations of early medieval burials to re-evaluate the texts. More specifically, Chapter 7 examines dental disease, Chapter 8 considers joint diseases, and Chapter 9 focuses on surgery and trauma.

Bringing together the two approaches, Chapter 10 assesses the findings from both Parts 1 and 2. This chapter concludes with a final reflection on the practicality and applicability of the medical knowledge circulating during the

Carolingian period, the relationship between medical knowledge and practice, and the question of whether these texts may have been used in the practice of medicine. Ultimately, this book's joint investigation of practicality and applicability—underpinned by analyses of traditionally understudied textual sources in concert with osteological evidence—results in the emergence of a more nuanced picture of early medieval health and medicine.