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Concepts and treatment of disorders of the mind and brain in medieval England: The impact of the work of Constantine the African

PhD Thesis

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Declaration

I confirm that this is my own work and that the use of all material from other sources has been properly and fully acknowledged.

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Abstract

This thesis investigates the understanding of the mind and brain, and of mental and neurological disorders and their treatment, given in the work of Constantine the African. Constantine translated and imported sophisticated texts of Galenic and Islamicate medicine to the West, but while much has been written about him, the actual content of this medicine has been surprisingly neglected. Following new translation work, this thesis analyses the new theoretical base Constantine's works presented, with his account of the anatomy and physiology of the brain. It gives his descriptions of the disorders of frenzy, forgetfulness and lethargy, apoplexy, epilepsy, *melancholia,* and lovesickness, with their symptoms, causation, and treatment recommendations. Many of these conditions, and treatment methods from this period, have been generally under-researched.

This research explores the impact of Constantine's work in England, from 1100 onwards. It first offers a comprehensive view of pre-Conquest understandings and treatments of mental disorders, based on Old English medical writings and new translations of often-neglected Latin medical texts. Data from booklists, wills and extant manuscripts, then support a new account of the dissemination of Constantine's works in England. Constantine's writings on 'disorders of the head' are compared to the previous ideas and treatments; the legacy of his work is then traced in subsequent English medical writing. This has revealed the role his translations had at a critical period of evolution in such ideas and treatments. His works promoted the importance of theory and the understanding of causation, and asserted the brain as the seat of cognition. Their new, naturalistic explanations and cures were to be highly influential.

This case study illuminates our understanding of Constantine's wider influence on English institutions, education, medicine, scientific and philosophical thought, literature and culture.

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I would like to thank first of all my wonderful supervisor Professor Anne Lawrence-Mathers, for her encouragement and wisdom over many years of my Masters and PhD study and research. Also Professor Francoise Le Saux for many happy mornings looking at my Latin translations together over coffee and cats. I am grateful to Professor Peregrine Horden and Dr Claire Trenery for discussion of my initial research ideas, and to Claire particularly for suggesting that translating the *Pantegni* on mental disorders might be a good place to start. Many librarians have been most helpful, particularly those at Corpus Christi College, Oxford, and Trinity College, Cambridge, in assisting me to see their manuscripts.

The Graduate Centre for Medieval Studies at the University of Reading has been a second home to me for many years and I thank the staff and fellow students for their companionship and encouragement along the way. Thanks are due to my beloved late father for fostering the joy of history and pandering to my childhood desires to see all things Tudor. Last but not least, many thanks to my husband Pete, who has patiently taken an interest in this project (despite the long lists of herbs), and is a never-failing source of love and support.

Contents

List of abbreviations

Libraries

BL	British Library
CUL	Cambridge University Library
Wellcome	Wellcome Historical Medical Library, London

Primary sources

Alexander	Alexander Trallianus *Medici libri duodecim* (Lugduni, 1560) digitised at *Internet Archive* [website] (published 2008) <https://archive.org/details/alexandertralli00tralgoog> (last accessed 7 March 2024).
Bald's Leechbook	C.T. Doyle, 'Anglo-Saxon Medicine and Disease: A Semantic Approach', PhD Thesis, University of Cambridge, (2017), vol 2, Appendix.
Bartholomeus	Bartholomaeus Anglicus, *De proprietatibus rerum* (Cologne, Johann Koelhoff the elder, 1483) digitised at *Internet Archive* [website] (published 2010) <https://archive.org/details/deproprietatibu00anglgoog/mode/2up> (last accessed 7 March 2024).
Cassius Felix	Cassius Felix, *De Medicina: ex Graecis Logicae Sectae Auctoribus Liber Translatus sub Artabure et Calepio Consulibus (anno 447)*, V. Rose (ed.) (Lipsiae, 1879).
De Gordon	Bernard de Gordon, *Practica seu Lilium medicinae* (Lyons, 1491) digitised at *Internet Archive.* [website] (published 2014) <https://archive.org/details/practicaseulili00unkngoog/mode/2up?view=theater> (last accessed 7 March 2024). No folio numbers are given, page numbers are those of the digital copy.
De oblivione	Constantine the African, *Liber de Oblivione,* C. Burnett (ed.), Appendix to G. Bos, 'Ibn Al-Gazzar's *Risala Fin-Nisyan* and Constantine's *Liber de Oblivione*' in C. Burnett and D. Jacquart (eds.), *Constantine the African and 'Alī ibn Al-'Abbās al-Mağūsī: The Pantegni and Related Texts* (Leiden, 1994), pp. 224-32.
De melancholia	Is'ḥāq ibn-'Imrān, *Ishaq ibn Imran Maqala fi l-malihuliya (Abhandlung uber die Melancholie) und Constantini 'Libri duo de melancholia',* K. Garbers (ed.) (Hamburg, 1977), pp. 84-155 and 184-96.
Gilbertus	Gilbertus Anglicus, *Compendium Medicinae* (London, 1510) Printed edition Munchen, Bayerische Staadsbibliothek, MS. 4 Path.129, digitised at *Münchener Digitalisier Zentrum Digitale Bibliothek* [website] (published 2009) < https://www.digitale-sammlungen.de/en/view/bsb10166318?page=,1 > (last accessed 7 March 2024). Page numbers are given from this site rather than the folio numbers for clarity.

Gaddesden	John of Gaddesden, *Rosa anglica practica medicine a capite ad pedes* (Venice, 1502) digitised at *Biblioteka Nardowa* [website] (updated 2024) <https://www.bibliotekacyfrowa.pl/dlibra/publication/75715/edition/76423/content> (last accessed 7 March 2024).
Herbarium	A. Van Arsdall, *Medieval Herbal Remedies: The Old English Herbarium and Anglo-Saxon Medicine* (New York, 2002).
Isagoge	Constantine the African, The *Isagoge* in Wallis, F.(ed.), *Medieval Medicine: A Reader* (Toronto, 2010), pp. 140-56.
Isidore	Isidore of Seville, *The Etymologies of Isidore of Seville*, S.A. Barney (ed.) (Cambridge, 2006).
Lacnunga	S. Pollington, *Leechcraft: Early English Charms, Plantlore and Healing* (Ely, 2000), pp. 180-243.
Leechbook III	S. Pollington, *Leechcraft: Early English Charms, Plantlore and Healing* (Ely, 2000), pp. 375-403.
Marcellus	Marcellus, *De medicamentis liber,* G. Helmreich (ed.) (Lisia, 1889), digitised at *Internet Archive* [website] (published July 2007) <https://archive.org/details/demedicamentisli00marcuoft> (last accessed 10 April 2024).
Oribasius, *Synopsis*	Oribasius, *Œuvres d'Oribase,* U.C. Bussemaker and C. Daremberg (eds.) (Paris, 1856-76), vol. 5, pp. 799-927 and vol. 6, pp. 2-402.
Oribasius, *Euporistes*	Oribasius, *Œuvres d'Oribase,* U.C. Bussemaker and C. Daremberg (eds.) (Paris, 1856-76), vol. 6, pp. 403-626.
Pantegni	*Pantegni Theorica*, London, British Library, MS. Add. 22719 digitised at *British Library* [website] <https://www.bl.uk/manuscripts/Viewer.aspx?ref=add_ms_22719_fs001r> (last accessed 22 July 2023). Alternatively, where stated, Cambridge, Trinity College, MS. R. 14. 34.
Passionarius	Gariopontus, *Galeni pergameni passionarius doctis medicis multum desideratus, egritudines a capite ad pedes usos complectens : in quinquos libros particulares divisus* ... (London, 1526), at digitised at *Gallica* [website] (published 2007) <https://gallica.bnf.fr/ark:/12148/bpt6k53448t.image> (last accessed 7 March 2024). Chapter references are given as the folios are not always correctly numbered.
Pliny	Pliny the Elder, *Natural History,* W.H.S. Jones (trans.) (Cambridge, Massachusetts, 2014).
Practica	Oxford, Bodleian Library, Oriel College MS. 55.
Priscianus	Theodorus Priscianus, Theodori Prisciani Euporiston Libri III cum physicorum fragmento et additamentis pseudo-Theodoreis, V. Rose (ed.) (Lipsiae, 1894).

Ramsay Compendium	C**.** 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*, vol. 10 (1917), pp. 107-60.
Sextus Placitus	J. D. Niles and M.A. D'Aronco (ed. and trans.), *Medical Writings from Early Medieval England, Vol 1: The Old English Herbal, Lacnunga, and other texts* (Cambridge, Massachusetts and London, 2023), pp. 367-417.
Tereoperica	London, British Library, MS. Sloane 2839, digitised at *British Library* [website] <https://www.bl.uk/manuscripts/Viewer.aspx?ref=sloane_ms_2839_fs001r> (last accessed 25 July 2023). For some references, where stated, the *Tereoperica* is taken from London, British Library, MS. Harley 4977 (denoted as *Tereoperica* (Harley 4977)).
Viaticum	Oxford, Bodleian Library, MS. Laud 567 (Chapter numbers vary between versions, those used in the Renaissance edition are used as more accurate, (A. Turinus, (ed.), *Opera omnia ysaac*. (Lugduni, 1515)), although the folio numbers refer to this manuscript.
Vindicianus, *Epistula*	Vindicianus, *Epistula Vindiciani ad Pentadium nepotem suum* in *Theodori Prisciani Euporiston Libri III cum physicorum fragmento et additamentis pseudo-Theodoreis*, V. Rose (ed.) (Lipsiae, 1894).
Vindicianus, *Epitome*	Vindicianus, *Epitome Altera* in *Theodori Prisciani Euporiston Libri III cum physicorum fragmento et additamentis pseudo-Theodoreis*, V. Rose (ed.) (Lipsiae, 1894).

Notes on terminology

Medical Terminology

While it is important not to retrospectively diagnose the difficulties researched, this thesis sometimes offers suggestions of possible modern equivalents to give a sense of what might have been meant by the medieval medical terminology. These are provided with caution.

'Anglo-Saxon' and 'English'

The language of pre-Conquest England will be referred to as 'Old English'. Although the people living in pre-Conquest England were of varying origins, and not all would have considered themselves *englisc*, the term 'English' will be used as a shorthand for 'the inhabitants of England'. The use of the term Anglo-Saxon has been largely avoided here as it has been misused and is now understood to be inaccurate.

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Introduction

Medieval understandings and treatments of mental disorder have often been misrepresented, thought to be ignorant, superstitious and cruel. The stereotype is that 'madness' and disorders such as epilepsy were attributed to demons or witchcraft, and that treatment was largely inhumane or punitive.[1] However people have always been liable to suffer distressing, debilitating, and even fatal mental and neurological illnesses, and their families and physicians have been anxious to help and treat them in whatever way they could. These various means could often be humane and at times even potentially helpful. We see evidence of this in medical literature from early medieval times.

It is the understanding and treatment of problems of the mind and brain recorded in medieval medical literature that is the focus of this study. Surviving medical texts are key source material in understanding medical approaches to mental problems in the past. In particular, this thesis analyses works translated by Constantine the African in the eleventh century. These translations were very influential through the following centuries and mark a significant point in the development of medical ideas and their dissemination in the West.

Constantine came to Italy from North Africa sometime in the 1070s, and joined the Benedictine monastery of Monte Cassino. The monastery supported him in becoming a prolific translator, as he made at least three dozen Arabic texts available in Latin, which were to become so closely associated with his name that they were often regarded as his own works. Classical Greek medical works, such as those of Galen and the Hippocratic corpus, had largely been lost to Western Europe but had been preserved and significantly developed in the Islamicate world.[2] Constantine knew of these through his background and was keen to make them available.[3] His translations of the *Isagoge* and *Pantegni* (works by Ḥunayn ibn I'sḥāq and Alī ibn Al-'Abbās al-Maǧūsī) introduced a new theoretical approach to medicine

[1] S. Kemp, 'Modern Myth and Medieval Madness: Views of Mental Illness in the European Middle Ages and Renaissance', *New Zealand Journal of Psychology*, vol. 14 (1985), pp. 1-8; I. Kirsch, 'Demonology and the Rise of Science: An example of the Misperception of Historical Data', *Journal of the History of the Behavioural Sciences*, vol. 14 (1978), pp. 149-57.
[2] Further information about medical writers mentioned is given in Appendix 1.
[3] E. Glaze, 'Introduction: Constantine the African and the *Pantegni* in Context', in E. Kwakkel and F. Newton (eds.), *Medicine at Monte Cassino: Constantine the African and the Oldest Manuscript of his Pantegni* (Turnhout, 2019), p. 6; Kwakkel and Newton, *Medicine at Monte Cassino* Appendix C, pp. 205.

derived from the work of Galen, emphasising humoral causes. His *Viaticum* (a translation of the work of Ibn al-Jazzār) gave more details of treatment in practice. Several of his works discuss disorders affecting mental functioning and their treatment. The *Pantegni* and the *Viaticum* have several relevant chapters, but he also translated a text on melancholy by Is'ḥāq ibn-'Imrān as the *Liber de melancholia* and another by al-Jazzār as the *Liber de oblivione*, on forgetfulness. It is the explanations of such problems, which he classified under 'disorders of the head', and the treatment offered in these texts, which are taken as the starting point in this study.

To investigate the impact of these new works, one specific place was surveyed, England. We know something of early English ideas about mental disorder from Church writing and hagiographies, from penitentials and legal sources, but England offers a unique opportunity for historians, as a small but significant body of Old English medical writing survives from the pre-Conquest period.[4] We are also able to discern the Latin medical writers and texts which were known in England at that time, and know something of the new texts which were arriving shortly after the Conquest.[5] The English had access to some Roman and Greek ideas, but often knew of them second hand and incorrectly. Their medical texts rarely included theory or rationale, and it can be particularly hard to understand early English concepts of psychological illness in the vernacular writings. Some disorders were apparently attributed to the action of supernatural agents such as demons, without further explanation, but may have included mental or behavioural disturbances.[6] However, medical treatments for such conditions were rarely punitive but were mainly herbal, with some religious and ritualistic elements.[7]

[4] M.L. Cameron, *Anglo-Saxon Medicine* (Cambridge, 1993), pp. 1-2.
[5] M.L. Cameron, 'The sources of medical knowledge in Anglo-Saxon England', *Anglo-Saxon England*, vol. 11 (1982), pp. 135-55; M.L. Cameron, 'Bald's *Leechbook*: its sources and their use in its compilation', *Anglo-Saxon England*, vol. 12 (1983), pp. 153-82; D. Banham, 'England joins the medical mainstream: new texts in eleventh-century manuscripts', in H. Sauer and J. Storey (eds.), *Anglo-Saxon England and the Continent*, (Tempe, Arizona, 2011), pp. 341–52.
[6] The term 'supernatural'(*supernaturalis*) did not come into use until the thirteenth century, rarely occurring before that, although the idea of being 'above nature' (*supra naturam*) was common from the fourth century. For a discussion of this, see R. Bartlett, *The Natural and the Supernatural in the Middle Ages* (Cambridge, 2008), pp. 12-7.
[7] C. Pell, ''*Him Bid Sona Sel'*: psychiatry in the Anglo-Saxon Leechbooks', *History of Psychiatry*, vol. 22 (2011), pp. 434-47.

Travelling across Europe, Constantine's translations arrived early in England; by the twelfth century manuscripts of his works were present in monastic libraries such as Canterbury, Exeter and Durham, and became increasingly widely available. This study considers how the writings of Constantine revolutionised English medicine over the following centuries, focussing on these 'disorders of the head'. It sets out in detail the new theoretical base presented in his works, with its account of the brain and body, as relevant to mental and neurological disorders. It gives his descriptions of the various kinds of disorders of the head, their symptoms, causation, and treatment recommendations. Many of the conditions covered here have been generally under-researched, and treatment methods have previously been much neglected. Historians of Constantine's work have rarely focussed on the medicine itself, but the approach presented here centres on the medical and therapeutic. Taking one specific category of disorder as an example illuminates much about Constantine's general ideas about medicine, and about the influence these ideas had. At the same time this research has revealed the role his translations had at a critical period of evolution in ideas and treatments about mental and neurological illness. His works asserted the brain as the seat of cognition, with naturalistic explanations and cures offered rather than religious or supernatural ones.

The thesis focusses not only on England, but on England in the twelfth to fourteenth centuries, when Constantine's works were most influential. However, it embeds this focused study within a broader and ambitious picture of this aspect of medicine in England, starting, for context, with early English ideas from the ninth century, and considering Constantine's longer impact even into the fifteenth. In order to establish the background, the whole range of sources of knowledge available in early medieval England were consulted. This included translating and considering the Latin texts thought to be available before Constantine, but which are usually omitted from analysis, thus overcoming a major weakness in much work on early English medicine. Despite Constantine's importance, very few of his texts have been translated into a modern language, but here an addition to the scholarship has been the translation of several of Constantine's works, or relevant parts of them on disorders of the head, into English, most for the first time. Further new translations of selected later medieval medical writing were made in order to analyse the impact of these new ideas. The aim of this was not to provide a complete survey of later ideas on relevant diseases and treatments but rather to establish the extent to which the concepts and treatments first made available by Constantine continued to be used. Detailed information from surviving booklists, wills

and extant manuscripts has been collated to give a comprehensive account and analysis of the dissemination of some of Constantine's key texts across England up until the sixteenth century. It will be shown how his works spread across the country and were quickly taken up by major monastic and educational centres, and applied in practice. They influenced medical writers who followed, such as Gilbertus Anglicus and John of Gaddesden, but also had an impact on English culture and ideas outside the purely medical sphere.

The research questions

The primary research questions were then as follows. What ideas did Constantine's texts present about the mind, brain, and human psychology? Looking at the various books he produced with relevant content, what was the understanding of disorders of the mind and brain laid out in the *Pantegni*, the *Viaticum*, the *Liber de melancholia* and the *Liber de oblivione*? On the basis of this, what treatments were recommended?

In order to understand the context and importance of this work, what were the previous conceptions and treatments of these disorders in England before the Conquest and in the early Anglo-Norman period? In order to get a full picture, vernacular and pre- and post-Conquest Latin medical writings were considered. Then, to what extent were Constantine's texts available in twelfth and thirteenth-century England, and how widely were they circulated? Following Constantine's translations, what changes were then apparent in the work of subsequent medical authors available in England or in any available accounts of treatment? Finally to be addressed was the question of what could be concluded regarding the overall impact of Constantine's work in this area. Case studies and examples demonstrating this are provided.

How the thesis is structured

The thesis begins with the context. Chapter 1 describes medicine in England in the pre-Conquest and early Norman periods, looking at the prevalent ideas about mental and behavioural disturbance and their treatment. The second chapter addresses Constantine's translation work at Monte Cassino, and its dissemination in England from the twelfth century onwards. The next two chapters set out the theoretical underpinnings of the medicine presented in Constantine's translations, which were based on the conceptual framework of

the naturals, non-naturals and contra-naturals, as they relate to understanding the brain, the emotions, and mental and neurological disorders linked to these concepts.

There follow seven shorter chapters each taking one disorder category: frenzy; lethargy and forgetfulness; apoplexy and paralysis; epilepsy; *melancholia*; lovesickness and mania; and then excluded and 'marginal' disorders. In each case Constantine's description of the disorder is laid out, with its symptoms, his explanation of the causes, and his treatment recommendations. This is compared to ideas and practices recorded in earlier English medical texts, then lastly to relevant parts of the medicine of the later medieval period, to see how Constantine's texts and vocabulary affected subsequent ideas.

Chapter 12 presents case studies illustrating how Constantine's work had an impact on particular institutions, on medical practitioners, medical writers, medical education, and through new *materia medica*. The influence Constantine's writing had in wider intellectual and literary culture is also considered. Finally, the conclusion gives a summary of the main findings on the contributions Constantine's translations made in the development of medicine for disorders of the head, and an assessment of their impact in England.

Background and Previous research

The study of medieval medicine has a long history and an extensive literature. Thinking specifically about the history of mental disorder, scholarship in this area has been reviewed in papers by Claire Trenery and Peregrine Horden, and also by Leigh Ann Craig, which together give an excellent summary of the historiography of the topic.[8] They describe the work that has been done on religious, medical, legal, canon law, literary and artistic perspectives, the study of provision for the mad, and individual cases of madness. Craig particularly identified a number of gaps in the research requiring further work.[9]

Early studies on the history of mental disorder with an emphasis on the medical point of view include George Rosen's 1968 *Madness in Society*, and Stanley Jackson's work on

[8] C. Trenery and P. Horden, 'Madness in the Middle Ages', in G. Eghigian (ed.), *The Routledge History of Madness and Mental Health* (Abingdon, 2017), pp. 62-80; L. A. Craig, 'The History of Madness and Mental Illness in the Middle Ages: Directions and Questions', *History Compass,* vol. 12 (2014), pp. 729-44.
[9] Craig, 'The History of Madness and Mental Illness in the Middle Ages', p. 730.

melancholia.[10] More recently Luke Demaitre included a useful chapter on problems of the head in his *Medieval Medicine.*[11] Interesting new texts are being published all the time, such as Andrew Scull's *Madness in Civilisation*.[12] Several authors have considered how ideas about demon possession relate to mental disorder and how this was understood by the Church, as testified by miracle accounts.[13] Some have looked at specific mental disorders, with melancholy and lovesickness best documented.[14] Studies of 'madness' tend to separate off such disorders from neurological conditions, however this distinction is not made in the medieval literature. Walton Schalick and Gül Russell have written on neurological conditions in the Middle Ages, Owsei Temkin specifically on epilepsy, Axel Karenberg and Irmgard Hort on apoplexy, and Irina Metzler on intellectual disability.[15] Wendy Turner has edited a collection on trauma in medieval society, and written on the management of the mentally ill in the legal system; Alexander Murray has looked at case studies of suicide.[16] In general, Constantine's work in the area is sometimes mentioned. For example, Jackson cites him often, but Scull does not even give him a footnote in his panoramic view of madness over the centuries.[17]

Much has been written on early English medicine, with the vernacular texts in Old English attracting much interest and comment. Malcolm Cameron's *Anglo-Saxon Medicine* of 1993 is a good summary.[18] The Old English texts were translated rather eccentrically in the

[10] G. Rosen, *Madness in Society: Chapters in the Historical Sociology of Mental Illness* (London, 1968); S. W. Jackson, *Melancholia and Depression from Hippocratic Times to Modern Times* (Ann Arbor, 1986).
[11] Trenery and Horden, 'Madness in the Middle Ages'; L. Demaitre, *Medieval Medicine: The Art of Healing form Head to Toe* (Santa Barbara, 2013).
[12] A. Scull, *Madness in Civilisation* (London, 2015).
[13] C. Trenery, *Madness, Medicine and Miracle in Twelfth-Century England* (London and New York, 2019); P. Dendle, *Demon Possession in Anglo-Saxon England* (Kalamazoo, 2014).
[14] Craig, 'History of Madness', pp. 729-30. *Melancholia* has been a specific focus for Jackson, Hollywood and McCleery, lovesickness by Wack and Duffin.
[15] W.O. Schalick, 'Neurological conditions in the European Middle Ages', and G. A. Russell, 'After Galen: late Antiquity and the Islamic world', in S. Finger, F. Boller and K.L. Tyler (eds.), *Handbook of Clinical Neurology*, vol. 95 (The Netherlands, 2010), Chs. 6 and 7; O. Temkin, *The Falling Sickness: A history of epilepsy from the Greeks to the beginnings of modern neurology*, 2nd edn. (Baltimore, 1971); A. Karenberg and I. Hort, 'Medieval Descriptions and Doctrines of Stroke' Parts I – III, *Journal of the History of the Neurosciences*, 1998, vol. 7 (1998), pp. 162-200; I. Metzler, *Fools and idiots? Intellectual disability in the Middle Ages* (Manchester, 2016).
[16] W. Turner (ed.), *Madness in medieval law and custom* (Leiden, 2010); W. Turner, *Care and Custody of the Mentally Ill, Incompetent and Disabled in Medieval England* (Turnhout, 2013); W. J. Turner and C. Lee (eds.), *Trauma in Medieval Society* (Leiden, Boston, 2018); A. Murray, *Suicide in the Middle Ages*, 2 vols. (Oxford, 2000).
[17] Scull, *Madness in Civilisation*, see pp. 81-4.
[18] Cameron, *Anglo-Saxon Medicine.*

nineteenth century by Oswald Cockayne, but recent years have seen new editions and translations such as those by Conan Doyle, Anne Van Arsdall, Edward Pettit and John Niles and Maria D'Aronco.[19] Many other authors such as John Riddle, Audrey Meaney and Linda Voigts have shed light onto these early medical ideas. Most recently, Emily Kesling has discussed the composition of the Old English works in the literary context of pre-Conquest England.[20] Debbie Banham has contributed much to our understanding of medicine in the early Norman period, and Tony Hunt has studied medical texts in Anglo-Norman French.[21] For the medieval period as a whole Faye Getz's 1998 text *Medicine in the English Middle Ages* gives a good overview.[22] Several authors have focussed on practitioners; Edward Kealey has studied early Norman doctors and medical institutions.[23] Some have written on English medical authors, such as Michael McVaugh and Getz's work on Gilbertus Anglicus.[24] Others have looked at what we can learn of medicine through administrative,

[19] T. O. Cockayne (ed. and trans.), *Leechdoms, wortcunning and starcraft of early England: being a collection of documents illustrating the history of science in this country before the Norman Conquest*, 3 vols. (Cambridge, 2012); C.T. Doyle, 'Anglo-Saxon Medicine and Disease: A Semantic Approach', PhD Thesis, University of Cambridge, (2017), vol. 2, Appendix, *Bald's Leechbook*; A. Van Arsdall, *Medieval Herbal Remedies: The Old English Herbarium and Anglo-Saxon Medicine* (New York, 2002); E.T. Pettit, 'A critical edition of the Anglo-Saxon *Lacnunga* in BL, MS. Harley 585', PhD Thesis, King's College London (1996); E.T. Pettit, *Anglo-Saxon Remedies, Charms and Prayers from British Library MS Harley 585, The Lacnunga* (New York, 2001); J.D. Niles and M.A. D'Aronco (ed. and trans.), *Medical Writings from Early Medieval England, Vol 1: The Old English Herbal, Lacnunga, and other texts* (Cambridge, Massachusetts and London, 2023).

[20] For a few examples of their work see J. M. Riddle, 'Theory and Practice in Medieval Medicine', *Viator*, vol. 5 (1974), pp. 157-84; A.L. Meaney, 'The Anglo-Saxon View of the Causes of Illness' in S. Campbell, B. Hall and D. Klausner (eds), *Health, Disease and Healing in Medieval Culture* (Houndmills, Basingstoke, 1992), pp. 12-33; L. Voigts, 'Anglo-Saxon Plant Remedies and the Anglo-Saxons', *Isis*, vol. 70 (1979), pp. 250-68; E. Kesling, *Medical Texts in Anglo-Saxon Literary Culture* (Cambridge, 2020).

[21] For example, D. Banham, 'A millennium in medicine? New medical texts and ideas in England in the eleventh century', in S. Keynes and P. Smyth (eds.), *Anglo Saxons: Studies presented to Cyril Roy Hart* (Dublin, 2006), pp. 230-242; T. Hunt, Anglo-*Norman Medicine*, 2 vols (Cambridge, 1994-7).

[22] F. Getz, *Medicine in the English Middle Ages* (Princeton, 1998).

[23] C.H. Talbot and E.A. Hammond produced a register of all known English practitioners. C.H. Talbot and E.A. Hammond, *The Medical Practitioners in Medieval England: A Biographical Register* (London, 1965); E.J. Kealey, *Medieval Medicus: A social history of Anglo-Norman medicine* (Baltimore, 1981).

[24] M. McVaugh, 'Who was Gilbert the Englishman?', in G. H. Brown and L. Voigts (eds.), *The Study of Medieval Manuscripts of England: Festschrift in Honor of Richard W. Pfaff* (Tempe, Arizona, and Turnhout, 2010), pp. 295-324; F. M. Getz (ed.) *Healing and Society in Medieval England: A Middle English Translation of the Pharmaceutical Writings of Gilbertus Anglicus* (Madison Wisconsin, 1991).

legal or religious sources, such as Turner's work on legal cases, and Ruth Salter's study of English miracle accounts.[25]

Looking at work on madness specifically in England, Basil Clarke's 1975 work *Mental Disorder in Earlier Britain* provided an interesting starting point.[26] Considering solely the early medieval period, Christopher Pell gives a comprehensive explanation of mental disorders as described in the Old English texts.[27] Peter Dendle's discussion of madness with reference to accounts of demon possession, looks at a collection from English sources. The miracle healing accounts of demoniacs and others considered by Claire Trenery, Anne Bailey and Basil Clarke are all from Latin sources written in England.[28] Several authors have looked at English legal perspectives on insanity, whilst Penelope Doob has described portrayals of madness in Middle English literature.[29]

A study of mental disorder requires an understanding of medieval views of the body, brain, mind, psychology and cognition. Lesley Lockett has written on Anglo-Saxon psychology, arguing that prior to the Conquest a majority of people in England probably held a cardiocentric view, that mental activity was located in the heart and breast, rather than the brain.[30] More generally, Simon Kemp, Ruth Harvey, Andrew Wickens and others, have

[25] Turner, *Care and Custody of the Mentally Ill*; R. Salter, *Cure-Seekers and Miraculous Healing in Twelfth-Century England* (Woodbridge, 2021).
[26] B. Clarke, *Mental Disorder in Earlier Britain: Exploratory Studies* (Cardiff, 1975).
[27] Pell, '*Him Bid Sona Sel'*, pp. 439-40.
[28] Dendle, *Demon Possession*; Trenery, *Madness, Medicine and Miracle*; A. E. Bailey, 'Miracles and Madness: Dispelling Demons in Twelfth-Century Hagiography', in S. Bhayro and C. Rider (eds.), *Demons and Illness from Antiquity to the Early-Modern Period* (Leiden, Boston, 2017), pp. 235-55; Clarke, *Mental Disorder in Earlier Britain*, Ch. 6.
[29] Turner, *Madness in medieval law and custom* and *Care and Custody of the Mentally Ill*; S. A. Jurasinki, 'Madness and Responsibility in Anglo-Saxon England' in T. B. Lambert and D. Rollason (eds.), *Peace and Protection in the Middle Ages* (Durham, 2009), pp. 99-120; S. M. Butler, 'Representing the Middle Ages: The Insanity Defence in Medieval England', in W. J. Turner and T. Vendenter Pearman (eds.), *The Treatment of Disabled Persons in Medieval Europe: Examining Disability in the Historical, Legal, Literary, Medical and Religious Discourses of the Middle Ages* (Lewiston, 2010), pp. 117-31; G. Seabourne and A. Seabourne, 'The Law on Suicide in Medieval England', *The Journal of Legal History*, vol. 21 (2007), pp. 21-48 and 'Suicide or accident – self killing in Medieval England', *British Journal of Psychiatry*, vol. 178 (2001), pp. 42-7; P. B. R. Doob, *Nebuchadnezzar's children: conventions of madness in Middle English literature* (New Haven, 1974).
[30] L. Lockett, *Anglo-Saxon Psychologies in the Vernacular and Latin Traditions* (Toronto, 2011), Ch. 1.

written on medieval ideas of psychology, cognition and the brain.[31] Mary Carruthers, Janet Coleman and Paula Warrington have all studied medieval ideas about memory.[32] Several of these authors have noted the impact of the models of the brain and cognition introduced by Constantine, although these ideas have mostly been discussed separately from concepts of pathologies of mind, or how they related to medicine.

The early arrival of Constantine's translations in England has previously been discussed by Charles Burnett and by Monica Green, whilst Lister Matheson further summarised the dissemination of his books across the country.[33] Winston Black has written on the first known English copies of the *Pantegni* produced and used at Bath and Bury St Edmunds, and on Constantine's influence on the English writer Henry of Huntingdon.[34] Brian Long has described his influence on the monk William of Canterbury who wrote accounts of miracle healings at the shrine of Thomas Becket.[35] Trenery has addressed this, and specifically bears in mind the extent of the influence of Constantine's work in the understanding of epilepsy, demon possession and mental disorder in the Canterbury accounts.[36] All of these contributions are valuable but none aimed to provide a full picture of the impact of Constantine's work in England, either in general or in this particular branch of medicine.

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[31] S. Kemp, *Medieval Psychology* (Connecticut, 1990); E. R. Harvey, *The Inward Wits: Psychological Theory in the Middle Ages and the Renaissance* (London, 1975); A. P. Wickens, *A History of the Brain: From Stone Age Surgery to modern neuroscience* (London, 2015).
[32] M. Carruthers, *The Book of Memory: A Study of Memory in Medieval Culture*, 2nd edition, (Cambridge, 2008); J. Coleman, *Ancient and Medieval Memories: Studies in the Reconstruction of the Past* (Cambridge, 2008); P. Warrington, 'Memory and Remembering: Anglo-Saxon Literary representation and current interpretations of the phenomena considered', PhD Thesis, University of Leicester (2005).
[33] C. Burnett, *The Introduction of Arabic Learning into England* (London, 1997), pp. 23-9; M.H. Green, 'Salerno on Thames: The Genesis of Anglo-Norman Medical Literature', in J. Wogan-Browne (ed.), *Language and Culture in Medieval Britain: The French of England, c.1100- c.1500* (Woodbridge, 2009); L.M. Matheson, 'Constantinus Africanus: *De Coitu*', in M. T. Tavormina (ed.), *Sex, Aging and Death in a Medieval Medical Compendium: Trinity College Cambridge MS R.14.53, Its Texts, Language and Scribe* (Tempe, Arizona, 2006), vol. 1, pp. 317-26.
[34] W. Black, 'A star is born: Reading Constantine the African in Medieval England', *Constantinus Africanus* [website] (August 22nd, 2018) <http://constantinusafricanus.com/2018/08/22/a-star-is-born-reading-constantine-the-african-in-medieval-england/comment-page-1/> (last accessed 4 August 2023); Henry of Huntingdon, *Anglicanus ortus: A Verse Herbal of the Twelfth Century*, W. Black (ed. and trans.) (Toronto, 2012), pp. 317-41; *Idem*, 'Henry of Huntingdon's Lapidary Rediscovered and His *Anglicanus ortus* Reassembled', *Medieval Studies*, vol. 68 (2006), pp. 64-7.
[35] B. Long, 'Of Monks and Miracles: Constantine the African and Two of his Twelfth-Century Readers', *Constantinus Africanus* [website] (22nd November 2018) <https://constantinusafricanus.com/2018/11/22/of-monks-and-miracles-constantine-the-african-and-two-of-his-twelfth-century-readers/> (last accessed 22 January 2023).
[36] Trenery, *Madness, Medicine and Miracle*, pp. 79-102.

There has been much general interest in Constantine and his work over the last two to three decades. In 1994 Charles Burnett and Danielle Jacquart edited a volume on the *Pantegni*, and around the same time Herbert Bloch and Francis Newton were writing on the translation work at Monte Cassino.[37] Newton and Erik Kwakkel edited the 2019 book *Medicine at Monte Cassino*, which also focussed on the *Pantegni*.[38] Meanwhile the tireless Monica Green has worked extensively on many aspects of Constantine's life and work.[39] Some of this has not been published traditionally but shared informally amongst scholars, some via the '*Constantinus Africanus'* blog.[40] Brian Long has made a careful study of the *Viaticum* and its impact on philosophical and theological thought.[41] Faith Wallis has written on Constantine's influential *Liber graduum*.[42] Eliza Glaze, Lister Matheson and Monica Green have all researched the dissemination of Constantine's work across England and Europe.[43] In all this however, the focus is more on how the texts arose, their circulation and influence, rather than their actual contents.

A few scholars of Constantine have looked at his writing on specific issues such as the anatomy of the eye or sexual intercourse.[44] Only in a few instances have issues pertinent to mental functioning and its disorders been addressed. Burnett has written on Constantine's chapter on the spirits in the *Pantegni*, discussing issues of how the animal spirit (said to serve thought) related to the soul.[45] He has also transcribed *De oblivione*, which has been studied

[37] C. Burnett and D. Jacquart (eds.), *Constantine the African and 'Alī ibn Al-'Abbās al-Mağūsī. The Pantegni and Related Texts* (Leiden, 1994); H. Bloch, *Monte Cassino in the Middle Ages*, 3 vols. (Cambridge, Massachusetts, 1986); F. Newton, *The Scriptorium and Library at Monte Cassino, 1058-1105* (Cambridge, 1999).
[38] Kwakkel and Newton, *Medicine at Monte Cassino.*
[39] See Bibliography under Green for a list of her relevant publications.
[40] See Bibliography for a list of articles published as part of this blog.
[41] B. Long, 'Body and soul: The production and reception of medical translations from Arabic in the long twelfth century', PhD Thesis, University of Notre Dame (2015).
[42] F. Wallis, 'The Ghost in the *Articella*: A Twelfth-century Commentary on the Constantinian *Liber Graduum*', in A. Van Arsdall and T. Graham (eds.), *Herbs and Healers from the Ancient Mediterranean through the Medieval West: Essays in Honor of John M. Riddle* (Abingdon, Oxon, 2017).
[43] F.G. Glaze, 'The perforated wall: The ownership and circulation of medical books in Medieval Europe, *ca*. 800–1200', PhD Thesis, Duke University (2000), Chs. 4 and 5; Matheson, 'Constantinus Africanus: *De Coitu*'; Green, 'Salerno on Thames'.
[44] G. Russell, 'The Anatomy of the Eye in 'Alī ibn Al-'Abbās al-Mağūsī: A Textbook Case' in Burnett, and Jacquart, *Constantine the African*, pp. 247-265; Matheson, 'Constantinus Africanus: *De Coitu*'.
[45] C. Burnett, 'The Chapter on the Spirits in the *Pantegni* of Constantine the African', in Burnett and Jacquart, *Constantine the African*, pp. 99-120.

by Gerrit Bos, but not primarily for its medical interest.[46] Two early papers by B. Ben Yahia, and Rudolf and Walter Creutz discussed *De melancholia*, and Green has shared some preparatory work on manuscripts of that text.[47] Mary Wack conducted an in-depth study of a problem largely introduced by Constantine as a medical disorder, that of lovesickness.[48] Finally A.L. Guerrero-Peral and V. de Frutos Gonzalez have written briefly, but helpfully, on his contributions in neurology.[49] However, Constantine's work provided both a summary of the anatomy and physiology underlying disorder, and complete instructions for recognising and treating the whole range of disorders of the head. This certainly merits the comprehensive study presented in the following pages, and which in turn hopes to add to the rich body of work outlined.

There are then, several areas where further scholarship would be useful. Having an overview of Constantine's work has been hampered by a lack of translations and critical editions. Despite its importance, only a little of Constantine's *oeuvre* has been translated and published in a modern language. Outside of the original manuscripts, most of it is only available in Latin in printed editions of the sixteenth century, although thankfully these can be accessed online.[50] Wallis, and previously H.P. Cholmeley, have translated the *Isagoge*, Winston Black a chapter from the *Pantegni* on complexions, Wack the section on lovesickness in the *Viaticum*, and Paul Delany the short treatise, *De coitu.*[51] The brief *Liber*

[46] G. Bos, 'Ibn al-Ǧazzār's *Risala Fin-Nisyan* and Constantine's *Liber de Oblivione*' in Burnett and Jacquart, *Constantine the African*, pp. 203-223 (the transcription given in the appendix is by Burnett); G. Bos, *Ibn al-Jazzār on Forgetfulness and its Treatment: Critical Edition of the Arabic Text and the Hebrew Translations with Commentary and Translation into English* (London, 1995).
[47] B. Ben Yahia, 'Les origines arabes du *De melancholia* de Constantin l'Africain', *Revue d'histoire des sciences et de leur applications,* vol. 7 (1954), pp. 156-62; R. and W. Creutz, 'Die '*Melancholia*' des Konstantinus Africanus and seine Quellen', *Archiv fur Psychiatrie*, vol. 97 (1932), pp. 244-69; Monica Green, personal communication.
[48] M. Wack, *Lovesickness in the Middle Ages: The Viaticum and Its Commentaries* (Philadelphia, 1990).
[49] A.L. Guerrero-Peral and V. de Frutos Gonzalez, 'Constantine the African: the revival of neurology in medieval Europe', *Neurosciences and History*, vol. 1 (2013), pp. 80-87.
[50] *Opera omnia ysaac,* A. Turinus (ed.) (London, 1515) digitised at *Herzog August Bibliothek* [website] (published 2004) <diglib.hab.de/wdb.php?pointer =0&dir=drucke%2Fma-4f-35> (last accessed 7 March 2024).
[51] Constantine the African, *Isagoge*, in F. Wallis (ed.), *Medieval Medicine: A Reader* (Toronto, 2010), pp.139-56, and H.P. Cholmeley, reproduced in W. Black, *Medicine and Healing in the Premodern West: A History in Documents* (Peterborough, Ontario, 2020), pp. 153-70; W. Black, 'Constantine the African, *Pantegni*: Understanding Complexion', in Black, *Medicine and Healing in the Premodern West*, pp. 188-90; Wack, *Lovesickness*, pp. 187-93; P. Delany, 'Constantinus Africanus' '*De Coitu*': A Translation', *The Chaucer Review*, vol. 4 (1969), pp. 55-65; Matheson, 'Constantinus Africanus: *De Coitu*' reproduces a middle English version of this text, Enrique

de elephancia (on leprosy) has been translated into Spanish by Martin Ferreira.[52] *De melancholia* has been translated into French in an unpublished PhD thesis, and into German by the Creutzs.[53] *De oblivione, De melancholia* and most of a copy of the *Pantegni* have been transcribed.[54] Clearly there is a need for significant transcription and translation work on the Constantinian corpus; the research presented here entailed considerable copying, translation and analysis of several, previously little known, texts, adding to this body of work.

As mentioned, some work has been done on the dissemination of Constantine's works, Glaze gives a Europe-wide view up to the twelfth century, and Green has presented similar data at Leeds Medieval Congress.[55] The best account of dissemination in England so far is that of Matheson, which considers the whole range of Constantine's works evidenced in extant manuscripts and wills.[56] However it is not comprehensive in that Matheson does not cover all surviving medieval library booklists, which are included here.

It is striking that medieval medical historians often seem to focus on issues of texts, their derivation and dissemination, rather than on their actual medical content. Scientific and medical journals are more inclined to share a clearly medical focus, although Wack does include medical aspects in her comprehensive coverage of lovesickness. Some less romantic

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Montero Cartelle has edited it and translated it into Castillian as cited in M. Green, 'He wrote what?', *Constantinus Africanus* [website] (22nd April 2018) <https://constantinusafricanus.com/2018/04/22/he-wrote-what/> (last accessed 25 January 2023).

[52] A.I. Martin Ferreira, 'Tratado médico de Constantino el Africano*: Constantini Liber de elephancia'. Lingüística y Filología*, No. 26. (Valladolid, Spain, 1996).

[53] J. Bavouzet, 'Le *De Melancholia* de Constantin l'Africain', These de medecine, Paris no. 677 (1963); R. Creutz, W. Creutz, 'Die '*Melancholia*' des Konstantinus Africanus and seine Quellen'.

[54] Bos, 'Ibn al-Ǧazzār's *Risala Fin-Nisyan*', Appendix pp. 224-32; Is'ḥāq ibn-'Imrān, *Is'ḥāq ibn-'Imrān Maqala fi l-malihuliya (Abhandlung uber die Melancholie) und Constantini 'Libri duo de melancholia',* K. Garbers (ed.) (Hamburg, 1977), pp. 84-155 and 184-96; Helsinki, National Library of Finland, Codex EÖ.II.14 is a transcribed manuscript of the *Pantegni* digitised at *Doria* [website] (published 2011) <https://www.doria.fi/handle/10024/69831> (last accessed 7 March 2024). It is an early copy dated to the third quarter of the twelfth century, provenance not stated. It gives a transcription, but this copy lacks Book 9 on the disorders of the head.

[55] Glaze, 'The perforated wall', Chs. 4 and 5; M. Green, 'The Genesis of the Medical Works of Constantine the African and their Circulation in the Long Twelfth Century', *Academia* [website] <https://www.academia.edu/19301415/Monica_H_Green_The_Genesis_of_the_Medical_Works_of_Constantine_the_African_and_Their_Circulation_in_the_Long_Twelfth_Century_Leeds_26> (last accessed 20 October 2022). This presented some of the results from a team study compiling manuscripts circulating in the twelfth century; M.H. Green, 'Medical Manuscripts from the Long Twelfth Century', Manuscripts on My Mind: *News from the Vatican Film Library*, No. 8 (January 2013), p. 11.

[56] Matheson, 'Constantinus Africanus: *De Coitu*', Appendix, pp. 317-26.

disorders have barely been researched at all, such as frenzy, lethargy and stupor.[57] Therapeutics have been a neglected part of medical history in general, and one particular gap Craig identified is the lack of work so far on treatments for mental disorder.[58] There have been some publications on this: Jackson gives information on treatments for *melancholia*, and Demaitre offers examples of remedies for many disorders of the head, from a variety of medical authors.[59] Pell's paper on psychiatry in the leechbooks is comprehensive in its coverage of treatment, for this period, considering the placebo effect and the properties of the herbs used.[60] Horden and others have covered music-based therapies, and Wack describes cures for the lovesick, as noted.[61] Treatments are a key interest in this study, both those recommended by Constantine, and those given by doctors practising before and after him.

To understand the impact of the new ideas and treatments introduced by Constantine's translations in Anglo-Norman England, it is necessary to have as complete as possible a picture of the medicine they knew and practiced at that time. Here we find another gap in the scholarship, as although much has been written on pre-Conquest medical texts, these have concentrated on the, admittedly fascinating, vernacular manuscripts. Cameron listed all the Latin texts known to have been available, and Doyle has analysed how they were drawn upon in the compilation of *Bald's Leechbook.*[62] Several recent authors have emphasised the Latinate nature of Old English medicine, however almost no-one has looked at this total body of knowledge in the round, and in terms of the actual medicine.[63] One exception is that

[57] This is specifically noted by Craig and by Trenery and Horden (Craig, 'History of Madness' p. 67; Trenery and Horden, 'Madness in the Middle Ages', p. 67).
[58] G.B. Risse, 'The History of Therapeutics' in W.F. Bynum and V. Nutton (eds.), *Essays in the History of Therapeutics,* (Leiden, Boston, 1991), p. 8; Craig, 'History of Madness', p. 730.
[59] Jackson, *Melancholia and Depression*; Demaitre, *Medieval Medicine,* Ch. 4.
[60] Pell, '*Him Bid Sona Sel'*, pp. 439-40.
[61] P. Horden (ed.), *Music as Medicine: The History of Music Therapy since Antiquity* (Aldershot, 2000); Wack, *Lovesickness*; See also work by Murray Jones and Page, cited in Craig, 'History of Madness', p. 730.
[62] Cameron, 'The sources of medical knowledge in Anglo-Saxon England'; Cameron, 'Bald's *Leechbook*: its sources and their use in its compilation'; Doyle, 'Anglo-Saxon Medicine and Disease'.
[63] E.g., M.A. D'Aronco, 'How 'English' is Anglo-Saxon Medicine? The Latin Sources for Anglo-Saxon medical texts' in C. Burnett and N. Mann (eds.), *Britannia Latina: Latin in the Culture of Great Britain from the Middle Ages to the Twentieth Century,* (London and Turin, 2005), pp. 27–41; P. Horden, 'What's Wrong with Early Medieval Medicine?', *Social History of Medicine,* vol. 24 (2011), p. 6.

of James McIlwain, who looked at all relevant texts in his study of paralysis.[64] The new texts arriving post-Conquest are also considered in the analysis of this thesis.[65]

Methodological issues and challenges

The choice of disorders to be included

Concepts of mental disorder in this period can be hard to pin down, both in wider culture and medical texts. As the focus of this research, the descriptions of disorders of the head in Constantine's translations are taken as the reference point, and these are fortunately reasonably straightforward. In the *Pantegni* 'internal disorders' are given in head-to-toe order and these start with headache and go on to frenzy, lethargy, apoplexy and epilepsy, *melancholia* and lovesickness, before moving to the neck and down the body. Book 1 of the *Viaticum*, under the heading of '*De capitis et cerebri'*, lists problems of the hair, scalp and skin of the head and headaches, before giving the same conditions as the *Pantegni,* without *melancholia,* but adding a few problems such as stupor, drunkenness, wakefulness and sneezing. It then ends with movement problems such as spasm and tremor. The *Pantegni Practica* (attributed incorrectly to Constantine, but often regarded as one of his translations) gives similar disorders with a few variations, and notably includes the problem of 'mania and loss of reason'.[66]

In the course of researching this thesis, all of these sections of Constantine's texts were translated and considered, and those which are stated as being disorders of the mind and brain, or clearly involving symptoms of loss of reason, mental function, or behavioural disturbance, were included in the scope of the research. Both what would now be considered 'mental health' and 'neurological' conditions were included as this was not a distinction made in these texts. Thus forgetfulness, a symptom of lethargy, and its coverage in Constantine's *Liber de oblivione* was included, as well as the contents of his *Liber de melancholia,* covering problems such as anxiety, sadness and delusions. Apoplexy and

[64] J.T. McIlwain, 'Theory and Practice in the Anglo-Saxon Leechbooks: The case of paralysis', *Viator*, vol. 39 (2008), pp. 65-73.
[65] These texts are outlined in Banham, 'England joins the medical mainstream', pp. 341–52. See also Ch. 1, pp. 42-3. Note that Banham is incorrect in the dating of Cambridge, Trinity College, MS. R. 14.31 which is from the late twelfth century or later.
[66] *Practica*, Book 5, Ch. 21, fols. 142r-v.

epilepsy might be considered movement disorders, but in learned medicine they were clearly understood to arise in the brain, as well as the paralyses which may follow apoplexy. Brief consideration was given to such paralyses, and to another condition, 'suffocation of the womb' which was thought to affect the brain with psychological consequences. Conditions excluded from this analysis include purely physical 'disorders of the head' such those affecting the hair or skin of the head, head pain, sneezing and vertigo. Even though the brain was involved in some conditions, such as drunkenness or wakefulness, these were excluded as they are transient states and thus less relevant to the subject. Minor movement disorders said to arise from the nerves are similarly excluded, and a small number of unexplained disorders given in the *Practica* such as *chuma* and *congelatione cerebri.*[67]

Constantine's categorisations followed in a long-standing classical tradition, in which the main mental disorders, originating in the head, were understood to be frenzy, lethargy, mania and melancholy.[68] Latin authors of late antiquity also frequently included epilepsy and apoplexy (with or without paralysis) amongst the core conditions covered under disorders of the head.[69] These diagnostic categories continued to be used by subsequent medical writers, in most cases for centuries. However, it is more challenging to identify the problems which might be considered 'mental disorders' in the Old English writings which came before Constantine's translations, in order to draw comparisons. These texts rarely describe the symptoms or causes of disorders they include, and we have to gather what we can largely from their names. Some problems seem relatively straightforwardly to be disorders of the brain, or to involve symptoms of loss of reason or mental function, or behavioural disturbance. For example, to be *ungemynde* or *gewitseocne* can be translated as being 'wit sick' or insane, whilst some could suffer with *scinlace 7 wið eallum gedwolþinge* (apparitions and delusions).[70] Others were clearly disorders of the brain such as *brægenes adl 7 ungewitfæstnes* (brain disease and infirmity of mind).[71]

[67] *Practica*, Book 5, fols. 141r-v
[68] A. Sakai, 'Phrenitis: inflammation of the mind and the body', *History of Psychiatry*, vol. 2 (1991), p. 194.
[69] See, for example, Oribasius, *Synopsis*, vol. 6, pp. 206-11, 222-4 and Alexander, pp. 59-131.
[70] *Bald's Leechbook I*, Ch. 66, p. 145; *Leechbook III*, Ch. 64, pp. 400-1 and Ch. 41, pp. 392-3; Bald's *Leechbook II*, Ch. 64, p. 316 (from BL, MS. Royal 12 D. xvii, 105r); *Sextus Placitus*, pp. 408-9 and 406-7.
[71] *Bald's Leechbook II*, Ch. 27, p. 237.

Many conditions are less clear; to be *monað seoc* (literally 'month-sick'), has been translated as 'moon-sick' or 'lunatic' but the symptoms are not stated.[72] Most problematic of all are certain disorders apparently due to demons or other supernatural forces. Patients could be *deofel seoc* or *feond seoc* (devil or fiend sick), *deofel fede* (devil-possessed) or suffer from *ælfcynne* ('elven kind').[73] Presumably, 'demon possession' would have been understood as exactly that, and not necessarily conceived of as 'madness', however to be possessed or a demoniac seems always to have implied mental or behavioural disturbance, or else seizures, in the biblical sources and hagiographies.[74] In addition, the role of demons in causing madness and epilepsy was widely accepted: Aelfric wrote that to have a devil in you was synonymous with being mad.[75] That being a 'demoniac' was at least in part considered an illness, is evidenced by the inclusion of this and other 'supernatural' conditions in Old English medical texts. In *Bald's Leechbook* the problem of being *feondseoc* is seen in a chapter alongside treatments for the *brœcseoc* (translated as 'epileptic' by Doyle) and those *wið weden heorte* (translated as 'frenzied').[76] Similarly the problem of *wið ælfsidenne* ('elvish tricks or influence') is discussed the same section as that of *wiþ ungemynde 7 wið dysgunge* ('insanity and imbecility').[77] Placing these problems caused by demons and elves together with mental disorders and epilepsy suggests that they were considered to be similar conditions. In two Latin Anglo-Norman copies of the *Tereoperica,* demoniacs are also to be treated medically, and are associated with epileptics.[78]

[72] *Leechbook III,* Ch. 40, pp. 390-1; *Herbarium,* Ch. 10, p. 152, (Cockayne, *Leechdoms,* vol. 1, p. 10).
[73] *Leechbook III,* Ch. 67, pp. 402-3; *Bald's Leechbook I*, Ch. 63, p. 141; *Leechbook III,* Ch. 61, pp. 396-7.
[74] See for example, Mark, Ch. 5, v. 1-5, Ch. 9, v. 17-27; Felix, *Life of Guthlac,* B. Colgrave (trans.) (Cambridge, 1956), pp. 127-30.
[75] Aelfric of Winchester, *Aelfric's Catholic Homilies: The second series,* M. Godden (ed. and trans.) (Oxford, 1979), 2:13, p. 130, line 100-1.
[76] *Bald's Leechbook*, Ch. 63.
[77] *Bald's Leechbook*, Chs. 64 and 66. These are Doyle's translations, except for that of *ælfsidenne* which comes from A. Hall, *Elves in Anglo-Saxon England; Matters of Belief, Health, Gender and Identity* (Woodbridge, 2007), Ch. 5.
[78] In two surviving English copies London, British Library MS. Harley 4977 and MS. Sloane 2839 it arises next to '*caducos*'- those suffering from the falling sickness, and in the latter the section on epilepsy is headed '*De demoniacis*'.

The choice of England as a case study

England was chosen as a case study for several reasons. First, there was relatively easy access to English records and English manuscripts. A second, major reason, was the rare survival of earlier vernacular medical texts in Old English, and from the region, allowing a comparison to be made with the new medicine arriving via Constantine's translations. Critical editions, or at least translations, are available for all of this corpus. Clearly England is not an isolated island, attached to Wales and Scotland, and when some of these Old English texts were first compiled, England was not a unified kingdom, only becoming so in the tenth century. For much of the Middle Ages it was part of a group of commonly held territories in France, with many French cultural influences and connections. National boundaries are fluid over time, but this geographical area has nevertheless retained some consistency of identity throughout the period covered, thus providing a focussed scope for the current thesis.

The choice of texts to use for comparison: previous and contemporaneous texts

The texts used to compare Constantine's medicine with medical ideas in England before his works arrived are of three kinds. There are those which survive as Old English manuscripts in English collections; Latin texts thought to have been present in England, (since they were used in the compilation of the Old English texts, or quoted from by English writers); and texts known to have come into the country following the Conquest but prior to Constantine's works. The latter include two compilations, the *Passionarius Galeni* compiled in Italy by Gariopontus in the eleventh century, and versions of the *Tereroperica*, (sometimes erroneously termed the *Petrocellus* or *Practical Petrocelli Salernitani*).[79] The *Tereoperica* probably originated in the ninth century, and both of these works drew from earlier sources such as the *Liber Aurelii* and the *Liber Tertius*, which may have been present in England in the earlier medieval period. Nevertheless, they were certainly present in post-Conquest England and would have been potentially available to at least highly educated Anglo-Norman physicians, before or contemporaneously to the arrival of Constantine's translations.

[79] Banham, 'England joins the medical mainstream', p. 343. Although the two versions of the *Tereoperica* consulted are named the *Petrocellus* in catalogues and in Banham, this is thought to be erroneous and will be termed the *Tereoperica* here (following Winston Black, personal communication December 2023).

The choice of texts to use for comparison: subsequent texts

Whereas it was possible to look at all of the known previous texts, it was not possible to consider more than a few subsequent texts from the large number of medical works available in England in later centuries. Four main authors were selected for analysis: Bartholomew the Englishman (Bartholomeus Anglicus), Gilbert the Englishman (Gilbertus Anglicus), John of Gaddesden and Bernard de Gordon. (Constantine's influence on several other writers and as seen in commonplace books is also considered in Chapter 12). Bartholomeus' *De Proprietatibus Rerum* (*c.* 1240) was not written primarily for physicians but for scholars, explaining the most current ideas in science.[80] For a medical readership, Gilbertus produced a *Compendium Medicine* (*c.* 1230-1260), and John of Gaddesden wrote his *Rosa anglica medicine* (*c.* 1313); working in Montpellier, Bernard de Gordon's *Lilium medicinae* was written around 1240.[81] In a list of the most influential medical authorities known in fourteenth-century England, Chaucer named 'Bernard, and Gatesden, and Gilbertyn'.[82]

[80] Bartholomaeus Anglicus, *De proprietatibus rerum* (Cologne, 1483) digitised at *Internet Archive* [website] (published 2010) <https://archive.org/details/deproprietatibu00anglgoog/mode/2up> (last accessed 7 March 2024); R. Jones, *The Medieval Natural World* (Harlow, 2013), pp. 5-6.

[81] Gilbertus Anglicus, *Compendium Medicinae* (Lyons, 1510), printed edition Munchen, Bayerische Staadsbibliothek, MS. 4 Path.129digitised at *Mu̇nchener Digitalisier Zentrum Digitale Bibliothek* [website] (published 2009) < https://www.digitale-sammlungen.de/en/view/bsb10166318?page=,1 > (last accessed 7 March 2024). A much abridged and slightly altered version was later produced in Middle English. A critical edition is available of this as Getz, *Healing and Society;* John of Gaddesden, *Rosa anglica practica medicine a capite ad pedes* (Venice, 1502), digitised at *Biblioteka Nardowa* [website] (updated 2024) <https://www.bibliotekacyfrowa.pl/dlibra/publication/75715/edition/76423/content> (last accessed 7 March 2024); Bernard de Gordon, *Practica seu Lilium medicinae: De ingeniis curandorum morborum* (Lyons, 1491), digitised at *Internet Archive.* [website] (published 2014) <https://archive.org/details/practicaseulili00unkngoog/mode/2up?view=theater> (last accessed 7 March 2024). The Middle English version is extant as Oxford, Bodleian Library, MS. Ashmole 1505, see E. Connelly, '*Lylye of Medicynes*: An Edition of the Fifteenth-Century Translation of Bernard of Gordon's *Lilium Medicinae*', PhD Thesis, University of Nottingham (2016). Further details of these writers may be found in Appendix 1.

[82] Chaucer, *The Riverside Chaucer*, 'The Canterbury Tales, General prologue', lines 429-34, p. 30. De Gordon had no particular links to England, but John of Gaddesden trained, lived, and worked here throughout his life; Bartholomeus and Gilbertus were both born in England and may have trained here at least, so have some claim to have been in touch with English medical ideas. (M. Carlin, 'John Gaddesden', *Oxford Dictionary of National Biography* [website] (23 September 2004) <https://doi.org/10.1093/ref:odnb/10267> (last accessed 2 February 2024); M.C. Seymour 'Bartholomaeus Anglicus', *ODNB* (23 September 2004) < https://doi.org/10.1093/ref:odnb/10791> (last accessed 2 February 2024); F. Getz, 'Gilbert the Englishman', *ODNB* (23 September 2004) <https://doi.org/10.1093/ref:odnb/10679> (last accessed 2 February 2024)).

These four writers were chosen firstly because their works included significant content on disorders of the head, whilst, for example, the English surgeon John of Arderne's surgical writings, or the popular herbals, do not. Secondly their works are representative of the medical knowledge available to learned practitioners in England. In medieval booklists and wills these books are very commonly listed as belonging to English medical scholars and monasteries.[83] The Oxford physician and scholar, Simon Bredon, for example, owned and left all four of them in his will of 1368.[84] In the mid-fourteenth century Ramsey Abbey had the works of Gilbertus and Bartholomeus, whilst Durham Priory had those of Gilbertus and Bernard de Gordon in 1395.[85] Other important writers such as Arnald de Villanova and Albertus Magnus appear only occasionally in these sources.

The popularity of these texts is further demonstrated by the fact that for all except Gaddesden's *Rosa*, Middle English translations were later produced, which in turn would have increased their accessibility and use in England. Bartholomeus' encyclopaedia was translated by John Trevisa in the 1390s, and the fifteenth century saw Middle English translations of De Gordon, and of an abridged version of Gilbertus.[86]

Conceptual issues

Looking at medieval conceptions of the mind, brain and their disorders from the distance of the twenty-first century raises many thorny issues. It might be assumed that, as the product of millions of years of evolution, human physiology and neurobiology remain basically the same over the space of a mere thousand years. However, this is questionable, as it is now well understood that repeated behaviour patterns can physically change the brain.[87] The development of a mind is rooted in the specific experiences and emotions of an individual,

[83] Galenic texts and those by Salernitan and Islamicate authors are also frequently seen, but these are not texts which could show the influence of Constantine.
[84] S.H. Cavanaugh, 'A study of books privately owned in England, 1300-1450', PhD thesis, University of Pennsylvania (1980) (Ann Arbor, 1985), pp. 127-34
[85] R. Sharpe, J.P. Carley, R.M. Thomson and A.G. Watson (eds.), *English Benedictine Libraries: The Shorter Catalogues* (London, 1996), pp. 357-9; B. Botfield (ed.), *Catalogi veteres librorum cathedralis Dunelm* (London, 1838), pp. 78-9.
[86] Critical edition Bartholomeus Anglicus, *On the Properties of Things: John Trevisa's Translation of Bartholomaeus Anglicus, De Proprietatibus Rerum*, M.C. Seymour (ed.) (Oxford, 1975); Connelly, '*Lylye of Medicynes'*; Getz, *Healing and Society*, p. xi.
[87] For example, see S.A. White and R.D. Fernald, 'Changing through doing: behavioral influences on the brain', *Recent Progress in Hormonal Research*, vol. 52 (1997), pp. 455-73; D.L. Smail, *On Deep History and the Brain* (London, 2008), Chs. 4 and 5.

shaped by the culture and language in which they are situated. Comparative psychiatry finds similarities but also differences in symptoms and disorders across cultures, so as Trembinski comments:

> If psychological sameness ... cannot be presumed across cultures in our modern globalised world, it certainly cannot be presumed across time.[88]

Furthermore, the existence of a disorder label will itself shape the expectations of an illness, affecting the experience and its manifestation in line with societal norms.

The idea of 'disorder' itself is historically changeable. There were many people in medieval times who were not said to have 'a mental disorder', rather they were 'demon possessed' – is this something we have a right to question? There are good arguments against the use of retrospective diagnosis, and certainly attempts to diagnose the illnesses of past individuals in modern terms are rarely legitimate.[89] There are many pitfalls in trying to understand medieval disorder categories; it is anachronistic and unhelpful to project current labels onto the past. Some conditions may no longer exist or present very differently, whilst illness names and categories are ever-changing. If this is true of physical disease, it is even more true of disorders of the head, which are very culturally defined and problematised. Psychiatric labels frequently change, going out of use like 'hysteria', or coming into being, such as 'hoarding disorder' under the latest DSM-5 classification system.[90] Current systems do not map easily onto Constantine's terminology and classification of disorders, still less those used in Old English medicine. Medieval terminology is therefore explained carefully, bearing in mind that words may have misleading modern connotations: *melancholia* for example is far broader than the idea of melancholy or sadness, whilst frenzy (*frenesis*) might not involve energetic, wild behaviour at all. Any attempt to make comparisons between symptoms or disorder categories over time must be handled sensitively, an especially important consideration in this study.

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[88] D. Trembinksi, 'Trauma as a Category of Analysis', in W.J. Turner and C. Lee (eds.), *Trauma in Medieval Society* (Leiden, Boston, 2018), p. 17.

[89] For example, see A. Cunningham, 'Identifying Disease in the Past: Cutting the Gordian Knot' *Asclepio*, vol. 104 (2002), pp. 13-34, and P.D. Mitchell, 'Retrospective diagnosis and the use of historical texts for investigating disease in the past', *International Journal of Paleopathology,* vol. 1 (2011), pp. 81-8.

[90] American Psychiatric Association, *Diagnostic and statistical manual of mental disorders: DSM-5-TR* (Washington, DC, 2022), 300.3.

How do we try to understand illness in the past from a modern viewpoint in a useful and scholarly way? Dendle helpfully explains the 'emic' and 'etic' approaches.[91] Emic models try to see things on a society or time period's own terms, working with its conceptual categories and within its own worldview; this can make some ideas or practices more comprehensible to a modern observer. Etic models look at societal or historical phenomena from an external standpoint, striving for objectivity by drawing parallels and using the latest knowledge, where this is useful. This is different to judging the past in relation to modern beliefs, scientific theories, and standards.[92] Here the emic approach is prioritised, but an etic perspective used when appropriate. For example, the symptoms of frenzy are considered here in the light of modern medical ideas, to try to understand the condition better. Wallis writes that although we should 'avoid any misleading equation with modern disorder categories ... it can sometimes be useful ... to try to determine what modern disease category might match a medieval description, indeed it can ... enhance our understanding of what the medieval writer is attempting to convey'.[93] More cautiously, particular *symptoms* might sometimes usefully be considered, in neutral terms, in parallel with symptoms which arise in various conditions today.[94]

Apart from the traps of anachronism and retrospective diagnosis, there are two other narratives which have influenced medical history from its early days. There is a tendency to frame it in terms of 'great doctors making discoveries' elevating individuals and medical innovations over a broader picture. The second is a 'progress' narrative, where each development leads on to ever-improving ideas and treatments.[95] These ideas were promulgated by some of the medical practitioners who began the study of medical history, but they are snares which need to be avoided through a careful and nuanced approach. Constantine has been both lauded and criticised, with reason; new medical ideas can be an advance in some ways without materially promoting patient health.[96]

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[91] Dendle, *Demon Possession,* p. xiv. See his preface for a discussion of the issues.
[92] The so-called 'Whig interpretation' of history (Kirsch, 'Demonology and the Rise of Science', pp. 149-50).
[93] Wallis, *Medieval Medicine,* pp. xxv-xxvii.
[94] W. Turner, 'Medieval English Understanding of Mental Illness and Parallel Diagnosis to Contemporary Neuroscience' in J. Dresvina and V. Blud (eds.), *Cognitive Sciences and Medieval Studies: An Introduction* (Cardiff, 2020), p. 99.
[95] J.C. Burnham, *What is Medical History?* (Cambridge, 2005), pp. 2-4; Wallis, *Medieval Medicine,* p. xvii.
[96] Editors, '*Constantinus redivivus*: Reclaiming a forgotten Cultural Translator', *Constantinus Africanus* [website] (December 22nd, 2018)

Methodology

One first task was to outline the spread of the relevant works of Constantine across England. This involved an intensive search of surviving booklists and library catalogues for monastic houses, cathedrals, Oxford and Cambridge colleges, hospitals, guilds, as well as records of books given as bequests in wills. Secondly, catalogues and databases of extant manuscripts in modern library collections were examined, looking for copies of Constantine's work which were present in England. The results are presented in Chapter 2.

The relevant texts needed to be translated from Latin, a considerable task. Conveniently, transcriptions of *De melancholia* by Karl Garbers and of *De oblivione* by Burnett (from appropriate manuscripts from England in the right period) have already been published.[97] Initially for accessibility, online early printed versions of the *Viaticum* and *Pantegni* were consulted, together with Helsinki, National Library of Finland, Codex EÖ.II.14, an early copy of the *Pantegni* which is available with transcription online.[98] There are well known problems with the early printed editions so texts were subsequently checked against twelfth-century manuscripts which are known to be English.[99] These were Oxford, Bodleian Library, MS. Laud misc. 567 (for a mid-twelfth-century *Viaticum*) and London, British Library, MS. Additional 22719, together with Cambridge, Trinity College, MS. R.14.34 (twelfth-century copies of the *Pantegni*).[100] There are no twelfth or thirteenth-century English copies of the *Pantegni Practica* with all ten books, so the fourteenth-century copy in Oxford, Bodleian Library, Oriel College, MS. 55 was consulted.

<https://constantinusafricanus.com/2018/12/22/constantinus-redivivus-reclaiming-a-forgotten-cultural-translator/> (last accessed 27 January 2023); M. Bassan, 'Chaucer's 'Cursed Monk', Constantinus Africanus', *Medieval Studies*, vol. 24 (1962), p. 132.

[97] Is'ḥāq ibn-'Imrān, *Maqala fi l-malihuliya*, pp. 84-155 and 184-96. Bos, 'Ibn al-Ǧazzār's *Risala Fin-Nisyan'*, pp. 203-23, appendix with transcription by Burnett.

[98] *Opera omnia ysaac*, Turinus.

[99] M. Jordan, 'The Fortune of Constantine's *Pantegni*' in Burnett and Jacquart, *Constantine the African*, pp. 286-302; See also M. McVaugh, 'Constantine the African', in C.C. Gillespie, F.L. Holmes and N. Koertge (eds.), *Complete Dictionary of Scientific Biography* (Detroit, 2008), note 1.

[100] London, BL, MS. Additional 22719, digitised at *British Library* [website] <https://www.bl.uk/manuscripts/Viewer.aspx?ref+add_ms_22719_fs--1r > (last accessed 21 August 2023); Cambridge, Trinity College, MS. R.14.34 digitised at *James Catalogue of Western Manuscripts* [website] (last updated 2024) <https://mss-cat.trin.cam.ac.uk/Manuscript/R.14.34/UV#?c=0&m=0&s=0&cv=0&r=0&xywh=816%2C-5%2C4268%2C3782> (last accessed 7 March 2024).

Translations were made of the relevant chapters on disorders of the head in Book 1 of the *Viaticum*, Book 9 of the *Pantegni Theorica* and Book 5 of the *Pantegni Practica*. To understand the general principles of Constantine's medicine it was also necessary to translate chapters on the humours, and the complexion and composition of the brain, from the *Pantegni Theorica*, Books 1 and 3. Chapters on the powers of the mind and on the spirits were translated from Book 4, together with certain chapters on the non-naturals, especially the emotions, in Book 5, and small sections elsewhere. Key extracts from these translations are provided in Appendix 5. Translation often presented difficulties, partly because of difficulties with Constantine's prose: Constantine has often been criticised because 'his Latin style was barbarous'.[101] Of course he was attempting to translate much technical information into a new language, and there are many obscure medical terms. A glossary is provided in Appendix 2 to assist the reader. Drug and herb names could be problematic, for which the appendix to Green's translation of the *Trotula* was one helpful source.[102]

In order to provide the context for the impact of the new texts more translation was needed. Regarding texts prior to the arrival of Constantine's works, modern critical editions are now available for most of the Old English medical texts. However, many of the Latin works have remained unedited and untranslated, available only in early modern editions now online, or in original manuscripts, which were consulted for translation of the relevant parts.[103]

Subsequently it was necessary to translate the relevant sections of the works by Bartholomeus, Gilbertus, Gaddesden and De Gordon from the original Latin texts, whilst also consulting the Middle English versions where available. Again, many of these works are available online in early printed editions or digitised manuscripts. The sections on mental

[101] Bassan, 'Chaucer's 'Cursed Monk'', p. 132.
[102] M.H. Green, (ed. and trans.), *The Trotula; An English Translation of the Medieval Compendium of Women's Medicine* (Philadelphia, 2001, 2002), pp. 125-64.
[103] Alexander of Tralles' *Medici libri duodecim* and Gariopontus' *Passionarius* are available online as digitised Renaissance printed editions, at *Internet Archive* [website] (published 2008) <https://archive.org/details/alexandertralli00tralgoog> (last accessed 7 March 2024) and *Gallica* [website] (published 2007) <https://gallica.bnf.fr/ark:/12148/bpt6k53448t.image> (last accessed 7 March 2024); Manuscripts of the *Tereoperica* used were BL, MS Harley 4977 and BL, MS. Sloane 2839 (digitised at *British Library* [website] <https://www.bl.uk/manuscripts/Viewer.aspx?ref=harley_ms_4977_f001r> and <https://www.bl.uk/manuscripts/Viewer.aspx?ref=sloane_ms_2839_fs001r> (last accessed 25 July 2023). De Renzi's transcription of a late medieval copy of the *Tereoperica* in S. De Renzi (ed.), *Collectio Salernitana*, 5 vols. (Naples, 1856) is faulty and lacks the relevant sections. For the *Liber Tertius* Cambridge, CUL, MS. Peterhouse 251 was consulted.

disorders were compared to those in Constantine's texts for similar concepts, terminology, treatments and *materia medica*, as well as direct attributions and citations of his work.

With the translated texts at hand, Constantine's model of medicine and of how the mind and brain worked was outlined. Each of his disorder categories and their treatments were studied in turn, the results laid out in separate chapters with comparisons to earlier medical texts and then to the ideas of later medical authors. Medical texts comprise perhaps the largest part of the extant data we have on medieval mental disorder, but they give only a partial view, and much is necessarily omitted. Here the focus is on literate medicine, rather than medicine's social or legal aspects; institutional care is not covered, and there is less emphasis on religious perspectives. Whilst further changes in English medicine came with the later arrival of other Islamicate texts, such as those of Avicenna, Rhazes and Averroes, these too are outside the scope of the current study.

Summary of the contribution of the thesis

To summarise the contributions made by this research: first, it gives an overview of Constantine's theoretical principles of medicine not fully presented before; medicine as part of natural philosophy, divided into the categories of the naturals, non-naturals and contra-naturals. His model of the body and brain, mind and cognition, is explained, following translation of sections of the *Pantegni*, many previously untranslated.

This thesis then provides the first detailed analysis of Constantine's writings on the whole range of disorders of the head, those disorders which today would be considered 'mental' and 'neurological' conditions. This is without imposing distinctions between mental and physical, or madness and neurological conditions, which are not present in the medieval medical texts. Studies of 'madness' can exclude consideration of epilepsy, but this disorder is very important in understanding the ideas of this period. Extensive translation of the main, relevant Constantinian texts was carried out, in most part for the first time, and the symptoms, causes and treatments he gives for each disorder are set out. Many of these conditions had not been well researched before, and the study helps to fill a research gap in the field of therapeutics for mental disorder. Where helpful, current medical ideas and information from modern research are considered in order to help understand the conditions and analyse treatments.

A detailed analysis is made of how the explanations and treatments seen in Constantine's work compared to previous early English and Anglo-Norman ideas, from their vernacular and Latin texts. This involved accessing Latin texts, many not available in modern printed editions, and translation of relevant sections. Including these makes this one of the first presentations of early English medicine which has taken into account the whole range of information they had access to, rather than just the vernacular sources. It offers further detailed analysis of how Constantine's work was taken on board in subsequent English medical writing, looking for continued use of his terminology, ideas and treatments. Again, this meant accessing these often-unedited texts and translating them from the Latin, as well as looking at several later medieval commonplace and remedy books, often in manuscript form. All of this made it possible to take an overview of how ideas about the mind, mental and neurological disorders changed in English medicine as a result of Constantine's translations.

Finally, studying this one area of medicine has given a fuller picture of Constantine's impact in England in general. This has been achieved through a comprehensive assessment of the dissemination of his works across the country, and by a study of their influence on English institutions, education, medicine, scientific and philosophical thought, wider culture and literature.

Chapter 1: English medicine for disorders of the head before Constantine: the early English context

In order to establish the impact of the work of Constantine in England, it is necessary to consider what is known of English ideas about mental disorders and their treatment before the introduction of his translations. Prior to the Norman Conquest, England had a rich medical tradition informed by Classical medicine, Christianity and Germanic influences. Although the works of Galen and Hippocrates were not available to the English directly, they had a textual knowledge base derived from the available remnants of ancient Graeco-Roman as well as local sources. Augustine of Hippo's ideas about the mind, body and soul were also influential, and medicine operated within the context of a biblical understanding of illness. Christ's healing ministry inspired the Church to offer care and charity to the sick; his saints proved their holiness through their own healing miracles. There is information about ideas about illness and its cure from ecclesiastical writings, but in particular there survives a significant body of medical texts, both in Latin and Old English, used in the pre-Conquest and early Norman period.

Ideas about mental and neurological illness in early medieval England

The Church's ideas about such illnesses came from the biblical record, where the view presented was that insanity often occurred as a punishment for sin, or was due to demons or unclean, evil spirits. King Nebuchadnezzar had not fully acknowledged God and was given the mind of an animal rather than a man, driven out of society and neglecting himself; King Saul disobeyed God and was tormented by an evil spirit, with jealousy and paranoia.[1] Madness could arise as a punishment from God, however other biblical figures suffered grief and despair without condemnation, and Christ himself indicated that illness and misfortune happening to people was not necessarily a result of their sin.[2] Madness is not mentioned in the healings of Jesus, but there are many accounts of Christ and his disciples healing people with disturbed behaviour or convulsions, by casting out demons.[3]

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[1] Daniel, Ch. 4, v. 31-37, 1 Samuel, Chs. 15-31. References are taken from the Vulgate Bible.
[2] E.g., Deuteronomy, Ch. 28, v. 28, Ruth, Ch. 1, v. 20-21, Job, Ch. 6, Psalms, Ch. 88, John, Ch. 9, v. 2 and Luke, Ch. 13, v. 18.
[3] E.g., Mark, Ch. 5, v. 1-20, Ch. 7 and Ch. 9, v. 17-29. Elsewhere in the New Testament record there is reference to mental disorders not apparently indicating such spiritual forces, e.g., Acts, Ch. 26, v. 24-5, and Ch. 12, v. 13 (Greek words involved are *Ekstasis mania* – 'out of one's mind' and *seleniazomai* – 'moonstruck, lunatic', associated with epilepsy. My thanks go to Dr Thomas Gaston for advice on Greek terminology arising in this thesis).

In English miracle healing accounts, there are some vivid descriptions of disorders of behaviour, cognitive problems and movement disorders. For example St Guthlac assisted Hwaetred, a young man tormented by an evil spirit causing an *immensa dementia* involving violent behaviour and self-harm which went on for four years, leaving him weak and emaciated.[4] The saint also healed Ecga who suffered a severe disturbance with complete loss of speech and comprehension, due to an unclean spirit, and depicted below in London, BL, MS. Harley Roll Y.6 (Image 1.1).[5]

Image 1.1. Guthlac casts out a demon from Ecga in Roundel 10, London, BL, MS. Harley Roll Y.6.

Bede described a case of probable hemiplegia healed by St Cuthbert, whilst his account of a man who suffered convulsions at Bardney Abbey, is informative about a seventh-century view of fits.[6] 'He was suddenly possessed by the devil (*a diabolo*) and began to ... foam at

[4] Felix, *Life of Guthlac*, pp. 127-30.
[5] *Ibid*, pp. 130-2.
[6] Bede, *The Ecclesiastical History of the English People, The Greater Chronicle, Bede's Letter to Egbert*, J. McClure and R. Collins (eds.) (Oxford, 2008), pp. 231, 127-8.

the mouth, while his limbs were twisted by convulsive movements'.[7] The patient reported his recovery, thanks to the relics of St Oswald of Northumbria, as due to evil spirits (*spiritus maligni*) leaving him. Similar accounts persist into the early Norman period, in the healing miracles of St Wulfstan, and at St Edmund's shrine in Bury.[8]

Cases of demon possession should be understood as such, in the terms of the time. However demons were often said to cause madness or epileptic fits, and as Aelfric explained, having a devil in you was the same as madness.[9] Possession and madness were sometimes described as the result of sin, for example, according to Bede, King Eadbald of Kent was 'overwhelmed by frequent mental insanity and possession by an unclean spirit' due to his wickedness in not accepting Christianity and marrying his father's wife.[10] However the miracles of St Cuthbert explained that demons could afflict any Christian. The wife of a certain Hildmaer fell into a 'disgraceful insane condition' after being vexed by a devil; he felt ashamed about this but Cuthbert reassured him that 'it is not only bad people who are subjected to such torments ... sometimes ... the innocent are also taken captive by the devil, not only in body but also in mind'.[11] A review of European medieval illness accounts by Jerome Kroll and Bernard Bachrach in fact found sin to be given as the cause of illness in only a minority of cases (19%), and of mental illness, epilepsy or possession in only 16% of cases studied.[12] Where it did occur this was usually as part of a rebuke or polemic.

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[7] *Ibid.*

[8] William of Malmesbury, *Saints' Lives: Lives of SS. Wulfstan, Dunstan, Patrick, Benignus and Indract*, M. Winterbottom and R.M. Thomson (ed. and trans.) (Oxford, 2002), pp. 69-75; Trenery, *Madness, Medicine and Miracle,* pp. 29-30. St Wulfstan was credited with several healing miracles concerning cases of madness; these were said to be caused by evil spirits and necessitated restraint. St Edmund's shrine in Bury saw a number of cases of madness, some brought on as a punishment for offences against the saint.

[9] Aelfric of Winchester, *Aelfric's Catholic Homilies*, 2:13, p. 130, line 100-1.

[10] Bede, *Ecclesiastical History of the English People,* 2.5, p. 150; Boniface also wrote of King Ceolred of Mercia's many sins, causing him to be driven insane by an evil spirit leaving him 'raving and senseless, and conversing with devils', M. Tangl (ed.), *Die Briefe des Heiligen Bonifatus und Lullus* (Berlin, 1955), Boniface letter 73, pp. 152-3.

[11] *Vita S. Cuthberti auctore anonymo* in B. Colgrave (ed. and trans.), *Two lives of Saint Cuthbert: A life by an Anonymous Monk of Lindisfarne and Bede's Prose Life* (Cambridge, 1940), pp. 91-3 and 206. Similarly, no blame was apparently attached to an unfortunate demoniac healed by contact with relics from Cuthbert's burial, pp. 132-4.

[12] J. Kroll. and B. Bachrach, 'Sin and the Etiology of Disease in Pre-Crusade Europe', *Journal of the History of Medicine and Allied Sciences*, vol. 41 (1986), pp. 395-414; J. Kroll and B. Bachrach, 'Sin and Mental Illness in the Middle Ages' *Psychological Medicine,* vol. 14 (1984), pp. 507-14. Kroll and Bachrach looked at 464 illness accounts in pre-Crusade England and the Frankish kingdoms, with 57 accounts of mental illness.

Non-demonic views of mental and neurological disorder were also certainly available. In one biblical account when Jesus healed people with a mental condition translated as 'lunatics' (possibly 'epileptics'), this is listed separately from cases of demonic possession.[13] Bede noticed this and separated out demoniacs from lunatics and paralytics, whilst Eadbald was described as suffering madness and possession by an unclean spirit, either indicating that the two conditions were the same or distinct.[14] No less an authority than Augustine made it clear that some cases of derangement were not due to demons, as in the case of a man who recovered when his fever left him, and so was probably *phreneticus* (suffering from frenzy).[15] Similarly the *Dialogues* of Gregory the Great recounted the tale of a disturbed patient who howled wildly, but he was described as suffering from the medical condition of frenzy, with no hint of demons.[16] At St Edmund's shrine some cases of madness were said to be due to illness or distraction with worldly affairs.[17] There was also some awareness of psychological and lifestyle factors in illness. In the twelfth century Christina of Markyate suffered from possible hemiplegia (one-sided paralysis or weakness) which was attributed to 'the various trials which she had endured.'[18] Anselm became overcome with weariness and low mood in the face of too much secular business.[19]

Another, more limited, source of information about pre-Conquest ideas about mental illness comes from evidence about the legal system and penitentials. The ninth-century penitential termed the *Canons of Theodore* discussed several different causes of suicide, which could be demon possession, being vexed by a demon, insanity, or insanity 'from despair or some fear'.[20] *The Leges Henrici Primi*, reflecting pre-Conquest laws, stated that 'their relatives

[13] Matthew, Ch. 4, v. 24: 'et abiit opinio eius in totam Syriam et obtulerunt ei omnes male habentes variis languoribus et tormentis conprehensos et qui daemonia habebant et lunaticos et paralyticos et curavit eos'. The Greek word (*seleniazomai)* is derived from the word for the moon, also reflected in the Latin. There are references in the Bible to people being driven mad by things which they see (Deuteronomy, Ch. 28, v. 34) or by 'great learning' (Acts, Ch. 26, v. 24), both of which find echoes in medieval treatment ideas, either due to continuity of ideas, or the pervasive influence of Christian scripture.
[14] Bede, *In Matthaei evangelium expositio* 1.4, *Patrologia Latina*, 93, col 23D, cited in Dendle, *Demon Possession*, pp. 23-4; Bede, *Ecclesiastical History of the English People*, p. 79.
[15] Augustine of Hippo, *De Genesi ad litteram imperfectus liber* in *Sancti Aureli Augustini, Opera Selecta*, J. Zycha (ed.) (Vienna, 1894), pp. 403-4.
[16] Dendle, *Demon Possession*, p. 4.
[17] Trenery, *Madness, Medicine and Miracle*, pp. 29-30.
[18] Anonymous, *The Life of Christina of Markyate*, C.H. Talbot (ed. and trans.) (Oxford, 1959), p. 120-1.
[19] Eadmer, *Life of St. Anslem*, R.W. Southern (ed. and trans.) (London, 1962), Book II, Ch. xiii, cited in Kroll and Bachrach, 'Sin and the Etiology of Disease', p. 407.
[20] Jurasinki, 'Madness and Responsibility in Anglo-Saxon England', pp.105-6.

should compassionately care for insane persons and dangerous (*maleficos*) people of this kind'. This suggests that people were not always well cared for; indeed later in the twelfth century a madman who attacked Aelred of Rievaulx could have been 'beaten or bound or fettered as a madman'.[21] There was also an expectation that the insane would be *maleficos* - evil-doers.[22] The *Canons* also discussed the situation when, out of his senses, a man killed another. His family should pay compensation and keep him out of further harm, but this did not seem to exclude the possibility of the usual punishments for murder, as the insane were considered to bear some responsibility, having brought their insanity upon themselves through sin.[23] Anger and madness were also often conflated in some sources: Alfred's translation of the *Regula Pastoralis* equates *weadmodnesse* (anger) with being *ungewitte* (out of one's senses).[24] It is understandable that socially problematic forms of madness, with behavioural disturbance, should be a major concern, and a majority of references, both legal and hagiographical, reflect this trope of the violent madman needing restraint.

Meanwhile, in the seventh century, the encyclopaedist Isidore of Seville explained mental disorders as illnesses, with natural causes such as imbalances of the humours, complaining that 'the common people' thought epilepsy was due to demons.[25] The main focus in this study is such medical approaches to mental and neurological disorder. In the case of England there is fortunately an unusually rich source of medical information, through the survival of a number of medical texts. As Cameron comments:

> Before 1100 north of the Alps only one culture has left us anything of its own; uniquely among Northern Europeans the Anglo-Saxons appear from early time to have written medical texts in their own language as well as in Latin, and enough of these have survived from the tenth century and later to give us a good picture of what medicine was like in a northern country in medieval times.[26]

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[21] L.J. Downer (ed. and trans.), *Leges Henrici Primi,* (Oxford, 1972, pp. 244-5; F.M. Powicke, *Ailred of Rievaulx and his biographer Walter Daniel* (Manchester, 1922), p. 81. *The Leges Henrici Primi* are a twelfth-century version of pre-Conquest laws, Jurasinki, 'Madness and Responsibility in Anglo-Saxon England'.
[22] Jurasinki, 'Madness and Responsibility in Anglo-Saxon England', pp. 101-3, although other interpretations of *maleficos* are possible.
[23] *Ibid*, pp. 111-7; R.D. Fulk and S. Juransinki (eds.), *The Old English Canons of Theodore* (Oxford, 2012), p. 7, (Text A, numbers 46 and 47).
[24] Jurasinki, 'Madness and Responsibility in Anglo-Saxon England', pp. 115-6.
[25] Isidore of Seville, *The Etymologies of Isidore of Seville,* S.A. Barney (ed.) (Cambridge, 2006), pp. 110-1.
[26] Cameron, *Anglo-Saxon Medicine,* p. 1.

Medicine in early medieval England

The Romans brought the Graeco-Roman medical traditions with them, but it is unknown to what extent they spread to the general population, or persisted after the end of Roman rule in the early fifth century. Archaeological remains point to early attempts at medical treatment. For example, five skulls with trephination holes from sixth century East Anglia point to the presence of a doctor in that area, conducting apparently successful surgery.[27] The first records of practising English doctors (known as *læce* or leeches) come from the end of the seventh century when Cynefrith, a lay physician to Ely Abbey, is recorded as attending to St Æthelthryth.[28] Around the same time Aldhelm indicates that he studied medicine as one of seven core subjects taught at the school set up in Canterbury by Archbishop Theodore *c*. 670.[29] John of Beverley seems also to have trained there; there is an account of him miraculously healing a nun who was suffering complications following bloodletting, and complaining that this had not been done according to the advice of Theodore.[30] Although only the names of a handful of English doctors survive, *laece* are mentioned throughout this period in various accounts of such healing miracles, in penitentials, as present on the battlefield, and at the court of King Alfred.[31] Meaney suggests that 'Anglo-Saxon medics were more probably taken for granted than non-existent'.[32] The l*aece* known of were men, and may have been either clerical or lay.[33] People were encouraged to turn to the Church for healing, with Christ, or his representatives, being the

[27] C. Wells, 'Probable trephination of five early Anglo-Saxon skulls', *Antiquity,* vol. 48 (1974), pp. 298-302.
[28] Bede, *Ecclesiastical History of the English People*, p. 204; See also S. Rubin, 'The medical practitioner in Anglo-Saxon England', *British Journal of General Practice*, vol. 20 (1970), p. 65.
[29] A.L. Meaney, 'The Practice of Medicine in England about the Year 1000', in P. Horden. and E. Savage-Smith (eds.), 'The Year 1000: Medical Practice at the End of the First Millennium', *Social History of Medicine*, vol. 13 (2000), p. 221.
[30] Bede, *Ecclesiastical History of the English People,* p. 239.
[31] Meaney, 'The Practice of Medicine in England about the Year 1000', p. 222; Asser, *Life of King Alfred* in *Alfred the Great: Asser's Life of King Alfred and other contemporary sources,* S. Keynes and M. Lapidge (ed. and trans.) (London, 1983), pp. 88-9.
[32] Meaney, 'The Practice of Medicine in England about the Year 1000', p. 223. Apart from Cynefrid the names are known of Bald, who owned *Bald's Leechbook*, and of Cild who he ordered to write the book; at least one of them was clearly a doctor. In that text two further doctors are named, Dun and Oxa.
[33] Although the word *lacnystre* meaning a female doctor exists, and there is reference to a female nurse in accounts of the life of St Dunstan (Meaney, 'The Practice of Medicine in England about the Year 1000', pp. 223-4). The physicians mentioned in hagiographical accounts are often apparently lay, and pictures of untonsured doctors are found in some later sources. Cameron, *Anglo-Saxon Medicine,* p. 19; Meaney, 'The Practice of Medicine in England about the Year 1000', p. 24; J.R.H. Grattan and C. Singer, *Anglo-Saxon Magic and Medicine* (London, 1952), p. 11.

ultimate *medicus*. The Rule of St. Benedict, introduced in England from the seventh century, mandated the moral obligations to care for sick monks. Many monastic foundations had infirmaries, some had medical books.[34] Lay doctors were clearly paid, as those who treated a woman cured by St Wulfstan were charging significant sums, whilst law codes and penitentials also mandated payment of the doctor's fee in penances for injury.[35] Patients were taken to the physician, or he attended them at home, with the *hospitium* (few of which existed at this time), being a hostel for pilgrims or a hospice for the sick and old rather than a place of medical treatment.[36]

Medical training and literature

Medical training was available in Canterbury in the seventh century, as already seen. Some level of education is implied, at least in the users of the surviving Old English texts; Dun and Oxa were said to have taught their remedies, and there are references to treatments 'after the manner which doctors know' without full explanation.[37] Of course it is unknown whether many *laeces* would have aspired to the standard of medicine represented in the learned texts; there was probably a multitude of poorly educated, but perhaps experienced, practitioners who left no trace. Oral and practical training, varying in quality, would have been the norm, memorised and only occasionally accompanied by anything written.

One medical writer, Bald, makes mention of his '*cari libri*,' his 'dear books', but very little is known about how widely available medical texts were in early medieval England.[38] In the eighth century Bishop Cynehard of Winchester wrote to a colleague in Germany, mentioning that he had 'a goodly quantity' of books of secular medicine, but which prescribed drugs unknown to them and difficult to obtain.[39] In thirteen extant booklists and inventories of books held in English libraries, only three contain mentions of medical books, not specifying their contents; of less importance than sacred works, they may have been unrecorded rather

[34] Benedict of Nursia, *The Holy Rule of St. Benedict*, B. Verheyen (trans.) (Grand Rapids, Michigan, 1999), Ch. 36.
[35] William of Malmesbury, *Saints' Lives*, p. 69; Meaney, 'The Practice of Medicine in England about the Year 1000', p. 223.
[36] See Meaney, 'The Practice of Medicine in England about the Year 1000', p. 227.
[37] Cameron, *Anglo-Saxon Medicine,* p. 21; *Bald's Leechbook 1*, Ch. 35, p. 92.
[38] *Bald's Leechbook*, p. 326.
[39] Letter 114 in Tangl, *Die Briefe des heiligen Bonifatius und Lullus,* translated and cited in Wallis, *Medieval Medicine*, pp. 110-1.

than absent.[40] In the tenth century Bishop Aethelwold gave books to the monastery at Peterborough including unspecified '*medicinalis*'.[41] Sawold, abbot of Bath similarly owned a volume referred to as a '*Librum medicinalis*', whilst the monks of Bury St Edmunds had a *læcboc* of Old English medical recipes in the eleventh century.[42] Widely known were Bede's *De temporum ratione*, together with Pliny the Elder's *Historia Naturalis* and Isidore's *Etymologies,* chief sources of 'scientific' theory and information in the West for many centuries. These all contained information on medicine, whilst other philosophical and theological writers considered the nature of the human body and soul.[43] The *Herbarium* attributed to Apuleius Platonicus (from the work of Dioscorides) and associated works were available in Latin and Old English. The English also had other vernacular medical texts, several Latin texts, and others which arrived following the Norman Conquest.

Vernacular medical texts

The Old English texts which survive have a unique value in the history of medicine, and we can be confident that these texts and their like were in practical use, at least by a literate class of physicians. Most of them were collected and translated by Cockayne in the 1860s in his three-volume work, *Leechdoms, Wortcunning and Starcraft of Early England.* Doyle has given an excellent translation of *Bald's Leechbook,* and there are more recent editions and translations of the *Lacnunga*, by J.R.H. Grattan and Charles Singer, Pettit, Niles and D'Aronco, and by Stephen Pollington.[44] Pollington has further translated *Leechbook III* and one manuscript of the *Old English Herbarium*, the *Herbarium* also having been translated and published by Van Arsdall and by Niles and D'Aronco, with a new translation of the Old English *Liber medicinae ex animalibus*.[45] Here follows a description of the texts and an outline of their content pertaining to disorders of the head.

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[40] M. Lapidge, 'Surviving booklists from Anglo-Saxon England' in M. Lapidge and H. Gneuss (eds.), *Learning and Literature in Anglo-Saxon England: Studies presented to Peter Clemoes* (Cambridge, 1985), pp. 33-89.
[41] *Ibid*, p. 53.
[42] *Ibid*, pp. 60-2 and 74-5.
[43] Exeter possessed the *Etymologies* in the late eleventh century. (Lapidge, 'Surviving booklists from Anglo-Saxon England', pp. 64-8).
[44] Doyle, 'Anglo-Saxon Medicine and Disease: A Semantic Approach', vol 2; Grattan and Singer, *Anglo-Saxon Magic and Medicine*; Pettit, *Anglo-Saxon Remedies, Charms and Prayers*; Niles and D'Aronco, *Medical Writings from Early Medieval England*; S. Pollington, *Leechcraft: Early English Charms, Plantlore and Healing* (Ely, 2000).
[45] Pollington, *Leechcraft*; Van Arsdall, *Medieval Herbal Remedies*; Niles and D'Aronco, *Medical Writings from Early Medieval England.*

The *Herbarium* survives in compilations which include other herbals and a text on the healing properties of animal parts, the *Liber medicinae ex animalibus* by Sextus Placitus.[46] Copies of this collection are thought to have been available in England in Latin from at least the eighth century.[47] It was subsequently translated into Old English, and four copies survive, indicating that this work was widely available and considered useful.[48] Remedies related to disorders of the head in these herbals included peony for the *monað seoc* (month sick/lunatic), with other cures for nightmares, sleeplessness, epilepsy, lethargy or forgetfulness, and 'witlessness of the mind' or frenzy.[49] The vernacular verstion of the *Liber medicinae ex animalibus* includes treatments for epilepsy, such as a drink of boar's testicles, and remedies for 'apparitions', such as eating the flesh of a lion.[50] For the problem of *deoful seocnyssa* (devil sickness) the *Herbarium* recommended periwinkle (*vinca maior*), whilst the *Liber medicinae ex animalibus* suggested eating a wolf's flesh.[51]

The *Herbarium* was widely known across Western Europe and its contents do not give a picture of specifically English medicine, this is afforded by the fortunate preservation of London, British Library, MS. Royal 12. D. XVII. This manuscript is thought to have been produced at Winchester in the mid-tenth century, and contains *Bald's Leechbook I* and *II*, and *Leechbook III*.[52] Bald (and possibly his scribe, Cild) is thought to have been a doctor with practical experience, and his *Leechbook* represents a high standard of scholarship, drawing from several authorities of antiquity such as Oribasius, and giving occasional background information and theory.[53] Given in head-to-toe order, most treatments for physical and some mental conditions were practical, using herbs, such as a recommendation of ingredients like bishopwort and betony for the problems of *ungemynde* and *dysgunge* (which can be translated as insanity and imbecility).[54] Some disorders which may have affected the mind were to be treated with more ritual and religious elements, partly because

[46] See Cameron, *Anglo-Saxon Medicine,* Ch. 8.
[47] Cameron, *Anglo-Saxon Medicine*, p. 59.
[48] London, BL, MS. Harley 585, London, BL, MS. Harley 6258 B, London, BL, MS. Cotton Vitellius C.iii, and Oxford, Bodleian Library, MS. Hatton 76. The extant Latin exemplars are given in H.J. De Vriend (ed.), *The Old English Herbarium and Medicina de Quadrupedibus* (London, 1984), pp. xlv-xlix.
[49] *Herbarium*, pp. 178, 138-9, 174, 176, 189 and 192.
[50] *Sextus Placitus*, pp. 392-3, 402-3, 404-5, 406-7, 408-9.
[51] *Herbarium*, p. 227; *Sextus Placitus*, p. 404-5.
[52] BL, MS. Royal 12. D. xvii was copied by the same scribe who wrote the annals for 925-55 into the Parker chronicle (Hall, *Elves in Anglo-Saxon England*, pp. 96-7).
[53] Cameron, *Anglo-Saxon Medicine,* p. 44.
[54] *Bald's Leechbook I,* Ch. 66, p. 145.

supernatural elements were involved. For example, it gave treatments for the *feond seocum* (fiend sick), victims of *yfelre leodrunan* or *ælfsidenne* (evil incantation or nightmare, the magic of elves).[55] A missing section of *Leechbook II* fortunately seems to survive in the first folios of London, British Library, MS. Harley 55, as it corresponds to the contents list in BL, MS. Royal 12. D. XVII, giving detailed treatment of the *healfdeadan adle* (half-dead disease, possibly what we would call hemiplegia).[56] The Royal manuscript continues with a letter said to be from Elias of Jerusalem to King Alfred, which gave some recommendations for mental disorders such as *scinlace 7 wið eallum gedwolþinge* (apparitions and delusions).[57]

Leechbook III, in the same manuscript, is not part of Bald's book. Cameron asserts that it represents 'the oldest vernacular medical writings to survive from Western Europe', English medicine largely untouched by classical traditions, and prescribing mainly native herbs.[58] It is generally much less sophisticated, with a higher degree of Germanic ideas and ritual components to the treatments.[59] It gives treatments for the *monaðseoc* (monthsick, possibly lunatic, epileptic), those with *ungemynde* (madness), *wifgemaedlan* (woman's madness) *gewitseocne* (insanity) *weden heorte* (frenzy) or a neurological condition *lyrt adle* (translated palsy).[60] There are also eight remedies against spiritual beings presumably threatening possession or some kind of psychological harm: *feondes costungum* (temptations of the devil), *aelfsidenne* (the magic of elves), *ælfcynne* (elvish race) *nihtgengan*, (nightgoers) *þam mannum þe deofol mid hæmð* (people with whom the devil has intercourse) and for *deofolseoce* (devilsickness).[61]

London, BL, MS. Harley 585, a late tenth or early eleventh-century *Herbarium*, includes a disorganised collection of recipes known as the *Lacnunga*. More of a portable, commonplace

[55] *Bald's Leechbook I,* Ch. 63, p. 141 and Ch. 64, p. 143, see also Hall, *Elves in Anglo-Saxon England*, p. 119 for the interpretation of *ælfsidenne.*
[56] London, BL, MS. Harley 55, fols. 1r-3r, corresponds to the contents listed in London, BL, MS. Royal 12. D. XVII, fol. 63v (Cameron, *'Anglo-Saxon Medicine'*, p. 32); Doyle, 'Anglo-Saxon Medicine and Disease', Appendix II, pp. 306-15.
[57] *Bald's Leechbook II*, Ch. 64. pp. 316-8.
[58] Cameron, *Anglo-Saxon Medicine*, p. 35. See also pp. 36 -7 for similar content it shares with Latin or possibly Gaulish texts.
[59] Kesling, *Medical Text in Anglo-Saxon Literary Culture*, pp. 57-9.
[60] *Leechbook III*, Ch. 40, pp. 390-1, Ch. 64, pp. 400-1, Ch. 57, pp. 396-7, Ch. 41, pp. 392-3, Ch. 68, pp. 402-3 and Ch. 47, pp. 394-5.
[61] *Leechbook III*, Ch. 41, pp. 92-3, Ch. 61, pp. 396-7, Ch. 67, pp. 402-3, see also Chs. 54, 58, 62, and 64.

book, its origin is unknown, somewhat later than the leechbooks.[62] Teutonic and apparently unorthodox pagan elements occur along with Christian rituals for healing, and it has been described as superstitious, popular medicine, 'folk medicine at its lowest level'.[63] However, recent scholarship has indicated that it also drew on Latin sources and that it most likely arose out of a learned environment.[64] Whatever the case, it is fortunate to retain this glimpse of herbal remedies mixed with ritual and religious practices, containing some unique verse incantations such as the 'Nine Herbs Charm', and protective prayers.[65] With regard to possible psychological issues or mental disorders, there is some uncertainty about disorder names and uncertain conditions such as *wið dweorh* (literally 'a dwarf') and *wif færunga adumbige* (a woman suddenly turned dumb).[66] There are straightforward remedies for epilepsy and sleep problems, and a very elaborate if incoherent Christian ritual for *feondes costungum* (temptations of the devil).[67]

The survival of these manuscripts is fortuitus and random, our remaining information in the Old English comes from just a few folios, such as the Omont fragment. Thought to be from ninth-century Mercia, it demonstrates the existence of even earlier English medical writing and gives a remedy for paralysis.[68] Also surviving are a number of Latin-Old English glosses which include various terms for mental disorder, and which can assist interpretation.[69]

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[62] The origin of the *Lacnunga* is unknown but may also have come from Winchester (Pettit, *Anglo-Saxon Remedies, Charms and Prayers,* p. 135). For a discussion of its background see Kesling, *Medical Texts in Anglo-Saxon Literary Culture,* pp. 126-9.

[63] For example, see charms for toothache and for swallowing a worm, *Lacnunga,* pp. 186-7. Woden is mentioned alongside the Christian God in the Nine Herbs Charm, *Lacnunga,* pp. 212-3 (Cameron, *Anglo-Saxon Medicine,* p. 34).

[64] Kesling, *Medical Texts in Anglo-Saxon Literary Culture,* pp. 95-7 and 127-9.

[65] *Lacnunga,* pp. 210-3.

[66] *Lacnunga,* pp. 214-5, 216-7 and 228-9. Lewis has studied this charm in depth and understands the idea of the 'dwarf' to refer to a sleep problem or night monster or demon. M.C.G. Lewis, 'Dreaming of Dwarves: Anglo-Saxon Dream Theory, Nightmares and the *Wið Dweorh* Charm', PhD Thesis, University of Georgia (2005). An analysis by Doyle finds a specific medical meaning of disturbed sleep and fever, and of course the delirium of fever could involve powerful and frightening dreams. (C. Doyle, '*Dweorg* in Old English: Aspects of Disease Terminology' *Quaestio Insularis,* vol. 9 (2009), p. 99).

[67] *Lacnunga,* pp. 214-5, 228-9 and pp. 188-9.

[68] Bibliotheque National de Paris, *Fragmenta H. Omont No.3*; Cameron, *Anglo-Saxon Medicine,* pp. 90-1; Pollington, *Leechcraft,* pp. 72-4. A large collection of Old English material held in Robert Cotton's library was partly destroyed by fire in 1731, London, BL, MS. Cotton Ortho B. xi (partly transcribed as London, BL, MS. Add. 43703), preserves some material missing from *Bald's Leechbook.* The first few folios of London, BL, MS. Harley 55 give medical recipes from northern England (*c*. 972-1023). Cockayne gives several surviving medical recipes and charms in Old English, Cockayne, *Leechdoms,* vol. 1, pp. 374-83, as do Niles and D'Aronco, *Medical Writings from Early Medieval England,* pp. 592-659.

[69] E.g., The Harley Glossary, Aelfric's glossary. See Dendle, *Demon possession,* p. 92.

Latin texts

The vernacular texts of the early English have attracted a great deal of attention by modern scholars, to the neglect of Latin works potentially available to them. However, Cynehard's books were clearly foreign, using unfamiliar ingredients, and Bede had a variety of texts by important Latin authors who he cited or quoted.[70] These included the imported works of Isidore and Pliny's *Historia Naturalis*, presumably including their medical content. He cited the *Epistula Hippocratis ad Antiochum Regem*, and quoted from Vindicianus' *Epistula Vindiciani ad Pentadium Nepotem*, and from Cassius Felix's *De Medicina.*[71] Cameron's analysis of the sources for *Bald's Leechbook* shows that Bald clearly had access to a collection of works covering 'the best that Roman and Byzantine medicine of the third to sixth centuries had to offer'.[72] It drew from a number of sources, the *Epistula Hippocratis ad Antiochum Regem* by Vindicianus and the *Epitome Altera*, Oribasius' *Synopsis* and *Euporistes*, Alexander of Tralles' *Practica Alexandri*, Marcellus of Bordeaux' *De Medicamentis*, from Pliny and possibly Theodorus Priscianus.[73] *Bald's Leechbook* also contains much from a group of seventh or eighth-century texts with much shared content, the *Liber Aurelii, Liber Esculapii* and the *Liber Tertius*. Much of this content is included in the *Tereoperica*, and the later work known as the *Passionarius*.[74] A Salernitan work, the *Passionarius* of Gariopontus and a Salernitan version of the *Tereoperica* became available in England following the Norman Conquest, along with other new works containing medical recipes, such as the *Canterbury Classbook*.[75]

It is not possible to give more than an overview of these Latin authors and works here, and there is uncertainty about how similar extant versions of these texts are to those which were available in England during this period, or whether the works were known in their entirety. Indeed, before the millennium, of the Latin texts, there is only good evidence for the circulation of the *Herbarium*.[76] It is of note that although *Bald's Leechbook* drew on many

[70] Cameron, 'The sources of medical knowledge in Anglo-Saxon England', p. 148.
[71] *Ibid*, p. 146.
[72] *Ibid*, p. 148.
[73] *Ibid*, pp. 147-9. See also the extensive source analysis in Doyle, 'Anglo-Saxon Medicine and Disease'.
[74] Cameron, *Anglo-Saxon Medicine,* pp. 68-72, see also Cameron, 'Bald's *Leechbook*: its sources and their use in its compilation', pp. 162-4.
[75] The new arrivals are detailed in Banham, 'England joins the medical mainstream', pp. 341–52.
[76] Opinions vary, with Cameron suggesting that the vernacular compilers had direct access to the source texts, Banham and Lockett believing it more likely that they were known indirectly or in abridged form. Cameron, 'Bald's *Leechbook*: its sources and their use in its compilation', p. 154-5;

Latin texts, the content of the chapters specifically on mental disorder in *Leechbook I* (Chs. 63-66) cannot be traced to Latin sources; the sections on such conditions in Latin texts may not have been available in the pre-Conquest period, or may have been disregarded as different in approach.[77]

Bede certainly was known, and in his *De temporum ratione*, he gave details about the four humours, blood, red bile, black bile and phlegm, with lifestyle advice. The humours were the basis of all classical medicine and he explained how they related to the elements and seasons in Hellenic philosophy about man's place in the universe.[78] Some of these ideas were repeated and illustrated by Byrhtferth in his *Enchiridion*, showing the humours' place in the natural order in the diagram reproduced below, showing 'the physical and physiological fours' (Image 1.2).[79]

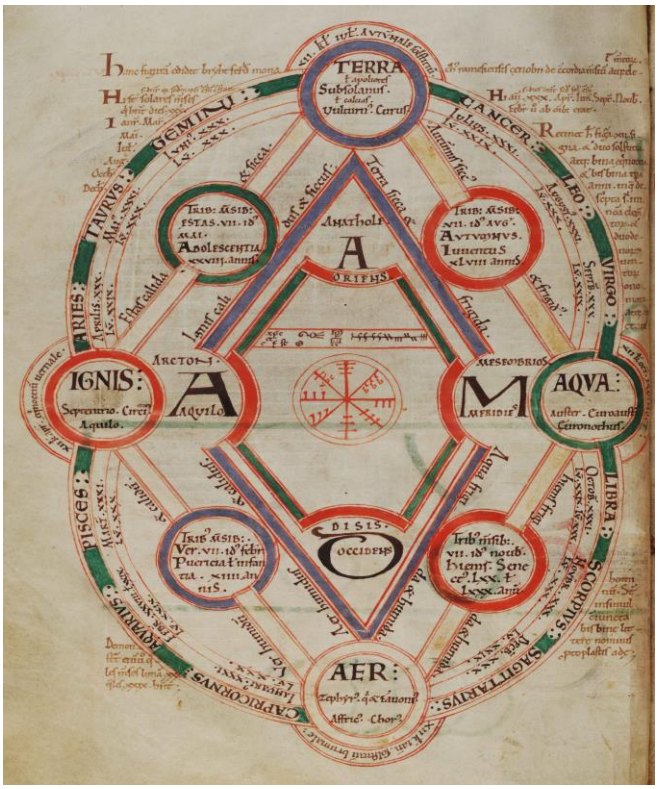

Image 1.2. The *Macrocosm*, showing the physical and physiological fours, in Byrhtferth's *Enchiridion*. Oxford, St John's College, MS. 17, fol. 7v.

Banham, 'England joins the medical mainstream', p. 341; Lockett, *Anglo-Saxon Psychologies*, p. 441.

[77] See Doyle, 'Anglo-Saxon Medicine and Disease', vol. 2. He traces many sections of *Bald's Leechbook* to a number of Latin authors, but no Latin sources are identified here, Chs. 63-66, pp. 141-5.

[78] Bede, *Bede: The Reckoning of Time*, F. Wallis (trans. and ed.) (Liverpool, 1999), pp. 86-87, 100-1.

[79] Byrhtferth of Ramsay *Byrthferth's Enchiridion*, P.S. Baker and M. Lapidge (eds.) (Oxford, 1995) p. 15; Oxford, St Johns College, MS. 17 (late tenth century).

Isidore's *Etymologies* was one of the most widely known works in Europe from the seventh century onwards, 'playing an influential role in the spread of Graeco-Roman medical concepts'.[80] Isidore's work was brought early to England, and although it was not primarily medical, had medical elements. Book 4 of the *Etymologies* discussed the theoretical foundations of medicine, sometimes circulated as a separate work: it gave brief notes on the nature and causes of disorders including epilepsy, mania, melancholy and lethargy.[81] Book 20 explained the human body and life stages, the nature of the soul and how it related to the mind, with descriptions of the organs of the body.[82] Pliny's *Historia Naturalis* was also widely circulated, with the medical section available separately; it listed over 900 materials with healing properties.[83] Books 23-30 covered the medicinal properties of wine, foodstuffs, herbs, human and animal body products, and 'magical' treatments. The volumes were organised by type of remedy, with little theory, and include treatments from classical authors but also folk remedies and superstitious ideas. Remedies for disorders of the head may be found scattered throughout, with many for epilepsy, melancholy, lethargy, phrenitis, paralysis, sleep problems and unspecified insanity. Book 30 gave some odder treatments which he regards as dubious, coming from practitioners he calls 'Magi'.

The *Epistula Hippocratis ad Antiochum Regem* was a short work of general health and preventative advice to balance the humours and help the patient avoid diseases such as apoplexy or frenzy.[84] Writing in the fourth century, Vindicianus' three short works were 'among the most widely excerpted medical works throughout the Middle Ages'.[85] His *Epistula Vindiciani ad Pentadium Nepotem* discussed balancing the humours, and their effects on the character. The *Epitome Altera*, attributed to Vindicianus, gave short

[80] L. Ayoub, 'Old English *wæta* and the Medical Theory of the Humours,' *The Journal of English and Germanic Philology*, vol. 94 (1995), p. 333.
[81] Isidore, *Etymologies*, pp. 110-2, Cameron, 'The sources of medical knowledge in Anglo-Saxon England', p. 142.
[82] Isidore, *Etymologies*, pp. 321-43.
[83] Pliny the Elder, *Natural History*, 9 vols., W.H.S. Jones (trans.) (Cambridge, Massachusetts, 2014).
[84] In Marcellus, *De medicamentis liber,* G. Helmreich.(ed.) (Lisia, 1889) digitised at *Internet Archive* [website] (published July 2007) <https://archive.org/details/demedicamentisli00marcuoft> (last accessed 10 April 2024), pp. 5-9.
[85] L. Cilliers, 'Medical Writing in the Late Roman West', in P.T. Keyser and J. Scarborough (eds.), *The Oxford Handbook of Science and Medicine in the Classical World* (New York, 2018), p. 122.

descriptions of the structure and function of the parts and organs of the body, including the head and brain. [86]

Cassius Felix was a North African doctor in the fifth century who helped the transmission of Greek medical knowledge to the West, as his work *De Medicina* drew from Galen and Hippocratic sources. *De Medicina* had limited circulation in early medieval England, with exotic *materia medica*, but was very influential, contributing to the contents of the *Tereoperica*.[87] A practical handbook, it presented 88 disorders, usually with symptoms and causes, followed by treatments. There were chapters devoted to frenzy, lethargy, epilepsy, apoplexy and paralysis, and he also discussed psychological difficulties associated with the womb, under *metromania.*[88]

The *Synopsis* of Oribasius, a fourth-century pagan Greek physician, was again a practical handbook of treatments with some remedies from Galen.[89] Book 8 was devoted to disorders of the head, loss of memory, frenzy, lethargy, epilepsy, apoplexy, melancholy mania, lovesickness, inflammation of the brain, and unusually, '*incybus*' (understood today as probably sleep paralysis) and lycanthropy. Disorders and their treatment were described logically and clearly, often with ideas of causation, and treatments often included precise quantities of ingredients. Meanwhile his *Euporistes* had little to say on mental disorders but gave advice on hygiene, lifestyle, medicines and descriptions of disorders for the layman.[90]

The sixth-century *Practica* of Alexander of Tralles was a magisterial work running to nearly 800 pages in its printed Renaissance edition.[91] Disorders such as fevers and problems with the eyes were presented in head-to-toe order and were each treated comprehensively, with symptoms, causes and treatments. It made recommendations regarding diet, the use of baths,

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[86] Vindicianus, *Epistula Vindiciani ad Pentadium nepotem suum* and *Epitome Altera* in *Theodori Prisciani Euporiston Libri III cum physicorum fragmento et additamentis pseudo-Theodoreis*, V. Rose (ed.) (Leipzig, 1894) pp. 484-92 and 467-83.
[87] Cameron, *Anglo-Saxon Medicine,* p. 71; L.L. Figueroa, 'From Cassius Felix to *Tereoperica*: New Considerations on Indirect Tradition', in B. Maire (ed.), '*Greek' and 'Roman' in Latin Medical Texts: Studies in Cultural Change and Exchange in Ancient Medicine* (Leiden, 2014), pp. 383-4.
[88] Cassii Felicis *De Medicina: ex Graecis Logicae Sectae Auctoribus Liber Translatus sub Artabure et Calepio Consulibus (anno 447)*, V. Rose (ed.) (Lipsiae, 1879) Chs. 62, 63, 71, 65, 54, 77 and 79.
[89] An abbreviated version of his *Collectiones Medicae.* Oribasius, *Œuvres d'Oribase,* U.C. Bussemaker and C. Daremberg (eds.) (Paris, 1856-76), vols. 5 and 6.
[90] Oribasius, *Euporistes,* vol. 6, pp. 625-6.
[91] Alexander Trallianus *Medici libri duodecim*.

wine and environment, and treatments include bloodletting, the use of healing stones, poultices, and herbs, with some lengthy lists of drugs with quantities. The first 70 pages were devoted to disorders of the head, covering the problems of frenzy, lethargy, epilepsy, paralysis, and melancholy.[92]

Marcellus' work *De medicamentis*, as the title suggests, concentrated on medicines, many with multiple ingredients, and often with quantities specified. It did not consider any relevant disorders of the head except for one remedy which might help in epilepsy or someone '*furiosus*'.[93] The work of Theodorus Priscianus, a pupil of Vindicianus, was widely known in the Middle Ages and it is possible, but not certain, that parts of his work (or that of pseudo-Theodore) were drawn on in *Bald's Leechbook*.[94] His *Euporiston* covered a variety of problems in roughly head to toe order, with sections on apoplexy and paralysis, epilepsy, melancholy and also a madness caused by toxic honey. A section devoted to gynaecology included the problem of 'suffocation of the womb', which could present with psychological symptoms.[95]

The advent of the Normans may have increased access to the Latin texts, along with other new Latin texts, as outlined by Banham.[96] It is unclear whether material found in the *Tereoperica* was available in pre-Conquest England, although the full text certainly came in around this point, as evidenced by London, British Library MS. Sloane 2839 and MS. Harley 4977 as well extracts in Cambridge, Cambridge University Library Gg 5.35 (*The Canterbury Classbook*).[97] The *Passionarius Galieni* compiled by Gariopontus also became available; this contained much from the *Liber Aurelii, Liber Esculapii* and the *Liber Tertius* which were known in England, but expanded on these sources and made this information more

[92] Alexander, pp. 59-131.
[93] Marcellus, p. 192.
[94] Cameron, 'The sources of medical knowledge in Anglo-Saxon England', p. 148. He is not cited in Doyle's source analysis.
[95] Theodorus Priscianus, *Theodori Prisciani Euporiston Libri III cum physicorum fragmento et additamentis pseudo-Theodoreis,* V. Rose (ed.) (Lipsiae, 1894), pp. 121-2, 153-8, 147-9, 152-3, 150-2 and 228-30.
[96] Banham, 'England joins the medical mainstream', pp. 341–52. Many copies of Gariopontus version of the *Passionarius* are to be found extant or in catalogues up until the fifteenth century see Ch. 2 and Appendix 3. Banham, 'England joins the medical mainstream', pp. 341–52.
[97] Some scholars have regarded the *Tereoperica* as one of the potential sources for *Bald's Leechbook*, and therefore available earlier, but Doyle's source analysis found that all incidences where this could be the case, the material involved could have come from the *Liber Tertius* or the *Passionarius* (Doyle, 'Anglo-Saxon Medicine and Disease', vol. 1, p.10).

widely available.[98] The usefulness and popularity of the *Tereoperica* and the *Passionarius* (at least by the late-twelfth century) is shown in the *Peri Didaxeon*, a text produced in Old English from extracts of the two.[99]

Both the *Tereoperica* and the *Passionarius* were comprehensive and lengthy works, aiming to be practical and useful, laid out logically and with some sophistication and theoretical content. They often gave a section on the symptoms and causes, before going on to the cure, often involving measured doses of ingredients, with the use of compound medicines, bloodletting and purging, and advice on diet. Both had several pages on disorders of the head. The *Tereoperica*, partly drawn from Cassius Felix' *De Medicina*, covered epilepsy, paralysis, frenzy, lethargy, loss of reason (mania), the falling sickness, lunacy, sleep problems and melancholy, and some manuscripts have a separate section on demoniacs.[100] The *Passionarius Galeni* had five sections, of which the first was devoted to problems of the head. It included over ten pages in the printed edition on epilepsy, frenzy, mania, melancholy, lethargy, and a violent kind of mania with hallucinations called *anteneasmon*.[101] Apoplexy and paralysis took up four pages in Book 5, along with the phenomenon of *incubus*, perhaps not thought to be related to the head.[102]

Extant evidence of other texts available early after the Conquest comes in a number of manuscripts, such as Cambridge, Cambridge University Library, MS. Peterhouse 251 which contains Galen's *Ad Glauconem,* with versions of the *Liber Tertius*, *Liber Aurelii*, and *Liber Esculapii*. The *Canterbury Classbook* includes novel ideas from pseudo-Soranus, and gives remedies for headache and sleep, with treatments for frenzy, epilepsy, stroke and paralysis from the *Tereoperica*, also including a potion for demoniacs.[103] London, British Library,

[98] F.E. Glaze, 'Gariopontus and the Salernitans: Textual Traditions in the Eleventh and Twelfth Centuries', in D. Jacquart and A. Paravicini Bagliani (eds.), *La 'Collectio Salernitana' di Salvatore De Renzi* (Florence, 2008), p. 158; Cameron, 'The sources of medical knowledge in Anglo-Saxon England', p. 143; Kesling, *Medical Texts in Anglo-Saxon Literary Culture,* pp. 19-20.
[99] Surviving only in London, BL, MS. Harley 6258; Cameron, *Anglo-Saxon Medicine,* p. 64; C.H. Talbot, 'Some notes on Anglo-Saxon medicine', *Medical History,* vol. 9 (1965), pp. 156-7.
[100] London, BL, MS. Sloane 2839 and London, BL, MS. Harley 4977; Figueroa, 'From Cassius Felix to *Tereoperica*', p. 383.
[101] Gariopontus, *Galeni pergameni passionarius doctis medicis multum desideratus, egritudines a capite ad pedes usos complectens: in quinquos libros particulares divisus* … (London, 1526), Book 1, Chs. 6-14.
[102] *Passionarius,* Book 5, Chs. 17, 19-29.
[103] Cambridge, CUL, MS. Gg. 5.35, which cannot be precisely dated but is from the eleventh century, (possibly before 1066), Cameron, *Anglo-Saxon Medicine,* pp. 49-53; A.G. Rigg and G.R.

MS. Sloane 1621 may well have arrived with Abbot Baldwin, a Frenchman who acted as physician to Edward the Confessor, William I and William Rufus.[104] Its many recipes were termed '*antidotum*', and usually claimed to help several conditions; it gave many treatments for paralytics, melancholics, epileptics, demoniacs and some for lethargy, frenzy, lunacy and *metromania*. New, exotic *materia medica* and compound medicines were often involved, with precise quantities. Another relevant source is found in the folios known as the *Ramsay Scientific Compendium,* dated at around 1100. This gave a few pages of theory derived from Hippocratic writings and Galen, and offered recipes for a variety of problems including frenzy, paralysis and against black bile, the cause of *melancholia*.[105]

Having reviewed the medical texts known in early Anglo-Norman England, the general approach to illness, mental and physical, and its management in the vernacular and Latin medical sources will be outlined.

Theory and Practice in early English and Anglo-Norman medicine

Descriptions and names of disorders

Although the treatments in these Old English texts were generally straightforward, there was often little explicit description of conditions, whose nature can only be inferred. Any modern terms used here are provided tentatively as a guide to assist understanding. Physical disorders such as 'leg ache' or 'sore eyes' are self-explanatory, but there is uncertainty about such terms as *monaðseoc* and what it was to suffer from *nihgengan* (nightgoers) or *wið dweorh* (a dwarf). Presumably this was understood by the original readers, and it suggests

Wieland, 'A Canterbury classbook of the mid-eleventh century (the 'Cambridge Songs' manuscript)', *Anglo-Saxon England,* vol. 4 (1975), pp. 113-30; H.E. Sigerist, 'Das Cambridger Antidotarium' in *Studien und Texte zur früḥmittelalterlichen Rezeptliteratur* (Leipzig, 1923), pp. 160-167, the potion is at p. 165.

[104] London, BL, MS. Sloane 1621, digitised at British Library [website] <https://www.bl.uk/manuscripts/Viewer.aspx?ref=sloane_ms_1621_fs001r> (last accessed 25 July 2023); M. Gullick, 'An eleventh-century Bury medical manuscript' in T. Licence (ed.), *Bury St Edmunds and the Norman Conquest* (Woodbridge, 2014), p. 190. See also D. Banham, 'Medicine at Bury in the Time of Abbot Baldwin' in Licence, *Bury St Edmunds and the Norman Conquest,* pp. 226-46.

[105] C. 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,* vol. 10 (1917), pp. 138-41, 146 and 147; Cameron, *Anglo-Saxon Medicine,* pp. 54-8. Singer was struck by its level of detail on theory, and assumed it must be by Constantine or from Salerno, but in fact the extract in question comes from a source available in the ninth-century, the *Epistula Hippocrates ad Maecenatum.*

that the *laecboc* is in addition to oral and practical training.[106] Unusually, at one point *Bald's Leechbook* did explain the term *wið feondseocum* as 'when the devil feeds a man or controls him inside with sickness'.[107] Occasionally a classical term may be translated: in a description in the *Herbarium* 'for the illness which is called *lithargum*, and in our language *ofergytulnys* (forgetfulness)'.[108] In Latin texts several terms appear consistently, such as *phrenitis* (frenzy), *melancholia* (melancholy), *mania*, *lethargia* (lethargy), *epilepsia* (epilepsy) and *apoplexia* (apoplexy), and they seem to be generally understood; the *Tereoperica* often gave the Greek names also. The symptoms are described by several authors, with some explanation, although others, like Pliny, assume the meanings of the terms are known by his readers.

Theory, anatomy, physiology and etiology

Although Bede and Byrhtferth wrote of the body and humours in context, none of the vernacular medical texts gave specific sections devoted to any kind of theory or background anatomy, physiology or etiology; where these were given at all, it is only in passing as they hurried onto cures.[109] They did not explain humoral theory and the specific humours were very rarely invoked.[110] Latin texts had more to say: the Latin encyclopaedist Isidore gave some theory, discussing the humours and their imbalance as a cause of disease, and an outline of the parts of the body.[111] With regard to medical texts, Latin authors had been variously influenced by different schools of ancient medicine. The Rationalist (or Dogmatic) school of ancient medicine had emphasised theory and causation in medicine, although the Empiricist and Methodist schools had downplayed its importance.[112] Vindicianus provided a work of pure background theory in the *Epitome Altera*, with additional information in the

[106] There are some problems with text and terminology, for example in the *Lacnunga, mnoðes hefigness* (possibly heaviness of mind) could be *innoðes hefigness* (heaviness of inwards). Cockayne, *Leechdoms*, vol. 3, p. 51; Pollington, *Leechcraft*, pp. 222-3; Pettit, *Anglo-Saxon Remedies*, p. 89. *Brincadle* could be the falling sickness/epilepsy, a chest disease or even ringworm - Cockayne, *Leechdoms*, vol. 3, pp. 38-9; Pollington, *Leechcraft*, p. 215; Pettit, *Anglo-Saxon Remedies*, p. 71.
[107] *Bald's Leechbook I*, Ch. 63, p. 141.
[108] *Herbarium*, Ch. 91, p. 189.
[109] A rare example may be found in the more scholarly *Bald's Leechbook*, where there is a passage on the structure and functions of the liver. *Bald's Leechbook II*, Ch. 17, p. 204.
[110] See Ch. 3 for more detail.
[111] Isidore, *Etymologies*, pp. 109-2 and 231-41. Isidore was more interested in the origins of terms however, than in providing practical medical information.
[112] N.G. Siraisi, *Medieval and Early Renaissance Medicine: An Introduction to Knowledge and Practice* (Chicago and London, 1990), pp. 3-4.

Epistula.[113] The *Tereoperica* and the *Passionarius* also give some theory, with Oribasius and Alexander's *Practica* often mentioning the humours, but other texts are largely atheoretical. The emphasis was very much on practical medicine, and theory was only of interest insofar as it guided practice.

Causes

In line with this, most sources were not very informative about causes. Audrey Meaney has discussed available references to the causes of illness in early English thinking, some of which were natural, such as cold, diet, worms, 'venom', 'flying venom', and humours.[114] Although the humours were the cornerstone of ancient medicine, and were long known of in England, the vernacular texts barely mentioned specific humours. A few terms occur, most frequently *wæta*, but this is a vague term meaning moisture, pus, phlegm or 'humour'.[115] Of the disorders of interest, neurological conditions such as the half-dead disease and epilepsy were attributed to 'evil humours'.[116] On the other hand different kinds of supernatural agents could be blamed for illnesses, particularly for those which seem to have had psychological or behavioural symptoms. This was often the devil, or (particularly in *Leechbook III*) elves; a verse in the *Lacnunga* refers to 'the evil (loathsome thing) that travels around the land', amongst the other agents of disease.[117] This was perhaps a natural conclusion to draw given their world view, and in the face of dramatic symptoms such as convulsions or hallucinations.[118]

This is in some contrast to the Latin texts. Isidore wrote that 'all diseases come from the humours … feeble people are afflicted as a result of them when they increase beyond their

[113] Vindicianus, *Epistula* and Vindicianus, *Epitome*.
[114] Meaney, 'The Anglo-Saxon View of the Causes of Illness', pp. 12-33.
[115] Information on the humours had been available from at least the early eighth century. See Ch. 3 for more details.
[116] *Bald's Leechbook II,* Ch, 30, p. 248.
[117] *Lacnunga,* p. 211. A belief in elves and their connection with illness in England came from Germanic ideas pre-dating the advent of Christianity, but subsequently incorporated into the Christian world view as a kind of demon. They were associated with Satan as early as the late eighth/early ninth century in the Royal Prayerbook (London, BL, MS. Royal 2 A.XX, fol. 45v), Dendle, *Demon Possession*, p. 126, footnote 56. They attracted similar treatments to demons in the medical literature (Kesling, *Medical Texts in Anglo-Saxon Literary Culture*, pp. 74-6 and 81-3).
[118] Even when disorders were not overtly attributed to supernatural agents, the regular use of at least some ritual element, such as the use of holy water or 'Christs mark,' less commonly used in physical complaints, indicates a suspicion that evil forces were at work, e.g., *Bald's Leechbook I,* Ch. 66, p. 145.

natural course they cause sickness'.[119] Where given, causes in the Latin medical texts usually invoked the humours, but other natural causes were available such as diet or indigestion. Specifically regarding mental disorders, some authors gave brain-based causes, although the stomach was often implicated, or in some cases, the womb. Supernatural causes are only suggested in a few cases and are sometimes dismissed.[120] Isidore and the writers of the *Passionarius* and *Tereoperica* suggested that the idea that epilepsy is caused by demons was ignorant, whilst Oribasius gave natural causes for sleep paralysis and lycanthropy.[121] Psychological or behavioural causes have only been found twice in the entire Latin or vernacular corpus searched here. Excessive reading or thinking could be a cause of mania in the *Passionarius*.[122] Alexander recommended the doctor consider what kinds of imaginings the patient was experiencing before they became ill, and gave an example of a woman who developed melancholy when her husband went away.[123]

Practice and treatment in Old English medical texts

Insofar as causes were known, they would have implications for treatment and prevention. Amongst the vernacular texts, Bede gave clear dietary and lifestyle recommendations to prevent the humours predominating in different seasons from causing illness, for example at the beginning of the year, phlegm was said to increase:

> At such a season take high quality food, hot ... with pepper and mustard. Wash your head seldom. However purge without ceasing. Indulge in wine and do not stint on sex.[124]

Blood letting also seems to have been commonly practised as a preventative measure in early medieval England, *Bald's Leechbook* and the *Lacnunga* giving careful advice about the days when it was contraindicated.[125]

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[119] Isidore, *Etymologies,* pp. 109-10.
[120] Demoniacs are mentioned in the *Tereoperica* , *The Canterbury Classbook*, and BL, MS. Sloane 1621.
[121] Isidore, *Etymologies,* p. 111; *Passionarius*, Book 1, Ch. 6; *Tereoperica* , fol. 79v; Oribasius, *Synopsis,* vol. 6, pp. 205-6 and 215-6, see Ch. 4, note 111.
[122] *Passionarius,* Book 1, Ch. 9.
[123] Alexander, p. 124.
[124] Bede, *The Reckoning of Time,* p. 86, and his source the *Epistula Hippocratis ad Antiochum Regem.*
[125] *Bald's Leechbook I*, Ch. 72, pp. 149-51, *Lacnunga,* pp. 240-1. As seen from the story of John of Beverley's help for a nun who had been bled on a day which was contraindicated. The vernacular texts give advice on this, the *Lacnunga* warns of the 'Egyptian days' when taking blood is said to have fatal consequences, and *Bald's Leechbook* gives a different version of times to be avoided.

Most early English treatments were herbal: around 90% of ingredients in the vernacular texts were plant based, and over 70% in treatments for apparently mental disorders.[126] Nearly 200 different medicinal plants were recommended in the *Herbarium*, used in potions, inhalations, in salves and poultices, or worn on the body. Some involved a single ingredient, some several, but quantities of ingredients were uncommon, most often seen in the more scholarly *Bald's Leechbook*; in general, it is assumed that the texts were used by *laece* who had practical training and experience. As noted, animal parts and products could also be used, for example the dung of a white dog, or meat of a lion were good for *scinnlac* (apparitions).[127] Physical treatments could involve bloodletting, possibly using cupping glasses, baths, massaging of affected parts, provoking vomiting, sneezing or purging, dietary advice, or even to have a fat child sleep with the patient.[128]

Sometimes stones such as agate were to be carried, as with some plant material, which could be considered 'amulets', but the Church did allow 'the wearing of certain things … for the purpose of healing the body'.[129] It is often unclear whether the hope was that having the material might work as a medicine, perhaps through its smell or contact with the skin, or whether something more mystical was being invoked. Certainly, a striking feature of the vernacular texts is the frequent inclusion of ritual elements such as holy water, prayers or masses said over ingredients. For example, a treatment for *wið deofle 7 ungemynde* (a devil and madness) involved masses, holy water and ended with singing '*deus in nomine tuo salvum me fac'*.[130] It is notable that such elements were more commonly seen in treatments for mental disorders rather than physical ones, and particularly for those problems said to be due to the interventions of supernatural agents.[131] In *Bald's Leechbook*, although *ungemynde* and *dyrgunge* (mental vacancy and folly) could be treated with herbs alone, eight of the ten remedies for mental illness and *ælfsiden* had sacred elements.[132]

[126] Cameron, *Anglo-Saxon Medicine,* p. 101.
[127] *Sextus Placitus*, pp. 406-7, 408-9.
[128] *Bald's Leechbook 1*, Ch. 59, *Bald's Leechbook II*, Chs. 27, 29 and 32.
[129] *St Augustine on Christian Doctrine*, D.W. Robertson (trans.) (Indianapolis, 1958), p. 55, cited in A. Meaney, *Anglo-Saxon Amulets and Curing Stones* (BAR, British Series 96, 1981).
[130] *Leechbook III,* Ch. 64, pp. 400-1.
[131] This is particularly true of Bald's *Leechbook* and *Leechbook III*. The *Lacnunga* recommends them rather more for physical ailments and disorders of livestock.
[132] *Bald's Leechbook I*, Chs. 63, 64 and 66.

Looking at treatment in earlier and contemporary Latin authors: Oribasius, Vindicianus and Alexander were good on general preventative advice involving diet, baths, and exercise.[133] Again the treatments were very often herbal, from simple one-ingredient recommendations in Pliny, to elaborate concoctions with a large number of *materia medica*. Weights and measures were more commonly given, and particularly seen in the *Passionarius*, *Tereoperica* , Marcellus' *De Medicina* and some of the post-Conquest texts. An example of complicated polypharmacy is found in BL, MS. Sloane 1621 in a remedy with over 70 herbs, all to be carefully weighed out in drams.[134] Bloodletting and different purgative treatments were much more common in the Latin texts, the natural result of an emphasis that humours were causative; if a problem was due to black bile then cathartic drugs were prescribed, and if a case of mania was due to excess blood then phlebotomy was of course indicated.[135] Blood could be taken by venesection, or by scarification (light cutting of the skin) with or without cupping glasses, which drew blood from the cuts, or some used *sanguisugas*, leeches of the parasitic worm variety.[136] Other frequent treatments were provoking vomiting with a feather, or sneezing with various strong smelling substances, clysters (an injection or enema), suppositories, gargles, applying cupping glasses or mustard plasters. Again baths, foodstuffs and wine were used in treatment, or sexual intercourse could be recommended. In cases of *melancholia*, travel might help, and Alexander tells of ingenious methods to change patients' delusional ideas.[137] Several treatment methods are seen in the Latin texts not present in the vernacular, such as cauterisation of the back of the head or even surgery in the case of epilepsy. The use of animal parts is uncommon in the Latin texts, except in Pliny's work, and in the treatment of epilepsy. Ritual or religious elements are almost absent. No prayers are seen even in treatments given for demoniacs, although the treatment in the *Tereoperica* uses holy water.[138] Pliny did include 'magical' treatments whilst being scathing about them, and he discussed whether prayers and incantations work, saying the 'wisest men reject the idea'.[139]

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[133] Oribasius, *Synopsis*, vol. 5, Book 1, and vol. 6, Book 4; Vindicianus, *Epistula Vindiciani ad Pentadium nepotem suum*; For examples from Alexander see Ch. 16, pp. 199-22.
[134] BL, MS. Sloane 1621, fols. 5r-v.
[135] Oribasius, *Synopsis*, vol. 6, p. 205, *Passionarius*, Book 1, Ch. 9.
[136] Oribasius explains the practical details of phlebotomy in Book 1 of the *Synopsis*, Cassius Felix recommends the use of leeches in cases of abscesses and epilepsy. Oribasius, *Synopsis*, vol. 5, pp. 808-15; Cassius Felix, pp. 34 and 169.
[137] Priscianus, p. 153; Alexander, p. 124.
[138] *Tereoperica* , fol. 97r. See also treatments in BL, MS. Sloane 1621.
[139] Pliny, Book 28, p. 9. These were 'magical' in the sense that they come from the Magi.

Evaluation

Horden writes that early medieval medical writings have been much criticised, said to be characterised by 'disorganised appearance, poor Latin, nebulous conceptual framework, [and] admixtures of magic and folklore'.[140] However, how might early medicine have functioned practically and remedially? Grattan and Singer question whether it was based on any experience, and certainly some remedies stretch credibility, in that it is difficult to believe doctors could easily get hold of lion's meat, for example.[141] Pliny himself questioned the more outlandish treatments, saying:

> But who could give to one delirious the brain of a mouse to be taken in water, or the ash of a weasel or even the dried flesh of a hedgehog even it the treatment were bound to be successful? [142]

However, Voigts has shown how English authors took care to produce useful texts, adding a contents table to the *Herbarium* to assist in finding remedies, and sometimes glossaries for understanding Latin plant names. Furthermore a number of comments and marks in different hands and styles may be found in the margins of Royal 12 D. xvii, and additional recipes added to a manuscript of the *Herbarium*, indicating its use in practice.[143] In terms of available ingredients, many of these species were native, and some Mediterranean plants could have been cultivated in the warmer climate that prevailed in England in the period 500-1200 CE.[144] Although some ingredients such as aloes, balsam and pepper came from Africa and even the Far East, there is good evidence of trading in *materia medica* facilitated by the Arabs, and even as early as the eighth century.[145] If a lack of precise measurements and procedures in some remedies seems poor, Van Arsdall points out that *laece*, like modern

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[140] Horden, 'What's Wrong with Early Medieval Medicine?', p. 5.
[141] Grattan and Singer, *Anglo-Saxon Magic and Medicine*, p. 92.
[142] Pliny, Book 30, p. 339.
[143] Voigts, 'Anglo-Saxon Plant Remedies', pp. 256-9. The additions are found in the manuscript BL. MS. Cotton Vitellius C. iii.
[144] Cameron, *Anglo-Saxon Medicine,* p. 106.
[145] J.M. Riddle, 'The Introduction and Use of Eastern Drugs in the Early Middle Ages', *Sudhoff's Archiv für Geschichte der Medizin under der Naturwissenschaften*, vol. 49 (1965), pp. 185-98. As early as the beginning of the eighth century the English missionary Willibald successfully smuggled balsam through Tyre, which apparently had a mechanism to tax trade in such goods. (Wallis, *Medieval Medicine*, p. 111; Cameron, *Anglo-Saxon Medicine,* pp. 104-5). Bede also had pepper amongst his possessions on his death in Jarrow in 735 (Cameron, *Anglo-Saxon Medicine,* p. 103).

herbalists, would know from experience how to individualise a treatment and its elements.[146] Sometimes a ritual element such as saying prayers over a concoction might be partly a measure of timing.

Whether any of this medicine could have been helpful to patients is an open question. Barbara Brennessel and her colleagues did not find any supportive scientific evidence for early English remedies. However, more recent research has found an eye salve from *Bald's Leechbook* to be indeed effective against five different bacteria including *Staphylococcus aureus* (MRSA).[147] For mental ailments, Pell found no strong evidence to support any of the plant species recommended in the vernacular texts, although two are known to have sedative and calming effects.[148] On the other hand, some of the plants used are also emetics and laxatives, which would have been disagreeable to take and possibly harmful. Bloodletting is of course potentially harmful: loss of blood weakens the patient and can cause anaemia, a drop in blood pressure can cause heart attacks. In unhygienic conditions infection is risked by some methods, as seen in the case of the nun helped by John of Beverley.

Of course, the early medieval patient had learnt from childhood that bloodletting would be good for him, and the placebo effect is very powerful. Particularly in mental disorders where symptoms may be subjective rather than overt, and fluctuating or self-limited, such conditions may have been more amenable to this effect. Pell discusses how many aspects of treatments from the Old English texts would have promoted the factors known to increase it, such as complicated preparations and administration, endorsement by learned doctors such as Oxa, and a clinical confidence expressed with the frequent assurance '*him biđ sona*

[146] A. Van Arsdall, 'Challenging the "Eye of Newt" image of medieval medicine', in B.S. Bowers (ed.), *The Medieval Hospital and Medical Practice* (Abingdon, 2007), pp. 202.
[147] B. Brennessel, M.D.C. Drout and R. Gravel, 'A reassessment of the efficacy of Anglo-Saxon medicine', *Anglo-Saxon England*, vol. 34 (2005), p. 192; J. Furner-Pardoe et al, 'Anti-biofilm efficacy of a medieval treatment for bacterial infection requires the combination of multiple ingredients', *Scientific Reports*, vol. 10 (2020). A study by Cameron found that around half of the *Herbarium* ingredients were still in use by modern herbalists (of course not a guarantee of efficacy), but that most of the animal products from the *Liber de animalibus* would be 'of little or no use' (M.L. Cameron, 'The Old English *Herbarius* and *Medicina de Quadrupedibus* and their medical value' in M.A. D'Aronco and M.L. Cameron (eds.), *The Old English Illustrated Pharmacopoeia: British Library Cotton Vitellius C. III* (Copenhagen, 1998)).
[148] Pell, '*Him Bid Sona Sel*', p. 443. These were *ælfþone* (*Solanum dulcamara*) – a remedy for frenzy and palsy- and betony (*Stachys officinalis*)-a remedy for many psychological disturbances.

sel'- 'soon be well'.[149] Latin texts similarly cited the great doctors of antiquity, and often offered even more detailed sequences of treatment, a medical ritual. Religious ritual would have been even more powerful if both physician and patient believed that there is an evil, supernatural cause for a disorder, the rational and most powerful choice within the Christian worldview.[150] Cameron writes that such sacred elements 'helped to convince the patient that the forces of nature, the gods themselves, were on his side to help him overcome the malignancies of a disease bearing agent, 'the loathsome one which roams through the land''.[151] He suggests that they were used in the ailments most intractable to conventional methods.[152]

Whilst such rituals might have been reassuring, in general can it be said that early English medicine was safe and humane? One measure of therapeutic success might be the quality of the patient's experience. Few treatments for mental disorder offered in the texts are unpleasant; in the vernacular texts there was no reference to restraint, although shackling was mentioned in the hagiographical accounts indicating that it occurred.[153] The Latin texts did sometimes refer to binding patients; the *Passionarius* advised tying the frenzied to the bed.[154] Nowhere is the image of the disturbed violent madman reflected in these medical texts, but of course this is medicine for the elite. There is only one seemingly punitive measure in the vernacular texts, in the case of unfortunate *monaðseoc* patients who might be whipped with a flail made from a dolphin's skin.[155] Frequent use of emetic and laxative drugs would be unpleasant and unhelpful, whilst the poisonous plants hemlock and henbane were recommended in a sleeping draught without any mention of quantities, this being potentially dangerous.[156] Patients suffering mania might suffer cauterisation of the head down to the bone on the advice of the *Tereoperica* or *Passionarius* and there are several

[149] Pell, ''*Him Bid Sona Sel*', pp. 440-2. The stimulant rue was given for lethargy; several others reduced fever, pain and inflammation, which could have been helpful, given that many of the problems discussed could well have been associated with infection and delirium.
[150] See Cameron, *Anglo-Saxon Medicine,* p. 138.
[151] *Ibid*, pp. 157-8.
[152] *Ibid*, p. 130.
[153] For example, St Wulfstan healed three cases of madness all caused by evil spirits and necessitating restraint. William of Malmesbury, *Saints' Lives*, pp. 69-75.
[154] *Passionarius*, Book 1, Ch. 8.
[155] *Leechbook III*, pp. 390-1.
[156] *Lacnunga*, p. 197.

unpleasant kinds of bloodletting; melancholics could have the vein in the forehead cut, or blood let to the point of pain or fainting.[157]

Conclusion

Our understanding of English medicine over a thousand years ago is necessarily incomplete, resting on a few archaeological remnants, letters, booklists, mentions of *laece* and healings in non-medical texts, but predominantly on medical texts. The survival of a handful of vernacular texts is very fortunate, and there is evidence of what other Latin texts were known, but it is difficult to know whether these preservations are representative of the wider medical thought and practice of the time, how available such texts were to physicians, and how many physicians were even literate. Furthermore, Nancy Siraisi gives a reminder that 'medical texts are essentially prescriptive, unreliable and inadequate sources of information about actual medical activity and its social context'.[158] Van Arsdall has emphasised the primacy of the practical experience of treatment and oral training that *laece* would have received and that 'the texts only served as reminders and references' for such practitioners.[159] Despite these limitations, the survival of the extant texts is a matter for celebration, and indeed many scholars have been fascinated by the vernacular texts, and especially those more eccentric to modern eyes. As a result, their evaluations have been negative; writing in 1952, and focussing on the *Lacnunga*, Grattan and Singer described early English vernacular medicine as 'a mass of folly and credulity', 'a final pathological disintegration of ... Greek medical thought'.[160] Such authors have emphasised the 'superstitious' and 'magical' content, despite the fact that this makes up only a minority of the vernacular texts, and is absent from most of the Latin ones. Few analyses have considered early English medicine in the round, bearing in mind the contents of the full range of writings available to them. This extends from elite scholarly work, from the theory of the *Etymologies* and the detailed practical medicine of the *Practica Alexandri*, to the eclectic medicine of the *Lacnunga* and parts of Pliny, with many informative books in between. Although it has been contrasted with apparently superior continental medicine, English medicine *was* continental medicine, most of it derived from ancient Graeco-Roman sources. As Talbot concludes 'England was, in the ninth and tenth centuries, in no way inferior to its continental neighbours in the

[157] *Tereoperica* , fol. 84r, *Passionarius,* Book 1, Ch. 9, Alexander, p. 117, Oribasius, *Synopsis*, vol. 6, pp. 215-6 (for lycanthropy, a variant of melancholia).
[158] Siraisi, *Medieval and Early Renaissance Medicine*, p. xi.
[159] Van Arsdall, 'Challenging the "Eye of Newt"', p. 202.
[160] Grattan and Singer, *Anglo-Saxon Magic and Medicine,* pp. 92, and 94.

assimilation of classical medicine', whilst Cameron's view is that 'far from being backward, English medicine in Anglo-Saxon times may have been in the forefront of contemporary practice'.[161] By the time Constantine's texts began to arrive, England was beginning to acquire even more sophisticated medical texts, using compound drugs and precise measurement.

Their medical writings show that the people of England were interested in the nature of the human mind and concerned about the mental problems which are part of the universal human condition. They witnessed people suffering from mood difficulties, loss of cognitive function, behavioural disturbance, paralysis, hallucinations, nightmares and night terrors, fits, convulsions and the delirium of fever. Two sets of explanations for such phenomena were potentially available to them in medical literature, supernatural or natural, with two means of cure. It seems likely that the supernatural view predominated, in that Latin medical works would have been the rare preserve of the elite, the vernacular texts closer to the ordinary *laec* and his patients. The Church held a controlling influence on the worldview of all classes, and its demonic conception of many mental and behavioural problems continued unchanged throughout this period. People looked back to ancient authorities with respect, but of course some medical authorities of antiquity like Oribasius were pagan. The Latin sources for this area of medicine were apparently ignored in *Bald's Leechbook*; it would be surprising if these specific sections of several Latin texts were all missing, and it is possible that Bald or his scribe may have omitted them as incorrect, being unaware of the demonic nature of these problems, as revealed in scripture.

The belief that many of such disturbances were caused by demons or elves, and that the devil could take possession of human beings must have been terrifying, over and above the distress that symptoms such as convulsions or hallucinations would have generated. This understanding could have exacerbated the problem, although the power of faith in God may have offered hope and at times some benefit; it did not lead to punitive treatments to drive out the devil, at least in medical texts. In general, the English integrated their medicine with their faith, so most 'superstitious' elements found in vernacular texts were consistent with their worldview and not 'irrational' in their terms. It is entirely reasonable that one remedy

[161] Talbot, 'Notes on Anglo-Saxon medicine', p. 169; Cameron, 'The sources of medical knowledge in Anglo-Saxon England', p. 135.

in *Bald's Leechbook* should end with the injunction 'give alms and earnestly pray to God for mercies'.[162]

Emphasis on some of these diverting ideas in the Old English texts neglects the fact that the majority of the Latin texts known to the early medieval English barely mentioned any unnatural cause for mental disorders and that even supernatural causation did not preclude such conditions from the domain of the physician. They are addressed alongside physical ailments in the pages of medical books, mostly regarded as physical problems, and treated in similar ways, especially those neurological problems with predominantly physical symptoms. The priority was practical medicine, and the majority of medical writing focused on this, with theory coming a poor second, many texts consisting purely of remedies.

If the importance of the Latin texts has been neglected, so too, has the importance of the *Herbarium*, whose popularity and availability in this period is best attested, given the number of surviving copies. Although it too has its eccentricities, in the main it was straightforward herbal medicine, as indeed was the bulk of early English medicine, from all sources. Many modern drugs are derived from plants and some herbs may occasionally have had therapeutic benefits. However, Horden reports that there is a common view that 'early medieval medicine did not work. It is … 'bad medicine,' at best a placebo'.[163] Nevertheless the power of the placebo effect should not be underestimated, and early English doctors unknowingly mobilised it to the full; the main therapeutic ingredient may have simply been that something was being done for the patient and the doctor seemed to know what to do. Despite a lack of well articulated medical theory, the elite English *medicus* potentially had access to a large medical literature and had a range of skills in identifying conditions, finding and preparing medicines. He brought a message of hope that his patient would 'soon be well'.

[162] *Bald's Leechbook I,* Ch. 63, p. 142.
[163] Horden, 'What's Wrong with Early Medieval Medicine?' p. 20.

Chapter 2: Constantine the African: his translations and their dissemination

Around the time of the Norman invasion of England, other Normans were making incursions into southern Italy: Sicily was taken in 1072 and Salerno was conquered by Robert Guiscard in 1076/7. This Norman connection was to prove important in the development of English medicine because something of a revolution in medical knowledge was beginning in southern Italy. Constantine the African was working on translating numerous texts of Islamicate medicine into Latin, which then quickly found their way across Europe, and particularly to England. This chapter describes what is known about Constantine and his translation work, before setting out the evidence about the dissemination of relevant key texts across England over time.

Our knowledge about Constantine and his life comes mainly from two twelfth-century sources written in Monte Cassino, the *Chronica Monasterii Casinensis* and *De Viris Illustribus*.[1] These state that Constantine came from Carthage (Kairouan in modern day Tunisia) and that he went to Babylonia (Old Cairo), where he was well educated in a wide variety of disciplines. These included 'grammar, dialectic, geometry, arithmetic, mathematics [and] astronomy, as well as in the physic of the Chaldeans, Arabs, Persians, Saracens, Egyptians and Indians'.[2] Returning home however, his countrymen wanted to kill him, and he was forced to leave on a ship which came to Salerno. Here he was recognized and subsequently treated with honour by Duke Robert Guiscard. Becoming a monk of Monte Cassino, he translated 'out of the languages of diverse peoples a great quantity of books', which are then listed.[3] He was 'most heartily welcomed' to the monastery of Monte Cassino by its abbot, Desiderius, sometime before April 1078.[4] He died there by 1098-99, possibly around 1087, 'an old man and full of days'.[5]

[1] The first source is considered more reliable, written by Leo Marsicanus or his successor Guido around 1105, the second by Peter the Deacon: Monte Cassino, MS. 450, *Chronica Monasterii Casinensis* and Monte Cassino, MS. 361, Petrus Diaconus, *De Viris Illustribus*, reproduced with translations in Kwakkel and Newton, *Medicine at Monte Cassino,* Appendix B, II, pp. 195-9.
[2] Kwakkel and Newton, *Medicine at Monte Cassino,* p. 196.
[3] *Ibid*.
[4] *Ibid*, pp. 198-9; E. Glaze, 'Introduction: Constantine the African and the *Pantegni* in Context' in Kwakkel and Newton, *Medicine at Monte Cassino,* p. 15.
[5] Kwakkel and Newton, *Medicine at Monte Cassino,* pp. 198-9. He is listed as one of the dead in 1098-99 in Leo Marsicanus' calendar (H. Hoffmann, 'Der Kalender des Leo Marsicanus', *Deutsches Archiv* 21 (1965), pp. 82-149, cited in Bloch, *Monte Cassino in the Middle Ages*, vol. 1, p. 100).

There are two later biographical accounts; according to one, he was a Saracen merchant who came to Salerno 'for the sake of trade' and was unable to speak Italian, but proved himself to show 'considerable competence in medicine' gained through practice.[6] Discovering that few medical books were available in Latin, he returned to Africa where he studied medicine further and returned with many books including the *Pantegni*, however his ship suffered in a storm and important texts were destroyed. Learning Latin and becoming a Christian, he became a monk at Monte Cassino and began his work of translation.[7] The other account is exciting but less plausible. This has Constantine as the student of a doctor Albonsoardus in Cordoba; he attended the king of Cordoba, but accidentally gave him an overdose of opium, and had to flee the country. His ship was captured by sailors from Salerno and he was sold as a slave there, but fortunately encountered the prince of Salerno and cured him of a serious illness.[8]

All of this constitutes the best information regarding any medical writer or practitioner from this time. The accounts highlight his great learning, either generally or specifically in medicine, and that he gained the patronage of the rulers of Salerno when he arrived there.[9] Certainly Constantine had come from the Islamicate world where they had inherited much of Greek scholarship across a huge range of disciplines, translating and developing this knowledge. In medicine they had many texts by Galen and from the Hippocratic corpus, the basis for a theoretical and practical medicine, developed through clinical experience and enhanced by the availability of a wide range of pharmaceuticals through international links.[10] Kairouan was an intellectual centre which had attracted many physicians; the important medical writers: Isaac Israeli, Is'ḥāq ibn-'Imrān and Ibn al-Jazzār had been based there. More than half of Constantine's translations were of the work of these three writers and the other texts he translated were probably also available in this area.[11]

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[6] These have been found in a thirteenth-century Salernitan source (an extract in a commentary by Mathaeus Ferrarius on one of Constantine's translations), Erfurt, Wissenschaftliche Bibliothek der Stadt, Cod. Lat. Amplonianus 8^0 62, and in a fourteenth-century English manuscript (of works by 'Copho, physician of Salerno') London, BL, MS. Sloane 2426, see Kwakkel and Newton, *Medicine at Monte Cassino*, pp. 200-3.

[7] Erfurt, Wissenschaftliche Bibliothek der Stadt, Cod. Lat. Amplonianus 8^0 62, fols. 49^v-50^r.

[8] London, BL, MS. Sloane 2426, fols. 7v-8v.

[9] The accounts vary as to which ruler was involved, the Cassinese versions citing Robert Guiscard, the Salernitan source John, brother of Prince Gisulf II, whilst BL, MS. Sloane 2426 says simply the 'prince of Salerno'.

[10] M. Ullman, *Islamic Medicine*, (Edinburgh, 1978), Ch. 2.

[11] Glaze, 'Introduction: Constantine the African', p. 6.

By the time Constantine arrived in Salerno, it was wealthy and cosmopolitan, involved in international trade, and with a considerable reputation for medical expertise: members of the elite sought treatment there.[12] Alfanus, Archbishop of Salerno, a physician and poet, wrote that in the eleventh century, the town 'flourished to such an extent in the art of medicine that no illness was able to settle there'.[13] At this time Gariopontus was compiling his influential *Passionarius,* just the start of prolific medical book production from Salernitan sources.[14] Much has been written on medical education in Salerno, and its 'medical school', which may have had origins as early as the tenth century.[15] Archbishop Alfanus himself had significant knowledge of medicine and translated Nemesius of Emesa's work *On the Nature of Man,* a philosophical and medical work, as well as writing texts on the pulses and humours.[16] Constantine had contact with Alfanus in Salerno, and became a Christian, if he was not so before. The archbishop introduced him to Abbot Desiderius of Monte Cassino, and Constantine was to enjoy a valuable network of patronage, both ecclesiastical and secular, with Alfanus and Desiderius but also local rulers. Prince Richard of Capua had given him the church of St Agatha at Aversa for some services, most probably medical, and Constantine donated this to the monastery when he decided to enter as a monk.[17] Alfanus provided him with a letter of recommendation which informed Desiderius that Constantine came bringing a translation (possibly Constantine's own) of Galen's *Tegni* and the *Liber ysagogarum*.[18] It seems that he had already undertaken considerable translation work during his time in Salerno, possibly even of the *Pantegni* itself.[19]

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[12] Green, *Trotula,* p. 4. Bishop Adalbero II visited from France in 985, and Abbot Desiderius of Monte Cassino sought help for a consumptive disease in 1050; P.O. Kristeller, 'The School of Salerno: Its Development and Contribution to the History of Learning', *Bulletin of the History of Medicine,* vol. 17 (1945), pp. 145-6.

[13] Alfanus, *Ad Guidonem,* as translated in Bloch, *Monte Cassino in the Middle Ages,* vol. 1, p. 97.

[14] Kristeller, 'The School of Salerno', p. 147. As seen in Ch. 1, this material was not new but provided a useful head-to-toe ordering of a wide range of sources. V. Thouroude, 'Medicine after Baldwin: The Evidence of BL. Royal 12.C. xxiv', in Licence, *Bury St Edmunds and the Norman Conquest*, pp. 248-9.

[15] E.g., Kristeller, 'The School of Salerno'. Rather than a formal teaching institution, it is best understood, at this time, as a group of able physicians who must have passed on their methods and knowledge to others by some kind of instruction.

[16] Bloch, *Monte Cassino in the Middle Ages,* vol. 1, pp. 93-8; Kristeller, 'The School of Salerno', pp. 149-50.

[17] Kwakkel and Newton, *Medicine at Monte Cassino,* p.196.

[18] A fragment of the letter was found in a copy of the *Pantegni*, Erfurt, Wissenschaftliche Bibliothek der Stadt, Cod. Amplon. Q. 184, fol. 1v. Bloch, Monte *Cassino in the Middle Ages,* vol. 1, pp. 100-1.

[19] Kwakkel and Newton, *Medicine at Monte Cassino,* pp. 170-4 and 180-1.

Constantine joined the monastery of Monte Cassino, the foundation of St Benedict of Nursia in the sixth century, and where Benedict wrote his famous Rule. Monasteries had great power and influence but were also institutions which preserved and encouraged learning before the founding of the universities. The Benedictines in particular took an interest in medicine, following provisions for the care of the sick in the Rule; they were to be very important in advancing medical science in the West.[20] This particular period is widely considered the 'golden age' of Monte Cassino under Desiderius (abbot 1058–1087), when 'the abbey became for a few decades a political and cultural center unequalled in the whole of Europe'.[21] It had some reputation as a place of healing, with a hospice for visitors to the shrine and relics of St Benedict.[22] Several miraculous cures were attributed to the saint, including that of the German Emperor Henry II in 1022, and others recorded by Desiderius, with a number of deliverances from demons.[23]

Desiderius was particularly concerned that his monastery be known for its learning, and acquired a variety of books from far and wide for the monastery library.[24] These were not just for reading but for copying; a flourishing scriptorium became famous for its distinctive Beneventan script.[25] Currently in the Monte Cassino archive there are about two hundred eleventh-century manuscripts in this script, and others are found worldwide, some striking for their artistry. Because of the abundance and beauty of its output:

> it is generally acknowledged that Monte Cassino was the greatest center of book production in South Italy in the high Middle Ages.[26]

Medical writing was not however a priority, as a profane rather than sacred area of study; in the book catalogue for 1058-1087, whilst many books are individually named, medical works occur late on the list, simply as '*Medicinalis'*.[27] However it is clear from extant

[20] M.A. D'Aronco, 'The Benedictine Rule and the Care of the Sick: The Plan of St Gall and Anglo-Saxon England', in Bowers, *The Medieval Hospital and Medical Practice*, pp. 235-6.
[21] Bloch, *Monte Cassino in the Middle Ages*, vol. 1, p. 3.
[22] H.E.J. Cowdrey, *The Age of Abbot Desiderius: Montecassino, the Papacy and the Normans in the Eleventh and Early Twelfth Centuries* (Oxford, 1983), p. 17.
[23] Amato di Montecassino, *The History of the Normans*, P.N. Dunbar and G.A. Loud (ed. and trans.) (Woodbridge, 2004), pp. 54-5; *Chronicon Casinense* II, 43 cited in P. Oldfield, *Sanctity and Pilgrimage in Medieval Southern Italy, 1000-1200* (Cambridge, 2017), pp. 246-7.
[24] Newton, *The Scriptorium and Library at Monte Cassino*, p. 15.
[25] *Ibid*, p. 5.
[26] *Ibid*, p. 5.
[27] *Ibid*, pp. 22-3.

manuscripts that in the late eleventh century the monastery had a nearly complete collection of the main medical works of the time.[28] After Cassiodorus' library at the Vivarium was disbanded in 580, its medical collection had eventually passed to Monte Cassino, and further texts were added under Abbot Bertharius (*c.* 856-883) and his successors.[29]

The monastery was also copying medical books, as exemplified by an extant copy of Dioscorides' *Materia Medica* produced in Monte Cassino.[30] However they were not just copying them: recent work by Jeff Doolittle shows that from the ninth century they were correcting and expanding them, and acquiring a reputation in medicine that became an important part of the monastery's identity.[31] By Constantine's time a concerted programme of retrieving old medical works seems to have already begun: the scriptorium had recently copied a collection of medical works including texts attributed to Galen and Hippocrates, Oribasius' *Synopsis*, and others on diets, gynaecology and phlebotomy.[32] All in all this made Monte Cassino an ideal environment for Constantine's translation work, with the resources necessary for such extensive book production.[33] Kwakkel and Newton detail what was involved and the importance of the scribes, rubricators and others assisting him. Atto is described as his 'auditor', which seems to mean he took dictation from Constantine, and, according to *De viris illustribus*, he 'took the texts that ... Constantine had translated out of different languages and put them into Latin in elegant style'.[34] Johannes Afflacius, described as '*constantini africani disciplus*' and 'most skilled and most learned in the art of medicine' was also helpful.[35] All of this was supported by the financial backing of the local Norman elite, and was an enormous enterprise. Peter the Deacon lists his many translations as follows:[36]

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[28] Glaze, 'The perforated wall', Appendix, pp. 275-7. Significant collections are extant as Vatican, Biblioteca Apostolica Vaticana, MS. Barberini lat. 160, Montecassino, Codex 225, Codex 69, and Codex 97. See also P. Skinner, *Health and Medicine in Early Medieval Southern Italy* (Leiden, 1997), pp. 127-8; A. Coward, G. Eknovan and N. G. De Santo, 'Codices on the Art of Medicine in the Montecassino Archives', *American Journal of Nephrology,* 1994, pp. 490-2.
[29] P. Courcelle, *Late Latin Writers and their Greek Sources*, H.E. Wedeck (trans.) (Cambridge, Massachusetts, 1969), p. 409; Skinner, *Health and Medicine,* p. 127.
[30] Munich, Bayerische Staadtsbibliothek, MS. Latin 337, see Skinner, *Health and Medicine,* p. 127.
[31] J.B. Doolittle, 'The Medical Culture of Early Medieval Montecassino', PhD Thesis, Fordham University (2021).
[32] Copenhagen, Det Kgl. Bibliotek, MS. Gamle Kgl. Samling 1653, from Green, personal communication.
[33] Glaze, 'Introduction: Constantine the African', p. 12.
[34] Kwakkel and Newton, *Medicine at Monte Cassino,* pp. 98 and 115.
[35] *Ibid*, pp. 114-5.
[36] Bloch, *Monte Cassino in the Middle Ages*, vol. 1, pp. 127-34.

Pantegni (Theorica)
Pantegni (Practica)
Liber graduum -The Book of Degrees
Dieta ciborum - the Diet of Food
Liber febrium - the Book of Fevers
Liber urinae - the Book on Urine
De interioribus membris - On the Inner Organs
De coitu - On Sexual Intercourse
Viaticum
Expositio Aforismi - the Exposition of the Aphorisms
Tegni
Megategni
Microtegni
Antidotarium
Disputatio Platonis et Hippocratis in sententiis -
the Dispute of Plato and Hippocrates on the Sentences
De simplice medicamine - On Simple Medicines
De genecia - On Gynaecology
De pulsibus - On Pulses
Pronostica - Prognostics
De experimentis - On Experiments
Glossae herbarum et specierum - Glosses on Herbs and Spices
Cyrugia - Surgery
Liber de medicamine oculorum - The Book on Medicines for the Eyes

Further books known to have been the work of Constantine include:

Liber de stomacho - The Book on the Stomach
De victus ratione variorum morborum- The Treatment of various illnesses
De melancholia - On melancholy [37]
De elephancia - On Leprosy
De oblivione - On forgetfulness

Believed to be the work of Constantine are:

The Isagoge of Johannitius [38]
The translation of Hippocrates' *Regimen in Acute Diseases* [39]

[37] See Bloch, *Monte Cassino in the Middle Ages*, vol. 1, p. 134.
[38] Kwakkel and Newton, *Medicine at Monte Cassino,* p. 11, Wallis, *Medieval Medicine,* p. 139, comments 'it is curious that none of the biographical notices of Constantine the African mentions the *Isagog*e, even though it proved to be one of his most influential translations' – it may have been that he translated it before entering Monte Cassino.
[39] M. Green, '"Once settled in this monastery, he translated a great number of books from the languages of diverse peoples": The Constantinian Corpus', *Constantinus Africanus* [website] (February 22nd, 2018)

Several of these works came from Galen: the *Tegni* (mentioned here also as the *Microtegni*) and the *Megategni* together are translations of his *Art of Medicine*.[40] The *Disputatio Platonis et Hippocratis in sententiis* was probably based on a Galenic work, and the *Expositio Aforismi* is Galen's commentary on this Hippocratic work. Other texts, such as the *Pantegni,* also include much Galenic material. Some other texts are from the Hippocratic corpus, such as the *Pronostica* and the *Aphorisms* seem to have been included in the *Expositio,* whilst the *Regimen* was probably translated by Constantine, although not mentioned by Peter.[41] Still others were translations of work by Isaac Israelii, such as the *Liber febrium*, *Dieta ciborum* and *Liber urinae,* and many others came from Islamicate scholars as noted above.

Of all of these, one of the most influential texts was the *Isagoge,* an adaptation of the work of Ḥunayn ibn Is'ḥāq, who wrote a summary or introduction to Galen's *Tegni.* It was to become part of the curriculum for education in the main medical centres, known as the *Articella.* The *Articella* also included Galen's *Tegni*, Theophilus' *Urines*, Philaretus' *Pulses,* Hippocrates' *Aphorisms*, *Prognostics* and *Regimen acutorum;* some of these were also Constantine's translations.[42] Also important was the *Liber graduum,* translated from al-Jazzar's *Treatise on Simple Drugs,* and which became a favoured pharmacopeia in the West.[43] The *Antidotarium* was a precursor to the *Antidotarium Nicolai*, described as 'without a doubt one of the most influential medical texts in medieval literature'.[44]

The main texts relevant to my topic are the *Pantegni*, the *Viaticum,* and two texts which specifically address disorders of the head, the *Liber de melancholia*, and the *Liber de oblivione.* The *Pantegni*, based on the *Kitab-al-Maliki,* by 'Alī ibn Al-'Abbās al-Maǧūsī,

<https://constantinusafricanus.com/2018/02/22/once-settled-in-this-monastery-he-translated-a-great-number-of-books-from-the-languages-of-diverse-peoples-the-constantinian-corpus/> (last accessed 30 January 2023).

[40] *Ibid.* Professor Green raises the question of whether Constantine knew Greek, and how he could have translated the *Tegni*.

[41] Jones, *The Medieval Natural World*, p. 18.

[42] F. Getz, 'The Faculty of Medicine before 1500' in J.I. Catto and T.A.R. Evans (eds.), *The History of the University of Oxford: Volume II: Late Medieval Oxford* (Oxford, 1992), pp. 374-5; Bloch, *Monte Cassino in the Middle Ages,* vol. 1, p. 131 and 133. Theophilus' *Urines* and Philaretus' *Pulses* are not Constantine's.

[43] Bos, *Ibn al-Jazzār on Forgetfulness,* p. 2, also known as the *Liber de gradibus.*

[44] P. Prioreschi, *A History of Medicine* (Omaha, 2003) vol. 5, p. 198; L. Garcia-Ballester (ed.), *Practical medicine from Salerno to the Black Death* (Cambridge, 1994), p. 28.

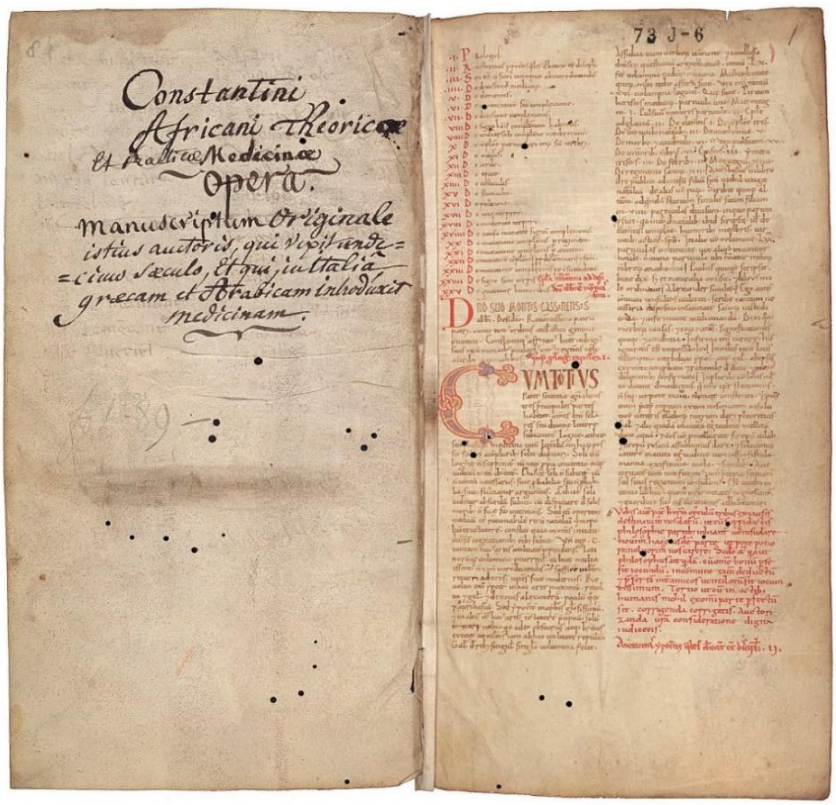

Image 2.1. The front page of an eleventh-century copy of the *Pantegni* from Monte Cassino, Koninklijke Bibliotheek, MS. 73 J 6. Fol. 1r.

aimed to be a complete compendium so that no other book was needed (Image 2.1).[45] The first part, the *Theorica,* is devoted to theory in ten books. The second part, the *Practica,* addresses practical medicine; however, it appears that only Books 1, 2 and 9 were completed by Constantine himself. According to the later Salernitan biography, Constantine was unable to translate all sections of the *Practica* after a storm at sea, noting that 'of the *Practica* of the *Pantegni* he translated only three books, for it had been destroyed by the water'.[46] All early manuscripts of the *Practica* only include Books 1, 2 and 9 at best, and there is no evidence of the existence of a complete, ten-book *Practica* until the thirteenth century.[47] It seems to have been completed later by an unknown compiler, using material from the *Viaticum*, other parts of the *Pantegni,* Afflacius's *Liber Aureus* and Israelii's *Book of Fevers*;

[45] Al-Mağūsī became known in the West as 'Haly Abbas'.
[46] Kwakkel and Newton, *Medicine at Monte Cassino,* p. 200.
[47] One possibility is that Alfanus funded a new copy of the Arabic text, since Ferrarius also goes on to say that he wished to reimburse Constantine for his expenses in completing the *Pantegni,* but he also claims that Stephen of Antioch finished the *Practica*. The ten-book *Practica* in fact bears little resemblance to the relevant sections of Stephen of Antioch's translation, the *Liber regalis dispositionis*; M. Green, 'The Re-creation of *Pantegni, Practica*, Book VIII', in Burnett and Jacquart, *Constantine the African*, p. 122.

there is also a strand of ritual elements and ideas from the *Liber medicinae ex animalibus.*[48] Bloch attributes it to Johannes Afflacius, who may have helped complete Book 9, but again, the first example known is from perhaps a century after his and Constantine's deaths.[49]

The *Viaticum* is a concise and systematic handbook of practical medicine in one volume. It is a translation of Ibn al-Jazzār's *Zad al-musafir wa-qut al-hadir (Provisions for the Traveller and the Nourishment of the Settled*). It consists of seven books in head-to-toe order, and concentrates on symptoms and their treatment, with less on causation.[50] Because of its utility, it was to be widely circulated and became one of the most influential medical works of medieval Europe.[51] The *Liber de melancholia* is a shorter text dealing with the single disorder of *melancholia* in detail. It was an adaptation of the *Treatise on Melancholy* by Is'ḥāq ibn-'Imrān, itself based partly on Rufus of Ephesus' book on the subject.[52] Lastly Constantine's *De oblivione* (On Forgetfulness) is a translation of the *Risala fi-nisyan*, also by al-Jazzār. Only a few pages long, this takes the form of a letter to an old man suffering this problem, giving a model of how memories are formed in the brain, and a series of treatment suggestions.[53]

This impressive body of work did not however make much initial impact in the nearby medical community of Salerno; the evidence is that they continued using the *Passionarius* rather than the new Greek texts until early in the following century.[54] Constantine's was a

[48] Green, 'The Re-creation of *Pantegni, Practica*', pp. 139-40; M. Green, ''*But of the Practica of the Pantegni he translated only three books, for it had been destroyed by the water*': The Puzzle of the *Practica*', *Constantinus Africanus* [website] (22nd March 2018) <https://constantinusafricanus.com/2018/3/22/but-of-the-practica-of-the-pantegni-he-translated-only-three-books-for-it-had-been-destroyed-by-the-water-the-puzzle-of-the-practica/> (last accessed 31 January 2023).

[49] Bloch, *Monte Cassino in the Middle Ages*, vol. 1, p. 130. Johannes Afflacius continued Constantine's work with books of his own, and also featured in *De viris illustribus*, where Peter the Deacon writes that 'he died at Naples where he left behind all the books of Constantine his teacher' (F. Newton, 'Constantine the African and Monte Cassino: New Elements and the Text of the *Isagoge*', in Burnett and Jacquart, *Constantine the African*, p. 24, note 36).

[50] Long, 'Body and soul', p. 81; Bos, *Ibn al-Jazzār on Forgetfulness,* p. 2.

[51] Bos, *Ibn al-Jazzār on Forgetfulness*, pp. 2-3.

[52] Rufus' book *On melancholy* was seminal in its influence, one of the first Greek medical texts to be translated into Arabic, but subsequently lost. It remains only in a few fragments (Rufus of Ephesus, *On Melancholy: Rufus of Ephesus,* P. E. Pormann (ed.) (Tubingen, 2008)).

[53] Bos, 'Ibn al-Ǧazzār's *Risala Fin-Nisyan*', pp. 203-23.

[54] Kristeller, 'The School of Salerno', pp 154-5; M. Green, 'Integrative Medicine: Incorporating Medicine and Health into the Canon of Medieval European History', *History Compass* (2009), p. 1223; Glaze, 'Gariopontus and the Salernitans', pp. 169–70. Once assimilated, Constantine's works were to be important in Salerno's reputation in medical education and the developing medical school there.

vast corpus of work containing many new philosophical ideas, with difficult and alien vocabulary, whilst much of the *materia medica* recommended was unfamiliar and not always readily available.[55] However, France and England were early to acquire and copy these books; Southern Italy and England were now in Norman hands, with much cultural exchange between Norman territories.[56] Looking at Latin medical manuscripts from the 'long twelfth century' (*c.*1075- *c.*1225), Green has established that at least a quarter of these were copied in England or northern France, as were the majority of copies of practical Salernitan texts.[57] One example is the *Chirurgia* of Roger Frugardi, dated to the period 1166-89 by Green, but most likely written after 1180; copies of this work appear at the abbey at Welbeck as early as the 1190s and at Durham Cathedral by 1200.[58]

There were many connections between Norman-ruled lands. English bureaucrats had involvement with the court at Sicily, and some scholars travelled widely.[59] Adelard of Bath, interested in Arabic scientific work, visited Salerno where he encountered Alfanus' *On the Nature of Man,* and perhaps the work of Constantine himself.[60] Ecclesiastical connections took Englishmen to Normandy and Italy, and brought over others such as Abbot Baldwin of Bury St Edmunds (1065-97), who had spent time in Italy and had a particular interest in medicine.[61] English physicians looked to Italy and the continent to find out more about the new medical ideas, and Kealey has shown how England blossomed in medical practice, with many medical practitioners evidenced for the first half of the twelfth century.[62] Increasingly some of these *medici* may have trained on the continent and foreign physicians such as

[55] Green, *Trotula,* p. 11.
[56] Burnett, *The Introduction of Arabic Learning into England,* p. 28; Green, 'Salerno on Thames', p. 222; E. Brenner, 'The transmission of medical culture in the Norman worlds, *c.*1050-*c.*1250', in D. Bates, E. D'Angelo and E. van Houts (eds.), *People, Texts and Artefacts: Cultural Transmission in the Norman Worlds of the Eleventh and Twelfth Centuries* (London, 2018), pp. 47-63.
[57] Green, 'Salerno on Thames', pp. 221-2, M. Green, 'Rethinking the manuscript basis of Salvatore de Renzi's *Collectio Salernitana*: The Corpus of Medical Writings in the 'Long' Twelfth Century' in D. Jacquart and A. Paravicini Bagliani, *La 'Collectio Salernitana',* pp. 27-32.
[58] Green, 'Salerno on Thames', p. 222; Winston Green, personal communication December 2023 regarding post 1180 dating.
[59] *Ibid,* p. 223.
[60] Burnett, *The Introduction of Arabic Learning into England,* pp. 22-5.
[61] Thouroude, 'Medicine after Baldwin', p. 256. Adalbold of St Edmunds, Robert of St Frideswide's and Hugh of Chertsey were heads of monastic houses who also spent time in Southern Italy (Kealey, *Medieval Medicus,* pp. 60-1).
[62] Ninety physicians are recorded for this period, compared to the pre-Conquest period (400-1066) when only eight physicians can be identified from the records, whilst eleven have been identified from the period 1066-1100 (Kealey, *Medieval Medicus,* p. 30).

Faritius, Baldwin and Grimbald, were employed by Henry I. English-born Warin, abbot of St Albans (1183-95) studied at Salerno along with his brother.[63]

Such men were keen to obtain the latest medical books on their travels. Abbot Baldwin may well have brought the manuscript BL, MS. Sloane 1621 to Bury, which represented one of the first importations of the new medicine from the continent.[64] Book importation and production in general was booming following the Conquest. Monastic life was reformed along Norman lines under Archbishops Lanfranc and Anselm, with monastic libraries expanding.[65] Whilst most of these would have been sacred books, it is clear that England had one of most extensive Latin medical collections in Western Europe in the century after the Conquest.[66] Noted physicians such as Faritius, Clarembald of Exeter and Herebert of Durham (in the late-twelfth century) also assembled impressive personal libraries, and more medical books survive in England from the twelfth century than from the entire previous six centuries.[67]

The *Liber graduum* was available early on, certainly to Henry of Huntingdon (1085-1156/64) who used it in his lapidary and herbal.[68] The abbey at Bury was early to acquire a collection of *Articella* works, in London, Wellcome, MS. 801A; this came from Monte Cassino itself, written in Beneventan script in the early to mid-twelfth century.[69] Constantine's translation of Johannitius' *Isagoge* was very popular, with copies kept at Durham, Rievaulx, Welbeck and Waltham abbeys in the twelfth century.[70] His works on

[63] *Ibid*, pp. 39, 143 and Ch. 3.; Talbot and Hammond, *The Medical Practitioners in Medieval England*, pp. 372-3. Another royal physician was the Spaniard, Pedro Alfonso who had an interest in Islamic scholarship.
[64] Banham, 'Medicine at Bury in the Time of Abbot Baldwin', pp. 229, 238-9. The bulk of the text is in a hand probably from northern France, with additions being made in a known Bury hand, possibly that of Baldwin himself.
[65] R. Gameson, *The Manuscripts of Early Norman England (c. 1066-1130)* (Oxford, 1999), Introduction. Over 900 manuscripts survive which were written in England or acquired for English collections in the period 1066-1130, indicating the sheer quantity of books originally produced and collected - many more remain from these 60 years after the Conquest than from all of the 4-500 years before it.
[66] Green, 'Salerno on Thames', p. 222.
[67] Faritius had '*multos libros de physica'* in his book collection, listed in London, BL, MS. Cotton Vitellius A. XIII, fol. 86r, in R. Sharpe et al. (eds.), *English Benedictine Libraries. The Shorter Catalogues* (London, 1996), p. 7; Kealey, *Medieval Medicus*, p. 5.
[68] Black, 'Henry of Huntingdon's Lapidary Rediscovered', pp. 64-7.
[69] Burnett, *The Introduction of Arabic Learning into England*, p. 25. This contained Constantine's translations of the *Isagoge*, Hippocrates' *Prognostics* and *Aphorisms* with books on urines and pulses, but not the texts of most interest to the current topic.
[70] Most had the *Isagoge*, and Waltham had several others including translations of Hippocrates' *Aphorisms* and *Prognostics*, the *Liber urinae* and *De coitu*. D.N. Bell (ed.), *The Libraries of the*

urines, fevers, the stomach, the *Liber graduum* and his translations of Hippocrates' *Aphorisms* and *Prognostics* were amongst the medical books most commonly catalogued over the next centuries in monastic collections.

Constantine's works on disorders of the head

In this study reference will be made to several of Constantine's books, such as the *Isagoge* and the *Liber graduum*, but those of most interest here are those works which discuss disorders of the head and their treatment. These are *De melancholia* and *De oblivione* as already discussed, the *Viaticum*, whose Book 1 offers treatments for disorders of the head and the *Pantegni*. Book 9 of the *Theorica*, covers such conditions, and there are several relevant sections in previous books, such as notes on the complexion of the brain in Book 1. Although the *Practica* of the *Pantegni* was largely not by Constantine, its Book 5 also has many interesting relevant remedies, and since it was regarded and passed down as his work, it was decided to include it, with reservations, in these investigations. The evidence for the dissemination of these four works in England across the medieval period is laid out here.

Method and methodological issues

In order to find this evidence, surviving booklists and library catalogues for monastic houses, cathedrals, Oxford and Cambridge colleges, hospitals and guilds were examined, and also records of books given as bequests in wills. Secondly, catalogues and databases of extant manuscripts in modern British library collections were searched for Constantine's work.[71] The bibliography of all the sources examined is given in Appendix 4C. The data thus derived is necessarily only an indication of the spread of these books, for a number of reasons. For the majority of monastic houses and other institutions, no records remain of their early libraries.[72] In those which do exist their compilers were often less concerned about recording medical books. In several places where extant works show that Constantine's were owned,

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Cistercians, Gilbertines and Premonstratensians (London, 1992), pp. 112 and 264; M.T.J. Webber and A.G. Watson (eds.), *The Libraries of the Augustinian Canons* (London, 1998), pp. 439-40.

[71] It should be noted that this thesis is based upon manuscripts that survive in British archives, as looking at library catalogues worldwide was infeasible and unlikely to be very productive. Of all the *Pantegni* manuscripts identified worldwide and listed in Burnett and Jacquart, *Constantine the African*, pp. 316-51, none of those found outside English collections are known to be English, although Dr Winston Black has since brought to my attention an English copy of the *Practica in* Bethesda, NLM E8 (*c.*1145) not included here.

[72] J.B. Beddie, 'Libraries in the twelfth Century: Their Catalogues and Contents', in C.H. Taylor (ed.), *Anniversary Essays in Mediaeval History by students of Charles Homer Haskins* (Boston and New York, 1929), p. 2.

they are not mentioned in catalogues. For example, Exeter Cathedral owned a thirteenth-century *Viaticum*, Oxford, Bodleian Library, MS. Bodl 786, but there is no mention of this in the catalogue of 1327, nor indeed of any medical works.[73] Medical books were often recorded in booklists simply as '*medicinalis*', their precise contents unspecified; none of the details were given of the '*multos libros de physica'* Faritius left to Abingdon Abbey, probably gathered in Italy in the 1070s.[74] In his will of 1481 Thomas Colard, a barber surgeon, left his son 'a nother boke the which is called Constantyne', unspecified.[75] Of course there will have been many secular medical practitioners like Colard, whose numbers, practice and book ownership have been mostly lost to history and are difficult to estimate.

With regard to extant manuscripts, there may be no clear evidence of date or provenance. Monastic library marks are sometimes present, or else a manuscript can be dated paleographically, or from marginal notes. Their origin may also be established in this way, but texts in foreign hands may have come early or late to England, or may have been produced by a foreign scribe away from home. Taking a conservative approach, only those manuscripts which are known to be English by origin and/or ownership, or where there is reasonable evidence that they are English, are included.[76] For those arriving later in the country, they are cited from the time they are thought to have been present. A full list of the manuscripts included in the data is given in Appendix 4A.

Obviously, the vast majority of medieval medical texts have been lost for various reasons.[77] There may be accidental loss or damage, as well as everyday wear and tear in use or storage, through damp, mould or pests. Medical books might be stored less carefully than religious

[73] G. Oliver, *Lives of the Bishops of Exeter: and a history of the cathedral, with an illustrative appendix* (Exeter, 1891), pp. 301-10, 317-19. In the early fourteenth century the Franciscans of Oxford compiled a catalogue of the books held by 90 houses, reproduced in R.A.B. Mynors (ed.), *Registrum Anglie de libris doctorum et auctorum veterum* (London, 1991). However no medical books were mentioned, even for houses known to possess them.
[74] Often because they were held away from the main library in an infirmary or elsewhere. Sharpe et al., *English Benedictine Libraries*, p. 7. Of Clarembald of Exeter's library only one theological work remains, Kealey, *Medieval Medicus*, p. 62.
[75] London, Guildhall Library, London Commissary Court Register, MS. 9171/6, fol. 326v, in N.L. Ramsay and J.M.W. Willoughby (eds.), *Hospitals, Towns and the Professions* (London, 2009), pp. 167-8.
[76] For example, Oxford, Magdalen College, MS. 51 has been left out due to lack of information about provenance, as has London, BL, MS. Sloane 75, as it may be either English or Dutch.
[77] G. Buringh, 'Losses of medieval manuscripts' in *Medieval manuscript production in the Latin West: explorations with a global database* (Leiden, 2011), Ch. 4.

ones, or used more practically, with attendant risks. The Dissolution of the Monasteries in the mid-sixteenth century saw the breakup of most monastic library collections, whilst the arrival of the printing press in the late fifteenth century and the rapid spread of printed books meant that many manuscripts were discarded or re-used. For medical books there are additional reasons for loss; they were rarely decorative, and once considered outdated, there would be no reason to keep them. Fortunately, loss rates have been established for manuscripts of different ages, enabling an estimation of original production rates from surviving numbers.[78]

There are particular problems in tracking down copies of *De oblivione.* As a very short text, it was sometimes added on to another work without attribution. There are no records of its presence in library collections at all for the Middle Ages, although extant copies prove that it existed.[79] Extracts from Constantinian texts occur quite frequently in medical volumes but are easily overlooked.[80] Again, where the *Practica* of the *Pantegni* is present, the sections included are not usually described, so it can be difficult to tell which copies have the relevant Book 5, certainly from the monastic catalogues, and the first certain copy included here was present by 1300.[81] Finally, in combining information from both catalogue and extant sources, it is only known for a small number of extant manuscripts that they are the same copy of a book recorded in a library list. There is therefore an unknown degree of overlap between the books recorded and those surviving, and the numbers for any title cannot be accurately added in a simple way. Nevertheless, with these provisos, it is possible to approximately track the arrival and dissemination of these works of Constantine across medieval England.

[78] Buringh, 'Losses of medieval manuscripts', pp. 190-202, 226-32.
[79] For example, Durham, Durham Cathedral Library, MS. C.IV.12 is an early-twelfth-century *Viaticum,* which also includes *De oblivione*. It is most likely originally from Durham, possibly the *Viaticum* mentioned in the twelfth-century catalogue, but *De oblivione* is not mentioned there. A text on memory in this manuscript is noted in T. Raine and T. Rud (eds.), *Codicum manuscriptorum Ecclesiae Cathedralis Dunelmensis catalogus classicus* (Durham, 1825), pp. 298-9, Green has inspected the manuscript and informed me that this is *De oblivione,* personal communication, 12 December 2018.
[80] One example is found in Cambridge, Trinity College, MS. O.7.37, which belonged to the monks of Westminster, and contains a section which is from the *Pantegni* on melancholy, mislabeled as the *Liber melancolie,* fol. 155r.
[81] Fortunately, the contents of most extant copies are described in Burnett and Jacquart, *Constantine the African,* pp. 316-51; Green, 'The Re-creation of *Pantegni*', pp. 144-7.

Dissemination of Constantine's texts on disorders of the head in England

Dissemination in the first half of the twelfth century

The earliest known copies of the *Pantegni* come from Bath Abbey in Somerset and the abbey at Bury in Suffolk. Adelard of Bath may have been connected with one of the first copies of the *Pantegni* in London, British Library, MS. Add. 22719.[82] This includes three books of the *Practica*, and was copied at Bath around 1125, as a finely produced book with illuminated initials, probably intended for reference rather than direct practical use.[83] Also around 1125, Bury had produced a copy of the *Pantegni*, extant as Cambridge, Trinity College, MS. R.14.34.[84] This too is a highly professional and decorated work, but was clearly regarded as a practically useful book, with added notes and markers. The survival of a well-used medical notebook thought to be from Bury from the same period, Bethesda, National Library of Medicine, MS. E8, indicates that extracts from this *Pantegni* were being copied for practical use by the bedside.[85]

Durham, Durham Cathedral MS. C. IV. 12 from this time contains a *Viaticum* and *De oblivione,* and originated at Durham.[86] Oxford, Bodleian Library, MS. Laud misc. 567 also survives from the first half of the twelfth century, containing a *Viaticum*, and copies of *De melancholia* and *De oblivione,* amongst other texts. It is almost certainly English as it has a glossary of herb names in English and Latin.[87] Despite not having specific knowledge of where in the country this manuscript was held, it is further evidence that these texts were all present in England from an early date.

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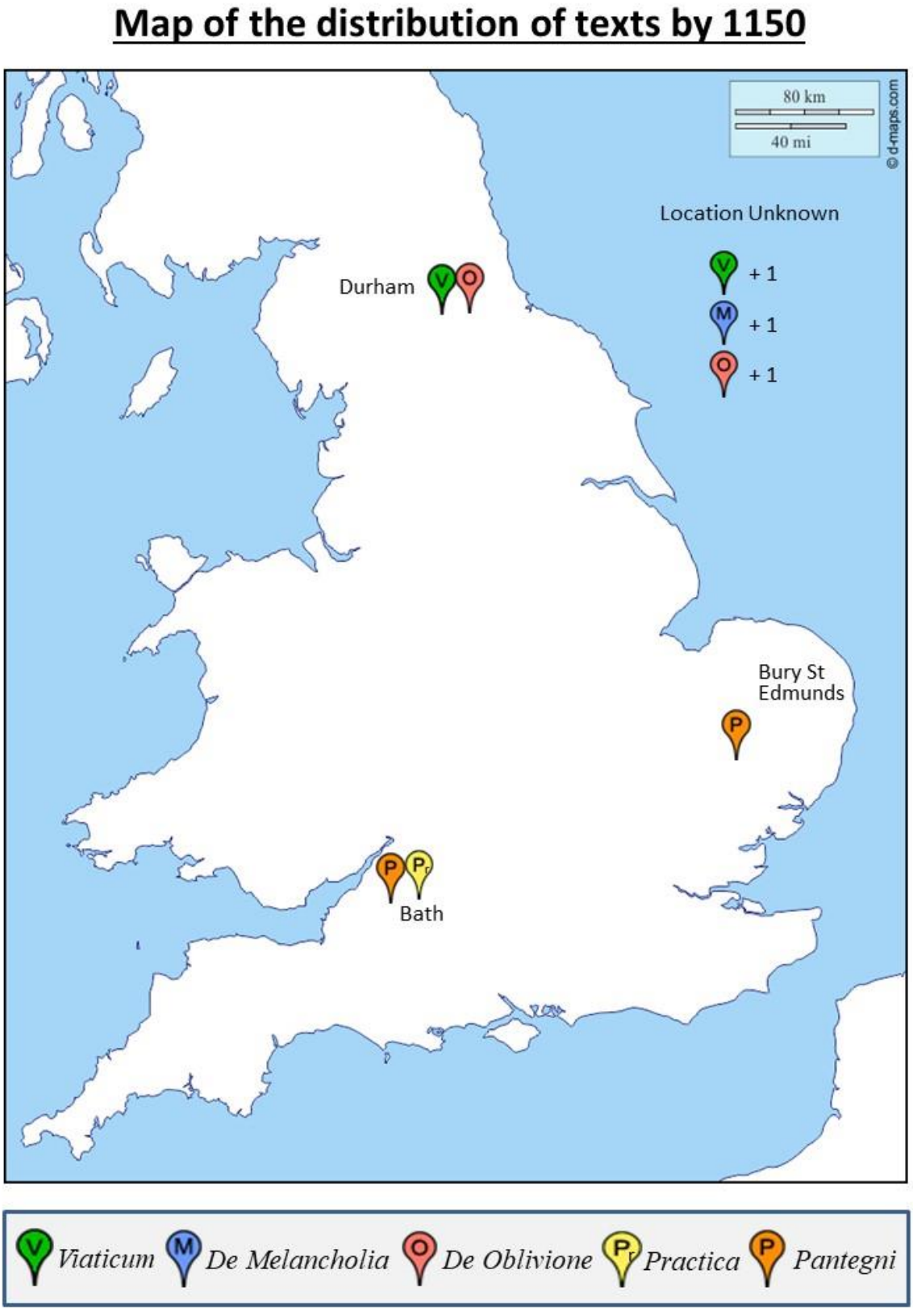
[82] Alfanus translation of Nemesius and another version of his chapter on the elements occur in the earliest collection of texts to include Adelard's *Natural Questions* (London, BL, MS. Cotton Galba E IV); the only other known occurrence of this translation of Nemesius' chapter on the elements is in London, BL, MS. Add. 22719. Burnett, *Introduction of Arabic Learning,* p. 25.
[83] Black, 'A star is born'.
[84] This is marked on fol.1, '*Liber monachorum Sancti Edmundi*'. Cambridge, Trinity College, MS. R.14.34, digitised at *James Catalogue of Western Manuscripts* [website] (last updated 2024) <https://mss-cat.trin.cam.ac.uk/Manuscript/R.14.34> (last accessed 7 March 2024). It is in a Bury hand, Thouroude, 'Medicine after Baldwin', p. 257 and note 53; Gameson, *The Manuscripts of Early Norman England*, no. 179, p. 75.
[85] Black, 'A star is born'.
[86] *Durham University library archives and special collections catalogue* [website] (last updated 2023) <https://www.dur.ac.uk/departments/library/archives-and-special -collections/> (last accessed 10 April 2024); Raine and Rud, *Codicum manuscriptorum Ecclesiae Cathedralis Dunelmensis*, pp. 298-9; Gameson, *The Manuscripts of Early Norman England*, no. 275, p. 86.
[87] The hand has been identified as Norman, with possible origin in the West Midlands. J.R. Stracke, *The Laud Herbal Glossary* (Amsterdam, 1974), pp. 5-7.

The following map shows where the relevant texts could be found in England by 1150:



Map 2.1

Dissemination in the second half of the twelfth century

The late twelfth-century library catalogue for Bury indicated the presence of two *Pantegnis*.[88] Peterborough Abbey acquired the *Pantegni*, with some books of the *Practica*, listed with other Islamicate and Salernitan works copied for Abbot Benedict (1177-83).[89] A cartulary of Rochester Cathedral written in 1202 lists Constantine's *Viaticum* amongst at least 29 medical texts.[90]

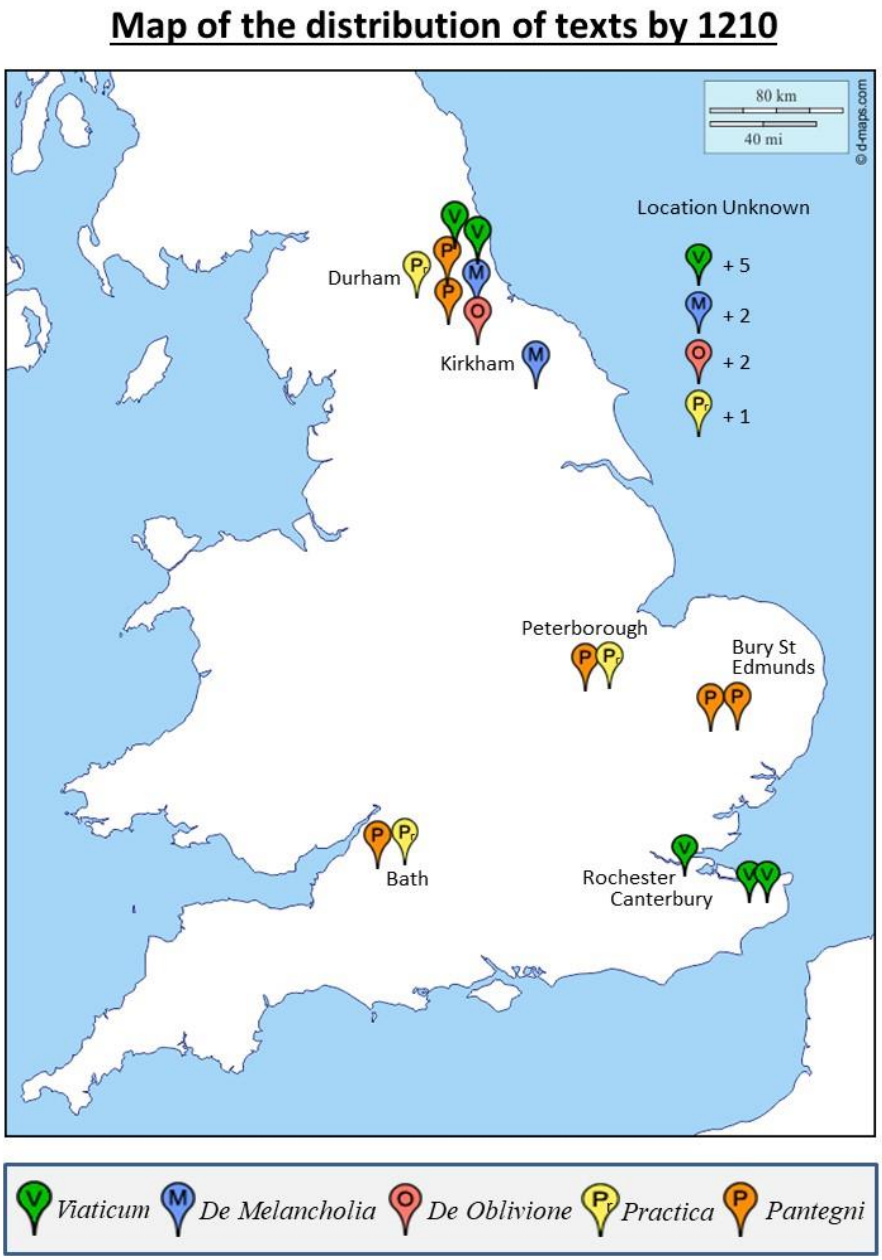
Durham was a major centre which acquired copies of a wide range of Constantinian texts early on, listed in the twelfth-century catalogue for the cathedral priory.[91] These included the *Isagoge* and *Tegni*, but most importantly a copy of the *Pantegni* with books from the *Practica*, and a *Viaticum*.[92] A collection of medical books was also left to the cathedral by a 'Magister Herebertus *Medicus*' including a further copy of the *Pantegni Theorica* and *De melancholia.*[93]

There is no early library catalogue extant for the two major houses of Canterbury, but an eleventh or twelfth-century copy of the *Viaticum*, surviving as Oxford, Corpus Christi College, MS. 189 is from Christ Church Priory.[94] Another *Viaticum*, Edinburgh, National Library of Scotland, MS. Adv. 18.6.8 came from St Augustine's Abbey and has been dated to the period 1190-1210.[95] Another extant manuscript of *De melancholia* survives from the second or third quarter of the twelfth century from the Augustinian priory at Kirkham,

[88] Cambridge, Pembroke College, MS. 47, fol. 117r, in Sharpe et al., *English Benedictine Libraries,* p. 70. The second one survives as Cambridge, Trinity College, MS. R.13.34, thought to have been copied in the third decade of that century.
[89] Cambridge, CUL, MS. Peterborough 1, fol. 35v, in K. Friis-Jenson and J.M.W. Willoughby (eds.), *Peterborough Abbey* (London, 2001), p. 22.
[90] Catalogue of the library 1202, London, BL, MS. Royal 5 B. XII, fols. 2r-3r, in Sharpe et al., *English Benedictine Libraries,* pp. 523-5.
[91] Durham, Durham Cathedral, MS. B. IV. 24 in B. Botfield, (ed.), *Catalogi veteres librorum cathedralis Dunelm: catalogues of the Library of Durham cathedral,* (London, 1838), p. 6.
[92] The *Viaticum* listed may have been the same as that preserved in Durham Cathedral MS. C. IV. 12 but this is not known.
[93] *Ibid*, pp. 7-8. Kealey gives a date for these entries as sometime before 1153, but this is disputed; most works listed are from after 1180 (Kealey, *Medieval Medicus,* pp. 44 and 192 note 27).
[94] R.M. Thomson, *A descriptive catalogue of the medieval manuscripts of Corpus Christi College Oxford* (Cambridge, 2011), pp. 94-5. This manuscript is further discussed in Chapter 12. Produced in the south-west midlands, possibly at Worcester, it has been identified as one of those recorded in a surviving booklist from Christ Church, and bears the name of a Christ Church monk.
[95] That St Augustine's already had some interest in medicine is indicated by the survival of their copy of an *Herbarium* by Pseudo-Apuleius with Disocorides' *De materia medica* as Oxford, Bodleian Library, MS. Ashmole 1431, see Gameson, *Manuscripts of Early Norman England,* p. 126.

Yorkshire.[96] Meanwhile Cambridge, Gonville and Caius College, MS. 411 (415) contains Book 2 of the *Practica*, a *Viaticum*, *De melancholia* and *De oblivione*. It dates from the twelfth or thirteenth century but its provenance within England is unknown.[97]

The following map shows the number of texts, with locations where known, present in England by 1210:



Map 2.2

[96] London, BL, MS. Burney 216.
[97] M. R. James (ed.), *A descriptive catalogue of the manuscripts in the library of Corpus Christi College Cambridge*, vols. I and II (London, 1911), pp. 480-2.

Dissemination in the thirteenth century

Over the course of the thirteenth century the *Viaticum* seems to have become much more popular and widely available; Glastonbury Abbey possessed two copies by the middle of the century, as did St Augustine's Abbey.[98] By 1300 Bradsole Abbey in Kent had a *Viaticum,* Bury now had one. By this time St Augustine's had probably also acquired three further *Viaticums,* a collection of excerpts from the *Pantegni,* and three copies of *De melancholia.*[99]

The number of extant texts for this period is much greater. Durham has a *Pantegni* from this time, as well as a volume containing a *Viaticum* with parts of the *Practica.*[100] A mid-thirteenth-century *Viaticum* which belonged to Exeter Cathedral is extant as Oxford, Bodleian Library, MS. Bodl. 786, whilst Oxford, Merton College, MS. 255 includes the *Viaticum* and was used by an unknown physician practising in Gloucestershire and Somerset.[101]

Two further *Viaticums* from the thirteenth century may have been at the Friars' Convent at Warwick and at Worcester Cathedral as early as this.[102]

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[98] Glastonbury Abbey catalogue of 1247/8, Cambridge, Trinity College, MS. R.5.33 in Sharpe et al., *English Benedictine Libraries,* p. 202. Catalogue of the Library of St Augustine's Abbey, Canterbury, from Dublin, Trinity College, MS. 360 (Bernard 285) in M.R. James (ed.), *The Ancient Libraries at Canterbury and Dover* (Cambridge, 1903), p. 335. Item 1193 is extant as Edinburgh, National Library of Scotland, MS. Adv. 18.6.8 (s. xii^{ex} –xiii^{in}).

[99] Bradsole Cartullary (Oxford, Bodleian Library, MS. Rawlinson B.336) in Bell, *Libraries of the Cistercians,* p. 171. The thirteenth-century *Viaticum* from Bury is extant as Cambridge, CUL, MS. Ii.6.5. The catalogue of the library of St Augustine's Abbey, Canterbury from Trinity College, MS. 360 (Bernard 285), was first compiled between 1375 and 1420, transcribed in the late fifteenth century, but these books are either dated by the dates of their donors or by the estimated date of those still extant. B.C. Barker-Benfield (ed.), *St Augustine's Abbey, Canterbury,* vol. 2 (London, 2008): ***Viaticums*** (documents no 1189 and 1218), pp. 1217 and 1237, ***Pantegni,*** (numbered 1263), p.1278, ***De melancholia*** (numbered 1181, 1236 and 1253), pp. 1209-1212, 1255-6 and 1271-2.

[100] Durham, Durham Cathedral, MS. C.I.19, *Pantegni* s.xiii ('*Theorica Pantegni sive Practica medicine, Libris 10'*), Durham, Dean and Chapter Library, MS. C. IV. 4, s. xiii. The catalogue says this dates from the early thirteenth century, written in England or France, it belonged to John of Ripon, monk of Durham in the late fourteenth century, and was then in Durham communal library. *Durham University library archives and special collections catalogue* [website] (last updated 2023) <https://www.dur.ac.uk/departments/library/archives-and-special -collections/> (last accessed 10 April 2024).

[101] R.M. Thomson (ed.), *A descriptive catalogue of the medieval manuscripts of Merton College, Oxford* (Cambridge, 2009), pp. 196-7. It was left to the college in the fifteenth century.

[102] Worcester, Cathedral Chapter Library, MS. Q41, and London, BL, MS. Sloane 1615. Mauger, bishop of Worcester (1200-12) had previously been physician to Richard the Lionheart and may have accompanied him to Southern Italy and obtained the manuscript or manuscripts there -several of the Worcester copies are in a southern European script and some date from this time. R.M.

Of unknown provenance in England from this time are five extant manuscripts of the *Pantegni Theorica* - two of which are the first exemplars with all ten sections of the *Practica.*[103] There are a further twelve English copies of the *Viaticum,* one of *De melancholia* and one of *De oblivione* of unknown provenance.[104]

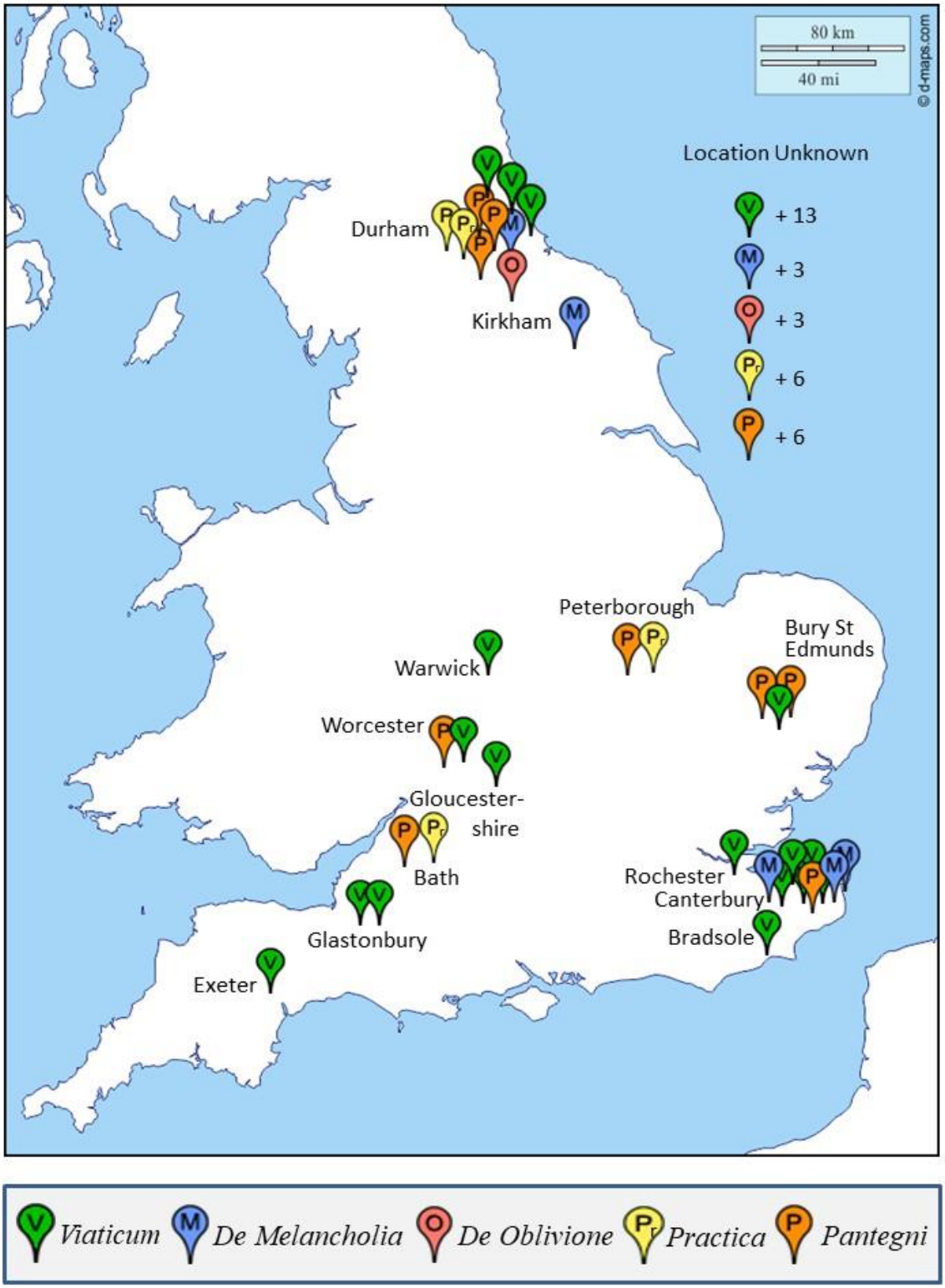
The following map shows the number of texts, with locations where known, established as present in England by 1300:

Thomson (ed.), *A descriptive Catalogue of the Medieval Manuscripts in Worcester Cathedral Library* (Cambridge, 2001).

[103] ***Pantegni Theorica*** London, BL, MS. Sloane 3481, Gloucester, Cathedral Library, MS. 17, Edinburgh, National Library, MS. Advocates 18.2.5, Oxford, St John's College, MS. 85, London, BL, MS. Royal 12. C. XV, Worcester, Cathedral Chapter Library, MS. F. 70, fols. 2r-111v. ***Pantegni Practica*** Oxford, Bodleian Library, MS. Auct. F.5.30, Edinburgh, National Library, MS. Advocates 18.2.5, Oxford, St John's College, MS. 85. London, BL, MS. Sloane 2946, and London, BL, MS. Sloane 3481 have all ten books.

[104] ***Viaticums*** Cambridge, Gonville and Caius College, MS. 95/47 Oxford, New College, MS. 167, Oxford, Oriel College, MS. 62, Oxford, Corpus Christi College, MS. 64, Gloucester, Cathedral Library, MS. 18, Cambridge, Corpus Christi College, MS. 511, Cambridge, Trinity College MS. 0.2.27 (1131) (not recognised in catalogue as a *Viaticum,* but it is), London, BL, MS. Arundel 349, London, BL, MS. Royal MS 12 E VIII (incomplete but with all relevant chapters), London, BL, MS. Sloane 2420. London, BL, MS. Sloane 3096 includes 2 copies of the *Viaticum,* one s. xiii and another s. xiii-xiv. ***De melancholia*** Oxford, Merton College, MS. 219 **De *oblivione*** Oxford, Balliol College, MS. 231, fols. 205v-6.

Map of the distribution of texts by 1300



Map 2.3

Dissemination in the fourteenth century

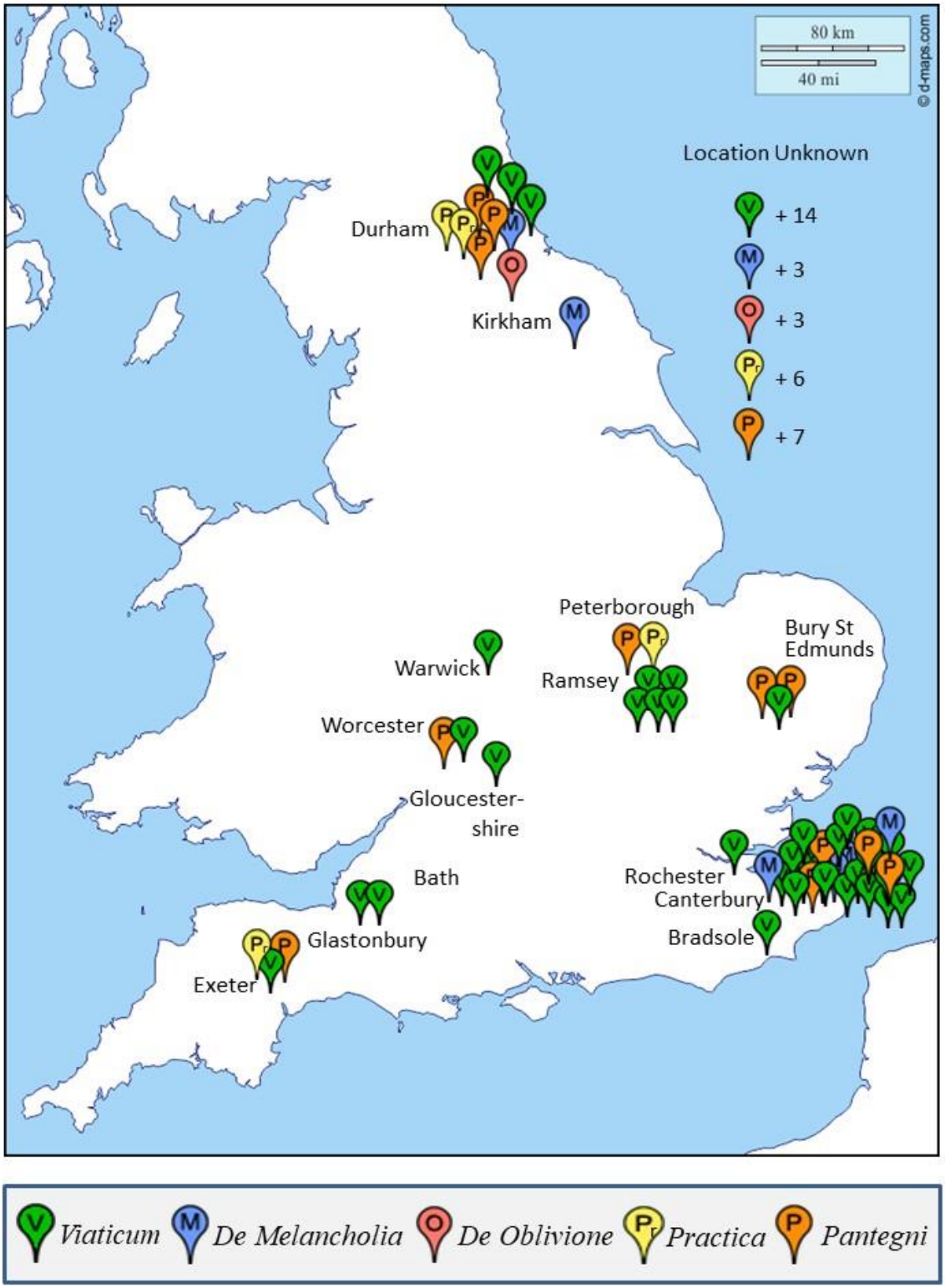
By the beginning of the fourteenth century, Canterbury held large medical collections, with works by Constantine featuring significantly. St Augustine's acquired another *Pantegni* and a further four *Viaticums*, often as donations from monks with medical interests such as Walter of St George.[105] Prior Eastry's catalogue of 1331 shows that Christ Church had over sixty volumes in Latin on medical topics, the majority of which were works by Constantine. Two were *Pantegnis*, eleven were *Viaticums*, and they also possessed a copy of *De melancholia.*[106] Here eight monks had their own medical books, seven had copies of the *Viaticum*, and three had extensive medical collections. Robert of Cornwall, described as a *medicus*, had works by Galen, Hippocrates and Avicenna, alongside the *Viaticum*.[107]

At the same time Ramsay Abbey in Huntingdonshire had accumulated five copies of the *Viaticum* with commentaries and other Salernitan texts.[108] The priory of St Nicholas, Exeter, had acquired the fine early *Pantegni* produced at Bath, whilst another *Pantegni*, now Lincoln, Cathedral Chapter Library, MS. 113 (A.5.3) dates from this time.[109]

The following map shows the number of texts, with locations where known, present in England by 1350:

[105] Catalogue of the Library of St Augustine's Abbey, Canterbury, (Trinity College, MS. 360 (Bernard 285)) in James, *The Ancient Libraries at Canterbury and Dover*, Numbers 1187, 1191a,1192 and 1201k, pp. 1216-1227. Barker-Benfield, *St Augustine's Abbey, Canterbury,* vol 2. pp. 332-49.
[106] London, BL, MS. Cotton Galba E IV, fols. 1r-186v, in James, *The Ancient Libraries at Canterbury and Dover*, pp. 55-62, 81,122-3 and 138.
[107] James, *The Ancient Libraries at Canterbury and Dover*, pp. 61- 138.
[108] London, BL, MS. Cotton Rolls II 16, in Sharpe et al., *English Benedictine Libraries,* pp. 357, 377, 384 and 395.
[109] N.R. Ker (ed.), *Medieval Libraries of Great Britain: A List of Surviving Books,* 2nd ed. (London, 1964) pp. 8, 85; British Library online catalogue, *British Library* [website] <searcharchives.bl.uk/primo_library/libweb/action/search.do?dscnt=1&fromEshelf=false&fromTop=true&fromPreferences=false&menuitem=0&dstmp=1541151925959&vid=IAMS_VU2&fromLogin=true> (last accessed 7 August 2023); University of Lincoln, *Special Collections* [website]<https://specialcollections.library.lincoln.ac.uk/CalmView/default.aspx> (last accessed 10 April 2024).

Map of the distribution of texts by 1350



Map 2.4

By the end of the fourteenth century Constantine's works were arriving in the libraries of Oxford and Cambridge colleges; Merton College, Oxford inherited a *Viaticum* and a *Pantegni* in the will of Simon Bredon.[110] King's Hall, Cambridge had a *Pantegni* and at least three *Viaticums* (in active use as one appears in a list of books borrowed in 1386/7), whilst Gonville and Caius inherited a *Viaticum* in 1360.[111]

An inventory of the books of the Austin Friars at York in 1372 gives some idea of the use of medical books in their mission. They had 22 medical books including a *Pantegni* and two *Viaticums* and its commentaries.[112] They then inherited their prior John Erghome's library of 300 books with a good medical collection, including another *Viaticum.*[113]

Meanwhile Dover Priory had acquired a *Pantegni* and other Constantinian works by 1389, with lists of books belonging to named monks such as '*medicinale Fulberti'*.[114]

Other known book lists indicate that Lanthony Priory in Gloucestershire had a *Pantegni,* and two *Viaticums.*[115] Peterborough now had a *Viaticum,* Durham had acquired a further copy, and Titchfield Abbey in Hampshire now had three *Viaticums* and other Constantinian

[110] Will of Simon Bredon 1368, London, Lambeth Palace Library, Reg, Whittlesey, fols. 122r and 23r, cited (UO110) in R.M. Thomson and J.G. Clark (eds.), *The University and College Libraries of Oxford* (London, 2015), pp. 1266-9. The *Pantegni* is extant as Oxford, Merton College, MS. H.3.5.

[111] Kings Hall Catalogue of chained and *electio* books 1390/91, Trinity College Archives, Kings Hall accounts IV, fols. 2r-3v, and Kings Hall, Register of books borrowed 1386/7, Trinity College Archives, Kings Hall accounts II, fols. 18v- 19r; Gonville Hall Select list of works noted by Leland c. 1535, Oxford, Bodleian Library, MS. Top. Gen. c.3, p.18 (still extant as Cambridge, Gonville and Caius College, MS. 95/47, both cited in P.D. Clarke (ed.), *The University and College Libraries of Cambridge* (London, 2002), pp. 337, 326 and 274-5.

[112] Inventory for the year 1372, Dublin, Trinity College, MS. 359, fol. 5, cited in K.W. Humphreys (ed.), *The Friars Libraries* (London, 1990), pp. 137-8. There are extant library records for only two houses of friars, whilst the Austin Friars at York had many medical volumes, the Carmelite house at Hulne has no books listed at all under the heading 'Medicine', so it is difficult to make any generalisations about friars' books or medical interests.

[113] S.H. Cavanaugh, 'A study of books privately owned in England, 1300-1450', PhD thesis, University of Pennsylvania (1980), pp. 319-21.

[114] Catalogue of the library compiled by John Whytefelde, 1389, Oxford, Bodleian Library, MS. Bodley 920, cited in W.P. Stoneman (ed.), *Dover Priory* (London, 1999), pp. 139-141. These do not appear to be the doctors of the priory, as there is a separate volume described as '*medicinale medici ec'.*

[115] Catalogue of the Library 1355-60, London, BL, MS. Harley 460, in Webber and Watson, *Libraries of the Augustinian Canons,* pp. 90-1.

texts.[116] An extant French manuscript of the *Articella* and *Viaticum* from around 1300 was bought by Malmesbury Abbey in the fourteenth century, whilst another surviving *Viaticum* may be from Evesham.[117]

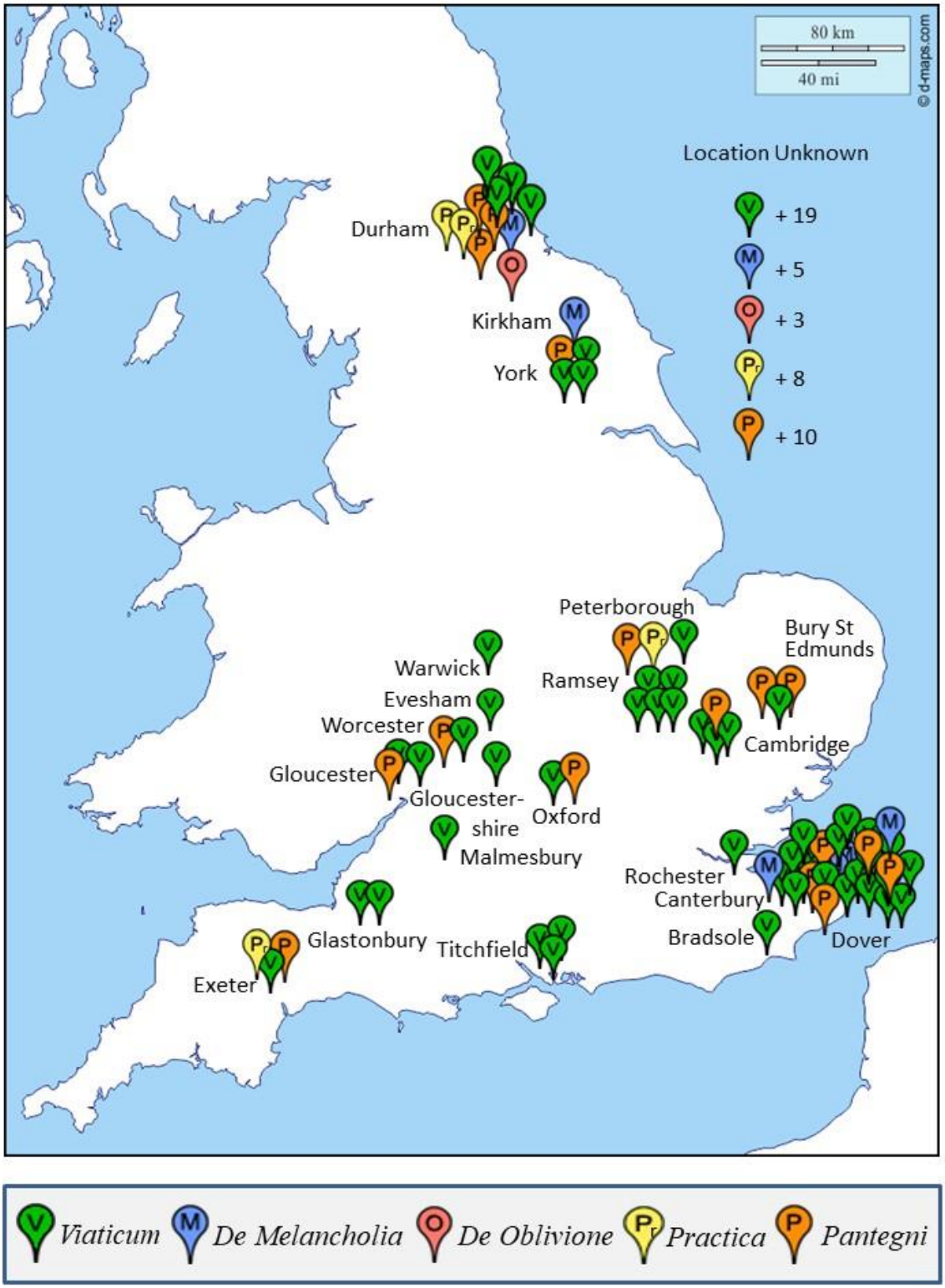
Other English manuscripts surviving from the fourteenth century include three *Pantegnis*, one with all ten sections of the *Practica*, five further *Viaticums* and two copies of *De melancholia.*[118] The following map shows the number of texts, with locations where known, present in England by 1400:

[116] Catalogue of the Library, for the late fourteenth century (Cambridge, CUL, Peterborough Cathedral, MS. 15) in Friis-Jenson and Willoughby, *Peterborough Abbey*, p. 92; 1395 Durham catalogue in Botfield, *Catalogi veteres librorum cathedralis Dunelm*, p. 79; Titchfield, Catalogue of the Library 29 Sept 1400, compiled between 1400-05 (London, BL, MS. Add. 70507) in Bell, *Libraries of the Cistercians*, pp. 210-9.

[117] London, BL, MS. Harley 3140 and Wellcome, MS. 209.

[118] ***Pantegni***: London, BL, MS. Sloane 3098, London, Royal College of Physicians MS. MAUS/397 and Oxford, Oriel College, MS. 55, with all 10 sections of the *Practica*, ***Practica*** London, BL, MS. Sloane 3098 (sections 1 &2), ***Viaticum*** Cambridge, Trinity College, MS. R.14.35 (MS. 907), London, BL, MS. Arundel 215, London, BL, MS. Sloane 1610, London, BL, MS. Sloane 371 and London, BL, MS. Add. 18701. ***De melancholia*** Oxford, Magdalen College, MS. 173 and London, BL, MS. Sloane 3098.

Map of the distribution of texts by 1400



Map 2.5

Dissemination in the fifteenth century

By the first half of the fifteenth century St Augustine's had three further *Pantegnis* and another three *Viaticums.*[119] The only evidence of Constantine's books being held at the great abbey of St Albans is seen, as the *Viaticum* appears in a list of books borrowed between 1420-37.[120] A Leicester Abbey catalogue shows seven copies of the *Viaticum* and two of the *Pantegni*, one possibly with a *Practica*, by the late fifteenth century.[121]

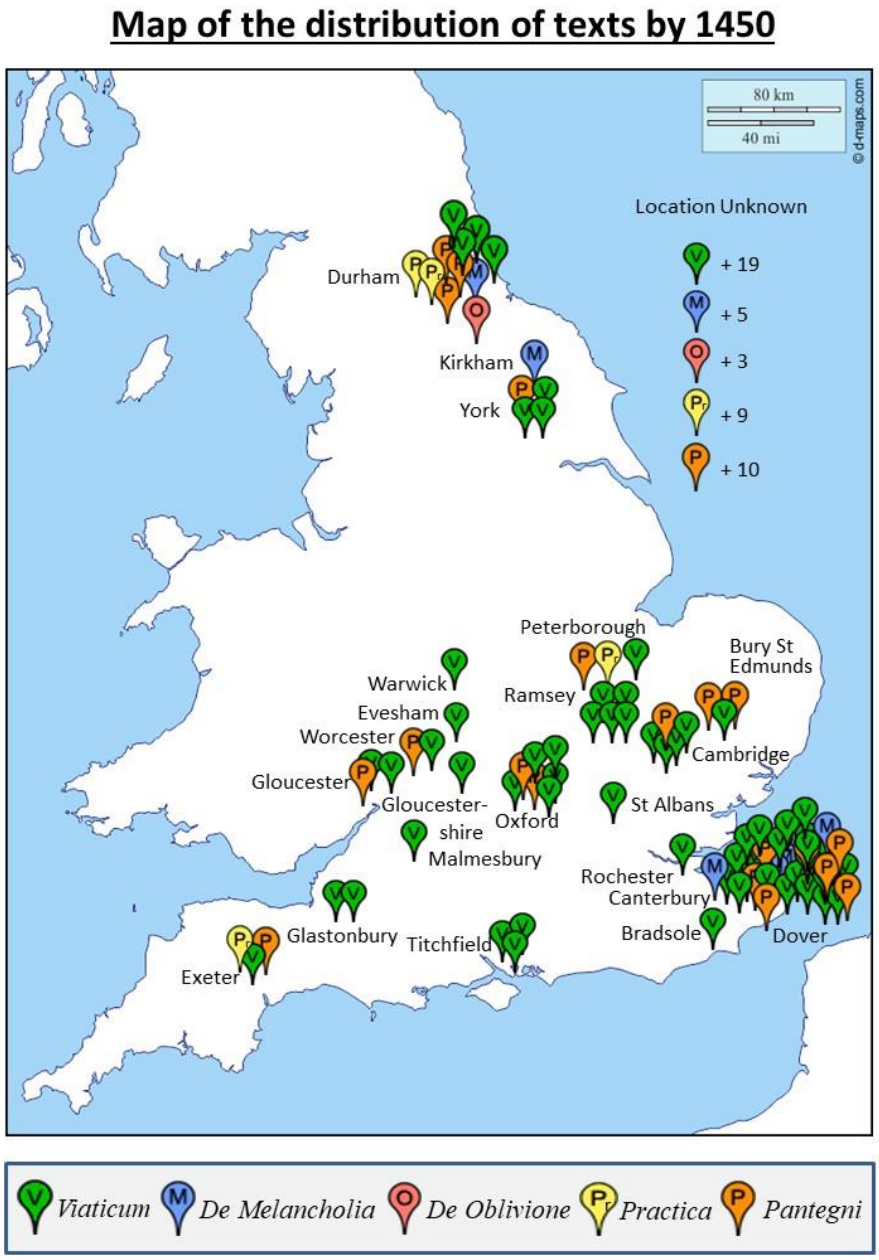
Over the course of the century Oxford and Cambridge colleges added further to their collections. Humfrey, duke of Gloucester, gave Oxford University library a *Pantegni.* All Souls had two *Viaticums*, as did New College, and Oriel inherited one in a medical volume from John Maldon (extant as Oxford, Oriel College, MS. 62).[122] A further *Viaticum* (now Oxford, Merton College, MS. 232) and a thirteenth-century volume including *De melancholia* were left to Merton College.[123]

Meanwhile Peterhouse, Cambridge had a *Viaticum* in 1418, King's College had a *Pantegni* in 1457, whilst Cambridge University library had both a *Viaticum* and a *Pantegni* by 1473.[124] By this time Winchester Cathedral had a *Viaticum* with gloss, extant as London, BL, MS.

[119] Catalogue of the Library in James, *The Ancient Libraries at Canterbury and Dover*, pp. 334-341.
[120] List of books borrowed 1420-1437 in Sharpe et al., *English Benedictine Libraries,* p. 561.
[121] Late fifteenth-century catalogue of books in Oxford, Bodleian Library, MS. Laud misc. 623 in Webber and Watson, *Libraries of the Augustinian Canons,* A20, pp. 325-339. In its library of 940 volumes, more than 80 were medical, and many of these were by Constantine.
[122] Indenture recording a gift of books from Humfrey, duke of Gloucester, 1439 Oxford University Archives NEP/Supra/Registrum F, fol. 52r, UO6 Inventory of books in the library *c.* 1443, All Souls Archives, Misc, 209, fol. 1r, UO11 List of books given by William Goldwin, William Denys and Richard Salter, UO70 Inventory of the library 1415 NCA 9654, fol. 1r, UO139 Will of John Maldon 1402, London Lambeth palace register of Archbishop Thomas Arundel, vol. 1, fol. 198r, all in Thomson and Clark, *University and College Libraries of Oxford*, vol. 1, pp. 64, 104, 213, vol. 2, pp. 1153, 1155, 1331.
[123] Recorded in Inventory of goods for the Marian Commissioners 1556, MCR 4277 in Thomson and Clark, *University and College Libraries of Oxford*, vol. 2, pp. 1064 and 1078.
[124] UC48 Peterhouse Catalogue of chained and *electio* books, 1418, with later fifteenth-century additions -Old Register of Peterhouse, pp. 1-21 (The *Viaticum* is extant as Cambridge, Peterhouse, MS. 106), UC29 Kings College Inventory of the Library, *c.* 1457, King College Archive KCA/684, fols. 58r-65v, UC3 University of Cambridge Register of Books, 1473, CUA MS. Collect. Admin. 4, fols. 1r-4r, all in Clarke, *University and College Libraries of Cambridge*, pp. 516, 299 and 36. Its collection of five medical volumes grew to 20 around this time, after a bequest by Roger Marshall, p. 32.

Sloane 418; a further English *De melancholia* exists from this time, in a book of otherwise religious content.[125]

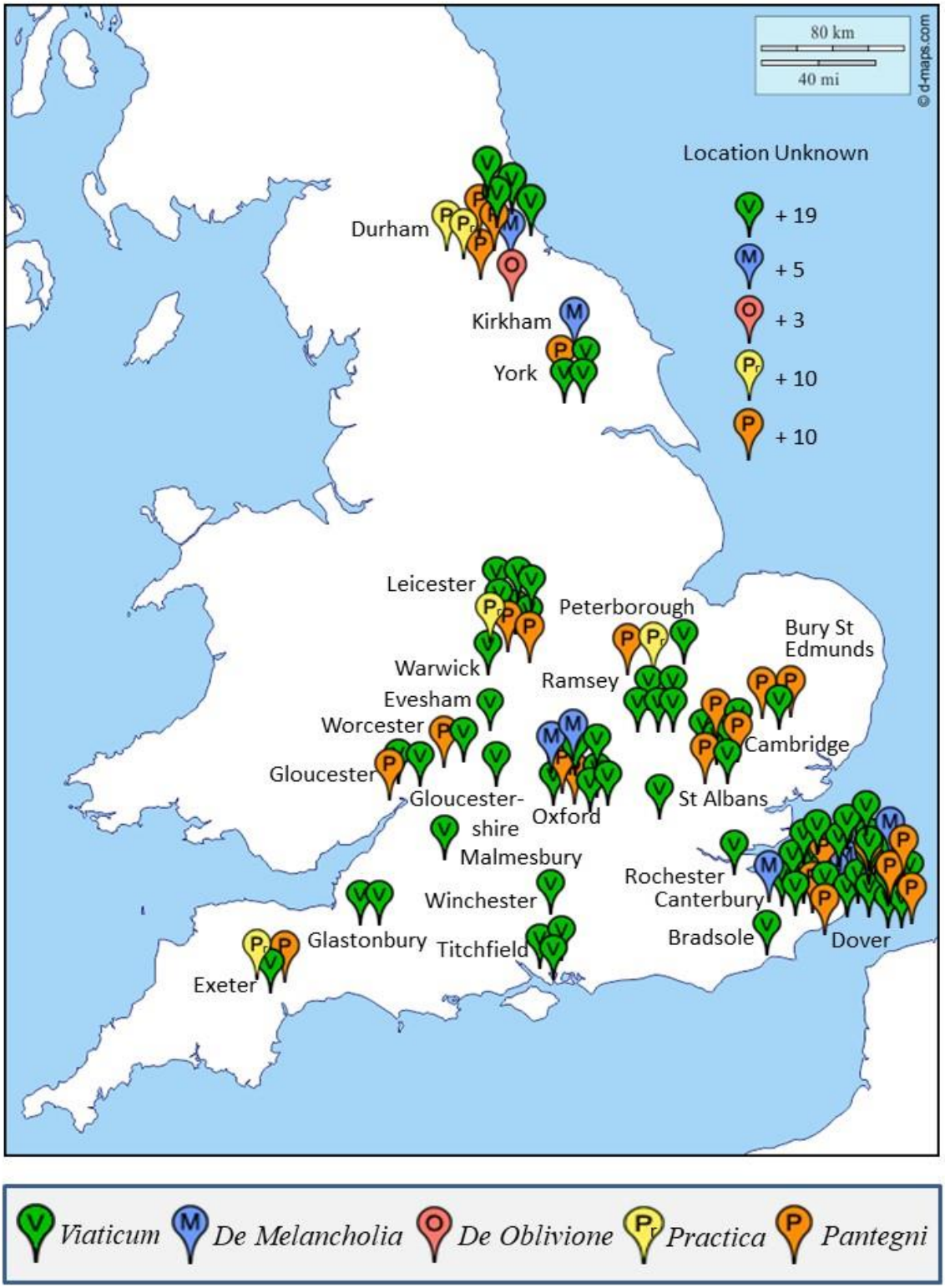
The following maps shows the number of texts, with locations where known, present in England by 1450 and 1500:



Map 2.6

[125] Oxford, Magdalen College, MS. 57. Other fifteenth-century copies of the *Pantegni Practica* survive but none have Book 5.

Map of the distribution of texts by 1500



Map 2.7

Dissemination after 1500

The first to be known of medical books at Syon Abbey is from a catalogue of the library from *c.*1500-1524, when they had two *Pantegnis* and a *Viaticum.*[126] Corpus Christi Oxford had a *Viaticum* by 1589.[127] Leland's records (1536-40) note a *Pantegni* at Glastonbury Abbey, and '*Constantinus Africanus de re medica*' – probably a *Pantegni* or *Viaticum* - at the abbey at Tavistock, Devon.[128]

The continuing popularity of Constantine's work is evidenced by the fact that it was printed in three versions in the sixteenth century, as *Opera omnia Ysaac* at Lyons in 1515 (vol. 1 contains the *Pantegni Theorica* and *Practica*, vol. 2 has the *Viaticum* and *De oblivione*) and in two Basel editions. The Basel *Constantini ... opera* of 1536 contains Books 2 and 9 of the *Practica*, the *Viaticum* and *De melancholia*, whilst the 1539 work *Constantini opera reliqua* has the *Pantegni Theorica* alone.[129] Merton seems to have had both Basel editions in 1589 when the Marian Commissioners visited the college in 1556.[130] Elsewhere, printed versions of Constantine's works were circulating in England, as evidenced by London, BL, MS. Add. 25000, apparently a *Viaticum* printed in Lyons in 1510, and a further extant Basel 1536 *Opera* at Exeter Cathedral.[131] An additional *Pantegni* arrived at an unspecified date at Worcester, Cathedral Chapter Library, MS. Q39.[132]

The map below shows the number of texts, with locations where known, present in England after 1500:

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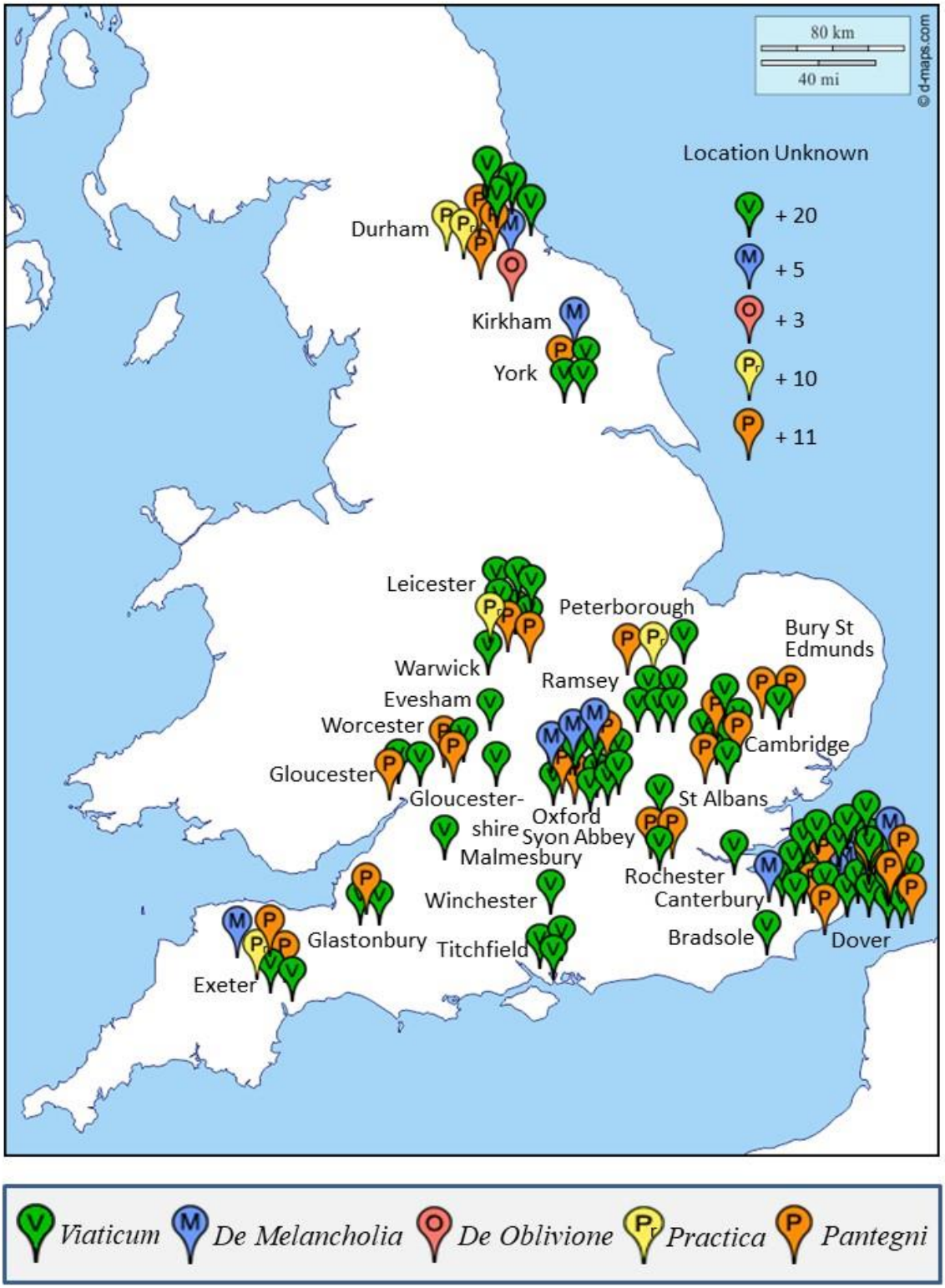
[126] SSI Registrum of the library of the Brethren, c 1500-1524, Cambridge, Corpus Christi College, MS. 141, in V. Gillespie (ed.), *Syon Abbey*, with A.I. Doyle (ed.), *The Libraries of the Carthusians* (London, 2001), pp. 27-34.
[127] Catalogue of the library 1589, Oxford, Corpus Christi College archives, D/3/1 fol. 1r, in Thomson and Clark, *University and College Libraries of Oxford,* p. 580.
[128] B 44 select list of works noted by Leland in 1536/40, and B 97 Select list of books by Leland 1536-40, in Sharpe et al., *English Benedictine Libraries,* pp. 236 and 595.
[129] Burnett and Jacquart, *Constantine the African*, pp. 317-9.
[130] UO33 Catalogue of library 1589, Oxford, Corpus Christi College archives D/3/1 fol. 1r, and UO68 Inventory of goods for the Marian Commissioners 1556, MCR 4277, in Thomson and Clark, *University and College Libraries of Oxford,* vol. 1, p. 580 and vol. 2, p. 1064, (one extant as Oxford, Merton College, MS. 52. i. 3).
[131] P. W. Thomas, *Medicine and Science at Exeter Cathedral Library: a short title catalogue of printed books 1483-1900 with a list of 10th to 19th century manuscripts* (Exeter, 2003), p. 59. This was part of the cathedral's original collection, before the mid-seventeenth century at the latest, a second copy arrived from elsewhere in the eighteenth century as part of the Glass collection.
[132] Thomson, *Catalogue of the Medieval manuscripts in Worcester Cathedral*, p. 142.

Map of the distribution of texts after 1500



Map 2.8

Summary figures for manuscripts occurring in catalogues are given for each time period, with cumulative totals, in Table A in Appendix 3 (p. 329); figures for extant manuscripts are given in Table B, Appendix 3 (p. 329). The numbers are combined in Table 2.1 below.

Table 2.1: Cumulative totals of books either extant or mentioned as present in catalogues/donated, by period.

	By 1150	By 1210	By 1300	By 1350	By 1400	By 1450	By 1500	After 1500
Pantegni	2	6	15	23	28	33	38	46
Viaticum	2	8	30	50	71-72	80-81	88-89	95-96
De melancholia	1	4	8	9	11	11	12	15
De oblivione	2	3	4	4	4	4	4	4
Practica	1	4	10	10	12	12	15	16
with Book 5	-	-	1	1	2	2	2	2

We can say with some certainty that by the end of the Middle Ages at least 46 *Pantegni* existed, or at least had existed, in England, with nearly a hundred *Viaticums*, 15 copies of *De melancholia*, and four of *De oblivione.* Sixteen copies of the *Practica* of the *Pantegni* existed, at least two with Book 5. Obviously these are absolutely minimum figures given the lack of evidence for most monastic libraries, virtually complete absence of evidence of book ownership by physicians, and the loss and destruction of the majority of copies of the manuscripts over time.

Eltjo Buringh has conducted careful quantitative analysis of loss rates for medieval manuscripts for successive centuries, and established values for a reciprocal survival factor (RSurv) for the sixth to fifteenth centuries.[133] Multiplication of the number of extant manuscripts by the relevant reciprocal survival factor gives an estimate for the production level for that text for that century. Figures are given in Table D, Appendix 3, which could indicate the production of an estimated 20 copies of the *Pantegni*, 80 of the *Viaticum*, and

[133] Buringh, 'Losses of medieval manuscripts', pp. 231-2.

30 of *De melancholia* and of *De oblivione*, during the twelfth century. By the end of the thirteenth century 127 English copies of the *Pantegni*, 334 *Viaticums*, 43 copies of *De melancholia* and 43 of *De oblivione*, with perhaps 13 complete *Practicas*, are estimated to have existed. By the end of the Middle Ages over 200 copies of the *Pantegni*, over 500 of the *Viaticum*, 90 of *De melancholia*, 43 of *De oblivione* and 28 *Practicas* may have been in English libraries. These figures are of course very tentative, here sometimes based on only one or two survivors, and Buringh acknowledges that for some specific classes of manuscripts they may be less valid.[134] Since medical books are practical books, whose usefulness declined with the centuries, it is fair to regard these as lower end estimates of their numbers.

Conclusion

The achievement of Constantine at Monte Cassino in translating so many Islamicate and retrieved Greek medical texts was groundbreaking, as Kwakkel and Newton note:

> the body of his work was huge. It was also unprecedented in medieval Europe ... nowhere before this is it recorded that a single centre, in the space of a single generation, deliberately embarked upon an undertaking so vast, and so new in kind.[135]

The value of these novel works is shown by the fact that within the space of a few decades, they were to be found across Europe.[136] England was unique in having its own vernacular medical corpus in the pre-Conquest period, and it continued to be concerned with the possession of medical knowledge; it was pre-eminent in the copying and ownership of the new Salernitan works from early in the twelfth century onwards. Strong links between Norman-held lands meant that some in England knew of Constantine's work very shortly after Salerno itself did. The nature of the surviving evidence of the possession of his books means that only monastic and clerical holdings give any detail, and this is hampered by a general lack of interest in documenting their ownership of medical books. Nevertheless, in this context, high quality, decorated productions of the *Pantegni* are found as early as 1125 in prestigious ecclesiastical centres in the west and east of England. The evidence of

[134] Such as those deliberately destroyed, for example for heretical content, Buringh, 'Losses of medieval manuscripts', p. 249.
[135] Kwakkel and Newton, *Medicine at Monte Cassino*, p. 187.
[136] Glaze, 'The perforated wall', pp. 222-59.

Bethesda, MS. E8 shows that the information therein was being actively used by monks or others practising medicine. In subsequent centuries monastic houses were copying and actively collecting large numbers of copies of the *Pantegni*, and more especially the *Viaticum*, from at least as far north as Durham to as far south as Exeter. These Constantinian texts were integral to the work of major clerical centres of medicine such as Bury and Canterbury.

The picture presented by monastic catalogues is very partial, and sometimes misleading. Although Durham had an impressive range of Constantine's works by the end of the twelfth century, this does not necessarily mean that the area was unusually active in medicine, rather that there are simply more records; other centres may, or may not, have had similar texts at this time. A more complete picture would include information about what *medici* practising in the field found useful and necessary to own. Several monks who had their own medical books were described as *medici*, and some of those who held personal copies of the *Viaticum* may have been physicians who retired to a monastic life, taking their manuscripts with them. There are a few other tantalising glimpses, firstly in the bequest of Herebert of Durham, indicating that a secular northern physician had most of the relevant texts before 1200. The physician owner of the *Viaticum* Merton College, MS. 255 was using it to serve a largely rural population in the west of England in the late thirteenth century. Other known doctors' wills give further information. Simon Bredon was a noted physician in the fourteenth century, who had a *Pantegni* and a *Viaticum*, whilst Thomas Colard was still finding his book by Constantine useful enough in 1481 to leave it for his son.[137] Copies of the works were arriving in the universities of Oxford and Cambridge by the end of the fourteenth century, partly for use in the training of doctors, as formal medical education became available.[138] There is evidence that copies of the *Viaticum* and *Pantegni* were being borrowed by students from the late fourteenth century and into the fifteenth.[139] Later in the

[137] Will of Simon Bredon 1368, London, Lambeth Palace Library, Reg. Whittlesey, fols. 122r-123r, in Cavanaugh, 'A study of books privately owned in England', pp. 127-34. This gives an interesting example of an elite medical library of the time; Will of Thomas Colard, London, Guildhall Library, London Commissary Court Register, MS 9171/6, fol. 326v, in Ramsay and Willoughby, *Hospitals, Towns and the Professions*, pp. 167-8.
[138] Cambridge was offering medical degrees from the middle of the fourteenth century, Oxford from a little before that, but medicine was an undistinguished and minority subject in both universities at this stage (see e.g., Siraisi, *Medieval and Early Renaissance Medicine*, p. 56).
[139] A *Viaticum* was borrowed from Kings Hall, Cambridge in 1386/7, Clarke, *University and College Libraries of Cambridge*, p. 328, whilst the *Viaticum* and *Pantegni* were being borrowed

thesis the extent to which the ideas transmitted by Constantine appeared in later vernacular texts is considered, but it can only be guessed how much they were passed on, either in writing or orally, to more humble medical practitioners.[140]

One way to measure the influence of Constantine's works is to compare the frequency that his books are noted in catalogues, compared to the frequency with which the writings of other important medical writers are found. Figures are given in Table E in Appendix 3. Gariopontus' *Passionarius* is found perhaps 19 times in catalogues; Avicenna's *Canon of Medicine* (probably the most famous work of medieval medicine), 55 times; Gilbertus Anglicus' thirteenth-century *Compendium* 29 times; and John of Gaddesden's fourteenth-century *Rosa anglica practica medicine* 30. This compares with 67 or 68 mentions of Constantines's *Viaticum,* and with 29 of the *Pantegni.* Avicenna was clearly Constantine's nearest rival; Gerard of Cremona translated his works into Latin in the second half of the twelfth century, and the *Canon* starts to appear in English records from around 1320.[141] It was particularly popular in the universities, the various Cambridge and Oxford colleges together owning 29 copies, compared to 15 *Viaticums,* by the end of the fifteenth century. Constantine's *Isagoge* and the *Aphorisms* had long been part of the *Articella,* the medical curriculum, and in European lists of books assigned for students, Avicenna's text also now appeared, whilst the *Pantegni* and *Viaticum* did not.[142] Nevertheless, Constantine's most popular work the *Viaticum* alone outnumbers all other works and continued to be copied and used.

From the overall figures it is apparent that, after a peak in English production and ownership of these texts in the thirteenth century, Constantine's works continued to be desirable for nearly three further centuries. They were popular enough in the sixteenth century to be worth printing in two European editions, which had at least some circulation in England. By the end of the Middle Ages it can safely be assumed that there were hundreds of copies of the

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and distributed at Merton College, Oxford, 1408-37 and 1452. Thomson and Clark, *University and College Libraries of Oxford,* UO52 and UO54, pp. 920, 933-4.

[140] See Ch. 12.

[141] One is documented at Peterborough Abbey in 1321. Rhaze's *Liber ad Almansore*m was also translated by Gerard and was to be very influential. It seems to have been present in England earlier than the *Canon,* Peterborough Abbey had a copy in the late twelfth century. Friis-Jenson and Willoughby, *Peterborough Abbey,* pp. 39 and 22.

[142] There are no extant medical reading lists for English medical students, the Montpellier and Bologna lists are discussed in Siraisi, *Medieval and Early Renaissance Medicine,* pp. 71-2.

Pantegni and *Viaticum* in England, with significant numbers of *De melancholia*. It is unclear how widely the short treatise *De oblivione* was known. Book 5 of the *Practica,* which bore Constantine's name, appears here to have been less available, although there is evidence that it influenced medical writers of the thirteenth and fourteenth centuries.[143] They were both included in the printed edition produced in Lyons in 1515, and the *Practica* and *De melancholia* are found in the edition printed in Basel in 1536. The practical longevity of Constantine's work is evidenced by a note in a sixteenth-century hand in a fourteenth-century copy of the *Viaticum*, when one Margaret Burgoyne wrote a message to her doctor.[144] King James IV of Scotland thought it worthwhile to purchase a *Viaticum* in 1503.[145] Constantine's treatments were still being used nearly five hundred years after they were written, his books still sought after by the elite.

[143] See Ch. 12.
[144] Cambridge, Trinity College, MS. R.14.35 (MS 907), M.R. James (ed.), *The Western manuscripts in the library of Trinity College Cambridge, a descriptive catalogue* (Cambridge, 1900), p. 320.
[145] Ordered from one Andrew Myllar, amongst other books. Treasurer accounts, 2. 364, R. Dickson and J.P. Edmond, *Annals of Scottish Printing* (Cambridge, 1890), cited in J.C. Higgett (ed.), *Scottish Libraries* (London, 2006), p. 97.

Chapter 3: General principles of Constantine's medicine relating to the brain and disorders of the head – the naturals

The general principles behind Constantine's medicine must first be considered to appreciate his unique contribution to the development of medicine, and in exploring the subject of mental disorder. Al-Mağūsī's *Kitab al-Maliki,* which Constantine translated as the *Pantegni,* aimed to provide a comprehensive understanding of the human body and its treatment. Constantine's widely read *Isagoge* also set out the theoretical underpinnings of the discipline, stating that 'medicine is divided into two parts, that is theoretical and practical'.[1] The theory is explained in three parts, considering things that are natural (such as the elements and bodily functions), non-natural (environmental and other factors impacting on health), and contra-natural (disease, its causes and symptoms).[2]

The *Pantegni* is similarly divided into *Theorica* and *Practica;* this chapter considers content from the *Theorica,* which is entirely devoted to theory, and also orders its contents according to these categories. There are principally seven natural things, the elements (earth, water, air, and fire), the qualities (hot, cold, dry, and moist) and their various combinations, the four humours (blood, phlegm, red bile, black bile), the four principal organs (the brain, heart, liver, and the testicles), then the powers, faculties, and spirits. Books 1-4 cover the naturals, with information about anatomy, the composition of the simple and compound organs, and physiology, the powers and the spirits involved in breathing, movement, and the senses. There are six non-naturals, given in Book 5 as the air, exercise and rest, baths, food and drink, sleep and wakefulness, fullness and emptiness, and the *accidentia anime* (emotions).[3] Books 6-9 of the *Theorica* detail the contra-naturals, giving general theory of the causes of illnesses, symptoms in different parts of the body, the pulses and urine, external and internal illnesses. Finally, Book 10 deals with prognostics. The naturals are covered in this chapter, and the non-naturals and contra-naturals in Chapter 4.

[1] *Isagoge*, p. 140.
[2] *Ibid*, pp. 140-56.
[3] 'Sunt autem generaliter vi. Aer, motus, quies, cibus et potus, somnus et vigilie, exinanitio naturalis, in qua balnea, coitus, urina, digestiones, emunctiones, et similia comprobantur. Sextum accidentia animae, in quibusdam gaudium, angustia, tristitia, timor', *Pantegni,* Book 5, Ch. 1, fol. 48v.

The naturals

The fact that the theory of medicine begins in Book 1 with the elements and the qualities, places medicine into its particular context within the medieval world view. In this idea of the universe, there are the four elements and qualities, four seasons, four cardinal directions, and the structure of the universe (the macrocosm) is reflected in the microcosm of the human body with its four humours, ages and organs. The organs also have their own complexions, or mixture of qualities.

An understanding of qualities and the humours is considered foundational to medical knowledge and practice. The qualities can present in nine possible 'mixtures', one equal, four simple (hot, cold, dry or moist) and four composite mixtures (e.g., hot and dry). Book 1 is devoted to their balance, the 'complexion', the mixture of qualities or humours present in a person or particular organ, and to the humours. The humours are vital fluids found in the blood stream: blood, phlegm, red bile and black bile; health or illness depended on their appropriate mixture and balance.[4] Each has their own qualities: blood is naturally hot and moist, phlegm cold and moist, red bile hot and dry and black bile, cold and dry.[5] Each can come in an unnatural form, but unnatural black bile arising through burning is particularly toxic, known for causing the worst illnesses, although if any humour dominates in the body or an organ, illness will ensue.[6]

The *Theorica* continues with a complete description of the body and its processes. Books 1-3 cover the bones, nerves, blood vessels, skin and hair, the muscles, brain, sense organs, lungs, heart, digestive organs, liver, kidneys, bladder and reproductive organs, amongst others. Bodily functions such as the action of the heart and lungs are described. Blood from

[4] 'omnia ergo membra humana sive bestialia sanguinem habentia; ex quatro humoribus sunt facta .i. sanguine: flegmate: colera rubea (et melancholia) ... ex his eorum sanitas vel infirmitas subsistunt. Quia his bene se invicem commiscentibus: et eorum qualitatibus vel quantitatibus bene competentibus necesse est corpora esse sana ... si minus vel exsuperat ... necesse est subsequatur infirmitas'. *Pantegni,* Book 1, Ch. 25, fols. 12r-12v. (In thinking about the humours, Demaitre explains that they should not be taken wholly literally as varieties of liquid but more as 'explanatory devices rather than tangible objects of examination', Demaitre, *Medieval Medicine,* p. 16).

[5] 'Sanguis naturalis calidus et humidus ... flegma naturale frigidum et humidum est ... colera rubea naturaliter calida et sicca est ... colera nigra ... naturaliter frigida est et sicca', *Pantegni,* Book 1, Ch. 25, fols. 12v-13r.

[6] 'Colera nigra non naturalis ex incensa colera nigra ... hec sunt pessimas qualitates destruendi et morbos pessimos in corpora faciendi ... quicumque humores in quantitate vel qualitate prevalent ex necessitate morbidum corpus facient', *Pantegni,* Book 1, Ch. 25, fols. 13r-13v.

the liver enters the right side of the heart, then is sent through a vein to the lungs; air is drawn in to form the vital spirit, which goes to the left side of the heart before going out to the whole body.[7] Also termed the *calor naturalis*, this spirit is thought responsible for life, with the heart as its base.[8] The digestive organs are given with a description of how the liver is necessary to change food into blood.[9] Book 4 looks further at the *virtutes* or 'powers': the natural powers possessed by all living things (growth, nutrition and reproduction), the spiritual powers (those of the heart working together with the lungs), and the animal powers (sense, voluntary movement, imagination, reason and memory). These powers are served by the three spirits, the natural spirit (arising in the liver), spiritual or vital spirit (from the heart and lungs), and the animal spirit, which arises in the brain and serves the animal powers, the powers of the soul. [10] Together this gives a full picture of the composition of the organs and parts of the body, and how they work together for the maintenance of its functions and life itself.

Regarding the mind and brain, the *Pantegni* explains that God made both men and animals with powers of sense and movement, but in man the brain was given to serve intellect and reason.[11] The text is clear that the powers of the rational soul are in the brain, the most worthy of organs, housed in the head as the highest, most excellent part, and near the eyes.[12] It gives a comprehensive account of the anatomy and physiology of the brain and nervous system. Book 1 of the *Pantegni* gives the various complexions of the brain and how to discern them.

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[7] 'Dextra item concavitas ... unum vena intrat concava, portans ab epate sanguinem in hanc concavitatem ... unum intrat arteria vene simillima. Ista portat ... sanguinem a corde ad pulmonem', *Pantegni*, Book 3, Ch. 22, fol. 33v; 'cor fundamentum et fons caloris est naturalis; necesse est aerem trahi', *Pantegni*, Book 3, Ch. 21, fol. 33r; 'in sinistra ... latus cordis spiritus intrat vitalis ... Inde arteria maior de qua omnes alie egrediuntur', *Pantegni*, Book 3, Ch. 22, fol. 33v.

[8] 'Cordi fuit necessarius, ut esset fundamentum caloris naturalis, unde animal regeretur', *Pantegni*, Book 3, Ch. 22, fol. 34r.

[9] 'Necessarium fuit epar ut cibum mutet et sanguinem faciat', *Pantegni*, Book 3, Ch. 28, fol. 36r.

[10] 'Omnis ergo spiritus est tripertitus. Est enim naturalis, est spiritualis, est animalis ... Naturalis in epate nascitur, unde per venas ad totius corporis vadit membra, virtutem naturalem regit et augmentat actionesque ... Spiritualis spiritus in corde nascitur ... spiritualem virtutem augmentans, atque regens ... Spiritus animalis in cerebri nascitur ventriculis, per nervos tendens ad menbra totius corporis. Unde animalis virtus regitur et augmentatur eisque actiones custodiuntur', *Pantegni*, Book 4, Ch. 19, fol. 47v.

[11] 'Membra autem animata fecit deus in omnibus animalibus propter sensus et voluntarios motus sed in homine et propter hoc et propter intellectum; et rationem fecit cerebrum', *Pantegni*, Book 2, Ch. 1, fol. 14r.

[12] 'quia cerebrum est dignius et nobilius omnibus membris aliis, quia materiale fundamentum est in homine, ut potestas rationalis anime, ad auctualia possit procedere, quod in excellentiori parte positum, causa est oculorum. Sicut enim homo aliquid remotum discreturus altiora loca progreditur', *Pantegni*, Book 3, Ch. 11, fol. 28r.

Book 2 deals with the 'simple organs' including the bones of the head, the nerves and the nervous system. Book 3 deals with 'compound organs' including the brain, giving the anatomy of the brain, neck, top of the spinal cord, and the sensory organs. Book 4 deals with the powers of the rational soul, and describes the spirits, including the animal spirit, which is seen as the instrument of the action of the mind. In addition, in Constantine's *De oblivione*, there is an extensive description of how memories are formed, retained and retrieved in the brain, in order to explain memory difficulties.

It is thought to be important for the physician to gauge the *complexio* of his patient's brain. Ideally the brain should be of a cold complexion to best serve its functions, but it can be a combination of hot or cold, dry or moist. The doctor can discern its properties by observing the patient's hair, behaviour, pulse, warmth and the eyes and shape of the head.[13] A larger head is considered a good sign, indicating greater brain matter, a smaller head reveals less matter and a weakness of the mental powers.[14] The hair is thought to arise from the brain itself and its growth, qualities and colour are diagnostic: dark curly hair from infancy shows heat, whereas straight white, red or brown hair growing later means a cold complexion.[15] Temperament is an expression of the complexion: those with warm brains, for example, are anxious, unstable and talkative, but those with cold brains are quick but not changeable.[16]

Excess fluids or humours coming out of the nose and mouth also indicate the brain's complexion and health, thought to be superfluous material coming directly from the brain.[17] Other signs are that a head which is warm to the touch means a warm brain, and if it is cold so is the brain.[18] Eyes can also be warm or cold to the touch, and, for example, red eyes with

[13] 'Cerebrum frigidum necesse esse ad rationis capacitatem et memorie', *Pantegni*, Book 1, Ch. 8, fol. 7r; 'Complexio cerebri multi modis potest cognosci, Aut enim a forma discernitur; aut a pilis ab ipso procedentibus; vel ex eius actionibus; vel expulsis ab eo superfluis vel a tactu; vel oculorum signis', *Pantegni*, Book 1, Ch. 10, fol. 7v.
[14] 'Caput parvum intemperatum significat esse cerebrum cuius causa parva fuit materia; et formative virtutis debilitas. Magni forma capitis si fuerit; laudabilis et grossa ... Sed ex nimia materie abundantia', *Pantegni*, Book 1, Ch. 10, fol. 7v.
[15] 'Ex pilis ab ispso nascentibus; quia pili nigri et crispi si cito post partum nascuntur pueris calorem monstrant complexionem cerebri. Pili plani si sunt albi, rufi sive castanei et aliquantulum tardi frigiditatem significant cerebri', *Pantegni*, Book 1, Ch. 10, fol. 7v.
[16] 'Solicitus et instabilis audax atque loquax ... calidum habet cerebrum. Otiosus et non animosus neque cito mobilis, frigidum', *Pantegni*, Book 1, Ch. 10, fol. 8r.
[17] 'A superfluitatibus ab ipso expulsis; superfluitas ab ore exiens sive naso si fuerit parva et nimis cocta; calorem nimium significat', *Pantegni*, Book 1, Ch. 10, fol. 8r, and see footnote 28.
[18] 'De tactu. Caput tactu calidum cerebrum significat esse calidum et econtrario', *Pantegni*, Book 1, Ch. 10, fol. 8r.

thick veins mean warmth.[19] The emphasis in all this is perhaps not as might be expected: it does not seem that the qualities of the brain help to understand the person's character, but rather the reverse. This is because of the critical importance of the qualities of an organ in understanding what treatment is required to produce balance.

The structure of the brain

The *Pantegni* gives an extremely detailed description of the structure of the brain, running to over 1400 words. It is a moist white body, able to change quickly to take sensory impressions.[20] It is divided into two parts, the *prora* (prow or front) and the *puppis* (stern or rear).[21] The front is larger and softer and seven sensory nerves proceed from it, whilst the back is harder and deals with motion.[22] It has three cavities called the ventricles of the brain, with two at the front (elsewhere described as the front and middle ventricles), one at the back, and a further space which can be dilated to be a fourth ventricle.[23] At the base of the brain lies an entangled web of veins, the *rete*, where vital spirit brought from the heart is cooked and refined.[24] Beginning on its journey of refinement it passes on to the anterior ventricles where it is further changed into animal spirit.[25] A passage allows the animal spirit to pass through to the posterior ventricle , and this is controlled by the vermis, a worm-like organ which opens or closes to allow its entry.[26] The brain is covered by the meninges, the

[19] 'De signis oculorum. Qui grossas in oculis habent venas et easdem rubicundas; tactum vero calidum; cerebrum monstrant esse calidum', *Pantegni*, Book 1, Ch. 10, fol. 8r.
[20] Over 1400 words in the orignal Latin. 'Cerebrum ergo est corpus album, et sine sanguine humidum. Quod ideo fit, ut cito mutetur in naturam sentiendi', *Pantegni*, Book 3, Ch. 11, fol. 28r.
[21] 'Dividitur autem in duas partes principaliter, scilicet in proram et in puppim', *Pantegni*, Book 3, Ch. 11, fol. 28r.
[22] 'Prora est puppi maior atque mollior. Magna ut nervi sensuales ab ea procederent, qui sunt .vii. pares; puppis minor est, quia pauci nervi ab ea procedent ... Hanc emolliri oportuit, ut sensum cito reciperent nervi. Puppis dura, ut facilius motus pateretur', *Pantegni*, Book 3, Ch. 11, fol. 28r.
[23] 'Cerebrum tres habet concavitates que cerebri vocantur ventres (ventricles). Duo ventriculi in prora positi, vocantur prore ventriculi ... Puppis, unus est ventriculus ... quedam spatiola. Ubi dum dilatatur, quartus ventriculis conficitur', *Pantegni*, Book 3, Ch. 11, fols. 28r-28v.
[24] 'Vene telate in modum retis … Istud enim sibi implicatur, ut vix umquam dissolvatur. Quod subtus cerebrum dilatatur, dextrorsum et sinstorsum. Ante et retro dilatatur per spacium ... Rete autem fuit necessitas, ut vitalem spiritum … dequoquat, et in naturam animalis spiritus mutari faciat', *Pantegni*, Book 3, Ch. 11, fol. 29v.
[25] 'Qui cum per duas venas a tela exeuntes cerebri, ventriculos ingrediatur ibi, magis magisque subtiliatur', *Pantegni*, Book 3, Ch. 11, fol. 29v; 'In eisdem quoque ventriculis, spiritus vitalis in natura mutatur animalis', *Pantegni*, Book 3, Ch. 11, fol. 28v.
[26] 'Qui viam habent perforatum unde spiritus animalis adventriculum transeat puppis … Illud autem frustulum, vermis est vocatum … Unde cum vermis in vie longitudine dilatetur, nates perfectissime clauduntur cum vermis rugatur, nates quoque aperiuntur ... Cuius est iuvamentum, ut claudat foramen inter puppim et medium ventriculum, et intraturo animali spiritui aperiat. Postquam vero intraverit claudat', *Pantegni*, Book 3, Ch. 11, fol. 28v.

thicker *dura mater* and the softer *pia mater,* and the various blood vessels supplying the organ.[27] The meninges and bone are said to be pierced above the nostrils to allow air to pass, and excess humours from the brain to leave via the nose and mouth.[28] All of this is given in a lengthy and difficult explanation, an attempt to describe the visual in words, by comparison with the familiar, for example the pineal gland is 'a body whose shape is like a pine cone' and other parts are 'like a man's buttocks'.[29] A chapter on the neck indicates that the brain goes down into the spinal cord protected by the vertebrae, and further chapters go into the senses.[30] The fact that the eyes are served by nerves from the brain is noted.[31]

We find out more about the functions of the ventricles in the section on the powers of the mind in Book 4. There are three powers or functions, the imagination, reason and memory; each has their own seat.[32] Some twelfth-century English manuscript versions of this are confused, placing the imagination at the back of the brain, but the chapter on the spirits is clear that imagination is served by the front ventricle, the rear ventricle serves memory and voluntary movement, and the middle ventricle is for intellect and reason.[33] The imagination enables things to be pictured and then sends them to the intellect, the seat of judgement and discernment. Memory then retains the things which are laid down by the intellect.[34]

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[27] 'Hec est forma cerebri, quod circumdant duo panniculi, qui vocantur matrices cerebri. Unus crossus qui dura mater vocatur … pia mater, …Hec mollior est in substantia quam mater dura'… 'De hoc enim ventriculo due arterie ascendunt que per lauda latera vadunt, et in fine eius se inungunt ubi terminatur prora et puppis. Illo quoque accedit altera extremitas ventriculi que iuncta grossiorem quater reddit quam in certis locis. Cui una vena non pulsativa occurrit, et per longum vadit, in proram cerebri. Que licet non sit vena, tamen quia est concava, et sanguinem portat, vena vocatur tercia, quia duabus arteriis, in duram matrem descendentibus quedam concavitas remanet, quam ista sanguinem habens replet', *Pantegni*, Book 3, Ch. 11, fols. 28v-29r.

[28] 'Dura enim mater perforata super nares, quasi quoddam colatorium huic superfluitati exhibet. Similiter et duo narium ossa dure matri super posita sentiuntur esse perforata, unde et superfluitas exeat, et flatus ab exterioribus introeat…. Superfluitas per buccam est emittenda', *Pantegni*, Book 3, Ch. 11, fol. 29v.

[29] 'quoddam corpus glandosum, cuius forma est quasi pinea'… 'nates hominum …assimilantia', *Pantegni*, Book 3, Ch.11, fol. 28v. The parts described as buttocks are probably the brain stem structures, the superior and inferior colliculi (Wickens, *A History of the Brain*, p. 37).

[30] 'Nucha cum a cerebro emittatur a spondilibus operta defensatur', *Pantegni*, Book 3, Ch. 12, fol. 29v.

[31] 'Duo nervi concavi a cerebro venientes ad oculos', *Pantegni*, Book 3, Ch. 13, fol. 30r.

[32] 'Virtutis animalis habitationem et fundamentum constat esse cerebrum. Est autem trium generum…. Fantasiam, rationem et memoriam', *Pantegni*, Book 4, Ch. 9, fol. 45v.

[33] See BL, MS. Add. 22719, fol. 45v and Cambridge, Trinity College, MS. R. 14.34, fol. 39r which put the imagination 'in puppi cerebri'; 'Spiritus autem qui ad pupim pertransit, motum ibi et memoriam facit. In prora immorans sensus creat et fantasiam. Spriritus medii ventriculi, intellectus sive ratio fit', *Pantegni*, Book 4, Ch. 19, fol. 47v.

[34] 'Virtus enim imaginationis, que format et imaginatur, mittit intellectui. Intellectus iudex et discretor est rerum ... Memoria forma intellectu posita custodiens', *Pantegni*, Book 4, Ch. 9, fol.

The spirits

The animal spirit is crucial, as the instrument by which the functions of the rational soul can be performed.[35] The chapter on the spirits in Book 4 explains that the vital (or spiritual) spirit rises from the heart to the brain, arriving at the *rete* where it is refined.[36] It is then passed to the anterior ventricles where it is further refined into animal spirit, and the waste products of this purification are ejected through the nostrils and palate.[37] The spirit which remains in the front of the brain serves the senses and imagination, or it can be passed back to the rear ventricles for their functions.[38]

The spirits such as the vital spirit or *calor naturalis* and the animal spirit are posited as physical entities involved in emotions and mental life, but are also philosophical constructs. Animal spirit is named as the instrument of the rational soul serving imagination, voluntary movement, and, in its most refined form, reason, and memory. This is the point at which medicine meets philosophy: some philosophers say that the animal spirit is the soul, and that the soul and body are the same; others say that the animal spirit is just the instrument of the soul, which has no material substance. The *Pantegni* concludes that the second opinion is better, but that is a matter for philosophy rather than medicine.[39] Some later versions of the text give a further few paragraphs about this question, which may or may not be an addition by Constantine himself, as there is little of this philosophy in the original Arabic text; the

45v. (An alternative version of this reads 'Memoria format intellectum posita ad custodiendum ea donec ad altum ducat).

[35] 'spiritus animatus, qui has actiones exequitur … Ad operanda manualia spiritus animatus', *Pantegni*, Book 4, Ch. 9, fol. 45v.

[36] 'Hic ex spirituali spiritu procreatur, qui in corde generatur. Hic enim spiritus a corde ad cerebrum per arterias ascendit ... cum ad cerebrum veniant craneum usque ad cerebri sedem penetrant. Ubi multipliciter divise telantur sicut rete ... et ibi immorans implicitus, tamdiu ibi digeritur quoad depuratus clarificetur, sicque animalis spiritus ab eo, generatur', *Pantegni*, Book 4, Ch. 19, fol. 47v.

[37] 'Post hic spiritualis ... egreditur, et ad ventriculos prore cerebri dilabitur. Ubi iterum subtilatus quod depuratum supererat eicit, per suos meatus in palato atque naribus', *Pantegni*, Book 4, Ch. 19, fol. 47v.

[38] 'Spiritus autem qui ad puppim pertransit, motum ibi et memoriam facit. In prora immorans sensum creat et fantasiam. Spiritus medii ventriculi, intellectus sive ratio fit', *Pantegni*, Book 4, Ch. 19, fol. 47v.

[39] 'Dicunt quidam philosophi, hunc spiritum cerebri esse animam et eandem corpoream. (Alii dicunt anime instrumentum, quam animam fatentur incorpoream) Que intentio priore est melior. Sed quia disputatio non huic suppetit intentioni, cum philosophica sit hic dimittenda censuimus ista', *Pantegni*, Book 4, Ch. 19, fols. 47v-48r (the bracketed section is missing in BL, MS. Add. 22719 but present in Trinity College, MS. R.14.34, fol. 41r).

ideas may well have come from Nemesius.[40] They note that Socrates, Plato, Aristotle and many other philosophers 'unanimously affirm that the soul is not corporeal, but it illuminates the body with the spiritual light of wisdom'; in the same way the light of the sun is incorporeal and plays its role without being divided from the sun itself.[41] Nevertheless there is some separation from the body as the soul is incorrupt.[42] This addition is seen in manuscripts dating from the fourteenth century but may date back to intense interest in the subject from the twelfth century, and following translation of Aristotle's work into Latin.[43]

The nervous system

Animal spirit is also said to pass through the nerves to the whole body, limbs and organs.[44] A section on the powers of the senses explains this:

> The powers of sense and voluntary movement ... are made by the brain, with the nerves mediating this ... with the animal spirit leaving the ventricles of the brain to the members through the nerves.[45]

Book 2 describes the nerves which take sense and movement to the members of the body, which do not in themselves have any powers of sense or movement.[46] Nerves originate either

[40] The additional passage is present in the Lyons printed edition of 1515 and other manuscripts found in England such as BL, MS. Sloane 3481 (fol. 22r) which is an English manuscript dated to the thirteenth or fourteenth century. C. Burnett, 'The Chapter on the Spirits in the *Pantegni* of Constantine the African' in Burnett and Jacquart, *Constantine the African,* pp. 101-2. Al-Mağūsī's *Kitab* ends differently, the inserted part is from Galen's *De spermate*. See also C.U.M. Smith et al, *The Animal Spirit Doctrine and the Origins of Neurophysiology* (New York, 2012), p. 51.

[41] 'Socrates et Plato, Aristolelici et Theodores, Platonici, Peripatetic, Porphirectici et alii quamplures unanimiter affirmant quia neque corporea est neque lege tenetur neque scinditur, quia cum totum corpus virtute sua illuminet ... sicut lux Solis que incorporea est suum complens officium nullam patitur divisionem', from Burnett, 'The Chapter on the Spirits in the *Pantegni*', p. 117.

[42] 'Non esse mirum quod anima que substantia est incorporea separetur a corpore sine corruptione', *Ibid,* p. 117.

[43] Burnett, 'The Chapter on the Spirits in the *Pantegni*', p. 107; L. Minio-Palluelo, 'The discovery of Aristotle's works in the Latin West', *Britannica* [website] <https://www.britannica.com/topic/Aristotelianism/The-later-Latin-tradition> (last accessed 12 April 2024).

[44]'In cerebri nascitur ventriculis, per nervos tendens ad menbra totius corporis', *Pantegni,* Book 4, Ch. 19, fol. 47v.

[45] 'Virtutes sensibiles et motum voluntarium …cerebrum facit, nervis mediantibus ... cum spiritus animatus a ventriculis cerebri ad membra per nervos exeat', *Pantegni,* Book 4, Ch. 10, fol. 45v.

[46] 'Nervi fuerunt necessarii ut sensum atque motum ferrent membris corporis …In natura enim sua, nullum horum habent sensum neque motum', *Pantegni,* Book 2, Ch. 10, fol. 18v.

in the brain itself or its intermediary, the spinal cord in the neck.[47] Those leaving from the front of the brain are the softest of all and quickly changeable in order to carry the senses, whilst those coming from the back of brain are hard so that they can allow motion.[48] There are seven pairs of cranial nerves serving the eyes, tongue, mouth and nose, gums and teeth, palate, ears and throat. A large number of spinal nerve pairs leaving from the neck enable sensory function and voluntary movement below the neck.[49] The powers and operation of each of the senses and of voluntary movement are further described in Book 4.

Cognition and memory

The clearest explanation of how the brain and animal spirit serve cognitive functions is given in *De oblivione*, on memory problems. It goes over the same ground of explaining the ventricles: animal spirit is produced using air in the front ventricle where it serves the senses and imagination.[50] Passing back to a middle ventricle, further refined, the spirit there serves reason.[51] However the rear ventricle is considered pre-eminent of all the ventricles, and the animal spirit entering it is the most clean and refined, in order to serve memory, which requires subtlety and clarity.[52] Again it describes a worm-like structure between the middle and rear ventricle (here identified as the pineal gland), which opens and closes to allow the passage of the animal spirit.[53] This only happens when the person needs to recall something,

[47] 'Omnes autem nervi, aut de cerebro procedunt aut de mediatoribus cerebri. Cerebri mediatries esse dicuntur spondilium, medulle, que nuche sunt appellate', *Pantegni*, Book 2, Ch. 10, fol. 18v.
[48] 'Exeuntes a prora cerebri omnium aliorum sunt molissimi, quia sensum portant aliis. Mollicies vero cito mutatur circa sentientes. Prodeuntes a puppi cerebri fuere duri ut motum possent pati', *Pantegni*, Book 2, Ch. 10, fol. 18v.
[49] 'Nervorum a cerebro exeuntium.vii. paria sunt. Quidam ad oculos progrediuntur…ad linguam ... ad timpora ... ad narium.ad labra ... ad gingivas atque dentes … per palati ... ad auriculas ad lacertos guttarales ... Ab hac nucha ex necessitate procedunt nervi, sensum et voluntarium motum perantes membris sub collo positis. Sunt autem xxxii sibi paria et unum tantum impar', *Pantegni*, Book 2, Ch. 10, fols.18v and 19v; See also Guerrero-Peral and de Frutos Gonzalez, 'Constantine the African: the revival of neurology', pp. 83-4.
[50] 'Et duo ventriculi prore mutant aerem et excoquunt dant inde cerebro spiritum animalem, ut faciat sensus vivendi, audiendi, odorandi gustandi et iterum fanstasiam', *De oblivione*, p. 226.
[51] 'Deinde transit ad eum locum qui est in medio cerebro qui communis est. Et transit spiritus animalis iam subtilis, mundificatus, atque clarior plus spiritu que fuit in prora cerebri, ut faciat rationem', *De oblivione*, p. 226.
[52] 'Et Proculus dixit: ventriculus puppis prestantior est omnibus ventriculis cerebri, quonian non venit spiritus animalis ad ipsum nisi subtilis, clarus mundificatus, quia opus est recordationi et retentioni, claritate et subtilitate ut recolligat res preteritas ex longo tempore', *De oblivione*, p. 227.
[53] 'Et habeat in capite medii ventriculi qui est inter proram et puppem pars substantie cerebri similis vermi. Et vocant eam anatomici pinaeam: ascendens et descendens, et ascensu eius aperitur foramen et descensu eius clauditur. Et cum aperitur, transit spiritus animalis a prora cerebri ad puppim', *De oblivione*, pp. 226-7.

or else retain something; if the way is not open a man cannot remember things or answer questions, for the pineal is a guard and distributor of how much spirit passes.[54]

All of this is said to vary from person to person, in some the pineal is quick to act, making them wise and responsive, in others it is sluggish, and such people have to think very hard and are slow to respond.[55] It is necessary to have the right mixture of animal spirit in the middle and rear ventricles in order to serve the important functions of reason and memory, and if it is impaired, forgetfulness will follow.[56] One cause of impairment is coldness, which causes memory problems and other symptoms depending on moisture levels; Paul of Aegina is cited as giving cold, wet phlegm as the cause.[57] The substance of the brain in the rear ventricle is crucial, it should be fine and clean, and fairly solid in order to receive impressions of things to be remembered. If it is gross and unclean, fluid and lacks firmness, it is hard for the brain to take impressions and the person will be slow to learn.[58] All of this is illustrated by the observation that children and the elderly are more forgetful, and that this is because both are in a state of change and instability.[59] Children's minds are quick and not static enough to receive an impression, an older person is declining; the analogy is given that neither fast moving water nor frozen ice can receive and retain an impression.[60] On the other

[54] 'Et hoc non fit nisi quando necessarium est recordari oblivioni tradita aut tenere que nolunt oblivisci…. Et nisi aperiatur illa via ut transeat spiritus ad puppim cerebri, non reminiscitur homo rei et non respondet interrogationi … pinea ... est sicut custos et divisor quantitates que transit per illam viam spiritus', *De oblivione,* p. 227.
[55] 'Et apertio istius vie variatur in omnibus et ex festinantia et pigritia. Nam sunt qui habent velocem qui sunt prudentes et velociter respondent et sunt qui habent pigram, qui sunt tardi ad respondendum et nimium cogitant', *De oblivione,* p. 227.
[56] 'Et G(alenus) dixit mentem et intellectum et discretionem non facit nisi contemperantia spiritus animalis qui est in medio cerebro et retentionem et intentionem non facit nisis contemperantia spiritus animalis qui est in puppi cerebri. Et si patitur iste spiritus qui est in puppi cerebri lesionem, perdit memoriam aut minuitur', *De oblivione,* p. 227.
[57] 'Et memoria patitur semper lesionem ex frigidiate. Et ista frigiditas est aliquando simplex, aligquando cum humiditate…Et aliquando cum siccitate. …Et Paulus dixit quia lithargia non nascitur nisi ex causa private, que est flegma frigidum et humidum', *De oblivione,* p. 228. (This is also described in the *Viaticum* on lethargy).
[58] 'Et G(alenus) dixit: si est promta mens et intellectus, significat substantiam cerebri munditia subtilem. Et non promta mens et intellectus significat qui substantia cerebri immundicia grossa est. Et velociter discere significat quia substantia cerebri impigre recipit formationem rei in se. Et bene tenere significat quia substantia cerebri habet moderatam soliditatem. Et tarde discere significat quia substantia cerebri dura est ad recipiendum formationem rei in se. Lithargia igitur significat substantiam cerebri liquidam et non habentem stabilitatem', *De oblivione,* p. 228.
[59] 'Et Aristotiles dixit: pueri et senes magis obliviscuntur et id est quod anime eorum sunt in mutatione et mutabilitate', *De oblivione,* p. 228.
[60] 'Nam festinantia mobilitatis non stat in eodem ut recipiat formationem. Nonne vides quoniam aqua currens cum nimio cursu et velociter movens et rursus aqua glaciata non stat in illis formatio imaginis?', *De oblivione,* pp. 228-9.

hand, the brains of young people with the right balance of moisture offer favourable conditions for memory formation.[61]

In summary, Constantine's translations passed on a wealth of theory about the body, its anatomy, physiology and function, the *Pantegni* in particular giving a comprehensive picture of how it all worked together. Details of the brain and its functions, and of the spirits and nerves through which it worked, were all included in this whole picture. Not only did the *Theorica* give significant theory, it also placed it in a philosophical and cosmological, scientific context. Beginning with the elements, it reflected the idea that man presented a reflection of the macrocosm; the body was made from the elements and the bodily humours were said to be their offspring.[62] Medicine took its place in *physica*, natural science, and hence was to become known as 'physic'.[63] At the same time, the *Theorica* addressed the belief that man was made by God as part of nature but different from the animals, with a rational soul served by the animal spirits in the ventricles. The three spirits corresponded with classical ideas of the tripartite soul which involved appetitive, spirited and rational elements.[64] Monte Cassino was a place where philosophical ideas were being discussed, with Alfanus translating Nemesius' *On the Nature of Man*; Constantine's chapter on the spirits drew on this and contributed to the debate from a physical standpoint.[65]

There was a comprehensive account of the structure of the brain and nervous system, how it worked through the action of the spirits, and how it functioned to serve cognition, especially in the case of memory. Much of this was passing on the work of Galen: the anatomical information about the brain, and the distinctive terms used show that this came from his book *On the Usefulness of Parts of the Body*, and his elaborate descriptions of his dissections of animal brains in his book *On Anatomical Procedures.*[66] Again the information about the

[61] 'Tercium genus qui sunt iuvenes et plus iuvenibus. Illi vero tenant et reminiscuntur propter serenitatem vel securitatem capitis et propter temperantiam humiditatis in illo', *De oblivione*, p. 229.
[62] 'humores sunt vocati elementorum filii', *Pantegni*, Book 1, Ch. 25, fols. 12r-12v; For background on medieval models of the universe see Jones, *The Medieval Natural World*, Ch. 2.
[63] Demaitre, *Medieval Medicine*, p. 3.
[64] Kemp, *Medieval Psychology*, p.15.
[65] D. Boquet and P. Nagy, *Medieval Sensibilities: A History of Emotions in the Middle Ages* (Cambridge, 2018), p. 136.
[66] *Galen on Anatomical Procedures: The Later Books,* W.L.H. Duckworth (trans.), M.C. Lyons and B. Towers (eds.) (Cambridge, 1962), Book IX On the Brain; Smith et al., *The Animal Spirit Doctrine*, p. 67; Wickens, *History of the Brain*, pp. 35- 7. Constantine often mentions the '*nates*' or buttocks which are described in this way in Galen.

nerves came from Galen, whose account of the nervous system, built on previous work by Herophilus, has been described as his 'greatest anatomical achievement'.[67] Galen had established the distinction between cranial and spinal nerves, and his too, was the idea that the sensory nerves were 'soft' to receive impressions, and motor nerves 'hard', which gave them strength to move muscles.[68] The *Pantegni* passed on Galen but also built on his ideas. The attribution of psychological functions to the ventricles was not from Galen, who believed rather that these functions took place in the substance of the brain.[69] It also conveyed contributions from Islamicate medicine with new Latin terms for Arabic concepts, such as the terms *pia mater* (the *umm al-raqīq*) and *dura mater* (the *umm al-jāfī*), which remain in use today.[70] The role of the vermis or pineal gland as a kind of valve was also important in adding 'a dynamic element to a static model', as a hydrostatic picture was drawn, informed by Arabic experience of water mechanics.[71] Whilst disseminating Galen's observations was a valuable contribution in advancing medicine, dissections of animal brains could be sadly misleading: the *rete mirabile* found in bovines does not exist in the human brain, as Vesalius revealed in the sixteenth century.[72] The description of four ventricles is inaccurate; their apparently linear layout is not as in life, but works in explaining the serial information processing model presented.[73]

This was all thought necessary knowledge for the practising physician before any teaching on the nature of disease or treatment considerations. It was presented for its own sake; it was only in *De oblivione* that the theory of how memories were created in the brain was tied directly to treatment. In fact, one wonders how useful medieval doctors found this information on the brain generally. The Latin is particularly difficult, and without pictures it is difficult to imagine these various structures and how they fit together. However, knowing about the structure and functions of the skull, brain and the functions of the ventricles was certainly important background to understanding and treating disorders of the head. For example, sneezing was thought a good treatment because excess humours from the brain could leave through the nostrils. It is assumed that the instructions for discerning the

[67] Wickens, *History of the Brain,* pp. 31-2, 37.
[68] *Ibid*, pp. 37-39.
[69] Smith et al., *The Animal Spirit Doctrine,* p. 38.
[70] Russell, 'After Galen', p. 65.
[71] *Ibid*, pp. 66 and 68.
[72] Wickens, *History of the Brain,* p. 75; Smith et al., *The Animal Spirit Doctrine,* p. 86.
[73] Wickens, *History of the Brain,* p. 45, note 4; Kemp, *Medieval Psychology,* p. 60.

complexion of the patient's brain were included because it would be taken into account when understanding what disorders they were most vulnerable to, and what corrections should be made to promote health.

Ideas about the principles of medicine in England before the arrival of Constantine's works

General theory of medicine

Before the arrival of the *Isagoge* and the *Pantegni,* educated Anglo-Norman people were aware of ideas of the place of the human body in the universe and how the four humours related to the four elements and other 'fours', as seen in the work of Bede and summarised in Byrhtferth's famous diagram.[74] Isidore's *De natura rerum* had described the elements and their qualities, and some copies of this text were illustrated with diagrams illustrating the macrocosm and microcosm, with man and the humours.[75] His *Etymologies* discussed the theoretical foundations of medicine, describing the four humours and how they related to the elements; good health arose from a balance of the qualities in the body, diseases came from imbalances of humours.[76] He described the parts of the human body and something of their functions, but the emphasis was on the derivation of their names rather than providing medically useful information.[77]

Few of the English vernacular medical texts gave explicit teaching on medical theory, in favour of practical remedies. Humoral theory was nowhere explained; the *Lacnunga* did make reference to the four qualities of heat, cold, dryness and moisture, but along with *Leechbook III*, made no clear mention of humours.[78] In *Bald's Leechbook*, the *Herbarium* and the *Liber medicinae ex animalibus* there are a few words which could refer to humours, most frequently *wæta*; with a basic meaning of moisture, it can also mean pus or phlegm as

[74] See Ch. 1.
[75] Isidore of Seville, *On the Nature of Things,* C.B. Kendall and F. Wallis (ed. and trans.) (Liverpool, 2016), pp. 130-2. Isidore's *De natura rerum* was present in England from the late seventh century, p. 55.
[76] Isidore, *Etymologies*, pp. 109-12.
[77] *Ibid*, pp. 231-41. Isidore also describes the life stages of man but without reference to qualities or humours.
[78] The use of a word *swat* which could be translated as humour is disputed (Ayoub, 'Old English *wæta* and the Medical Theory of the Humours', p. 341).

well as 'humour'.[79] It has been thought that the early English were not especially interested in humoral theory.[80] Doyle has however recently shown that although they did not have stable and synonymous terms for the four humours, they tried to convey the meaning of the Latin source terms with descriptive phrases – the elite doctors who compiled and translated *Bald's Leechbook* certainly had an awareness of different humours, and a concern to pass this on.[81] Information about anatomy or physiology was largely absent except for an occasional mention in *Bald's Leechbook*, where there is, for example, a description of the liver, its location in the body, symptoms of its being disordered, and of its function.[82] This theoretical material is very unusual and only discussed briefly in passing before many pages of treatments for liver ailments.

Turning to medical writings in Latin, Pliny, Marcellus and Cassius Felix offered little theory and very few references to humours. Oribasius, Alexander and the *Passionarius* (which arrived post-Conquest but before Constantine's works) all showed a keen awareness of the role of the humours in disease but never described them or gave other background information. Vindicianus' *Epistula Vindiciani ad Pentadium Nepotem* discussed the four humours in some detail, the organs they most related to, and their balance and effects on the pulse.[83] His *Epitome Altera* was devoted to describing the structure and function of all organs and parts of the body, starting at the head downwards, purely for informative value, without discussion of disease or treatment.[84] The *Tereoperica* was unusual in providing as a preface some basic, if muddled, medical theory, explaining the elements, humours and their qualities. Some versions also discussed three 'powers': animal, natural and vital.[85] An alternative version instead explained which humours were prominent in each life stage and the effects of each on character, and emphasised the importance of natural moderation.[86]

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[79] Specific humour terms are largely absent; on just a few occasions *dropa* may be used to indicate phlegm or *omcyn* or *omihte wæte* ('inflammatory humour') is used to refer to bile. *Ibid*, pp. 342-4. *Blod* is used for blood.
[80] Cameron writes that they 'paid lip-service to the humoral theory', Cameron, *Anglo-Saxon Medicine*, p. 161.
[81] Doyle, 'Anglo-Saxon Medicine and Disease', vol. 1, pp. 194-5.
[82] *Bald's Leechbook II*, Ch. 17, pp. 203-6.
[83] Vindicianus, *Epistula*, pp. 484-92.
[84] Vindicianus, *Epitome*, pp. 467-83.
[85] De Renzi, *Collectio Salernitana*, vol. 4, pp. 188-9. It should be noted that this is a later, faulty version of the text.
[86] BL, MS. Sloane 2839, fols. 7r-v.

Ideas about the brain and nervous system before Constantine

In early English popular culture, it seems that the site of the mind was not necessarily the brain. In vernacular literature the concept of *breostsefa*, the mind-in-the-breast, is seen in statements such as 'seeing must reside in the eye and wisdom in the breast, where a man's mind-thoughts are'.[87] Mental activity was usually spoken of as in the breast or sometimes in the abdomen, rather than in the brain, and often associated with heat or expressed as a 'boiling' or 'seething' when intense. Scholars have long considered such ideas to have been metaphorical, but Lockett has argued that this may have been regarded as actual physiology in this early worldview.[88] In fact this 'hydraulic' cardiocentric model is most common anthropologically, arising intuitively because of the bodily feelings that accompany thought; early English people did not think of reason and emotion as different and did not separate them in the body.[89] The cardiocentric view had passed down through the legacy of Aristotle, even though he was not directly known; importantly, the biblical narrative did not mention the brain as a cause of behaviour but often referred to the heart.[90]

Alternative views were available in highly educated circles, as early medieval theologians and philosophers gave a great deal of thought to the nature of the mind and soul. Augustine of Hippo and Gregory the Great were particularly influential in spreading a Platonist-Christian perspective.[91] Plato expounded the concept of the tripartite soul: the logical soul located in the head, the spiritual soul in the heart, and the appetitive soul in the stomach and genitals, a cephalocentric model regarding the head as the seat of the rational soul.[92] In his translation of Boethius, Alfred altered all of the references to the heart being the seat of the mind, whilst Aelfric (*c.* 950-1010) disseminated cephalocentric ideas in his preaching,

[87] L. Lockett, 'The Limited Role of the Brain in Mental and Emotional Experience According to Anglo-Saxon Medical Learning', in A. Jorgensen, F. McCormack and J. Wilcox (eds.), *Anglo-Saxon Emotions: Reading the Heart in Old English Literature, Language, and Culture* (Aldershot, 2015), pp. 35-51.
[88] Lockett, *Anglo-Saxon Psychologies*, Introduction.
[89] *Ibid*, pp. 10-11; Lockett, 'The Limited Role of the Brain', p. 37; M. Cobb, *The Idea of the Brain: A History* (London, 2020), pp. 15-7.
[90] Wickens, *History of the Brain*, p. 1. Aristotle's work started arriving in England in the twelfth century.
[91] Lockett, *Anglo-Saxon Psychologies*, Introduction.
[92] M.R. Godden, 'Anglo-Saxons on the mind' in Lapidge and Gneuss, *Learning and Literature in Anglo-Saxon England*, p. 290. The spirited or irascible soul was in the breast and the concupiscible soul in the abdomen.

stating that 'in Holy Writ the head is frequently the seat of the human mind'.[93] However, Gregory's perspective in the *Dialogues* emphasised that the mind, as part of an incorporeal soul, did not have a particular location in the body, and other authors saw it as pervading the whole body.[94] Isidore inconsistently cited both cardiocentric and cephalocentric ideas.[95]

McIlwain however argues that medical texts available in England clearly localised the mind in the brain from early on.[96] Both Galen and Hippocratic texts had given the brain as the seat of thought, and the Latin authors Alexander and Vindicianus, and those of the *Liber Tertius* and the later arriving *Tereoperica*, definitely presented the cephalocentric view.[97] For example, Alexander stated that the 'chief comprehension of the senses' occurs in the head, the brain being the place where the soul dwells.[98] Vindicianus explained that 'the brain is in the middle of the head ... we possess it more abundantly than the rest of the animals and for that reason we are wiser than all of them'.[99] Accounts of mental disorders in the available Latin texts frequently indicated that these were due to brain pathologies.[100] This being the case, Lockett still argues that we cannot be sure how widely known these Latin texts were in England, or whether they were available in their entirety. Insofar as they were, their cephalocentric ideas were not readily assimilated, barely mentioned in the vernacular medical texts that drew from them.[101] *Bald's Leechbook* stated that a patient would suffer *ungewitfæstnes*, madness, as a consequence of *brægenes adl*, brain disease; however, a number of organs are associated with adverse mental states in the Old English, and the brain could be interpreted as causing them through its putative role in generating phlegm.[102] When English copyists came across a description of the mental functions of the brain in the preface of the incoming *Tereoperica,* these sections were often omitted or changed, apparently of no interest or else considered incorrect.[103] Longstanding shared paradigms are not easily

[93] *Ibid*, p. 290; *Ælfric's Catholic Homilies: The First Series,* P. Clemoes (ed.) (London, 1997) cited in J.T. McIlwain, 'Brain and Mind in Anglo-Saxon Medicine', *Viator,* vol. 37 (2006), p. 104.
[94] Lockett, 'The Limited Role of the Brain', pp. 37-8; Lockett, *Anglo-Saxon Psychologies,* Ch. 4; Godden, 'Anglo-Saxons on the mind', p. 290.
[95] Lockett, 'The Limited Role of the Brain', p. 40; Lockett, *Anglo-Saxon Psychologies,* Ch. 4.
[96] McIlwain, 'Brain and Mind', pp. 103-12.
[97] Cobb, *The Idea of the Brain,* pp. 18-9 and 22.
[98] McIlwain, 'Brain and Mind', pp. 105-6.
[99] Vindicianus, *Epitome,* pp. 467-8, cited in McIlwain, 'Brain and Mind', p. 106, his translation.
[100] McIlwain, 'Brain and Mind', p. 111.
[101] Lockett, 'The Limited Role of the Brain', p. 42.
[102] *Bald's Leechbook II,* Ch. 27, p. 237; Lockett, *Anglo-Saxon Psychologies,* p. 442; Lockett, 'The Limited Role of the Brain', pp. 47-51.
[103] Lockett, 'The Limited Role of the Brain', pp. 39-44.

overturned, and it seems that the majority of English people around the time of the Conquest were not at all sure about the role of the brain in mind.

The structure of the brain

Something of the structure of the brain had been known from antiquity, of which a little reached England. The ventricles of the brain were first described by Herophilus and Erasistratus around 330 BCE, and Galen furthered this work with observation and experiment.[104] Herophilus believed that the soul was to be found in the ventricles, and the fourth-century Byzantine writer Posidonius had placed the faculty of reasoning in the middle ventricle, imagination at the front of the brain, and memory in the rear.[105] These functions of the soul were placed clearly into the ventricles in Nemesius' influential *De natura hominis* and this was known as the 'cell doctrine'.[106] The English may have first heard of a version of these ideas through Augustine, whose writings were most frequently owned and copied in learned, ecclesiastical settings. In The *Literal Meaning of Genesis,* he wrote that:

> The medical writers point out that there are three ventricles in the brain. One of these, which is in the front ... is one from which all sensation comes; the second, which is in the back of the brain ... is the one from which all movement comes; the third, which is between the first two, is ... the seat of memory ... the existence of these ventricles has been proved in cases in which these parts of the brain have been affected by some diseases or pathological condition.[107]

Isidore alluded to the cell doctrine when discussing mental disorders, as 'epilepsy arises in the imagination, melancholy in the reason, and mania in the memory'.[108] Moreover, one of the oldest extant illustrations of the brain is to be found in a diagram of the four main bodily

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[104] Herophilus and Erasistratus were Alexandrian doctors, at a time when human dissections were allowed (Wickens, *History of the Brain,* pp. 30-3, 34 and 43-4); Smith et al., *The Animal Spirit Doctrine,* pp. 36-7.

[105] Wickens, *History of the Brain,* pp. 50-1; Smith et al., *The Animal Spirit Doctrine,* p. 50. Posidonius' work is known of through Aetius of Amida, he derived his theory from observing brain disorders.

[106] Smith et al., *The Animal Spirit Doctrine,* pp. 49-50. Galen felt that the actions of the mind occurred in the substance of the brain, but to Christian thinkers the idea that thought or the soul arose in its spaces was more compatible with its incorporeal nature, pp. 37-8.

[107] Augustine of Hippo, *The Literal Meaning of Genesis,* J.H. Taylor (trans.) (New York, 1982), p. 18.

[108] Isidore, *Etymologies*, Book 11, and Book 4, p. 111. Isidore leaned towards cardiocentrism, and barely mentions the brain at all in his list of the body parts in Book 11.

organs, from an eleventh-century 'scientific' text which seems to be English in origin; the cerebrum is shown at the top left, with its three cells and functions in Image 3.1 below.[109]

Image 3.1. Diagram of the four bodily organs, showing the brain.
Cambridge, Gonville and Caius, MS. 428, fol. 50.

[109] Cambridge, Gonville and Caius, MS. 428, fol. 50, image taken from *Science Direct* [website] <https://www.sciencedirect.com/science/article/pii/S0079612318301456> (last accessed 8 March 2024), W. MacLehose, 'The pathological and the normal: Mapping the brain in medieval medicine', *Progress in Brain Research*, vol. 243 (2018), p. 25. See also Wickens, *History of the Brain*, pp. 58-9; M.R James, *A descriptive catalogue of the MS in the Library of Gonville and Caius College* (Cambridge, 1907-8), pp. 500-1.

Looking at information from medical texts, the English knew that the brain had a membrane, seen in an account of the development of the foetus.[110] Otherwise there is no reference to the structure or anatomy of the brain or the nervous system in vernacular texts except for the brain being referred to as man's *exon þære ðryfealdan,* 'threefold or triform brain', a probable allusion to the cell doctrine in the *Lacnunga*.[111] Of medical texts in Latin, Vindicianus gave a description of the brain: in the middle of the head, it was enveloped in many fine veins and has many tubes by which understanding came through sight, hearing, smell and taste. The brain was largely empty, full of spaces (*vacuetates*) and protected by a membrane. He reported that it was always twitching, but if this became too frequent madness could ensue.[112] A short theoretical section in some versions of the later-arriving *Tereoperica* explained the cell doctrine, also locating the soul in the rear of the brain, with memory, but this is omitted in many English copies.[113] Other medical writers were usually very vague about the brain when discussing causes and treatments, mentioning perhaps matter in the head needing to be purged. Oribasius, the *Passionarius* and Cassius Felix sometimes mentioned the meninges but only Alexander referred to the ventricles.[114]

Oribasius alone had some interest in the complexion of the brain. He wrote of the brain in terms of its qualities, and how these can be deduced from, for example, the hair and acuity of the senses.[115] Vindicianus, Bede and the *Tereoperica* passed down classical ideas from Hippocrates and Galen about the four temperaments associated with the humours: the phlegmatic, sanguine, melancholic and choleric types. For example, in Bede's account:

> Blood makes those in whom its potency is greatest cheerful, joyous, tender-hearted, much given to laughter and speech; red bile makes people lean … swift, bold,

[110] McIlwain, 'Brain and Mind', p. 108, note 29. This is from London, BL, MS. Cotton Tiberius A III, probably copied in the first half of the eleventh century, reproduced in Cockayne, *Leechdoms,* vol. 3, pp. 146-7.
[111] *Brægen þam ðryfealdan, exon þære ðryfealdan* for *cerebro triforme* in Latin versions. *Lacnunga,* p. 205; Pettit, 'A critical edition of the Anglo-Saxon *Lacnunga*', p. 47; McIlwain, 'Brain and Mind', p. 106.
[112] Vindicianus, *Epitome,* pp. 467-8, cited in McIlwain, 'Brain and Mind', p. 106, his translation. In an open skull wound pulse-like movements may be seen in the blood vessels on the surface (Wickens, *History of the Brain*, p. 10).
[113] See Lockett, 'The Limited Role of the Brain', pp. 42-4 on different versions of the *Tereoperica.*
[114] Oribasius, *Synopsis,* vol. 6, p. 204; *Passionarius,* Chs. 8 and 14; Cassius Felix, Ch. 71, p. 169; Alexander, pp. 116 and 79-80. According to Alexander vapours obstructing the ventricles could cause melancholy, and epilepsy in children was associated with moisture filling the ventricles.
[115] Oribasius, *Synopsis,* vol. 6, p. 81. He does not mention its significance or effects on personality.

irritable and agile; black bile makes them stolid, solemn, set in their ways and gloomy; phlegmatic humours produce people who are slow, sleepy and forgetful.[116]

The nervous system

Sources available in England showed scant knowledge of the nerves and nervous system. Isidore did not mention the nerves despite much explanation of the senses, but did explain that the neck part of the brain extends to the marrow of the spinal cord as the path of the brain.[117] Spasms could be due to the sudden contraction of 'sinews', which were not always distinguished from nerves; a reference in the *Leechbook* fragment on the half-dead disease explained that this affected one side of the body when the sinews dissolved and were filled with a slippery thick evil humour.[118] Latin medical authors only mentioned the nervous system in passing, and the writer of the *Passionarius* managed to describe many kinds of paralysis without any reference to the nerves.[119] Oribasius and Cassius Felix explained that apoplexy involved loss of sense and movement in all the nerves, and weakness of the nerves on the right or left of the body in paralysis.[120] Felix and the *Tereoperica* implicated black bile affecting the nerves descending from the brain in epilepsy.[121]

Cognition and memory

Several early English writers took an interest in the mind, but focused more on matters such as how the mind related to the immortal soul, rather than primarily being concerned with the nature of cognition.[122] In literature the *mod* appears as having functions of both thinking and feeling, seen as an 'unruly, wayward, passionate faculty' which often needed to be restrained.[123] The faculties of reason, memory and will were known, and Alcuin and Aelfric described how the imagination creates pictures in the mind, of things heard, dreamt of, or

[116] Bede, *The Reckoning of Time*, pp. 100-1; Vindicianus, *Epistula,* p. 488; *Tereoperica*, fol. 7v.
[117] Isidore, *Etymologies*, p. 235.
[118] *Bald's Leechbook II*, Ch. 59, p. 308; Isidore, *Etymologies*, p. 235; Smith et al., *The Animal Spirit Doctrine,* p. 32. Herophilus had first distinguished nerves from tendons and blood vessels, but the difference may not have been widely understood.
[119] *Passionarius*, Book 5, Chs. 21-9.
[120] Oribasius, *Synopsis,* vol. 6, pp. 222-3; Cassius Felix, Ch. 65, p. 158.
[121] Cassius Felix, Ch. 71, p. 169; *Tereoperica*, fol. 79v.
[122] Godden, 'Anglo-Saxons on the mind'.
[123] *Ibid*, pp. 291-295; There are many words in Old English for 'the mind' which could variously include some or all of the meanings of 'thought', 'seat of thought', 'seat of feeling' and other mental qualities, characterised by much semantic overlap, see S-I. Low, 'Approaches to the Old English Vocabulary for 'Mind', *Studia Neophilologica,* vol. 73 (2002), pp. 11-22.

remembered.[124] Augustine wrote extensively on perception and memory, exploring philosophical and epistemological issues, such as how information from the senses was perceived in the mind, how the intellect operated, and how knowledge was acquired and retained.[125] The nature of much of this philosophical discussion was removed from the physiological account of cognition in the *Pantegni*, of interest primarily to theologians and philosophers.

Memory, however, was particularly important to Augustine because, according to Platonic ideas, it held innate universal knowledge placed in the soul of man by God.[126] Memory, as he described it, was an active willed activity, where everything was 'preserved separately and in categories' and he discussed the process of recollection.[127] He often used the model of a storehouse, and in *De trinitate* he gave the image of a ring going into wax as a model of sense perception, with the possible suggestion of this as a model of memory.[128] Both of these metaphors, the storehouse and the wax seal, were handed down from the classical world.[129] Warrington has investigated concepts of memory in Old English literary sources; a mind-as-container trope is evident, with frequent examples of wisdom coming to the mind, as passing into a container through an opening. Memory was described as something which happens in the *heorte* or in the *mod*. Hard-heartedness was a common cognitive or spiritual problem, where an idea might be unable to leave an imprint on the substance of the hardened heart/mind. Elsewhere memory was depicted as a garden with memory inputs as seeds; the mind might be receptive or not, a barren and stony ground.[130] At the same time the vernacular medical texts barely mentioned memory or memory problems at all, apparently not a major concern of the *laec*.

Turning to pre-Constantinian Latin sources of medical knowledge, Pliny noted that memory was very fragile, and injury or disease could affect the memory as a whole or in one area:

[124] Godden, 'Anglo-Saxons on the mind', pp. 272, 278, 279 and 294.
[125] Kemp, *Medieval Psychology*, pp. 69-70.
[126] Coleman, *Ancient and Medieval Memories*, p. 87
[127] Augustine of Hippo, *Confessions*, C.J-B. Hammond (ed. and trans.) (Cambridge, MA., 2014-16), vol. 2, Book 10, pp. 86-97 and 114-9.
[128] Augustine of Hippo, *Confessions*, Book 10, pp. 86-7; Augustine of Hippo, *The Trinity*, S. McKenna (trans.) (Washington D.C., 2002), Book 10, Ch. 3, pp. 38-9; Carruthers, *The Book of Memory*, p. 25.
[129] Carruthers, *The Book of Memory*, Ch. 1, 'Models for the Memory'.
[130] Warrington, 'Memory and Remembering', Ch. 4 and pp. 93-4.

struck by a stone one man forgot how to read and write, another, falling off a roof, forgot all his family and friends.[131] Oribasius was also informative, writing that memory loss could be caused by any excess of moisture/dryness or heat/cold in the brain, since the smallest change in these affected the ability of the 'wax' (*cera*) to hold an imprint.[132] Other medical works sometimes referred to cold, moisture and phlegm, or a disorder of the meninges, being associated with memory problems, but without further explanation.[133]

In summary, at the beginning of the twelfth century, the English did not have access to any significant information about general medical theory. Educated people might have some ideas about man's place in the wider universe, and about the humours and their effects on temperament, but the idea that the brain was the organ of thought and mental functions may well have been relatively novel to many. Some may have known of the meninges and the ventricles of the brain, and the broad outlines of the cell doctrine; only a very well-read scholar or *medicus* might have seen Vindicianus' few lines on the anatomy of the brain. There was very limited knowledge of the nerves let alone the nervous system. At the same time much consideration was given to philosophical aspects of psychology and the soul in intellectual circles, and readers of Augustine had pondered with him on memory. However little of this had filtered through into medicine; doctors would have been aware of the effects of brain injury, mentioned in accounts of the cell doctrine and by Pliny, but only readers of Oribasius would have a first inkling of a physiological model of memory.

Impact on later writing

After the arrival of the *Pantegni*, *Isagoge* and other texts, subsequent medical writers all showed a considerable background knowledge of medical theory. As outlined in the introductory chapter, in the course of this thesis four main authors are considered, these being Bartholomew the Englishman (Bartholomeus Anglicus), Gilbert the Englishman (Gilbertus Anglicus), John of Gaddesden and Bernard de Gordon. These were influential writers and their works are known to have been widely available in England, through

[131] Pliny, Book 7, pp. 562-5.
[132] Oribasius, *Synopsis*, vol. 6, pp. 202-3.
[133] See Ch. 6 on forgetfulness and lethargy for further details.

surviving booklists and wills. These were also texts which covered disorders of the head in detail.[134]

In covering medicine Bartholomeus gave much attention to anatomy and physiology, including that of the human brain, and this was mainly taken from Constantine. Books 3 and 5 of his *De Proprietatibus Rerum* discussed the body and the rational soul, its powers, the spirits, the structure and complexion of the brain, and the ventricles.[135] He gave the functions of the ventricles and explained that the substance of the brain has to be sufficiently dry and clear for the 'forming and printing' of memory images.[136] Much of this was a direct summary of chapters in the *Pantegni,* directly cited 'as Constantine says in the *Pantegni*', and it seems likely he was also using *De oblivione* here.[137]

None of the other writers gave specific separate sections of theory or physiological background, but all routinely mentioned named humours, the parts or ventricles of the brain, and their role in disease. Each disorder chapter began with a more theoretical section including causes, then symptoms, before going on to the 'cure' section. Gilbertus, for example, prefaced treatments for epilepsy with many pages of background, discussing the ventricles of the brain and the nerves.[138] Under *melancholia* and mania he found it necessary to include theoretical information about how the spirits were formed and how they operated to generate the powers of the mind.[139] Gaddesden seems to have been less interested in theory, but made a few comments of this kind. For example, melancholy involved an infection of the middle part of the brain, causing loss of reason, whilst mania involved the front part of the brain, with loss of the imaginative ability.[140] De Gordon fell between the two, and explained, for example, that epilepsy was due to humours blocking the ventricles of the brain, preventing the movement of spirit to the whole body.[141] In general however, the impression is given that the learned physician did not need to have much of this spelled out; he will have read the *Isagoge* at least, and will know the medical background.

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[134] See Introduction, pp. 18-9.
[135] Bartholomeus, Book 3, pp. 25-6 and Book 5, pp. 56-8
[136] Bartholomeus, Book 5, p. 57.
[137] Bartholomeus, Book 5, p. 56, 'ut dicit constan in panteg'.
[138] Gilbertus, fols. 109r- 110v. Little of this is included in the Middle English version.
[139] Gilbertus, fol. 103v.
[140] Gaddesden, fol. 132r.
[141] De Gordon, p. 118.

Outside the purely medical sphere, philosophers and theologians took an interest in the *Pantegni's* model of the mind, with much debate about how physiological processes in the ventricles interacted with the processes governed by the mind or rational soul.[142] In the 1140s Cistercian William de St Thierry's *De physica corporis et animae* used ideas from the *Pantegni* about the spirits and the ventricles of the brain, with their powers of imagination, reason, and memory, in thinking about how this related to the human soul.[143] Around the same time the French philosopher William of Conches also referred constantly to the *Pantegni* in his *Philosophia* and *Dragmaticon,* giving its descriptions of the brain, nervous system and model of memory. He considered whether the soul directed these mental operations or whether they happened physically and automatically, as well as adding his own ideas about brain function.[144] The conception of the essentially somatic nature of memory images persisted from this point on, taken up by as important a thinker as Thomas Aquinas.[145] Memory was understood as a physical process in the *Ars memorativa,* books of mnemonic techniques popular in ecclesiastical circles for the contemplation and memorisation of sacred books.[146] Constantine's influence here was still apparent in the late fifteenth century, when he was cited by physician Jacobus Publicius in his widely printed *Ars memoriae,* applying his medical knowledge in memory training.[147]

Conclusion

Constantine's translations, especially the *Isagoge* and the *Pantegni*, arrived in England into an almost entirely practical medical culture, and were to place theory fairly and squarely at the centre of medical education. The *Pantegni* has been regarded as 'the first comprehensive medical text in Latin', presenting Western scholars with a complete explanation of how the body worked.[148] Harvey comments that 'Haly's (al-Mağūsī's) account of the working of the human body ... is the clearest account of the system which was accepted throughout the entire

[142] See Coleman, *Ancient and Medieval Memories*, pp. 203-4.
[143] Coleman, *Ancient and Medieval Memories,* p. 203; Boquet and Nagy, *Medieval Sensibilities,* p. 146; Long, 'Of Monks and Miracles'; Long, 'Body and soul', Ch. 4.
[144] I. Ronca, 'The Influence of the *Pantegni* on William of Conches' *Dragmaticon*', in Burnett and Jacquart, *Constantine the African,* pp. 268 and 272; Y.V. O'Neill, 'William of Conches' Description of the Brain', *Clio Medica,* vol. 3 (1968), pp. 203-23.
[145] Carruthers, *The Book of Memory,* pp. 61, 69 and 59.
[146] *Ibid,* pp. 12-16 and Ch. 4; Coleman, *Ancient and Medieval Memories,* pp. 138-9.
[147] Editors, '*Constantinus redivivus*'.
[148] Smith et al., *The Animal Spirit Doctrine,* p. 67.

Middle Ages'.[149] This was almost completely taken from the work of Galen, which was novel to the English, except for a few fragments indirectly known though the Latin texts. The details of the structure of the brain and nervous system were based on Galen's dissection work, and provided a step-change in knowledge from a few sketchy notions about the meninges and ventricles, and very little about the nerves. Constantine's works also brought a philosophically informed medicine, which was now understood as part of the natural sciences.[150] Galen's view was that every physician should be a philosopher; the *Pantegni* was the first medical work to touch on such issues at all, here considering the relationship of the animal spirits to the soul.[151]

In setting out the anatomy and physiology of the body, the brain, nervous system and spirits were very much part of this biological system. The brain was affirmed as the organ that served human reason, with its component parts laid out with their different roles as instruments for the actions of the soul. In doing so the *Pantegni* may have been an important part of an intellectual cultural shift to the broader acceptance of cephalocentrism. It is likely that many, if not most, of the population of England were unclear about the role of the brain in mental function, as opposed to the ancient understanding of the mind-in-the-breast. Lockett gives evidence that it was not until the early eleventh century that such ideas began to be seen as symbolic rather than literal.[152] She describes the Latin medical texts arriving from the later eleventh century as 'the foremost sources of cephalocentric psychology attested in Anglo-Saxon England', yet the slightly earlier or contemporary texts she is referring to, such as the *Passionarius* and the *Tereoperica*, do not actually have a great deal to say about this; indeed, when they do, English scribes or compilers do not seem to have been interested.[153] The many pages of detail on the brain in the *Pantegni* were harder to ignore. Lockett writes that 'the medical evidence suggests a 'date no earlier than the twelfth century' for the widespread acceptance of the brain as the seat of thought - Constantine's translations may bear much responsibility for this drastic change of view.[154]

[149] Harvey, *The Inward Wits,* p. 20.
[150] Smith et al., *The Animal Spirit Doctrine,* p. 67.
[151] Russell, 'After Galen', p. 62; Smith et al., *The Animal Spirit Doctrine*, p. 65. Other references to philosophical ideas are scattered across Constantine's translations, for example Platonic ideas occur in *De melancholia,* and ideas about the tripartite soul are referenced several times.
[152] Lockett, *Anglo-Saxon Psychologies,* pp. 15-6 and Epilogue.
[153] *Ibid,* p. 440.
[154] Lockett, 'The Limited Role of the Brain', p. 51.

For the very first time the Anglo-Normans would have seen an explanation of how mental functions were thought to operate in the brain, through the spirits in the ventricles. Although the ventricles of the brain are not now thought to serve any cognitive function at all, and are not laid out in succession, this conception assisted this early information processing model of cognition, where sensory information is taken in and passed on for use in reasoning and stored as memories. This model was useful and plausible in explaining what people experienced, and ambitiously tried to unite brain structure with mental processes.[155] It also had implications for treatment, especially in memory disorders, where an understanding of the role of the consistency of the rear ventricle meant it could be addressed therapeutically. Although these medieval theories of cognition may now seem primitive, they were ahead of their time and have similarities to current modular models of the mind.[156] They prepared the way for the work of Avicenna, arriving from perhaps the thirteenth century.[157] Despite his view that the heart was the seat of understanding, the *Canon* gave great detail on the brain, mental faculties and actions, and a more elaborate model involving five 'inner senses'.[158] Ultimately the *Canon* was to become more influential in this regard, although Constantine's work remained popular, and it was certainly foundational.

The *Pantegni* spoke less directly about human personality, only doing so in the context of the complexions of the brain. Nowhere did it give the classic descriptions of how the humours affected temperament found in Bede and Vindicianus, and which continued to be influential even into the twentieth century. It may be that al-Mağūsī felt the qualities and their mixtures provided a subtler way of describing individual differences, with clearer implications for health care.

All of this background theory was intended to be useful for the *medicus* in the sick room. Whether it always proved so is debatable: some of the content of the *Pantegni* is difficult to understand and visualise, and much of it has later been found to be incorrect. Yet it did offer a coherent picture of the brain on which to hang ideas about disease process. Symptoms

[155] Kemp, *Medieval Psychology*, pp. 60 and 72.
[156] Coleman, *Ancient and Medieval Memories*, p. 600; J.F. Silva, 'How Modular are Medieval Cognitive Theories?', in Dresvina and Blud, *Cognitive Sciences and Medieval Studies*, pp. 23-38.
[157] Gerard of Cremona translated the *Canon* in the late-twelfth century, but it seems to have taken a while for Avicenna's work to gain influence (Demaitre, *Medieval Medicine*, p. 11). The first copy seen in a medieval booklist is in 1320 (See Ch. 2, p. 89).
[158] Cobb, *The Idea of the Brain*, pp. 24-7; Kemp, *Medieval Psychology*, pp. 54-9.

could reflect excess humours or imbalances in particular ventricles, and treatments reflected these. Doctors well-versed in the theory would have confidence that they understood the body and mind, and medicine became an increasingly confident and professionalised activity. Following Constantine and his influence, aspiring doctors would read the *Isagoge* as part of the *Articella*, and theory would be at the heart of medical education. Practical medical writers routinely mentioned, and assumed their readers knew, some theoretical background. Authors like Bartholomeus promoted Constantine's ideas about the brain and mind, which were also incorporated into works of philosophy and of practical mnemonics.

Chapter 4: General principles of Constantine's medicine relating to the brain and disorders of the head – the non-naturals and contra-naturals

Having outlined the explanations of the naturals in Constantine's work, this chapter focuses on what he has to say about the non-naturals, including the *accidentia animae,* the emotions, and then the contra-naturals. The non-naturals were environmental and lifestyle factors important in the health of the whole body, and not attending to them could be perilous. The contra-naturals were illnesses, the causes of illnesses and the symptoms which arose from them.[1] These concepts are considered here in relation to disorders of the head, their causes and symptoms.

Non-naturals

According to Book 5 of the *Pantegni Theorica*, the non-naturals are things necessary to maintain a man's life.[2] These are generally given as air, movement and rest, food and drink, sleep and waking, evacuation of the naturals (through baths, coitus, urine, excretion or blowing the nose), and the *accidentia anime*, joy, anguish, fear and sadness.[3] It goes on to explain that these factors are not the 'naturals', and they are not outside nature, but they keep the naturals in their course, and can impact or change into them.[4] The watchword in all of these things is moderation - the patient should have moderate air, moderate exercise, baths of moderate temperature, moderate food and neither too much sleep or too little.[5] If he can keep to such good habits his body should remain healthy, if not it will leave its natural constitution.[6] The *Pantegni* has a lot to say about each of the non-naturals, and a few examples will be considered, then the emotions in particular.

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[1] 'Sunt autem morbi et causae morbos facientes, et accidentia eos sequentia', *Pantegni,* Book 6, Ch. 1, fol. 70r.

[2] 'Res ergo non naturalis necessaria est hominis, ut vitae sue status, bene regatur', *Pantegni,* Book 5, Ch. 1, fol. 48v.

[3] 'Sunt autem generaliter vi. Aer, motus et quies, cibus et potus, somnus et vigilie, exinanitio naturalis, in qua balnea, coitus, urina, digestiones, emunctiones, et similia comprobantur. Sextum accidentia animae, in quibusdam gaudium, angustia, tristicia, timor', *Pantegni,* Book 5, Ch. 1, fol. 48v.

[4] 'Hec sex, et si non sunt naturalia, neque tamen extra naturam sunt computanda ... custoditur res naturalis in suo cursu, et licet hec sint non naturalia, in naturalia tamen mutantur', *Pantegni,* Book 5, Ch. 1, fol. 48v.

[5] 'Si ergo vi hec disponamus corpus moderatum, moderatam debet habere ordinationem. Vernus ergo aer ei eligatur, et motus, et exercitia temperentur. Balneorum dulcis aqua et in calore temperata. Temperamentum ciborum in qualitate et quantitate. Sompnus non multus lithargiae attingens neque parvus vigiliis vicinus', *Pantegni,* Book 5, Ch. 1, fol. 48v.

[6] 'Si moderata corpora in hac actione perstiterint in sua sanitate permanebunt. Si econtra, suae natarae exibet temperamenta', *Pantegni,* Book 5, Ch. 1 fol. 48v.

The list of the non-naturals begins with environmental factors which come under the category of 'air': the seasons, winds, and the qualities of different terrains.[7] The air is particularly important because it enters the body in breathing, and the complexion of the body follows the complexion of the air.[8] Although the quality of the air can be 'a great medicine', elsewhere it can be 'pestilential' and associated with plagues.[9] Where gases arise from decaying matter, underground ponds or ditches, the air can become putrid, causing whole populations to die, or suffer terrible symptoms.[10] Seasons, winds, rain and different locations are all discussed in great detail, specified most importantly by their qualities as either hot or cold, moist or dry. The seasons interact with patients' stage of life and complexion, so men who are hot by nature get ill in hot seasons.[11] Many aspects of weather impact on the brain and its disorders. For example, the north wind is cold and dry, healing to the brain.[12] Excessive rain generates many humours which can fill the brain, associated with epilepsy and apoplexy.[13] Location affects the make-up and temperament of its inhabitants. For example, those from the east have a moderate complexion, they are not proud or often angry, but humble and gentle.[14] In all this detail, it is not specified how the *medicus* should make use of it. It is assumed that the point is to understand environmental qualities and take into consideration the qualities of the patient and his organs, adjusting the environment where possible, but also using dietary and other factors to achieve balance.

[7] *Isagoge*, pp. 144-6 and *Pantegni*, Book 5, Chs. 3-11.
[8] 'Si qualitates corporis suam sequntur complexionem aer autem circumdans nos complexionis mutande causa est fortior propter anhelitus necessitatem', *Pantegni*, Book 5, Ch. 2, fol. 49r.
[9] 'Magnum ergo est medicamentum qualitates aeris', *Pantegni*, Book 5, Ch. 3, fol 49r; 'Aer a substantiae suae temperamento mutatus in putredinem ... pestilentialis vocatur', *Pantegni*, Book 5, Ch. 11, fol. 54v; 'Unde mutatus aer plures mortificat homines', *Pantegni*, Book 5, Ch. 11, fol. 54v.
[10] 'Mutatio aeris propter locum, ex fumo fit dissolutio herbarum, fructuum, sive similium putrefientium. Qui dum ascendit miscetur aeri. Similiter ex fumo lacum criptarum, fossarum ... Unde mutatus aer plures mortificat homines ... Unde locis pestilentia evenit, et ... accidentium pessimatate', *Pantegni*, Book 5, Ch. 11, fol. 54v.
[11] 'Si enim homines calide sint naturae, in calidis solent temporibus infirmare', *Pantegni*, Book 5, Ch. 6, fol. 52r.
[12] 'Septentrionalis ... frigida est et sicca ... Boreas enim ... cerebrum sanat', *Pantegni*, Book 5, Ch. 8, fol. 52v.
[13] 'Quia habundantia pluviae generat multos humores in corpore humidos ... Qui si descendant in cerebri ventriculos, apoplexiam et epilempsiam facient', *Pantegni*, Book 5, Ch. 5, fol. 51v.
[14] 'Regionem orientalium aer est clarus, parum siccus, inter calidum et frigidum, temperatus sicut veris complexiones habentur ... Habitatores terrae huius non superbiunt, sive sepe irascuntur. Sunt enim mansueti et humiles', *Pantegni*, Book 5, Ch. 9, fol. 53v.

Manipulation of the other non-naturals could be key, and Book 5 continues with information about exercise and baths. Exercise warms the body, immoderate exercise greatly heats the body and is often drying; rest on the other hand cools and moistens it.[15] Different kinds had different effects; hunting for example cools the body.[16] Bathing has many benefits, helping to dissolve and purge the body of excess humours.[17] Patients can be bathed in such a way as to warm or cool, moisten or dry, for example a long bath cools and dries the body by dissolving the natural heat - an excessively long bath can extinguish it and even lead to death.[18] The text goes on to list over ninety foods with their properties. For example, spinach is moderate, moistening to the belly and helpful in coughs.[19] Kinds of water, wine and medicinal drinks are discussed, followed by advice on what clothes to wear, on sleeping, intercourse and on excretions such as urine and menses.[20] Moderate sleep moderates the humours and clears the mind, but too much sleep moistens and cools the body; too little sleep dries out the body.[21] Sexual intercourse is good for health, reducing bad thoughts and anger, helpful in melancholy and cooling and drying the body.[22] The doctor should attend to the natural excretions, for if they are retained in the body, or are excessive, illness will arise.[23] For example if menstruation does not occur, this can cool the liver, and illnesses like dropsy and headache may ensue.[24]

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[15] 'Temperatus motus, temperatum calefacit corpus. Quod si parum exeat temperamentum facit motum intemperatum, corpori nimium prestans calorem, et aliquando siccitatem propter humectationis dissolutionem', *Pantegni*, Book 5, Ch. 12, fol. 55r; 'Quies ... corpus refrigerans et humectans', *Pantegni*, Book 5, Ch. 12, fol. 56r.

[16] 'Venatorum ... exercitia refrigerant corpora', *Pantegni*, Book 5, Ch. 12, fol. 56r.

[17] 'Balneum ... coagulatos humores dissoluit qui per poros erant', *Pantegni*, Book 5, Ch. 13, fol. 56r.

[18] 'Infirmos ergo oportet balneari, secundum quod necessitas expetit aut causa scilicet ... vel calefaciendi vel refrigerandi vel humectandi vel dexsiccandi ... si mora parus excedat modum refrigeratur et exsiccatur corpus quia calor naturalis dissolvitur ... si quis multum et ultra modum inmoretur ... calor naturalis extinguitur. Unde mors subequitur', *Pantegni*, Book 5, Ch. 13, fol. 56v.

[19] *Pantegni*, Book 5, Chs. 15-27, fols. 58v-64r; 'Spinachia ... est temperata; ventrem humectat ... atque tussim adiuvat', *Pantegni*, Book 5, Ch. 16, fol. 60v.

[20] *Pantegni*, Book 5, Chs. 28-37, fols. 64r-69r.

[21] 'Si multus sit sompnus ... corpus humectatur et refrigeratur ... si moderatus ... humores temperantur, mens clarificatur ... si minor quam oporteat ... corpus desiccatur', *Pantegni*, Book 5, Ch. 35, fol. 67r.

[22] 'Cogitationes male removentur, ira extinguitur, melancolia iuvatur ... corpus refrigerat et exiccat', *Pantegni*, Book 5, Ch. 36, fol. 68r.

[23] 'Hec si coherceantur ne exeant aut si plus quam oporteat exeant morbos ... generant', *Pantegni*, Book 5, Ch. 37, fol. 68v.

[24] 'Menstrua non exeuntia ... infrigdant epar ... sepe in ydropsim cadunt ... Si ad cerebrum saliat, diuturna gignuntur emigranea, cephalea', *Pantegni*, Book 5, Ch. 37, fols. 68v-69r.

The *Pantegni's* section on foodstuffs is interesting in that Galen had refined the basic qualities of hot or cold, wet or dry into four levels of intensity or degrees (*gradus*) from the weak (1st degree) to extreme (4th degree), and had used these to classify drugs.[25] Islamicate medicine had gone further and extended this system to foods, since these also had an effect on the body.[26] The degrees are given for many foods, for example onions are hot and dry in the fourth degree, and sesame seeds hot in the first degree and moist in the second degree.[27] Constantine also provided the first access to this information on drugs in his translation of the *Liber graduum* by Ibn al-Jazzār.[28] The *Liber graduum* was one of the most popular and widely available of Constantine's texts, indicating that this information was particularly valued as helpful.[29]

The point was to adjust the patient, his diet and surroundings, as far as possible to achieve balance. This could be done with environmental changes, but most easily and more commonly with drugs and diet.[30] The doctor now not only had a grasp of the qualities of seasons and environments, but also had a highly specified set of remedies in drugs and foods which could be administered.

The 'non-naturals' before Constantine

The term 'the non-naturals' is not seen in any of the texts available in England prior to the arrival of Constantine's translations, but some of these ideas were known. Bede had written on the air and winds in *On the Nature of Things*; he did mention the qualities of winds, for example the south wind was moist and hot.[31] Pestilence was born from air that had been corrupted on account of the deserts of men, either by excessive droughts or rains; when this

[25] M.W. Adamson, *Food in Medieval* Times (Westport, Connecticut, 2004), pp. 207-9.
[26] *Ibid*, pp. 207-9.
[27] 'Cepe in quarto gradu calidus et sicce', *Pantegni*, Book 5, Ch. 37, fol. 61r; 'sisamum in primo gradu calidus, in secundo humidus', *Pantegni*, Book 5, Ch.15, fol. 60r.
[28] Wallis, 'The Ghost in the *Articella*', pp. 108-11. Constantine also provided these details of drugs in the *Practica*, Book 2.
[29] M. Green, 'A Fantasy Pharmacy: The Arabic Pharmacopeia Arrives in the Latin West', *Constantinus Africanus* [website] (September 22nd/October 10th, 2018) <https://constantinusafricanus.com/author/monicagreenasuedu/> (last accessed 29 January 2023); M.H. Green, 'Medical Books' in E. Kwakkel, E. and R. Thomson (eds.), *The European Book in the Long Twelfth Century* (Cambridge, 2018), Figure 15.1, p. 281.
[30] See Ch. 9 for examples of possible environmental changes that assisted in cases of *melancholia.*
[31] Bede, *On the Nature of Things and On Times*, C.B. Kendall and F. Wallis (trans. and ed.), (Liverpool, 2010), Chs. 25-26, and pp. 89-90.

air was breathed in it engendered pestilence and death.[32] He discussed the seasons and their qualities in *The Reckoning of Time*, and gave preventative health advice based on the seasonal waxing and waning of the humours. For example, in the autumn men should 'use all such foods as are hot and very pungent, abstain from sex and wash very little'.[33] Much of Bede's information came from Isidore, who commented on the seasons, winds, the regions of the world, and on pestilence.[34] Some, he wrote, had said that plague arose because of mankind's sins, when the air became corrupted due to extreme weather; others said that plague-bearing 'seeds' were borne in the air and afflicted all living things.[35] Isidore did not otherwise discuss how these factors affected health.

The most information came from the medical writer Oribasius who discussed the quality of air and water, foods, exercise, baths, sexual intercourse, and also gave seasonal advice. Several times he cited Galen on the importance of the air for health: it should be the cleanest, and its qualities of hot, cold, or dryness could be useful. Some air could cause illness, and that from marshes or sewers was to be avoided.[36] Exercise warmed the body and was good for the digestive process, whilst sexual intercourse was good for evacuating humours but could be drying; he discussed the use of cold and hot baths.[37] He discussed foods in terms of their health qualities, with chapters, for example, on foods which generate cold humours (such as cucumbers) and foods which are drying.[38] Elsewhere he brought this advice together when he made recommendations for the diets and management of the young and the old; as the elderly were dry and cold they should be warmed and moistened with baths and red wine.[39] There were also seasonal considerations: in autumn patients should avoid the midday heat and refrain from too much fruit; before winter they should be careful to evacuate excess humours retained from the summer.[40] Only a small part of this filtered through in Old English medical texts: *Bald's Leechbook II* described the effects of intercourse on the body according to the complexion.[41] However the fact there is so little in the vernacular texts suggests these

[32] *Ibid*, Ch. 37, p. 94.
[33] *Ibid*, pp. 100-2, Ch. 30, pp. 86-7.
[34] Isidore, *On the Nature of Things*, Chs. 7, 10, 37 and 39; Isidore, *Etymologies*, Book 13.
[35] Isidore, *On the Nature of Things*, Ch. 39, p. 167.
[36] Oribasius, *Synopsis*, vol. 5, p. 830, vol. 6, p. 73 and *Euporistes*, vol. 6, p. 421.
[37] Oribasius, *Synopsis*, vol. 5, pp. 801-3, 807-8 and 833-4.
[38] Oribasius, *Synopsis*, vol. 6, pp. 2-45.
[39] Oribasius, *Euporistes*, vol. 6, pp. 404-5, and 417-8.
[40] Oribasius, *Euporistes*, vol. 6, p. 415. Other Latin medical authors mention foods, baths and other of the non-naturals from time to time but only in relation to treatments for particular disorders.
[41] *Bald's Leechbook II*, Ch. 27, p. 241.

health recommendations were not of great interest at that time; Cameron indicates that diet was rarely mentioned.[42]

The advice of Bede and Oribasius tended towards simple directions to suit everyone, although they did offer some general principles regarding the management of the humours and qualities of the body. Apart from this, Constantine's ideas about the non-naturals were completely novel. These ideas and the term 'non-natural' originated with Galen, who described six '*necessaria*' in his *De sanitate tuenda*.[43] These concepts had been further elaborated by Islamicate doctors, and Constantine's translations of the *Isagoge* and *Pantegni* were the first introduction of these ideas in the West.[44] They provided a set of complex theoretical principles for understanding the body in different climates and contexts and treating it accordingly. The physician's task was to weigh up the qualities of the patient, his humours, troubled organs and ailments, in the context of the seasons, his surroundings and diet. He could then make environmental adjustments where possible, advise on exercise and health habits, and the precise drugs and foodstuffs to restore balance and health. In addition, Constantine was confirming and elaborating ancient ideas about public health, such as those found in the Hippocratic text *Airs Waters, Places*: bad air was the cause of disease, the product of contaminated water and rotting organic matter. This was to increase concern about the cleanliness of cities and good sanitation, and was just one of the ways in which the *Pantegni* promoted the importance of preventative medicine.

Subsequent medieval medical writers routinely mentioned non-natural factors in the causes and treatment of illness. John of Gaddesden gave a regime for epileptics explicitly based on the non-naturals, in which he described the ideal air, diet, sleeping arrangements, exercise plan for the day and need for sexual abstinence.[45] Gilbertus discussed the things non-natural in cases of melancholy, when the patient should have much sleep, engage in intercourse and moderate exercise, followed by warm baths. There was elaborate advice on foodstuffs, with

[42] Cameron, *Anglo-Saxon Medicine,* pp. 55-6.
[43] P.H. Niebyl, 'The Non-Naturals', *Bulletin of the History of Medicine*, (Sept 1971), pp. 486-92; D. Marsden et al., 'Galen and Wellbeing: Whole Person Care', *International Journal of Whole Person Care,* vol. 1 (2014), pp. 76-8; L. Garcia-Ballester, 'On the Origin of the 'Six Non-Natural Things' in Galen', in *Galen und das Hellenistische Erbe*, J. Kollesch and D. Nickel (eds.) (Stuttgart, 1993), pp. 105-15. Galen's six *necessaria* differ slightly from the account here.
[44] P. Horden, 'A non-natural Environment: Medicine without Doctors and the Medieval European Hospital' in Bowers, *The Medieval Hospital and Medical Practice*, p. 134.
[45] Gaddesden, fols. 62v-63r.

a moderate intake of wine.[46] Other writers rarely mentioned the term 'the non-naturals' but were nevertheless concerned with them; Bartholomeus, for example, explained that stupor could arise from exposure to cold air after going out in the snow.[47] De Gordon wrote that frenzy was more likely to happen in the summer, when working in the hot sun or eating warming drying foods.[48] De Gordon further wrote a *Regimen Sanitatis* with much more detailed advice for patients based on the management of the non-naturals, one of many such *regimen* and *consilia* to appear in the centuries following the *Pantegni.*[49] In the late fourteenth century John Mirfield, a clerk at St Bartholomew's Hospital, incorporated advice on the non-naturals in his *Breviarum*, as part of basic advice for every hospital.[50]

The accidentia animae

The non-naturals deserve special attention with regard to what Constantine brought to ideas about human emotion. The emotions or *accidentia animae*, meaning literally 'things that happen to the soul', are introduced in the *Isagoge* in terms of how they relate to the *calor naturalis* (natural heat or vital spirit):

> Some incidental states of the soul have an effect on the body, such as those which bring the natural heat from the interior of the body to the surface of the skin. Sometimes this happens suddenly, as with anger; sometimes gradually and agreeably, as with sensations of delight. Some affections again contract and suppress the natural heat, either suddenly, as with fear and terror, or gradually, as with anguish. There are some which disturb the natural energy both in the interior (of the body) and on the exterior, for instance, sorrow.[51]

The *Pantegni* names the emotions as *ira*, (anger), *laetitia* (joy), *tristitia* (sadness), *angustia*, (anguish), *timor* (fear) and *verecundia* (shame).[52] The emotions are again explained largely in terms of the movement of the *calor naturalis* or vital spirit around the body, this is

[46] Gilbertus, fols. 104v-105r.
[47] Bartholomeus, Book 7, p. 121.
[48] De Gordon, p. 114.
[49] P.G. Sotres, 'The Regimens of Health', in M.D. Gremk (ed.), *Western Medical Thought from Antiquity to the Middle Ages* (Cambridge, MA. and London, 1998), p. 307.
[50] Horden, 'A non-natural Environment', pp. 144-5.
[51] *Isagoge*, p. 146.
[52] 'Accidentia anime (sunt) ira, letitia, tristitia, angustia, timor et verecundia', *Pantegni*, Book 5, Ch. 38, fol. 69r.

produced in the heart and sent out through the blood vessels, although this is not explicitly stated.[53] Most clearly, anger is due a to boiling of blood in the heart and heat can leave the body suddenly if the person needs to act upon it in defence or revenge.[54] They may shake, and blood leaving the arteries goes to the flesh, showing as a red colour in the face; the *calor naturalis* is dispersed with a loss of strength.[55] In joy the natural heat gradually leaves for the outside of the body with health-bringing effects for the mind and body, however there is a danger that sudden happiness can cause death if the natural heat leaves very quickly.[56] In a chapter on the causes of death, many cases of death from joy are reported; its sudden dispersal of natural heat cools the body and puts out the vital spark like a light covered, or in a strong wind.[57]

In *angustia,* anguish or distress, the natural heat gradually goes to the interior of the body and can cause fever, or in a cold complexion the heat can be quenched, anguish being especially harmful in a cold, dry body.[58] Sadness arises when the natural heat sometimes leaves or sometimes enters, varying as the patient has some hope or else despair.[59] In fear, the natural heat suddenly moves to the interior, affecting and harming the mind – this can also cause death.[60] Lastly, shame arises when natural heat simultaneously passes both to the

[53] S. Knuuttila, *Emotions in Ancient and Medieval Philosophy* (Oxford, 2004), p. 214; Boquet and Nagy, *Medieval Sensibilities,* pp. 136-7.
[54] 'Ira est ebullitio sanguinis in corde existentis, et motus caloris naturalis subito extra corpus ad vindicandum exeuntis', *Pantegni*, Book 5, Ch. 38, fol. 69r.
[55] 'Ira vero augmentante calor dissoluitur naturalis; et naturalis virtus deficit. Tremor fit maxime… Calor enim naturalis exteriora movet corporis et cum ipso vis movet sanguinis… Sanguis enim exiens arterias carnem implet et nutricat, manifestat calorem exire. Rubor visus in facie et quia vene implentur sanguine', *Pantegni*, Book 5, Ch. 38, fols. 69r-v.
[56] 'Gaudium sive leticia est exitus caloris naturalis paulatim in exteriora. Unde anima confortata calorem naturalem per totum corpus temperat…Iccirco omnibus et maxime sanis congruit corporibus. Sed tamen gaudium aliquando interficit; si sit subitum propter caloris naturalis extra corpus egressionem. Et in exteriora dispersionem. Quod unesus dixit quandoque fuisse ex nimio et subito gaudio superveniente', *Pantegni*, Book 5, Ch. 38, fol. 69v.
[57] 'Audiemus enim multos pre nimio gaudio fuisse mortuos', 'Naturalis calor… tota sua excluditur substantia cum nimium gaudium subito dissoluit et exire eum facit. Unde cito quas moritur quia corpus refrigescit interius. Quae passio lucerne assimilatur que ad ventum validum ponitur. Ipso enim vento supergradiente extinguitur', *Pantegni*, Book 4, Ch.7, fol. 44v; Knuuttila, *Emotions in Ancient and Medieval Philosophy*, p. 214, note 113; Harvey, *Inward Wits*, p. 17.
[58] 'Angustia est cum paulati calor naturalis interiora subintret, unde febres nascuntur effimeres…. Si autem in frigidis fuerit calor extinguitur naturalis; est ergo angustia omnibus corporibus maxime siccis et frigidis nocitiva', *Pantegni*, Book 5, Ch, 38, fol. 69v.
[59] 'Tristicia est cum calor naturalis aliquando exeat; aliquando intret. Intrat cum que speraverit desperat. Exit cum sperat que desperaverat', *Pantegni*, Book 5, Ch. 38, fol. 69v.
[60] 'Timor est cum calor naturalis subito interiora corporis (petit) ut animam fugiat; quod sibi nocet, horret et expavet', *Pantegni*, Book 5, Ch, 38, fol. 69v; 'Cause a foris hunc intus colligentes timor et

inside and to the outside of the body; as in fear it rushes inwards, but when the memory of what has happened occurs to the patient it rushes outwards, reddening the skin.[61] *De melancholia* further discusses one behavioural manifestation of emotion, in considering the issue of laughter. It has quite a different approach, in that there is more explanation in terms of cognition: laughter is the wonder of the mind at something it does not understand, or a decision by the mind about whether something is a joke.[62] Generally the good mood which lies behind it comes from a moderate complexion of the body; laughter is the result of moderate, clear blood which stirs the mind.[63] The spleen is described as the instrument of laughter, as its role is to draw out harmful impurities from the blood.[64]

The body is changed by emotion for good or ill: healthy emotions are protective but unhealthy ones can cause illness and death.[65] Most people can govern feelings such as anger through the use of reason, but in illness this can be lost.[66] There is an interaction with the complexion and other emotions: a hot dry brain or joy can help overcome sadness and distress by drawing heat back, again a cold complexion and timidity can reduce anger.[67] Inducing certain feelings can in itself be used therapeutically. For example, happiness, sadness, worry and distress all counteract anger; sadness and distress can be relieved by joy

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dolor sunt subito contingentes. Quibus dum calor in unum adunatur cetera membra refrigdantur; et inde moriuntur', *Pantegni*, Book 4, Ch. 7, fol. 44v.

[61] 'Verecundia est cum calor naturalis et interiora intret et exteriora in uno momento visitet. Calor enim naturalis ad interiora sicut et in timore refugit in verecundia; et post memoriter recurrit ad exteriora ut defendat ceteris non sibi incerta. Unde fit ut rubeat cutis in verecundia', *Pantegni,* Book 5, Ch. 38, fol. 69v.

[62] 'Risus ergo animae admiratio est de re aliqua, quam comprehendere non valeat', 'Complementum risus: animae diffinitio de re unde efficiatur, sive sit iocus sive non iocus', *De melancholia,* pp. 128 and 131.

[63] 'Laetatur enim amima de corporis sui temperantia', 'Materia risus sanguis est clarus, per totum corpus divisus', 'Temperatus autem et clarificatus, sollicitat animam et dilatat, unde risum et laetitiam ostentat', *De melancholia,* pp. 128 and 131.

[64] 'Instrumentum risus est splen … Splen ... cum feces trahat sanguinis cum pessimitate sui …necesse est, eius substantia clarificetur', *De melancholia,* pp. 128. Others suggested the heart or liver as the agent of laughter.

[65] 'Omnia ergo corpora immutantur ex accidentibus animae, sicut ex supradictis corruptis patiuntur ex conservatis conservatur; ita et accidentia sanitatis conservande, vel corruptionis sunt causa …sepe pessimas incidunt infirmitates; et citissimas mortes', *Pantegni,* Book 5, Ch. 38, fol. 69r.

[66] 'Ab ira vero se cohercentes; et rationabiliter animum compescentes; quicquid mali insperatum venerit modeste sustinentes; has evadent infirmitates', *Pantegni,* Book 5, Ch. 38, fol. 69r.

[67] 'Similiter complexione calidam cerebri et siccam; et semper habentes gaudium et leticiam; tristitia et angustia serrvenientes (supervenientes) adiuvant; quia calor in interiora rediens nullam patitur dispersionem exteriorem', 'Ira enim si frigide complexione vel timide intervenerit; multum eis subvenit', *Pantegni*, Book 5, Ch. 38, fol. 69r.

and seeing things the person loves.[68] Otherwise, like the other non-naturals, the therapeutic implications of the emotions are only touched on, worked out by inference.

Nowhere is a clear definition of the *accidentia animae* given, but *accidens* is a term from natural philosophy referring to changeable aspects of the substance of something; the emotions may be understood as changeable parts of the *anima*, whilst not changing the *anima* itself.[69] They are apparently outwardly caused, involving the vital spirit but somehow separate from the self. The spirit is moved directly and instantaneously by events and emotion without initial input from the brain; reason can moderate the feelings after the physical reaction. Except in the case of laughter, given elsewhere, the account is lacking in mental or even affective components, and provides a kind of hydraulic, almost entirely physical model. This reflects the basis of the *Pantegni* also in the Hippocratic and Galenic corpus, which is striking for the same reason; although the Greeks were well aware that feeling involved thinking, Greek medical writing chose to ignore this.[70] In Galen's thought, physical descriptions of emotions have priority, with humours, or blood and the *pneuma* said to move inwards and outwards with emotions such as fear, rage and shame.[71]

Ideas about the emotions in England before Constantine

In the early medieval period the culture of Western Europe had moved away from classical attitudes towards emotion under the influence of Christianity. In the ancient world the call was for moderation of the emotions as failures of reason: the Stoics gave a fourfold classification of the passions as pleasure, distress, desire and fear, but advised their elimination as far as possible.[72] However the God of the Bible, made flesh in Christ, was an emotional God, who could be wrathful, loving, compassionate or fearful; man himself was

[68] 'Ira … Leticia solicitos tristes; et angustiantes iuvat ... angustia sive tristitiam sunt per pessi; sed cum ad divitias sive gaudium pervenerint; ad sanitatem redierit pristinam. Alii ex infirmitate habita sanantur; cum que amaverint videantur', *Pantegni*, Book 5, Ch. 38, fol. 69r.
[69] N. Archambeau, 'Medical and Scientific Understandings', in J. Feros Ruys and C. Monagle (eds.), A *Cultural History of the Emotions in the Medieval Age, Vol II* (London, 2019), p. 24.
[70] G. Kazantzidis, 'Medical and Scientific Understandings', in D. Cairns (ed.), *A Cultural History of the Emotions in Antiquity, Vol I* (London, 2019); Archambeau, 'Medical and Scientific Understandings', p. 28.
[71] P.N. Singer, 'The essence of rage: Galen on emotional disturbances and their physical correlates', in R. Seaford, J. Wilkins and M. Wright (eds.), *Selfhood and the Soul: Essays on Ancient Thought and Literature in Honour of Christopher Gill* (Oxford, 2017), pp. 8-9.
[72] Boquet and Nagy, *Medieval Sensibilities,* pp. 19, 29; Knuuttila, *Emotions in Ancient and Medieval Philosophy*, p. 232. These ideas were known to the English through Boethius.

made by God to have feelings. Emotions became essential, as conversion was a matter of the heart, requiring passionate love for God and one's neighbours.[73] At the same time Augustine's doctrine of original sin meant that the passions could be wayward and a source of sin; early Church fathers were keen to understand and manage them, people had a moral responsibility for mastery of their emotions. Old English literature was preoccupied with the emotional life, with grief and loss, fears and hatreds, often presented with an ethical perspective.[74]

We saw in the last chapter that the heart was thought to be the seat of cognition, or the *mod,* for most of this period in England. However the heart-based *mod* served both reason and emotion, emotion being considered a mental action.[75] *Mod* is the root of the word 'mood', and, although associated with thought, it does not seem to mean the intellect but rather an inner passion or power; the *mod* can feel love, anger or grief.[76] In *The Wanderer* and *The Seafarer* words relating to 'mind' are most often associated with emotion.[77] At the same time in Old English literature people do not seem to be said to 'feel' angry but rather the language is of 'taking' mental states, as in the expression 'take courage'. The sense is not that emotions just happen to people, but an act of will is involved.[78] Old English nouns relating to emotional distress can also be psychological or somatic; expressions of emotion are often dramatically physical, some emotions causing heat in the heart, or seething, boiling or swelling.[79] For example, when Christ's disciples were tormented by their love for him, they felt 'hot around the heart; the chest swelled inwardly; the mind-in-the-breast burned'.[80] Of further relevance is the idea in Old English literature of the life force or *feorh*; although not especially invoked with regard to emotions, it was a power which gave life to the body and left at death, it had associations with the soul and with blood, akin to the *calor naturalis*.[81]

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[73] Boquet and Nagy, *Medieval Sensibilities,* Chs. 1-4.
[74] A. Jorgensen, F. McCormack and J. Wilcox (eds.), *Anglo-Saxon Emotions: Reading the Heart in Old English Literature, Language, and Culture* (Aldershot, 2015), pp. 1-2; Boquet and Nagy, *Medieval Sensibilities,* Ch. 5.
[75] Godden, 'Anglo-Saxons on the mind', p. 291; Low, 'Approaches to the Old English Vocabulary for 'Mind'', pp. 13 and 19.
[76] Godden, 'Anglo-Saxons on the mind', pp. 287, 291.
[77] *Ibid,* pp. 291-3.
[78] *Ibid,* p. 286.
[79] S. Nicholson, 'The Expression of Emotional Distress in Old English Prose and Verse', *Culture, Medicine and Psychiatry,* vol. 19 (1995), p. 337.
[80] Lockett, *Anglo-Saxon Psychologies,* p. 61, note 32.
[81] *Ibid,* pp. 43-50.

Meanwhile Bede's work touched on the emotions when writing of the humours, associating blood with joy and laughter, bile with irritability.[82] In Latin texts, Isidore held that all solicitude resided in the heart (along with knowledge), and he connected the heart (and possibly the gall bladder) with anger, which could be moderated by fluid from the lungs. The liver was the seat of pleasure and desire, and the spleen of laughter, but none of the mechanisms were explained.[83] Turning to medical texts, neither the vernacular texts nor the Latin ones available presented any theory of emotion, except that *Bald's Leechbook* noted the association between the spleen and laughter.[84] Feelings were sometimes mentioned as symptoms to be treated, for example radishes with salt and vinegar improved mood.[85] In Latin texts they were just mentioned as symptoms arising with certain conditions, for example anger, laughter and fear could all be symptoms of *melancholia* in Alexander's *Practica*.[86]

Emotion has several interacting elements and processes, and may be described at different levels, involving the appraisal of a situation, bodily response, the perception and interpretation of that response, and the expression of this, shaped by individual experience and cultural ideas. Constantine's description of the emotions at the level of bodily response differed markedly from the major preoccupations of the English people, who had been primarily concerned with how unruly emotions might impinge on their prospects for salvation, or everyday matters of love, hate and distress. The same human emotions were being discussed, anger, joy, fear and shame, but Constantine's work offered an eleventh-century natural science, reductionist approach, seeing emotions as part of medicine and human biology. This was a new perspective offering new conceptual tools. Nevertheless, it may not have seemed completely alien to Anglo-Norman readers, inheritors of ideas of the seething mind-in-the-breast, itself a hydraulic model involving heat, pressure, and movement. The idea of the *calor naturalis* has many similarities to that of *feorh,* but there is no suggestion of emotions involving an act of will in Constantine's model.

The medical description of the *accidentia animae* brought a whole new conceptualisation of emotions as one of the non-naturals. Emotions were here regarded neutrally, and

[82] Bede, *The Reckoning of Time,* pp. 100-1.
[83] Isidore, *Etymologies,* Book 11, pp. 238-9.
[84] *Bald's Leechbook II,* Ch. 36, p. 266.
[85] *Lacnunga,* p. 223.
[86] Alexander, Ch. 16, p. 113.

psychological disturbances of this kind could be helped by diet, medication and lifestyle factors, rather than being a matter of spiritual concern. In turn they might be manipulated in order to benefit health. Later medical writers were clearly well aware of this, for De Gordon, perhaps obviously, joy and lightness were the main cure in *melancholia* and mania, whilst sadness and worry were harmful.[87] Gilbertus advised that those suffering from *incubus*, sleep paralysis, should try to avoid worry and anger.[88] The promotion of positive emotions was to be included in later *regimen sanitatis*, the *Salernitan Regimen* advising 'if you should lack doctors, these three shall be doctors to you: a joyful mind, rest and a moderate diet'.[89] Hospitals, as religious institutions, had always emphasised the spiritual health of their patients, and given the importance of the non-naturals, nurses were encouraged to be calm and cheerful for the sake of the mood of their patients.[90]

The contra-naturals: Diseases and their causes

The contra-naturals are illnesses, the causes of illnesses and the symptoms which arise from them.[91] Under this heading the *Isagoge* discusses various symptoms such as fever and swelling, causes of diseases such as excess or lack of a particular humour, and general categories of disorder such as 'dry diseases'.[92] Books 6-9 of the *Pantegni* are devoted to the contra-naturals. A general introduction to these ideas includes a description of the types of condition which can affect the mind, and their causes, by type of humour and location.[93] Illness can cause complete or partial failure, or else localised problems.[94] A cold complexion affecting the brain with much phlegm, can cause total failure, blocking the ventricles and causing apoplexy, or in the case of partial blocking, epilepsy.[95] Phlegm or other bad humours

[87] De Gordon, p. 109.
[88] Gilbertus, fol. 113v.
[89] Horden, 'A non-natural Environment', pp. 135, 139.
[90] C. Rawcliffe, 'Hospital Nurses and their Work' in R. Britnell (ed.), *Daily Life in the late Middle Ages* (Stroud, 1998), pp. 54-6, 62.
[91] 'De re extra naturem ... sunt autem morbi et cause morbos facientes, et accidentia eos sequentia', *Pantegni*, Book 6, Ch. 1, fol. 70r.
[92] *Isagoge*, pp. 147-56.
[93] 'De accidentibus animate actionis', *Pantegni*, Book 6, Ch. 11, fols. 74r-v.
[94] 'Passio mentis ... aut enim tota aufertur ... aut mens minuitur ... si patiatur una tantum pars, illa actionem suam amittat. Cetere vero suis actionibus non priventur', *Pantegni*, Book 6, Ch. 11, fol. 74r.
[95] 'Haec ex cerebri frigida complexione substantiae patitur ... et si frigiditas cum nimiis humoribus flegmaticis surrepat, et ventriculos cerebri subito impleat et opilari faciat, apoplexiam generat. Quod si subito et partim cerebri impleat ventriculos ... epilempsia fit', *Pantegni*, Book 6, Ch. 11, fol. 74r.

at the back of the brain can cause the problem of *litargia* (lethargy).[96] Hot bloody humours settling in the brain or its membrane can cause an abscess leading to *frenesis* (frenzy), a loss of reason with fever.[97] Black bile without an abscess can cause mania or melancholy, melancholy can also come from cold fumes arising in the abdomen.[98] It reiterates that the mind is divided into the imagination, reason and memory, and adds that each part could suffer disorder independently, giving examples from Galen.[99]

Subsequent chapters on disorders of the head in Book 9 of the *Pantegni* cover headaches, frenzy, lethargy, apoplexy and epilepsy, melancholy and lovesickness (*amore eros*), then spasms, tremors, paralysis and disorders of the rest of the body. The *Viaticum* devotes the whole of Book 1 to the head and brain, and includes problems of the hair and skin, lice, and a variety of types of headaches. It goes on to give treatments for lethargy, stupor, wakefulness, frenzy, drunkenness, lovesickness, sneezing, epilepsy, apoplexy, spasms and tics. *De oblivione* discusses forgetfulness, which has features in common with lethargy, and of course *De melancholia* covers melancholy.[100] All disorders of mental function are therefore presented without distinction from physical problems, and thrown in together with other problems only related by location in the head.

The main disorders of concern to us, their symptoms and causes, are as follows:

[96] 'Si cum humorum materie complexio sit mala et materia flegmatica, et in puppi cerebri, litargia fit', *Pantegni,* Book 6, Ch. 11, fol. 74r.
[97] 'Si materia calida est et sanguinea, que in cerebro vel suis pelliculis posita, apostema faciat, frenesim generat cum febre et alienatione mentis', *Pantegni,* Book 6, Ch. 11, fol. 74r.
[98] 'Si ex colera nigra sine apostemate maniam vel melancoliam certum est eam facere ... Si ex fumo frigido et fiat ypocundria generatur melancolia', *Pantegni,* Book 6, Ch. 11, fol. 74r.
[99] 'Mens tripliciter est divisa, in fantasiam, rationem et memoriam ... necesse est ut si patiatur una tantum pars, illa actionem suam amittat. Cetere vero suis actionibus non priventur', *Pantegni,* Book 6, Ch. 11, fol. 74r.
[100] The later *Practica* adds a few categories, little mentioned before, or gives alternative names: mania, cold frenzy (probably lethargy) corruption of the memory, stupor, *chuma* and *congelatione cerebri.* I will not go into all of these possible variations of disorder due to lack of space, however *chuma* or chyme was an illness which was a combination of stupor and wakefulness, possibly due to an excess of chyme, a product of digestion, but this is not stated (See the glossary for an explanation of chyme). *Congelatione cerebri* or hardening/ congealing of the brain was associated with dimness of vision (*Practica,* Book 5).

Frenzy (*frenesi*). This is an acute loss of reason with fever, a serious condition with delirium, sleep problems, sometimes laughter or weeping. It is said to be due to a warm complexion, an aposteme in the brain or its membranes, or an excess of bile in the cerebral veins.[101]

Lethargy & disorders of memory (*oblivio, lethargia, corruptio memorie, stupor*). Lethargy is a broad category including memory loss, sometimes stupor or even complete unresponsiveness, and a variety of physical symptoms. Both *lethargia* and *oblivio* are said to be usually caused by a cold complexion or phlegm in the brain.

Apoplexy. This is a sudden loss of movement and sensory function with breathing problems and often disability or death. Paralysis or weakness can affect the right or left side and the power of speech can be lost. It is caused by humours blocking all three ventricles of the brain, preventing messages reaching the muscles or sense organs, or by excessive alcohol.

Epilepsy or 'the falling sickness', convulsions and spasms. Epilepsy is understood as a condition where the whole body suffers convulsions and the patient falls to the ground. It is said to be related to apoplexy and is termed half-apoplexy, mainly due to partial blockage of the ventricles, affecting the nerves of movement. Convulsions and spasms can also arise without epilepsy being present.

Melancholy (*melancholia*) and lovesickness (*amore eros*). Melancholy is a chronic disorder without fever, marked by fear, sadness, hallucinations, delusional ideas, odd behaviour and self neglect, or stomach problems and other physical symptoms. It is said to be caused by black bile arising in the brain, stomach or elsewhere, especially an 'unnatural' form of black bile. The associated condition of lovesickness involves obsessional love-longing and desire, again due to black bile and psychological factors. Mania is discussed under *melancholia* as a variant due to red bile, and characterised by loss of reason, agitation and anger.

[101] These descriptions are summaries of a large amount of information from varying texts. See the relevant chapters for further details and the original Latin quotations.

Ideas about mental disorder before Constantine

The earlier and contemporary Latin texts

Constantine's terminology for disorders followed on in the classical tradition, the main condition names dating back to the Hippocratic corpus. Since Roman times the terms *phrenitis, mania, melancholia, epilepsia* and *lethargia* had been established as the major categories of mental disorder: distinct disease entities with particular sets of symptoms, course and prognosis, etiologies and treatments. As in Constantine's translations, there was no separation between physical and mental conditions.[102] In the Latin texts known in England these terms seem to have been generally understood, and used with consistency. Most authors except for Pliny gave at least some description of symptoms, sometimes they gave a great deal, although the focus was usually on treatment. Sometimes distinctions between disorders were explained, for example the later *Passionarius* set out the differences between disorders related to whether or not there was fever.[103] Where novel disorder names were mentioned they were often, but not always, explained; in the case of the only mention of '*anteneasmo*' in the *Passionarius*, it was explained as a very dangerous kind of mania with self harm.[104] Lovesickness was not mentioned by any of the Latin writers.

Most Latin authors did include comments about the causes of disorders in their descriptions, some, like Oribasius and Alexander, could give a lot of detail on this.[105] As already noted, the Latin tradition held humours responsible for most disorders, both physical and mental. Isidore wrote that both melancholy and epilepsy were caused by black bile, and frenzy by bile.[106] Cassius Felix agreed about the role of black bile in epilepsy but also implicated phlegm.[107] Authors were not always specific about the humour involved; Oribasius wrote of 'humours' which were the cause of memory problems.[108] Isidore's explanation of mental disorders also suggested a role for the ventricles of the brain with mania, for example, said

[102] P.N. Singer, 'Classification, explanation and experience: Mental disorder in Graeco-Roman antiquity', in U. Steinart (ed.), *Systems of Classification in Premodern Medical Cultures: Sickness, Health and Local Epistemologies* (London, 2021), pp. 286 and 291.
[103] *Passionarius*, Book 1, Chs. 8 and 9.
[104] *Passionarius*, Book 1, Ch. 11.
[105] E.g., Oribasius on frenzy and lethargy, Oribasius, *Synopsis*, vol. 6, pp. 203-5; Alexander on melancholy, Alexander, Book 1, Ch. 16.
[106] Isidore, *Etymologies*, p. 111.
[107] Cassius Felix, Ch. 71, p. 169.
[108] Oribasius, *Synopsis*, vol. 6, pp. 202-3.

to arise in the memory (the rear ventricle).[109] A direct general brain causation was given by Vindicianus in the *Epitome Altera* where he explained that if the movements of the brain increased it tended to arouse madness.[110] All of these were of course natural causes of illness without suggestion of supernatural origin. In fact writing on the frightening incubus experience, Oribasius explained that '*incybus* is not a demon but a certain severe illness', possibly a symptom of mania, epilepsy or apoplexy, caused by black bile.[111] Isidore had suggested plague was the result of human sin but he did not endorse the view of the 'common people' who attributed epilepsy to the 'the insidious forces of demons'.[112] The *Passionarius* and the *Tereoperica,* both arriving just before Constantine's work, repeated this idea as that of 'the common people' although some copies of *Tereoperica* did suggest a belief in demon possession, possibly as a cause of epilepsy.[113]

Disorders of the head in Old English Vernacular texts

Whilst the Latin nosology was reasonably straightforward, the vernacular medical texts again rarely gave any explicit description of health problems or their symptoms, focussed as they were on treatment. Presumably the original readers understood what was meant by such terms as *monaðseoc* (month-sick), and what it was to suffer from *nihtgengen* (nightgoers). Modern readers have particular problems in understanding what is meant by terminology in Old English which may relate to mental or neurological issues, and in order to try to negotiate this minefield, the Old English disorder names will be given along with possible meanings.[114] Most of the texts were set out in head-to-toe order to some extent, beginning with illnesses of the head, with many treatments for headache; *Bald's Leechbook I* gave over

[109] Isidore, *Etymologies,* p. 111.
[110] Vindicianus, *Epitome,* p. 468.
[111] 'Incybus non est demon sed quedam aegritudo fortis', Oribasius, *Synopsis,* vol. 6, pp. 205-6. The experience of 'incubus' is currently understood as sleep paralysis, and it can involve hallucinations.
[112] Isidore, *Etymologies,* p. 111.
[113] *Passionarius,* Book 1, Ch. 6; *Tereoperica* , BL, Sloane 2839, fol. 79v, and BL, Harley 4977, fol. 58r. The section on epilepsy in Sloane 2839 at fol. 79v is headed '*De demoniacis'* and both this manuscript at fol. 97r and Harley 4977 at fol. 69v contain a section on how to treat demoniacs.
[114] Possible translations are taken from Doyle, 'Anglo-Saxon Medicine and Disease', Van Arsdall, *Medieval Herbal Remedies,* Pell ''*Him Bid Sona Sel',* Pollington, *Leechcraft,* Pettit, 'A critical edition of the Anglo-Saxon *Lacnunga*', Meaney, 'The Anglo-Saxon View of the Causes of Illness', and Cockayne, *Leechdoms.* As Pell explains, 'due to the relative scarcity of texts from the period ... some rarer words have no comparators to aid translation. Nor does the context always allow the exact meanings to be discerned, and some elements of supposition must be employed', Pell, ''*Him Bid Sona Sel*', p. 437.

twenty remedies for headaches, and four for a fractured skull.[115] However none of the problems which might be considered mental or brain-based were given in this first section in these texts, but elsewhere. *Leechbook II* covered internal diseases, such as those affecting the stomach and lungs, so the fact that *healfdeadan adle* ('half-dead' disease/hemiplegia) appears here indicates that it was not considered to be related to the head. The problems of a woman who is *gemyndum* (out of her mind) appear with gynaecological problems, implicating here the womb.[116]

However looking at the disorders which Constantine indicates are 'of the head', problems which seem to manifest with psychological, behavioural or neurological symptoms, patients could be afflicted with *healfdeadan adle* (the half-dead disease), *wið aslepnum lic* or *lyftadle* (paralysis or palsy).[117] They could get *brægenes hwyrfnesse ⁊ weallunge wið seondre exe* (fever of the brain/dizziness of the brain and inflammation, a discharging of the brain), *brægenes adl 7 ungewitfæstnes* (brain disease and infirmity of mind).[118] They could suffer from *gewitlest* (frenzy, 'witlessness', insanity), be *ungemynde* or *gewitseocne* ('wit sick' or insane), or have *disgunge* (imbecility).[119] *Weden heorte* (literally 'mad heart') has also been translated as frenzy or mania.[120] They might get *ofergytulnys* (forgetfulness or unconsciousness) as the *Herbarium* helpfully translates lethargy.[121] They could be *monað seoc* (literally 'month-sick'), sometimes translated as moon-sick or lunatic.[122] There was a cluster of symptoms arising from stomach problems which caused *fyllewærc 7 fienda adl. 7 micla murnunga 7 unrotnessa butan þearfe … 7 ungemetlica mete socna 7 ungemetlice unlustas 7 cisnessa … on ungemet wæccum 7 ungewitlico word* (falling sickness, fiend's disease, great anxieties and sorrows without cause, excessive or lack of appetite,

[115] *Bald's Leechbook I*, Ch. 1, pp. 20-8. *Leechbook I*, *Leechbook III* and the *Lacnunga* are roughly head-to-toe, *Leechbook II* covers internal disorders not including the head.
[116] *Bald's Leechbook II*, contents list, pp. 171-2.
[117] *Leechbook II*, Ch. 59, p. 308; The Omont Fragment in Pollington, *Leechcraft*, pp. 73-4; *Bald's Leechbook I*, Ch. 59, p. 134.
[118] *Lacnunga*, pp. 236-7; Pettit, 'A critical edition of the Anglo-Saxon *Lacnunga',* pp. 117-9; *Bald's Leechbook II*, Ch. 27, p. 237.
[119] *Herbarium*, Ch. 132, p. 206, (Cockayne, *Leechdoms*, vol. 1, p. 50), *gewitleaste* is also described as 'possession by devils'; *Bald's Leechbook I*, Ch. 66, p. 145; *Leechbook III*, Ch. 64, pp. 400-1 and Ch. 41, pp. 392-3.
[120] *Herbarium*, Ch. 96, p. 192, (Cockayne, *Leechdoms*, vol. 1, p. 40), Doyle, 'Anglo-Saxon Medicine and Disease', translates *weden heorte* as mania, vol. 2, p. 16.
[121] *Herbarium*, Ch. 91, p. 189, (Cockayne, *Leechdoms*, vol. 1, p. 201).
[122] *Leechbook III*, Ch. 40, pp. 390-1; *Herbarium*, Ch. 10, p. 152, (Cockayne, *Leechdoms*, vol. 1, p. 10).

fastidiousness … despondency and senseless words), part of this sounding like Constantine's descriptions of *melancholia*.[123]

Brœcseocum ('brain sick') has been translated as lunacy by Cockayne, but may refer to epilepsy; epilepsy is mentioned several times as *fylle seocum*, the falling sickness.[124] People could have *scinlace 7 wið eallum gedwolþinge* (apparitions and delusions).[125] Even more disturbing, the patient could be *deofel seoc or feond seoc* with *deoful seocnysse* or *fienda adl* (devil /fiend sick with devil's/ fiend's disease), he could be *deofel fede* (devil-possessed), suffer *deofler costunga* or *feondes costungum* (temptations/ afflictions of the devil).[126] These were clearly considered, at least in part, to be illnesses because of their inclusion in medical texts alongside other apparently mental disorders and epilepsy, even if their cause was supernatural. *Bald's Leechbook* helpfully explained that to be *feond seocum* (fiend-sick) is 'when the devil feeds a man or controls him inside with sickness'.[127] Patients could suffer from *ælfcynne* ('elven kind') or *nihtgengen* ('nocturnal visitors'), *aelfsiden* (elvish tricks or influence) or *yfelre leodrunan* – evil sorcery.[128]

Sometimes clear individual emotional or behavioural symptoms are discussed. People could suffer *mnoðes hefigness* (possibly heaviness of mind), *wið anðan* (envy), *wið ogan* (terror), or children be *ahwæneð* (very upset).[129] A woman could be *gemyndum* (out of her mind), *wifgemaedlan* (showing madness), or *færunga adumbige* (suddenly struck dumb).[130] There

[123] *Bald's Leechbook II*, Ch, 1, p. 174.
[124] *Bald's Leechbook I*, Ch. 63, p. 142. (Doyle translates this as epilepsy, Cockayne, *Leechdoms*, vol. 2, p. 139, as lunacy); *Herbarium*, Ch. 61, p.176, (Cockayne, *Leechdoms*, vol. 1, p. 164); *Sextus Placitus*, pp. 392-3 and 402-3; *Bald's Leechbook II,* Ch. 16, p. 201 where it is termed *fellewærc.* The term *brinc adle* in the *Lacnunga*, p. 215 could be the falling sickness or epilepsy but Pettit translates the word as possibly a chest disease. Pettit, 'A critical edition of the Anglo-Saxon *Lacnunga*', p. 71.
[125] *Bald's Leechbook II*, Ch. 64, p. 316 (from BL, MS. Royal 12 D. xvii, 105r); *Sextus Placitus*, pp. 408-9 and 406-7.
[126] *Leechbook III*, Ch. 67, pp. 402-3; *Bald's Leechbook I*, Ch. 63, p. 141; *Herbarium*, Ch. 179, p. 227, (Cockayne, *Leechdoms*, vol. 1, p. 312); *Bald's Leechbook II*, Ch. 1, p. 174; *Leechbook III*, Ch. 64, pp. 400-1; *Lacnunga*, pp. 188-9.
[127] *Bald's Leechbook II,* Ch. 63, p. 141.
[128] *Leechbook III*, Ch. 61, pp. 396-7, Ch. 54, pp. 394-5, Ch. 41, pp. 392-3; *Bald's Leechbook I,* Ch. 64, p. 143.
[129] *Lacnunga*, p. 223, (Cockayne, *Leechdoms*, vol. 3, p. 51), This could in fact be *innoðes hefigness* (heaviness of the stomach) but the treatment claims to improve the *mod* (see Ch. 9, footnote 95); *Herbarium*, Ch. 179, p. 227, (Cockayne, *Leechdoms*, vol. 1, p. 312) and Ch. 20, p. 159 (Cockayne, *Leechdoms*, vol.1, p. 116).
[130] *Bald's Leechbook II*, contents list, p. 172 for Ch. 60; *Leechbook III*, pp. 396-7; *Lacnunga*, pp. 228-9.

were treatments for *slæpleaste* or *micel* w*æce* (sleeplessness), *mare ride* (nightmare) or *wið dweorg* (disturbed sleep associated with fever).[131] People could be *wræne* (lustful), have *unlust sie getenge* (loss of appetite), *fordrince* (drunkeness) or be seen *fundige wið his feond* ('fighting with his foe' – showing aggression).[132]

So there are a large number of often ill-defined terms scattered throughout the vernacular texts. How these disorders presented, and how they relate to Constantine's categories, will be considered in subsequent chapters. The *Herbarium* helpfully explains the Old English words that relate to frenzy, *gewitlest*, and lethargy, *ofergytulnys*, but otherwise there is uncertainty about what many of the terms refer to and what kind of symptoms they were applied to; it seems that they lacked precision even for those who originally used them.[133] Having explained that the Greek term *frenesis* is *gewitlest*, the *Herbarium* goes on to say that the same term is *deoful seocnyssse* (devil sickness).[134] There are various names for epilepsy and convulsions, Meaney notes that in *Bald's Leechbook* one mention of *feonda adl* (fiend-sickness) is a translation of *spasmos* or convulsions, in some cases the word *ylfige* (elfish) is a translation of *comitiales* (epileptics) in the original Latin sources.[135] She concludes that 'the term devil sickness is used for illnesses that turn the minds and affect the bodies of the sufferers so that they lose control'.[136]

Causes of mental disorder

The vernacular texts rarely said anything explicit about the causes of the problems outlined above. However, in the case of the half-dead disease and epilepsy, the writer of *Bald's Leechbook II* was clear: he was concerned about harmful humours which gather over the winter and complained that:

[131] *Herbarium*, Ch. 54, p. 174; *Bald's Leechbook I,* Ch. 82, p. 154 and Ch. 64, p. 144. The problem of being *wið dweorg* arises in *Lacnunga*, pp. 214-7, and also in *Sextus Placitus*, pp. 408-9. See Ch. 1, footnote 66.
[132] *Bald's Leechbook I,* Ch. 70, p. 148, Ch. 78, p. 153, Ch. 80, p. 154, Ch. 85, p. 155.
[133] *Herbarium*, Ch. 96 p. 192 and Ch. 91, p. 189.
[134] *Herbarium*, Ch. 96, p. 192 and Ch. 132, p. 206. (Cockayne, *Leechdoms*, vol. 1, pp. 210-1 and 248-9).
[135] *Bald's Leechbook II*, Ch. 1, p. 174. Meaney, The Anglo-Saxon View of the Causes of Illness', p. 17.
[136] Meaney, 'The Anglo-Saxon View of the Causes of Illness', p. 17.

> Many people have not heeded this nor pay no heed; then, from those harmful humours come either hemiplegia or epilepsy.[137]

The humours were not specified but they gathered over the winter and should be cleansed away.[138] Later *Leechbook II* noted that the half-dead disease arose when the sinews dissolved and were filled with a slippery, thick, evil humour.[139] Other conditions came from the stomach; the cluster of symptoms with 'anxiety and sorrow for no reason' could come from a stomach disorder with swelling and bilious humours. This was because of a sympathy between the stomach and the brain, and it seems that they could afflict each other through 'harmful venom-bearing humours'.[140] *Brægenes adl 7 ungewitfæstnes* (brain disease and infirmity of mind) could also be due to a cold moist stomach.[141] All of these humoral explanations, which mostly apply to neurological conditions, derive from Latin sources, either Oribasius or Alexander's *Practica*.[142]

Another physical cause, that of fever, was often associated with possible mental disorders or symptoms, which frequently arise in sections also addressing fever such as *lenten adl* (spring fever). In *Leechbook III*, *maren* (nightmares), the problems of *feondes costunga*, *nihtgengen* (night visitors) and *lencten adle* (spring fever, possibly malaria), are all grouped together, and again in Chapter 41 *lencten adle* is treated alongside *feondes costungum* and *aelfsidenne* (elvish tricks).[143] Fever and delirium of course may be associated with disturbed mental states or behaviour, and hallucinations.[144]

Although not often stated explicitly, the names of several problems indicate that they were thought to be due to supernatural beings such as the devil or elves, and these may well have manifested with mental or behavioural symptoms.[145] The regular use of at least some ritual element, such as the use of holy water or 'Christ's mark', less commonly used in physical

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[137] *Bald's Leechbook II,* Ch. 30, p. 248.
[138] *Bald's Leechbook II,* Ch. 30, pp. 248-9.
[139] *Bald's Leechbook II,* Ch. 59, p. 308.
[140] *Bald's Leechbook II,* Ch. 1, pp. 174-5.
[141] *Bald's Leechbook II,* Ch. 27, p. 237.
[142] *Bald's Leechbook II,* Ch. 30, p. 248, Ch. 59, p. 308, Ch. 1, pp. 174-5 and Ch. 27, p. 237.
[143] *Leechbook III,* pp. 376-7 and 392-3.
[144] Pell, '*Him Bid Sona Sel*', p. 439.
[145] However, Pell suggests that it cannot be assumed that the English reader of this time would necessarily take devils and elves literally as causes of illness, given that the current use of the term 'influenza' no longer indicates that the viral disease is thought to be due to 'influence of the stars', *Ibid*, p. 437.

complaints, also indicates a suspicion that evil forces were at work.[146] This is one of the most striking features of the vernacular texts, but in this they agreed with the wider Christian world view that demons were the cause of mental disorders, or that they arose as punishment for sin. In hagiographies and accounts of the miraculous healing of mental disorders, devils or spirits are responsible, as seen in Chapter 1. Hallucinations, delusions and disturbed behaviours might easily have invited a demonic explanation, as might seizures, and such causes must be accepted as legitimate in the contemporary understanding of health. The man healed at Bardney Abbey in the seventh century who had convulsions and foamed at the mouth was considered to be possessed by the devil.[147] The vernacular medical texts also cited the activity of elves, which the Church would have regarded as a variety of demon, as problematic, and apparently a medical issue, as they were included. Whilst disorders such as *ælfadl* and *wæterælfadl* were more physical, *ælfcynne* and a*elfsiden* seem to relate to more mental disturbances, but caused by elves.[148] *Ælfcynne* ('elven kind') were associated with *nihtgengen* ('night-goers') and *þam mannum þe deofol mid hæmð* (those people whom the devil has sex with); these might have involved hallucinations or nightmares.[149] *Ælfsiden* seems to denote some kind of magic, used to inflict altered states of mind and hallucinations.[150] Other kinds of magic were mentioned, *yfelre leodrunan* (evil incantation), *malscra 7 yflum gealdorcræftum* (enchantments and evil charm workings), and the *Liber de animalibus* treated the problem 'if something evil has been done.to a man so that he cannot enjoy sexual pleasure'.[151] Of course magic may be used to cause physical, mental or other problems for its victim. Invoking elves may be a relic of older beliefs, and a way of putting them on the side of the devil, but when it comes to such popular beliefs, Schmitt may be correct in stating that modern readers 'are lacking … the conceptual instruments necessary to understand them'.[152]

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[146] *Bald's Leechbook I*, Ch. 66; *Bald's Leechbook II,* Ch. 65.
[147] Bede, *Ecclesiastical History of the English People*, pp. 126-8. See Ch. 1.
[148] Alaric Hall has made a close linguistic study of the words used in these texts relating to *aelfe* to better understand how they were thought to impact on human health. Hall, *Elves in Anglo-Saxon England*, Chs. 4 and 5.
[149] *Ibid*, pp. 126-7.
[150] *Ibid*, pp. 155-6, 129.
[151] *Bald's Leechbook I*, Ch. 64, p. 143; *Leechbook III*, pp. 376-7 (*malscra* seems to be *malstrunag* (bewitchment), Meaney, 'The Anglo-Saxon View of the Causes of Illness', p. 21); *Sextus Placitus*, pp. 372-3.
[152] S. Zavoti, 'Blame it on the Elves – Perception of Sickness in Anglo-Saxon England', Conference Presentation, June 2012, SAMEMES, Lausanne, *Academia* [website] <https://www.academia.edu/2060955/Blame_it_on_the_Elves_Perception_of_Sickness_in Anglo_Saxon_England_> (last accessed 21 November 2022); J-C. Schmitt, *The Holy Greyhound:*

In contrast to this, Constantine's descriptions and explanations of mental disorders are clear and naturalistic. They show the beginnings of a classification system with categories which are distinct from each other, based on medical traditions going back to antiquity. In all cases the range of symptoms is given, together with etiology. Before this the vernacular texts had rarely attempted to describe the problems they set out to treat, terms were used interchangeably and inconsistently, and are often opaque to us, although probably understood by the contemporary *laec* reader. The English did have Latin texts which were somewhat better in this regard, and they sometimes tried to include the Latin disorder categories, even trying to translate them, but it is unclear how far these had been taken on board by the end of the eleventh century.

The fact that mental, behavioural and neurological conditions did not seem to be considered disorders of the head, supports the idea that, for English people at least at the time of the leechbooks, and possibly into the Anglo-Norman period, the mind literally was in the breast, the cause of mental problems not to be found in the brain. The texts were rarely clear about causation, except for where they had absorbed some classical ideas about humoral causes. Certainly they thought that supernatural beings were often the source of mental or behavioural problems, which was compatible with Christian, biblical ideas. For Constantine, however, the contra-natural causes were all physical, based in the brain or the result of humoral activity, his texts barely mention any other possibility.[153]

It can be hard for modern readers to interpret Constantine's categories, which do not fit easily with current classifications of mental disorder. They are not divided into modern categories of neurological and psychological complaints, indeed all are attributed to physical causes rather than psychological ones, although the latter may sometimes contribute. Some of his 'disorders of the head' would now be considered purely physical disorders of the body rather than the mind, for example, lethargy often included symptoms of general sepsis. Melancholy covers most of the disorders that would be thought of as 'madness' and its variant of lovesickness was a new category. From then on, the old disorder names waned, in preference

Guinefort, Healer of Children since the Thirteenth Century (Cambridge, 1983), cited in Hall, *Elves in Anglo-Saxon England,* p. 168.

[153] *De melancholia* does mention that common people attribute epilepsy to demons without endorsing this view, p. 132. The *Practica* (Book 5, Ch. 17) suggests that demons may be implicated in epilepsy, but this is not Constantine's work.

for those from the classical tradition, some terms, such as apoplexy, persisting in use up until the twentieth century.[154] Certainly medical texts available in medieval England continued to use the classical terms, and most also included lovesickness.[155] Such texts would now carefully describe symptoms and causes. Chapters often have sections on *causa*, *signa*, and sometimes *prognostica* before discussing *cura*, as for example in De Gordon's chapter on lethargy.[156] Causation, so neglected in the vernacular texts and often in the Latin ones available, was now centre-stage, usually the first thing to be discussed, and the harmful humour or humours were always specified. Lethargy, according to Gordon, was due to phlegm, and all those foods which promoted this; it could sometimes be due to black bile, or both phlegm and bile together, each with their own associated symptoms.[157] Like the previous Latin texts, these later medical texts now gave natural and humoral causes almost universally, for example Gilbertus attributes the problem of sleep paralysis and nightmare (*incubus* and *ephialtes*), to overeating and indigestion.[158]

Conclusion

Constantine's translations brought to the West a first introduction to the categories of things natural, non-natural and contra-natural. Nicole Archambeau writes that 'the main influence of the *Isagoge* and *Pantegni* was the framework they provided for medical knowledge' through this system.[159] The idea of the non-naturals in particular was an innovation from the Galenic and Islamicate traditions, and a major contribution to medical thought. It affirmed the importance of the environment, seeing the body and illness in its context; features of the air, weather, seasons and places were all to be considered in human health. Constantine passed on the Hippocratic idea that bad air was the cause of disease, identifiable by a foul smell, later known as the miasma theory of disease. This idea persisted for centuries, leading to a concern with keeping cities clean, with good sanitation and free of smells.

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[154] E. Engelhardt, 'Apoplexy, cerebrovascular disease and stroke: Historical evolution of terms and definitions', *Dementia and Neuropsychologia,* vol. 11 (2017), pp. 449-53.
[155] E.g., De Gordon, p. 112, Gaddesden, fol. 132r.
[156] De Gordon, pp. 97-8.
[157] De Gordon, p. 97. See the glossary for an explanation of chyme.
[158] Gilbertus, fol. 113v. The only exception discovered is Gilbertus' suggestion that some forms of mania might sometimes arise in an energumen (someone possessed by the devil) with the movements of the moon, or due to an evil disposition, but it was usually said to be due to wind in the brain. Gilbertus, fol. 103r, see also Ch. 11.
[159] Archambeau, 'Medical and Scientific Understandings', p. 23.

Taking the various qualities of the patient's environment into account, together with his particular complexion and ailments, his lifestyle, health habits and especially diet, these were all to be considered for their effects in regulating the qualities in the body to try to achieve balance. Because this involved a complex body of theory with many principles to remember, and factors to adjust for each individual, this promoted the importance of medical education and medicine as an elite profession.[160] It also increased an emphasis on preventative health, which was a very important component in medieval medicine, although rather neglected in modern scholarship.[161] There had always been regimens of health, but it generated a whole genre of medical writing in the various *regimen sanitatis,* helping their readers to manage the non-naturals, including the emotions.[162] The rise of theoretical medicine has been seen as a good thing, although John Riddle has expressed concerns that it took precedence over practical knowledge gained by experience. The system of degrees applied to drugs and diet to bring balance was 'unworkable in its complexity', only partially understood, and may well have been ignored by many practising physicians.[163]

Importantly, and especially for the focus of this thesis, the non-naturals included the *accidentia animae*. Medical writing had scarcely touched on the emotions previously, but the *Pantegni* took an almost entirely physical approach to emotion. It is explained as movements of the *calor naturalis* between the heart and the body, without any reference to the brain and little to cognition, but perhaps this chimed with the English, whose tradition was cardiocentric. Emotions could be used therapeutically and managed as other non-naturals; emotional disturbances could be helped by diet, medication and lifestyle factors. Feelings were now a matter for science, and the *Pantegni's* account was the foundation for later medical thought, to be built upon by the subsequent texts arriving by Rhazes and Avicenna.[164] This shift towards a natural understanding of emotion contributed to a profound transformation in the understanding of man and his physical nature over the next two centuries, with many implications for philosophy and theology.[165] The focus of concern when it came to the emotions had previously been questions of sin and salvation, virtues and

[160] Riddle, 'Theory and Practice', p. 183; Siraisi, *Medieval and Early Renaissance Medicine,* pp. 13-6.
[161] Horden, 'A Non-Natural Environment', pp. 138-9.
[162] Sotres, 'The Regimens of Health', pp. 291-318.
[163] Riddle, Theory and Practice', pp. 172-6.
[164] Boquet and Nagy, *Medieval Sensibilities,* p. 137.
[165] *Ibid*, pp. 130-1.

vices, but now perhaps they could be viewed in a more complex and neutral way, as part of nature. Abelard for example questioned whether having an angry disposition was a natural defect, in the same way as a physical limp, rather than being sinful.[166] Despite the reductionist nature of Constantine's descriptions, it is no coincidence that these ideas were followed by a flowering of both spiritual and secular literature on the emotions.[167]

The English would continue to turn primarily to the Church to understand and manage their emotions and heal their sufferings for centuries to come, but the *Pantegni* also brought a new 'scientific' understanding of mental disorders and their symptoms, under the heading of the contra-naturals. Constantine's smaller number of disorder categories replaced the motley collection of ill-defined ailments and problematic behaviours of the vernacular medical texts. They were clear diagnostic categories based on their primary symptoms or underlying causes. The utility of these terms was proved by their longevity over following centuries, and there were some new disorder concepts such as lovesickness. Etiology was always part of the description of illnesses, and this became a key foundation for the subsequent development of medicine. Importantly, causes were all physical, usually humoral, with psychological factors working through their effects on the humours; they were almost never stated as the work of demons or other dark forces.

In setting out the naturals, non-naturals and contra-naturals, the *Theorica* then set out a complete theory of the body and how it worked, how lifestyle and the environment affected it, what symptoms and disorders afflicted it, and how these arose. Rather than a purely practical approach to treating often ill-defined problems, there was now a solid basis for understanding illness and for preventative and treatment advice. With this background in mind, the following chapters go on to look in detail at particular contra-naturals, the disorders of the mind and brain.

[166] *Ibid*, p. 133.
[167] *Ibid*, Chs. 4 and 5, especially pages 91, 95, 109 and 110.

Chapter 5: Frenzy

The first surviving reference to *phrenitis* arises in the Hippocratic texts, and it was apparently already a long established term at that time, one of the four most important mental disorders in Graeco-Roman medicine.[1] Involving both physical and mental symptoms, originally it was seen as a disorder of the *phrenes* (diaphragm), considered a seat of the soul.[2] Constantine wrote of it as *frenesis*, or frenzy, understood to be a loss of reason (*alienatio mentis*) occurring in the context of fever, whereas other forms of *alienatio mentis* occurred in the absence of fever. The term relates to ideas of delirium, inflammation and infection of the brain.[3] Constantine devoted chapters to frenzy in the *Pantegni*, and also the *Viaticum*, as did the writer of the *Practica*, which came to be attributed to Constantine. This chapter first considers how frenzy is discussed in Constantine's translations, how the symptoms and causes are described, and how it was to be treated. Then it discusses how frenzy was covered in the vernacular and Latin medical writings in the possession of the English at the dawn of the twelfth century, and Constantine's subsequent impact in this disorder.

Symptoms

In the *Pantegni* Constantine explains *frenesis* as occurring when the brain or its membrane suffers from a warm complexion or from a hot aposteme (an abscess or swelling).[4] It is a most distressing and serious condition, the suffering and pain are said to be very great, with the *Viaticum* emphasizing a range of terrible symptoms.[5] The patient may not survive. The text states starkly:

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[1] G. Mcdonald, 'Concepts and Treatments of Phrenitis in Ancient Medicine', PhD Thesis, University of Newcastle-on-Tyne (2009), p. 15; A. Sakai, 'Phrenitis: inflammation of the mind and the body', *History of Psychiatry*, vol. 2 (1991), p. 194.
[2] Sakai, 'Phrenitis', pp. 198-9. In Homer and post-Homeric writers the *phrenes* were one of three body souls and were associated with understanding and intelligence. D.J. Furley, 'The Early History of the Concept of Soul', *Bulletin of the Institute of Classical Studies*, vol. 3 (1956), pp. 8-9.
[3] Demaitre, *Medieval Medicine*, pp. 133-4.
[4] The pages on frenzy are missing from BL, MS. Add. 22719, so references are taken from Trinity College, MS. R. 14. 34. 'Frenesis aut ex calida est complexione quam patitur cerebrum aut suae pelliculae aut de calido apostemate in pelliculis ipsius cerebri', *Pantegni*, Book 9, Ch. 4, fol. 99v.
[5] 'haec passiones ... sunt molestissime ... nimius his est dolor', *Pantegni*, Book 9, Ch. 4, fol. 100r. 'angustiam nimiam' 'terribilia infirmus accidentia pacitur', *Viaticum*, Book 1, Ch.18, fol. 6v.

> It is necessary that you understand, of those who progress to the state of frenzy, not many escape.[6]

The key symptoms are those of fever with associated delirium and loss of reason; fever is evidenced by heat in the head and face, and is associated with a red (sometimes yellow) face, with red, bulging eyes, which could also be inflamed and dry, or tearful with discharge.[7] The delirium or '*alienatio*' involves wakefulness or disturbed sleep, the patient may have vivid dreams and wake up shouting.[8] He may laugh and be foolish, or show great fear, suspicion and weeping.[9] The *Viaticum* explains that the severity of *alienatio* is associated with the severity of the fever, increasing or decreasing in tandem with it.[10] Pain in the head is a key portent of frenzy, and swelling of the face and arteries of the brain causes very great pain, 'as if the bones had been separated by a saw'.[11] The *Viaticum's* list of terrible symptoms includes great thirst, dryness of the mouth, distress, great exhaustion, faintness and the face going red or yellow.[12] The tongue may become furred and black, the pulse excessive, breathing might become difficult and infrequent.[13] The choleric form of the condition may involve aggressive behaviour.[14]

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[6] 'Oportet autem intelligas, qui a frenesim inciderint et ad hanc etatem pervenerint non euadunt plurimi', *Pantegni,* Book 9, Ch. 4, fol. 100r.

[7] 'Significatio est continua febris, calor non fortis sub tactus, capitis et faciei calidor est tactu totius corporis… oculi eorum aliquando lachrimantur et lippi fiunt aliquando sicci' ... 'continuus rubor in facie oculi quasi exeunt abominationem patiuntur', *Pantegni,* Book 9, Ch. 4, fols. 99v-100r. 'Quibus oculi sunt rubicundi et crossi et tumor in facie cum dolore nimio in capite', *Pantegni,* Book 10, Ch. 3, fol. 127r.

[8] 'alienatio habetur mentis vigiliae. Aliquando est somnus cum imaginatione et suscitatur cum clamore', *Pantegni,* Book 9, Ch. 4, fol. 99v.

[9] 'accidentia cum risu sint … cum vanitate, et levatione assidua, alienatione nimia, timore et suspitione, et ploratione', *Pantegni,* Book 9, Ch. 4, fol. 99v.

[10] 'Alienatio est illa qua in augmentante est febris acuta ... febre quiescente et alienatio quiescit', *Viaticum,* Book 1, Ch. 18, fol. 6v.

[11] 'facie et arteriis tumescens ut sentiantur ossa serram assimilantia quasi sint separata et nimius his est dolor', *Pantegni,* Book 9, Ch. 4, fol. 100r. 'dolore nimio in capite frenesis portenditur', *Pantegni,* Book 10, Ch. 3, fol. 127r.

[12] 'terribilia infirmus accidentia pacitur sicut sitim nimiam: oris siccitatem ... asperitatem: molestationes: angustiam nimiam, defectionem: et sincopin, mutationem native cutis facei in non nativam sive ruborem: si sanguis cordis sit causa: vel in citrinitatem; si colera .R', *Viaticum,* Book 1, Ch. 18, fol. 6v.

[13] 'lingua nigrescens, accipit de vestimentis flocculos ... pulsus in tota passione hac parvus defectus, parum durus nimium diuersus anhelitus spissus', *Pantegni,* Book 9, Ch. 4, fols. 99v-100r.

[14] 'quoque patiuntur ex apostemate colerico. Hoc habent accidentia supradicta, cum ira, contentione et perfidia', *Pantegni,* Book 9, Ch. 4, fol. 99v.

Causes

Book 9 of the *Pantegni* gives the causes of frenzy as a hot abscess in the brain or its membranes, a warm complexion or 'an excess of bile which is in the veins of the brain'.[15] Later it gives two further causes; the abscess could be one of black bile, possibly with a little phlegm, or it could come from an aposteme in the diaphragm, due to its connection with the brain.[16] Alternatively Book 10 suggests that it is a domination of blood in the brain which generates the hot aposteme.[17] The *Viaticum* agrees that the cause is a hot aposteme in the brain or its membrane and adds 'it arises in two ways, either from the burning of red bile rising, or from the vapours of blood boiling in the heart'.[18] It too cites an abscess of the diaphragm as a potential cause, but illness in the stomach or womb can also be implicated, due to their nervous connections with the brain.[19] People disturbed by great and sudden exertion can be affected, a hot dry complexion and the summertime are also said to be predisposing factors.[20]

The symptoms vary according to the precise cause. The *Pantegni* specifies that where the cause is blood there will be sleep, with laughter, red eyes, yellowing and dryness of the face; it says that the same is true when bile is the cause, but with additional symptoms of anger and argumentativeness.[21] If black bile is implicated, additional symptoms of feelings of aimlessness, fear, suspicion and weeping may be seen; if it is with a little phlegm,

[15] 'Frenesis aut ex calida est complexione quam patitur cerebrum aut suae pelliculae aut de calido apostemate in pelliculis ipsius cerebri, aut in cerebro aut ex multitudine colere qui in venis est cerebri', *Pantegni,* Book 9, Ch. 4, fol. 99v.
[16] 'Si autem apostema est melancolicum … parum miscetur flegmatis … est alia frenesis in cerebro ex apostemate diafragmatis propter colligantiam nerui a cerebro descendentis', *Pantegni,* Book 9, Ch. 4, fols. 99v-100r.
[17] 'ex multitudine colere qui in venis est cerebri', *Pantegni,* Book 9, Ch. 4, fol. 99v. 'hec accidentia monstrant dominationem sanguinis in cerebro, quod cum impleatur calida apostemata generantur', *Pantegni,* Book 10, Ch. 3, fol. 127r.
[18] 'Nascitur duobus modis; vel de incensionem colere .R. cerebrum ascendente, vel de sanguis ebullitionem ex corde, de cuis fumo est ascendent cerebrum', *Viaticum,* Book 1, Ch. 18, fol. 6v.
[19] 'Frenesis que ex quolibet alia passione nascitur: vel est ex diaphragmatis apostemate vel ex stomachi passionem, sive ex matrice: ex quorum colligantia per nervos cerebrum patitur', *Viaticum,* Book 1, Ch. 18, fol. 6v.
[20] 'Ex maxima vero parte hec infirmitas solet contingere his qui magno et subto (subito) labore exercitantur et quarum complexio calido et sicco, et maxime in tempore estivo', *Viaticum,* Book 1, Ch. 18, fol. 6v.
[21] 'Quod si sit ex apostemate sanguineo: Omnia accidentia cum risu sint et somno, rubore oculorum, alienatione. Calor eorum pungitivus, facies non multum rubea sed citrinitati contigua, cum siccitate; quoque patiuntur ex apostemate colerico. Hoc habent accidentia supradicta, cum ira, contentione et perfidia', *Pantegni,* Book 9, Ch. 4, fol. 99r.

wakefulness, a variable pulse and rapid breathing.[22] Frenzy arising from the diaphragm is characterised by fever affecting the body, rather than the head, with heat in the side and abdomen, and short difficult breaths.[23]

In a variant problem called erysipelas the cheeks are very dry and orange, with very great pain, heat like a fire and loss of reason, said to be from an infection in the membrane of the brain.[24] In the *Practica* 'cold frenzy' is discussed without explanation, but this term is also used of lethargy, to be discussed in Chapter 6.

Treatment

The *Viaticum* is clear that the first task of treatment is to let the blood, insofar as the patient's strength allows, or the condition will take over.[25] A regime is then indicated with a cathartic medicine of purging herbs and fruits such as tamarind, anointing of the head, and sneezing:

> Recipe: manna, sweet violet, cassia fruit, 5 drams, strained, in pear water, in the evening with pomegranate water, sweet or tart, with sugar syrup. They are to be fed with tisanes of sugar, or light bread with almonds and sugar. It is often changed to water with syrup of violet or of plum or oxizaccara. We release rose oil over his head with vinegar or purslane juice, or houseleek and gourd, with violet or rose oil. We put over his head willow foliage or purslane. If they have wakefulness, we rub the

[22] 'Si autem apostema est melancolicum eadem sunt accidentia, cum vanitate… nimia timore et suspicione, ac ploratione. Cum autem his materiis parum miscetur flegmatis habent superiora accidentia cum vigiliis somno pulsus in tota passione hac parvus defectus, parum durus nimium diuersus anhelitus spissus', *Pantegni,* Book 9, Ch. 4, fols. 99v-100r.
[23] 'Febris est fortior per totum corpus plus apparet calor ex vicinitate loci infirmantis ad cor. Ypocundria autem trahitur anhelitus anguistiosus pectus, latus ypochondria sunt calida', *Pantegni,* Book 9, Ch. 4, fol. 100r.
[24]'Est et aliud apostema quod vocatur erisipila nimium faciens dolorem vel ardorem quasi igneum. Color eius est citrinus, bucca nimium sicca. Alienatio mentis est ut in frenesi ex apostemate calido quod est in pelliculis cerebri', *Pantegni,* Book 9, Ch. 4, fol. 100r. In modern medicine erysipelas (also known as St Anthony's Fire) is a rare and usually easily treated bacterial skin infection, with a painful facial rash and sometimes associated with fever. Septicaemia, blood poisoning, or meningitis are rare complications in the twenty-first century, but may have been much more common in the past (*British Association of Dermatologists* [website] (published July 2021) <http:/www.bad.org.uk/pils/cellulitis-and-erysipelas> (last accessed 10 April 2024)).
[25] 'Oportet ergo ante dominium morbi flebotomari freneticos et sanguis extrabatur secundum virtutem patientis si non aliquid obstat contrarium', *Viaticum,* Book 1, Ch. 18, fol. 6v.

forehead and the temples with lettuce, poppy juice and violet oil. Make him sneeze with woman's milk and violet oil.[26]

Should the patient be unable to drink, a clyster is given instead, such as a clyster recipe involving natron, violet oil and sugar, given daily.[27] Should he suffer from a dry mouth, his mouth and tongue are to be washed with fleawort and oil of violet.[28] Furthermore foliage of fresh green herbs such as willow, myrtle and rose are placed in the room where he is lying.[29] Should the disorder be related to black bile, when the patient is strong enough, a purging treatment specific for this is given with dodder and agaric, or *hieralogodion*, *theodoricon* or the *hiera* of Galen; the patient should abstain from bile producing foods.[30] Other than this Constantine does not discuss the non-naturals in the management of the condition.

Treatments in the *Practica* are somewhat different; again bloodletting is recommended, and clysters.[31] Congestion could be improved with a poultice and massaging the legs and hips.[32] In general it is said to be helpful to apply the fresh lung of a pig to the head, and the patient can be quickly calmed by a variety of fragrant ointments applied to the lips, eyes and

[26] 'catartico est subveniendum ... Rx: manne violati mellis, cassie fistulae ana ʒ v que colata da mane in aqua cucurbitina, vespere cum aqua maligranati dulcis vel acidi: cum sciruppo zuccari. Nutriendus est cum ptisana zuccaro vel de pane levato cum amygdal' et zucarra. Mutet autem semper aquam sciruppo violato vel de prunis vel de oxizaccara. Mutamus (mittamus) oleum rosarum super caput cum aceto vel portulace suco vel sempervive et cucurbite cum oleo violato vel rosato. Ponamus super caput frondes salicis vel portulaces. Si habent vigilias, ungamus frontem et timpora cum lactuce et papaveris suco et oleo violato. Sternutatio fiat cum lacte mulieris et oleo violato', *Viaticum,* Book 1, Ch. 18, fols. 6v-7r.

[27] 'Si potionem bibere non possunt quam volumus clistere mandamus ... Apponantur de nitro ... oleo violato zuccaro ʒ x et fiat cotidie', *Viaticum,* Book 1, Ch. 18, fol. 7r.

[28] 'Si siccitas oris crescit et lingue aperitas, lavetur os cum psillii aqua et oleo violato et similiter lingua', *Viaticum,* Book 1, Ch. 18, fol. 7r.

[29] 'in domo ubi iacet frondes herbarum mittamus virides sicut salicis, myrte, rosae', *Viaticum,* Book 1, Ch. 18, fol. 7r.

[30] 'Melancolicorum cerebrum oportet de colere .N. mundificari secundum qualitate suam catartico. Sicut hiera logodion; theodoriton et similibus, hiera G et catartico de epithimo et agarico. Si morbus sit molestius: virtutem levioribus prius rogamus: postea catarticum damus. Abstinentia ei iniungatur de cibariis colera .N. generantibus', *Viaticum,* Book 1, Ch. 18, fol. 7r.

[31] 'cum flebotomia de cephalica curabis', 'fiat ei clistere cum aqua in qua coquanter blete cum oleo viola aut accipiant apozima prunorum viola … Oleum de edera valet dolorem capitis et frenesi. Dandum est ... electuarium psiliticum', *Practica,* Book 5, Ch. 6, fol. 140r.

[32] 'Si stipicus est cataplasmetur cum semen lini et farini ordei ... fricentur in cruribus et coxis', *Practica,* Book 5, Ch. 6, fol. 140r.

nostrils.[33] Dietary advice is to avoid wine and almonds.[34] A number of remedies to bring on sleep are also given, with a drink of anacardium having immediate effect.[35]

Frenzy was therefore understood as a serious illness of fever, confused behaviour and pain, arising in the brain but potentially other organs of the body. Constantine carefully and comprehensively detailed the symptoms, causes and treatments for the condition for practical use, and wrote frankly to prepare the doctor for the worst. This information does not seem to be derived predominantly from Galenic writing, although Galen did also implicate the diaphragm as in the *Pantegni* and *Viaticum*.[36] Some of the treatments were from Galen, such as the bloodletting, and application of rose oil with vinegar, and many were soothing and cooling to the fevered patient.[37]

Concepts and treatments in England before Constantine

Vernacular sources

The Old English sources were aware of the term frenzy, explained in the *Old English Herbarium* under the heading of Hogs Fennel (*Peucedanum officinale*).

> For the disease the Greeks call *frenesis* which is witlessness of the mind (*gewitlest þæs modes*) in our language, that is when the head becomes very hot, take the same plant, *peucedana*, pound it in vinegar and sprinkle the head with this. It heals very well.[38]

This is the only explanation of frenzy in the vernacular texts – loss of reason and the head becoming hot. The early English knew of the membrane of the brain, but this was not mentioned here.[39] Although the term frenzy was nowhere else given directly, McIlwain notes that the same disorder of *gewitlest*, 'witlessness, that is against devil-sickness' (*wið gewitleaste þætis wið deofulseocnysse*) was also to be treated with mandrake in the

[33] 'Sed quia alienationem paciuntur; ista adiungantur recens peccoris pulmo capiti alligatus valet…. Nares et labia et oculi et aures odoferis unguentis ungantur sicut mirta, storace, opio, castoreo, iusquiamo in mulsa decoctis, statim … quiescent', *Practica,* Book 5, Ch. 6, fol. 140r.
[34] 'Vinum omnio non sumant, neque amygda comedant', *Practica,* Book 5, Ch. 6, fol. 140r.
[35] 'Item anacardum tritum cum vino bibat statim dormit', *Practica*, Book 5, Ch. 6, fols. 140r -v.
[36] The symptoms given are similar in the broadest terms but for Galen the cause was dryness and heat (more like yellow/red bile than the other humours). S. W. Jackson, 'Galen - On Mental Disorders', *Journal of the History of the Behavioral Sciences,* vol. 5 (1969), pp. 372-4.
[37] *Ibid*, p. 374.
[38] *Herbarium,* Ch. 96, p. 192.
[39] McIlwain, 'Brain and Mind', p. 108, note 29.

Herbarium.[40] Three pennies weight of the plant in warm water led to a quick cure.[41] It is unclear whether the disorder *gewitseocne* (translated 'insane' or 'wit sick') was related to this, it was treated with a bath, eating hallowed bread and taking a purgative drink.[42] According to McIlwain's searches too, br*ægenseoc and brœcseoc* ('brain sick') were terms considered equivalent to the Latin *freneticus.*[43] There was one remedy for this in *Bald's Leechbook*, masses are said over an herbal drink with holy water, to be taken for nine mornings, and the patient must offer prayers.[44]

King Arestolobius' cure-all drink given in the *Lacnunga* helped *brægenes hwyrfnesse* ⁊ *weallunge*, where *weallunge* may be understood as agitation but also as a brain inflammation.[45] The drink involved many plant seeds in wine. The Old English term *weden heorte* (literally 'mad heart') has sometimes been interpreted as frenzy, similar treatments were offered in both *Bald's Leechbook* and *Leechbook III*, a drink with lupin and bishopswort, with Christian prayers and masses said over them.[46]

Earlier and contemporary Latin sources

This is the sum of the information from vernacular texts, whilst there was considerably more in the Latin sources which may have been available in England, here summarised with illustrative examples. Isidore wrote that:

> Frenzy (*frenesis*) is named either from an impediment of mind ... or from the sufferers gnashing their teeth … it is a disturbed state, accompanied by agitation and dementia, caused by an onslaught of bile.[47]

Many Latin medical writers described frenzy as a terrible illness. Oribasius had discussed this condition affecting the head and meninges, whose signs were acute fever with severe loss of reason and wakefulness.[48] Elsewhere he wrote of inflammation of the brain, which

[40] *Ibid*, p. 109.
[41] *Herbarium,* Ch. 132, pp. 205-6. Mandrake can help sleep but is also highly toxic.
[42] *Leechbook III,* pp. 392-3.
[43] McIlwain, 'Brain and Mind', p. 109.
[44] *Bald's Leechbook I,* Ch. 63, p. 142.
[45] *Lacnunga,* pp. 236-7. Pettit, 'A critical edition of the Anglo-Saxon *Lacnunga*', pp. 118-9 has it as inflammation. *Weallung* has the usual translation of agitation/fervour, *sweolung* is burning/ inflammation (*Old English translator* [website](published 2014) <https://www.oldenglishtranslator.co.uk> (last accessed 8 March 2024)).
[46] *Bald's Leechbook I,* Ch. 63, p. 142; *Leechbook III*, Ch. 68, pp. 402-3.
[47] Isidore, *Etymologies*, p. 110.
[48] Oribasius, *Synopsis*, vol. 6, pp. 203-4.

could also affect the meninges, but without calling it frenzy.[49] This was a severe illness with crying and agitation, from which the patient was likely to die in less than a week. Priscianus gave a similar account of frenzy as fever with loss of reason and insomnia, but also described a specific symptom - that they pluck at things like the walls or fabric.[50] Cassius Felix mentioned this aspect too when he described agitation, with the plucking and being active in the night. He also listed symptoms of redness of the face, twitching of the eyes, faintness of the pulse, sometimes with frenzied laughter, sometimes sadness.[51]

Alexander of Tralles gave most description, adding symptoms of wild leaping up, aggressive behaviour, forgetfulness, fast heavy breathing, red watery eyes and a scabrous tongue.[52] He contrasted delirium to frenzy itself, frenzy was shown by a continuing fever, red eyes and nose bleeds; frenzy was also a longer lasting condition characterised by an insanity he referred to as mania.[53] In the elderly it might present with weakness or raging, talking nonsense and wandering.[54] The writer of the *Tereoperica* also included symptoms of social withdrawal, patients singing and raising their hands to the sky, sometimes stammering and stomach problems.[55] The *Passionarius* noted that the patient may have strong thirst and say strange things due to dryness of the membrane of the brain.[56]

In general, the Latin authors gave little theoretical information about the disorder, preferring rather to give considerable treatment advice. Most gave only a line at best as to causation, whilst Pliny and Gariopontus, the later compiler of the *Passionarius*, neglected it altogether. Oribasius explained that the frenzied suffered from dryness and inflammation of the brain's membranes from a fiery /hot spirit (*ex ignito spiritu*).[57] Others agreed that injury or tension in the meninges, or inflammation of the brain or the meninges were the cause. Cassius Felix and the *Tereoperica* gave excessive wine drinking as a possible explanation.[58] Alexander thought that yellow or colourless bile was the cause of the inflammation and the *Tereoperica*

[49] Oribasius, *Synopsis*, vol. 6, pp. 217-220 and *Euporistes*, vol. 6, pp. 529-30.
[50] Priscianus, p. 109.
[51] Cassius Felix, Ch. 62, p. 154.
[52] Alexander, pp. 59-61.
[53] Alexander, pp. 61-62.
[54] Alexander, pp. 62-3.
[55] *Tereoperica* (Harley 4977), fol. 60r.
[56] *Passionarius*, Book 1, Ch. 8.
[57] Oribasius, *Synopsis*, vol. 6, p. 204.
[58] Cassius Felix, p. 154; *Tereoperica* (Harley 4977), fol. 60r.

explained that when bile and blood burn together this brought forth madness in the brain.[59] Oribasius, like Constantine, also associated erysipelas with inflammation of the brain.[60] None appear to have mentioned the possibility of frenzy arising from elsewhere in the body, any link with the diaphragm lost.

Treatment in the earlier and contemporary Latin texts

Preventative advice was available in the short *Epistula Hippocratis ad Antiochum Regem.* Purgative treatments, especially regular vomiting, were necessary if the patient wanted to avoid frenzy, amongst other problems.[61] Pliny, as was usual, gave no background information about frenzy but offered several interesting remedies: *spondylium* is helpful if poured with oil on the heads of those with phrenitis.[62] In Book 26 he stated that the condition was cured by sleep, and that this could be induced, for example, with *peucedanum*.[63] Book 30 included the remedies of magicians and Pliny only seems to have considered one useful in frenzy, 'a sheep's lung wrapped warm around the patients head'.[64] He discounted administering the brain of a mouse, the ash of a weasel or the dried flesh of a hedgehog as difficult to administer to the delirious patient, and dismissed the use of the eyes of a horned owl reduced to ash as a 'fraud', along with the use of astrology in medicine.[65]

Most Latin writers were clear that bloodletting was a mainstay in the treatment of frenzy. If the patient was strong enough, it was often the first thing to be done. Priscianus warned that a delay could be harmful to the patient.[66] Alexander recommended taking blood either from the arms or the forehead (this might require the patient to be restrained by attendants); Cassius Felix' advice was to do this through scarification and cupping glasses between the shoulders, Oribasius cut the vein under the tongue.[67] The *Tereoperica* had the physician take blood, then later take more through scarification and cupping glasses on the back of the head.[68] Taking blood from the head was often recommended in a later stage of the illness,

[59] Alexander, pp. 59-60; *Tereoperica* (Harley 4977), fol. 60r.
[60] Oribasius, *Euporistes*, vol. 6, p. 530.
[61] Marcellus, pp. 5-7.
[62] Pliny, Book 24, p. 23. Spondylium is more commonly known as hogweed/cow parsley.
[63] Pliny, Book 26, p. 353.
[64] Pliny, Book 30, p. 339.
[65] Pliny, Book 30, pp. 339-441.
[66] Priscianus, p. 110.
[67] Alexander, p. 64; Cassius Felix, Ch. 62, p. 154; Oribasius, *Euporistes*, vol. 6, p. 530.
[68] *Tereoperica* (Harley 4977), fol. 60r.

Oribasius, Priscianus and the *Tereoperica* advised this when the patient has been ill for some time, or when he was growing weak.[69] The writer of the *Passionarius* suggested that cupping glasses (without scarification) were to be applied in four places on the head, as well as to the belly, buttocks and hips.[70]

Alongside this a variety of *materia medica* were employed, in anointings, for sponging down the patient or in poultices, fumigations and steaming, applied to the nostrils, given as drinks or in clysters. Several authors recommended Galen's oxyrhodinum (rose oil and vinegar) treatment of the head, or anointing with rose and other oils.[71] Oribasius further gave a fumigation with poppy and lettuce seeds, and applied a barley and flax poultice.[72] Priscianus used a similar fumigation, and gave clysters of hydromel (honey and water).[73] Alexander and the *Tereoperica* recommended *diacodion*, a drink prepared from poppy juice, taken with caution.[74] Medical interventions in the *Passionarius* involved various cooling anointings, for example with rose water or hogs fennel.[75] Strongly smelling materials such as myrrh were applied to the nostrils, and it followed Pliny's suggestion that the warm lung of a beast should be tied to the head.[76] Two texts arriving following the Conquest, recommended treatments for frenetics. BL, MS. Sloane 1621 offered Galen's *antidotum pigra*, and another antidote 'invented by the Romans'.[77] The *Ramsay Scientific Compendium* offered a panacea which helped a variety of complaints from back pain to frenzy, involving 20 different ingredients.[78]

Some of these were intended to bring about sleep for these restless, disturbed patients. Oribasius and Cassius Felix applied poppy juice or a concoction with ivy leaves to the nostrils and forehead, Felix also recommended a rectal suppository of poppy.[79] The *Tereoperica* gave five methods of inducing sleep, including the suppository.[80] Sleep might also be induced with rocking; Priscianus wrote that the patient's bed should be suspended

[69] Oribasius, *Synopsis*, vol. 6, p. 204; Priscianus, p. 112; *Tereoperica* (Harley 4977), fol. 60r.
[70] *Passionarius*, Book 1, Ch. 8.
[71] Oribasius, *Synopsis*, vol. 6, p. 204; Alexander, p. 65; Priscianus, pp. 110-1.
[72] Oribasius, *Synopsis*, vol. 6, p. 204.
[73] Priscianus, pp. 110-1.
[74] Alexander, p. 65; *Tereoperica* (Harley 4977), fol. 60r.
[75] *Passionarius*, Book 1, Ch.8.
[76] *Passionarius*, Book 1, Ch.8.
[77] BL, MS. Sloane 1621, fols. 25v and 33r-34v.
[78] *Ramsay Compendium*, p. 146. This is very similar to King Arestolobius' treatment from the *Lacnunga*.
[79] Oribasius, *Synopsis*, vol. 6, p. 204; Cassius Felix, Ch. 62, pp. 154-5.
[80] *Tereoperica* (Harley 4977), fol. 60r.

and rocked. Oribasius advised this in severe fever, as it also reduced agitation and fear.[81] According to the eleventh-century *Passionarius*, patients should be encouraged to stay in bed but many were very active, so needed to be guarded or even tied up firmly.[82] As already noted, some of Alexander's clients needed to be restrained in order for bloodletting to take place. Oribasius and Priscianus recommended that patients who shook and threw themselves about should be bound up, but it was emphasised that the ties were soft, '*mollibus ligaturis*' and that this was to quieten the patient, so he did not wear himself out.[83] This was of course, medicine for the wealthy. The *Tereoperica* went further, indicating that they were to be restrained in a room where they could not jump out of the window, and Alexander had some patients in danger of running off – such was the agitation sometimes seen.[84]

Several writers gave instructions regarding the environment of the patient. For Oribasius and Priscianus, putting him in a light temperate room, without disturbance, was the most important thing to do.[85] The *Passionarius* agreed with reducing disturbance, indicating that the room should be empty of pictures which might agitate the patient, and be cold and with dim light; Alexander and the *Passionarius* instructed that he should not be disturbed or excited by visitors and conversation. Silence was best, and the *Tereoperica* asked that the attendants be quiet and calm.[86] Alexander also gave wider environmental advice: the patient should reside somewhere where the air was not too thick, damp or cold, nor very hot.[87] Alexander gave many instructions too, about diet, devoting four pages (in the printed edition of 1560) to food, drink and wine.[88] The patient should take tisanes, broths and hydromel, particular vegetables and fruits, and avoid wine. Oribasius and Priscianus mainly recommended moderation in food, with moist, light food offered.[89] Patients sometimes suffered intense thirst which should be assuaged.[90] Constipation was a concern to some physicians, to be treated with clysters, although attention was generally paid to the stomach,

[81] Priscianus, p. 111; Oribasius, *Synopsis*, vol. 6, p. 204.
[82] *Passionarius*, Book 1, Ch.8.
[83] Oribasius, *Synopsis*, vol. 6, p. 204; Priscianus, p. 111. Both write, 'mollibus ligaturis fasciarum alligatos quiescere faciemus'.
[84] *Tereoperica* (Harley 4977), fol. 60r; Alexander, p. 67.
[85] Oribasius, *Synopsis*, vol. 6, pp. 203-4; Priscianus, p. 110.
[86] *Tereoperica* (Harley 4977), fol. 60r.
[87] Alexander, p. 66.
[88] Alexander, pp. 68-72.
[89] Oribasius, *Synopsis*, vol. 6, p. 204; Priscianus, p. 110.
[90] E.g., *Passionarius*, Book 1, Ch.8.

with poultices and anointings.[91] Alexander discussed bathing, where appropriate, which should take place after purging.[92]

Later medieval writers

Constantine's work on frenzy had an impact on many later medieval scientific and medical writers. Gilbertus, Bartholomeus and De Gordon all included a great deal more theory and background to the disorder than seen in pre-Constantinian sources; they carefully specified the different causes and humours responsible.[93] Gilbertus for example gave over three pages of detail on the symptoms, and the various possible and sometimes complicated causes.[94] Notably all took on board the new idea that frenzy could originate in other parts of the body, which Constantine had conveyed in developed form from Galen, often calling it 'false' or *parafrensis*.[95] This became an important distinction since *parafrenesis* was thought to have a better prognosis.[96] Most also now bore the non-naturals in mind: this was a condition of those of a hot complexion, arising in the summer or from over-exertion. However, like Constantine they did not pay much attention to them in treatment, with just a line or two on diet.[97]

Bartholomeus specifically cited Constantine and used content on frenzy from the *Pantegni* and *Viaticum*, although in his treatment recommendations he favoured the *Practica* and other writers.[98] Gilbertus and De Gordon drew heavily from the *Viaticum* without attribution, both in their explanations of frenzy and therapeutics. Both used Constantine's suggested *materia medica* such as tamarind or houseleek, with fleawort to wash the mouth, whilst both had the room scattered with similar fragrant herbs.[99] Popular treatments may have come from the

[91] E.g., Oribasius, *Synopsis*, vol. 6, p. 204; *Tereoperica* (Harley 4977), fol. 60r.
[92] Alexander, pp. 70-1.
[93] Gilbertus, p. 216; Bartholomeus, p. 120; De Gordon, pp. 114-5. Gaddesden's section on frenzy (under fevers) is very short at fol. 6v.
[94] Gilbertus, pp. 215-9. Causes given included bile, blood, windiness in the brain attracting hot humours, or problems arising in the liver, lungs, stomach or womb.
[95] Bartholomeus, p. 120; Gilbertus, p. 216; De Gordon, p. 114. Alexander had written of 'false frenzy' *phrenitidis falsae*, p. 62, but this was not said to be caused by problems elsewhere in the body.
[96] Gilbertus, p. 348; D. Adamis et al, 'A brief review of the history of delirium as a mental disorder', *History of Psychiatry*, vol. 18 (2007), p. 462.
[97] Bartholomeus, p. 120; Gilbertus, pp. 219-30; De Gordon, pp. 114-5.
[98] Bartholomeus, p. 120.
[99] *Viaticum* fol. 6v-7r (see notes 26-29 above); Gilbertus, pp. 219-20; De Gordon, p. 115.

Practica, most advising the less pleasant remedy of attaching the lung of a pig (or sheep) to the head, and several suggested placing a cut-open dog, cat or hen over the patients head, a treatment from the *Practica* for *melancholia*.[100] Later writers agreed that bloodletting was important, but the details of the methods to be used sound rather stressful for the patient and were not from Constantine. Gilbertus and Bartholomeus took blood from the forehead, Gilbertus applied leeches to the face, and De Gordon let blood from the top of the nose until the patient fainted.[101]

Conclusion

In the consideration of frenzy, one is reminded of the fragility of life where infection, even a simple skin infection, could easily lead to terrible suffering and possibly death. The *Pantegni's* prognostic warning is still chilling today. However, Constantine's medical advice did what it could; the *Pantegni* and *Viaticum* gave the most comprehensive descriptions of the symptoms of frenzy yet seen in England. Those *laecs* who had not seen the Latin texts would previously have had a rather tenuous idea of the condition, with inconsistent terminology. The *Herbarium* explained it briefly, as the head becoming hot with 'witlessness', and most Latin authors gave only a few sentences on the symptoms.

Frenzy may seem a puzzling disorder category; Mitchell writes that where past descriptions of an illness do not fit with any known current disease, it may be that that 'the symptoms of more than one disease may have been lumped together'.[102] The variety of causes for frenzy given by medieval writers reflects perhaps a range of conditions and pathologies which could be responsible for symptoms of fever with agitation and confusion. It has been more recently associated with ideas of delirium, meningitis or encephalitis, whilst disorders arising in other parts of the body, such as sepsis, could give rise to such symptoms.[103] However although the medieval texts refer to an *aposteme,* infective external agents were not discussed; under the

[100] Bartholomeus, p. 120; Gilbertus, pp. 219-20; De Gordon, p. 115; Gaddesden, fol 6v. The treatment of applying an animal lung also comes from Pliny so may not have been taken directly from the *Practica*.
[101] Gilbertus, p. 220; Bartholomeus, p. 120; De Gordon, p. 115.
[102] Mitchell, 'Retrospective diagnosis and the use of historical texts', p. 84.
[103] Jackson, 'Galen on mental disorders', p. 373. McIlwain suggests that what is now understood as malaria was perhaps the most common cause of brain infection and fever in antiquity (McIlwain 'Mind and Brain', p. 109).

humoral system such disorders were usually thought to arise from endogenous causes, arising from the individual nature of the patient and the balance of his humours.[104]

Constantine's translations surpassed all previously available texts in their coverage of questions of etiology, giving a number of causes, although these were spread across texts and not always consistent. These causes could be an infection of the brain or in the body, the skin rash erysipelas, or a number of humoral causes, exacerbated by the patient's complexion, lifestyle or the season. The symptoms of the condition seen for each cause were carefully listed. By contrast the vernacular texts gave nothing on this except that frenzy was possibly sometimes described as 'brain sickness'; those in Latin either said nothing of this or gave no more than a line, with one or two explanations. Whilst humoral balance was a whole-body issue, no other available author had suggested that frenzy could arise from infection or illness in other organs of the body. This was an innovation Constantine brought in developed form from Galen, and created a broader understanding to include such problems as general sepsis, original ideas about the involvement of the diaphragm thus proving useful.

On the other hand, Constantine's instructions for the treatment of the condition were shorter and less detailed, although certainly gentler than many other writers. Bloodletting was the first thing to be done, but he offered no specific advice on how to do this in frenzy. All of the attempts to keep the patient cool with sweet cooling drinks, cooling head oils and washes, would of course assist the feverish. However, some practical issues were neglected, advice about the management and possibly restraint of the agitated patient was absent, when surely this would have been important to the working physician. Sedation and sleep were dealt with at length in several Latin texts and continue to be considered important for the delirious patient today, but Constantine himself was silent on this matter. Perhaps these reflect different treatment needs in different presentations of the disorder in different regions and time periods. Alexander gave much advice about environment, diet, bathing and visitors, but whilst Constantine devoted the whole of Book 5 of the *Pantegni* to the non-naturals, he had little to say about these in frenzy, and later writers also rather neglected them in this condition.

[104] Demaitre, *Medieval Medicine,* p. 21.

However, many novel treatments for frenzy were introduced by Constantine's translations. The use of purgative sneezing was new, and his pharmaceutical recommendations only slightly overlapped with what had gone before. Several new drugs suggested such as tamarind, dodder, agaric, fleawort and the sugar, vinegar and pomegranate mixture, oxizaccara, were all new treatments for this condition. Tamarind seems to have been a new introduction generally to English pharmacy.[105] *Hieralogodion*, *theodoricon* and Galen's *hiera* were compound medicines which had already been introduced in the state-of-the-art *antidotarium* in BL, MS. Sloane 1621, held at Bury. However, they were new recommendations for frenzy, and an example of Constantine's texts promoting these recent pharmaceutical additions. Later writers took up some of these new *materia medica*, with De Gordon and Gilbertus continuing to recommend tamarind, if otherwise often relying on treatment methods from elsewhere.

There is no reason to think that Constantine's treatments were any more effective than those which had gone before, nor did they lead to obvious improvements in medieval therapeutics.[106] If anything, later writers ignored his genuine writing, and treatments became rather more gruesome, with some torturous recommendations for bloodletting. However, the physicians that followed him now showed much greater interest in understanding frenzy and its causes, in both the brain and body. In the very long term the disorder category was lost, to be replaced with symptom descriptions such as 'delirium' and 'confusion'. Its loss is the result of the emphasis on etiology. Increasing understanding of the different causes of these symptoms gave rise to new, more specific and useful disease concepts, based on the site of infection or the infective agent.

[105] Constantine's new treatments for frenzy include tamarind and plums, cinnamon, purslane houseleek, a woman's milk, dodder, agaric, fleawort (plantain) colocynth, myrtle and manna (probably camelthorn) and oxizaccara.

[106] Current versions of tamarind and agaric have anti-microbial, anti-inflammatory and immune system regulating properties, dodder (*cuscuta*) can also be anti-inflammatory (*Science Direct* [website](last updated 2024) <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/tamarindus-indica> (last accessed 11 March 2024); *Science Direct* [website](last updated 2024) <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/agaric> (last accessed 11 March 2024); J.C. Liao et al, 'Antinociceptive and anti-inflammatory activities of *Cuscuta chinensis* seeds in mice', *American Journal of Chinese Medicine*, vol. 42 (2014), pp. 223-42). However long used *Peucedanum*, in its current form, also has anti-microbial and anti-inflammatory properties (P. Sarkhail, 'Traditional uses, phytochemistry and pharmacological properties of the genus *Peucedanum*: A review', *Journal of Ethnopharmacology*, vol. 156 (2014), pp. 235-70).

Chapter 6: Lethargy and forgetfulness

In some ways opposite to frenzy, but related to it, is the condition of *lethargia* (lethargy), sometimes called 'cold frenzy'. This is a broad category of disorder with memory and reasoning difficulties, often with yawning or stupor, discussed in the *Pantegni* and *Viaticum.* Memory loss and related conditions are given varying labels in the different texts translated by, or associated with, Constantine. A comprehensive discussion of forgetfulness and its treatment is given in the *Liber de oblivione,* where it is called both *lethargia* and *oblivio*. Stupor is a symptom also often mentioned in the context of lethargy, stupor mentis potentially referring to dullness of the mind, but often here, to a state of torpor, inactivity and insensibility, sometimes extreme.

Symptoms

As with frenzy, Constantine's texts carefully detail the symptoms of these conditions. For lethargy the *Viaticum* gives memory difficulties as the main symptom, together with other cognitive difficulties and odd symptoms such as yawning and opening of the mouth.[1] The *Pantegni* notes that the memory suffered, and there will be fever with stupor, the patient difficult to rouse from sleep. Patients find it hard to respond to questioning, there is loss of reason, and again yawning and mouth opening; they may be constipated, with cloudy urine, they might tremble, sweat, go dark in the face, or show variation in the pulse.[2] There can also be a form called *chuma,* with wakefulness and stupor; wakefulness is due to dryness and is accompanied by open eyes and disturbance of the mind, signs that this is a

[1] 'Econtra hominem obliviosum et dure intelligentem necesse faciat…. multa oscitatione oris apertioneque meminerint claudere', *Viaticum*, Book 1, Ch. 14, fol. 5v. The *Viaticum* does not mention fever as a symptom.

[2] Most of the pages on lethargy are missing from BL, MS. Add. 22719, so references are taken from Cambridge, Trinity College, MS. R. 14. 34. 'Lithargia est corruptio quam patitur memoria ... Significatio euis tepida et febris lenta…et habent stuporem et somnum difficilem ad excitandum. Si autem de aliqua re interrogantur duriter et moleste ab eis respondetur ... Mente alienantur, oscitationem habent nimiam buccam habent apertam ... alii sunt constipati. Vrina eorum turbida quasi asinina vel iumentina habent etiam tremorem, et in extremitate corporis sudorem, et eorum facies nigredini pertinet … Pulsus eorum ... est ... magnus, diversus et estuosus', *Pantegni,* Book 9, Ch. 5, fol. 100r.

combination of lethargy and frenzy.[3] This is apparently due to chyme, a product of digestion, but it is not explained how it was thought to cause lethargy.[4]

Stupor generally is a state in which the eyes are stuck closed or open, and the patient acts like he is being controlled, with loss of reason and memory, according to the *Pantegni*.[5] In a more serious case the patient's whole body is without sense or movement, in a state of suspension as if dead.[6] In the *Viaticum, stupor mentis* is said to be like sleep, with closed eyes, a sluggish sleeping from exhaustion and complete failure of strength, however in some forms the patient is not sleepy.[7] Again there is reference to a variant in which the patient is as if dead, with his eyes open, and unable to bear any disturbance.[8]

The disorder of *oblivio* is only mentioned in the *Liber de oblivione.* The book is in the form of a letter to an elderly patient who had enquired about a problem with forgetfulness, treated as an isolated symptom; this may be dealing largely with normal age-related memory loss, rather than more pathological kinds of forgetfulness. Meanwhile the *Practica* gives a chapter on lethargy, sometimes headed *frigida frenesi* ('cold frenzy'), with other chapters on related conditions, *stupor mentis, chuma,* and *corruptio memorie.*[9] *Corruptio memorie* is a problem of reasoning and memory or of severe forgetfulness, sluggishness and sleep, sometimes with wakefulness. [10]

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[3] 'Habent vigilias stuporem somnum, vigilie quae chuma vocantur','Si siccitas maior vigilia. Infirmus se habet quasi vigil dormiens, occuli habent eius aperti, mens turbata et alienata. Significatio qua monstratur hec passio ex frenesi et lithargia est composita', *Pantegni,* Book 9, Ch. 5, fol. 100r.

[4] See the glossary. The activity of chyme in this regard remains unclear (personal communication with Professor Luke Demaitre, 19 March 2024).

[5] 'oculi sunt clausi in congelatione vero aperti … similiter si aliquid operetur eodem modo operatur. Praeter has significationes habet et ... corruptionem rationis et memoriae', *Pantegni,* Book 9, Ch. 5, fol. 100v.

[6] 'totum corpus est sine sensu et motu est et suspensus est sicut mortuus', *Pantegni,* Book 9, Ch. 5, fol. 100v.

[7] 'Stupor mentis est quasi somnus oculis clausis; quod duobus fit modis; vel infirmus nimium est somniculosus; vel parum … Scilicet somnuculositas non est somnus; sed quasi dormitantis pigritia. Quae non contingit, nisi ex defectione et dissoulutionem virtutis', *Viaticum,* Book 1, Ch. 16, fol 5v-6r.

[8] 'quasi mortuus infirmus oculos tamen habet apertos; anima nullam molestationem tolerat', *Viaticum,* Book 1, Ch. 15, fol. 5v.

[9] *Practica,* Book 5, Chs. 7,8, and 10. In the Renaissance printed version the chapter is titled '*De frigida frenesi'.*

[10] 'Corruptio memorie et rationis….si ei patitur gravitatem cum oblivion et pigritiam cum sompno ... infirmus patitur vigilias', *Practica,* Book 5, Ch. 12, fol. 141r.

Causes

De oblivione gives exceptional detail regarding the structure and functioning of the brain, as seen in Chapter 3, as background to understanding the causes of memory loss. The power of memory is served by the posterior ventricle, and if there is a problem with the (animal) spirit therein, or damage caused by cold or possibly dampness, memory will be impaired.[11] *De Oblivone* cites Paul of Aegina, agreeing that cold wet phlegm is the cause of *lethargia*, but elsewhere states that this is chyme.[12] In general the substance of the brain should have a certain solidity to receive impressions, in order to form memories; forgetfulness is a sign that the brain is fluid and lacking in firmness.[13]

The *Pantegni* gives a more general explanation that *lethargia* arises from a cold complexion, from phlegm dominating the brain, particularly the back of the brain, and generally from an excess of moisture and phlegm.[14] The *Viaticum* also explains that memory requires stable substance in the posterior part of the brain, and when phlegmatic humours arise here, nothing can be retained; they also suffocate the animal spirit.[15] The *Viaticum* and *Practica* refer to the condition as 'cold frenzy'; other medical texts of the period also indicate that *lethargia* could arise following frenzy.[16] Further details about the causes of specific symptoms are offered in the *Pantegni.* Stupor could originate from a cold complexion, from phlegm, acute fever, compression of the brain or from a fracture (or depressed fracture) of the skull.[17] Severe stupor may be a result of drinking too much cold water, bathing in it or eating cold

[11] 'Et si patitur iste spiritus qui est in puppi cerebri lesionem, perdit memoriam aut minuitur… et memoria patitur semper lesionem ex frigidiate. Et ista frigiditas est aliquando simplex, aliquando cum humiditate', *De oblivione,* pp. 227-8.
[12] 'Et Paulus dixit quia lithargia non nascitur nisi ex causa private, que est flegma frigidum et humidum', 'illo chimo qui est fundamentum lithargie', *De oblivione,* pp. 228-9.
[13] 'Et bene tenere significat quia substantia cerebri habet moderatam soliditatem. Et tarde discere significat quia substantia cerebri dura est ad recipiendum formationem rei in se. Lithargia igitur significat substantiam cerebri liquidam et non habentem stabilitatem', *De oblivione,* p. 228.
[14] 'nascens ex complexionem mala et frigida aut de materia flegmatica que cerebro siue sui puppi dominatur … hec est ex habundantia humiditatis et flegmatis', *Pantegni,* Book 9, Ch. 5, fol. 100r.
[15] 'Perfectio memorie et facilitas recordationum animae substantialem cerebri puppis stabilitatem et eius innuunt perfectionem ... Quod fit cum in pupi cerebri humores nascuntur flegmatici qui fere nichil horum premittunt memorie … ex multa est flegmatis frigiditate et humiditate cum in puppi cerebri superat: et tantum spiritum suffocat', *Viaticum,* Book 1, Ch. 14, fol. 5v.
[16] *Passionarius,* Book 1, Ch. 8.
[17] 'stupor est aut de frigida complexionem quam patitur cerebrum, aut de materia flegmatica aut de febre acuta aut de percussione quam lacerti paciuntur corporis. Aut ex compressitione cerebri aut ex confricatione ossium capitis aut ex frustulis quae fractis ossibus capitis superponuntur ... Cum autem causa faciens vigilias causae commiscetur faciens stuporem, fit illud quae vocatur chuma', *Pantegni,* Book 9, Ch. 5, fol. 100r.

fruit.[18] The *Viaticum* attributes stupor to coldness and dampness, but confusingly it is said to be a disorder of the front of the brain.[19] A more severe state was nevertheless due to mixed phlegm and red bile in the posterior part of the brain.[20] The *Practica* also places stupor at the front of the brain, and gives additional possible causes: a blow to the brain or nerves, blockage of the brain, or a skull fracture.[21]

Across the various texts, Constantine discusses a variety of symptoms spanning from memory loss of varying degrees to much more severe states of cognitive impairment and even complete insensibility and immobility. These stand comparison to a variety of illnesses in modern disease concepts, such as dementia, possibly head injury, catatonic states and coma. Fever is sometimes mentioned in connection with lethargy, when the problems described might relate to general physical illness, infection or potentially lethal states of sepsis with passivity. The idea of 'cold frenzy' may have been based on observations that confused behaviour and cognitive impairment could follow brain inflammation or fever, but may also suggest agitation, sometimes seen in elderly patients in the absence of fever.[22] Problems with the frontal lobes of the brain as suggested in the *Viaticum,* (possibly caused by a head injury, according to the *Practica*), are still found to be associated with passivity, sluggishness and inertia.[23] Doctors may have been seeing a variety of symptoms from a variety of disorders, but classed them all under disorders of the head due to the cognitive problems and behaviour changes. If lethargy is a difficult disorder to understand, it is because it contained so many different problems as to be almost incoherent. Frenzy at least had the consistent symptom of fever, one consistency here might be lethargic behaviour, but this is not always clear. The proliferation of associated disorder terms seen in the *Practica* is illustrative of the uncertainties.

[18] 'Aliquando ex nimia potacione aque frigide et in ea balneatione et fructuum refrigerantionis commestione', *Pantegni,* Book 9, Ch. 5, fol. 100v.
[19] 'Medicetur hec infirmitas itidem ut lithargia. Sed tamen in lithargia puppis, in hoc morbo prora curatur cerebri', *Viaticum,* Book 1, Ch. 16, fol. 6r.
[20] 'Si patiatur puppis cerebri de flegmate et colera .R. conmixtis', *Viaticum,* Book 1, Ch. 15, fol. 5v.
[21] 'si enim stupor sit ex ... percussione vel ex opillationem cerebri ... aut cum fractis ossibus capitis', *Practica,* Book 5, Ch. 8, fol. 140v. Some versions have 'ex nervi percussione'.
[22] H.H. Kyomen and T.H. Whitfield, 'Agitation in Older Adults', *Psychiatric Times,* vol. 25 (2008), pp. 52-7.
[23] W. A. Lishman, *Organic Psychiatry: The Psychological Consequences of Cerebral Disorder*, 2nd edition (Oxford, 1987), p. 68.

A range of humoral causes is suggested for different presentations, but in particular the details of the physiology of memory are given to help understand the aims of treatment. As noted, these come from Galen's dissections, and in general Constantine's translations agree with Galen's view that this was a disorder of coldness, particularly cold, wet phlegm, which disrupted thought and memory.[24]

Treatment

The large number of treatments in *De oblivione* begins with remedies which warm the brain and expel phlegm and chyme. These are the *hieras,* such as *theodoricon, logodion,* the *hieras* of Hippocrates, Galen, and other reputed doctors.[25] Other warming compound drugs include *theriaca magna* and *tryphera magna,* whilst laxatives and pills such as stomaticum are used with gargling, sneezing and warm enemas to bring out phlegm.[26] A treatment recommendation attributed to Galen is that of castoreum and white pepper, and hot substances like mustard and pepper are used to provoke sneezing as this agitates the brain.[27] The patient should not eat cold juicy fruits, but drink spiced mead or syrup of calamint; he should practice vomiting when full.[28] Cupping glasses should be applied to the nape of the neck and back of the head but without cutting or blood letting, and the head should be massaged with warming fragrant oils.[29] There are two remedies involving animal parts:

> Tiberitis (al-Tabari) said: if you place the tongue of a hoopoe on a person suffering from forgetfulness, his memory will recover ... if you remove the gall bladder of a crane and mix it with elder oil and provoke sneezing, lethargy is cured.[30]

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[24] Jackson, 'Galen - On Mental Disorders', p. 376.
[25] 'Et melius set in illis et magis iuvativum Theodoriton maius quod fit cum nucibus muscatis, et logodion, et yera Ypocratis et yera G(aleni) et yera Eraclii et yera Archigenis et similia', *De oblivione,* p. 229.
[26] 'Et alie calide confectiones ... ut tyriaca maior, trifera maior, selithe, emitritus, diatrion, pipereon, diaromata, diagalanga, penthethicum, emirosia, succuriana et similia ... stomachicon et cochia et similiter potus qui habet proprietatem mundificandi cerebrum et illa que extrahunt flegma de cerebro cum gargarismo aut cum masticatione aut cum sternutatione aut cum calido clistere', *De oblivione,* p. 230.
[27] 'Dicit G(alenus) sanasse se lithargicum cum castoreo et pipere albo', *De oblivione,* p. 230.
[28] 'Abstineat ab omni fructo frigido et humido. Bibat autem medonem aromaticum aut sciroppum calamentis … Et satur vomat', *De oblivione,* p. 230.
[29] 'Et ponat cufam in cervice et occipitio sine scarificatione. Abstineat a flebothomia colli et ungatur caput oleo temperate calefactorio, ut yrino et musceleo et costileo et camemilino et similibus optima', *De oblivione,* p. 230.
[30] 'Tiberitis dixit: si ponas linguam upupe super oblivioscum, memoriam recipit. Quidam dixit: si tollas fel gruis et misceas cum oleo sambuceleo et provoces sternutamentum, sanatur lithargium',

The drug *Semecarpus anacardium* (also known as *baladhur*) is particularly recommended:

> Anacardium and preparations taken from anacardium help forgetfulness. Half a dram of anacardium helps with its special character.[31]

The book ends with two remedies including this drug, both give long lists of ingredients with weights, for example:

> This remedy with anacardium honey revives the mind, lifts lethargy ... Recipe: chebulic, belleric and emblic myrobalan, black and long pepper, eleven drams, ginger, anacardium honey seven drams, castoreum, styrax, cloves, five drams, camomile, laurel berries, galangale, three drams, sugar, twenty drams, sufficient honey.[32]

This recipe makes use of anacardium and several varieties of the myrobalans, which were all exotic drugs from India, only recently known of in England. There is a warning about how anacardium should be carefully prepared, soaked in vinegar for a week, cooked, strained and mixed with honey.[33]

The *Viaticum* offers some similar remedies to *De oblivione*, with the rationale that they purge the head of cold and thick humours.[34] These include *theodoricon*, and *trifera magna* but also suggested *diatrionpiperion*, an aloe recipe, and castoreum in chronic cases.[35] After purging the head, one of several poultices can be applied to the back of the head, which include

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De oblivione, pp. 230-1. This is misquoted from al-Tabari, Bos, *Ibn al-Jazzār on Forgetfulness*, p. 44.

[31] 'Anacandus et confectiones recipientes anacardum iuvant lithargiam. Media autem tantum drachma anacandi iuvat cum sua proprietate', *De oblivione,* p. 230.

[32] 'Item ant(idotum) cum melle anacardi revocat mentem, lithargiam tollit, iuvat melancolicos et flegmaticos et emorroydas et arteticos. R(ecipe) kebuli, bellerice, emblicis, piperis nigri et longi, ana drachmas .xi.: z(in)z(ibri), mellis anacardi drachmas .vii.: castorei, storac(is), gariofili ana drachmas .v.: camomile, baccarum lauri, ciperi, ana drachmas .iii.: z(ucceri) drachmas .xx.: mel quod s(ufficit)', *De oblivione,* pp. 231-2.

[33] 'Dicunt antique anacardum non ponendum in medicina nisi sic preparatum: accipe anacardos et tere et pone in aceto et sine diebus .vii. et coque cum lento igne et revoca ad duas partes. Cola cum lintheo. Fecem in medicina pone ubi petit anacardum. Cum aceto autem pone tantumdem mellis et coque usque at spissitudinem mellis. Hoc est mel anacardei', *De oblivione,* p. 232.

[34] 'potionem damus caput mundificantem ex frigidis et grossis humoribus', *Viaticum*, Book 1, Ch. 14, fol. 5v.

[35] 'Si hanc curare velimus: potionem damus ... sicut theodoriton, pillu cochias: stomachicon et similia ... Utatur (diatrion)piperion; diagalanga; diacosin, trifera magna … Hac quoque pillule sunt similiter iuuative … ad lithargiam. R. aloes. ʒ .x. agarici: sticados. ana. ʒ .iii. coloquintide: masticis: cassie: spice: cinamni: gariofili: squinanti: zinziberis: anisi. ana. ʒ .i. , fac pillulas in modum piperis. Et da. ʒ .iii. cum aqua calida ... Si inveterascat infirmitas; de costoreo detur cotidie', *Viaticum,* Book 1, Ch. 14, fol. 5v.

various oils, mustard or ashes of human hair.[36] A variety of gargles are given and the patient should be made to sneeze; castoreum is rubbed into the back of the head and applied to the nostrils.[37] He should refrain from fruit or cold moist foods, and again the physician should not take blood by scarification.[38] The *Viaticum* also especially recommends anacardium, the particular medicine for *lethargia* being a daily anacardium drink.[39] With regard to the treatment of stupor, the *Viaticum* offers soothing massages of the feet with salt, washing with floral and herbal waters, anointing with oil; sneezing is provoked, fumigations and honey drinks given.[40] All kinds of sweet music are played to the exhausted patient as 'all of this will delight his soul and he will naturally be awakened by this delight'.[41] None of the treatments aim to encourage sleep, rather many are gentle attempts to rouse patients.

The remedies given in the *Practica* for lethargy are largely the same as those in the *Viaticum*, and it gives treatments for *stupor mentis, chuma* and *corruptio memorie*.[42] Anacardium is again specifically recommended.[43] However it ends with a number of novel suggestions, the patient should lie in a place full of light, and their name should be called.[44] Fumigation treatments or applying material to the nostrils can be used to arouse the patient: this might be plant material or the burnt hair of a goat. Other animal treatments are recommended: the blood of a tortoise can be put on the forehead, or the warm lung of a beast tied around the head.[45]

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[36] 'cataplasma de sinapi, euforbio temperatis cum suco vel de castoreo et cinere humanorum capillorum cum aceto distemperatis', *Viaticum*, Book 1, Ch. 14, fol. 5v.
[37] 'Sternutatio cum selithe fiat vel cum condisi vel castoreo. Gargarismum cum sinapi: origano; piretro; staphisagria; galanga et similiter, cum hiera pigra et oximelle scillatico et aqua calida' 'Ungatur puppis capitis naribus quoque idem castoreum apponatur', *Viaticum*, Book 1, Ch. 14, fol. 5v.
[38] 'Accipiat oximel, mellicratum aromaticum. Abstineat a scarificatione; et in puppi capitis maxime; et a fructibus et cibus humidis et frigidis omnibus', *Viaticum*, Book 1, Ch. 14, fol. 5v.
[39] 'Propria huis morbi medicina potio est anarchardia (anacardium) una quaque die. ʒ .i.cum aqua calida', *Viaticum*, Book 1, Ch. 14, fol. 5v.
[40] 'pedes infirmi in aqua ponantur calida, et cum sale fricentur. Camomilla; melilota: rosa; in aqua decocta infirmo apponantur; ut per nares fumus eorum ingrediatur. Prora capitis: illa aqua lavetur ... cum oleo rosato et aceto ungantur … sternutatio cum castoreo fiat et condisi et nigella … fumigatio fiat cum licinio bombicineo ... Mellicrate aromaticum et oximel dentur ad bibendum', *Viaticum*, Book 1, Ch.16, fol. 6r.
[41] 'His anima delectatur; et ex delectationem natura excitatur', *Viaticum*, Book 1, Ch. 16, fol. 6r.
[42] *Practica*, Book 5, Chs. 7, 8, 10 and 12.
[43] 'propria huius medicina et anacardum', *Practica*, Book 5, Ch. 7, fol. 140v.
[44] 'iaceant in loco luminoso; et … nomen eius frequenter vocetur', *Practica*, Book 5, Ch. 7, fol. 140v.
[45] 'Capre pili usti litargicos excitant, si cum aceto naribus apponantur … aut illini frontem ex sanguine testudinis. Pulmo peccoris circa caput ligatus valet, et fumus galbini et cornu cervini naribus applicatus super omnia valet', *Practica*, Book 5, Ch. 7, fol. 140v.

Sharing Galen's understanding that lethargy came from coldness or phlegm, Constantine also relays his ideas about the use of warming, drying and stimulating drugs such as mustard, and the use of sneezing, but al-Tabari's suggestions and anacardium come clearly from Islamicate medicine.[46] The remedies in *De oblivione* involving animal parts are unusual in the genuine work of Constantine (although quite frequent in the *Practica*). The use of hoopoe parts is interesting, as the bird was later considered to be magical.[47] The wearing of plant or animal material might seem superstitious generally but following the views of Augustine, such *ligaturae* were not prohibited by the Church if used in medicine, as they were understood to be harnessing the properties of a substance 'to be helpful to nature'.[48] Notably all of the *Viaticum, Practica* and *De oblivione* highly recommend the use of the novel drug anacardium specifically for this condition, and this may have been with good reason.

Concepts and treatments in England before Constantine

Vernacular sources

Prior to the arrival of Constantine's works, the Old English texts made little mention of *lethargia;* it was mentioned only once, in the *Herbarium*, under rue:

> For the illness that is called *lithargum***,** and in our language forgetfulness, (*ofergytulnys*) take this same plant *ruta* (rue), soaked in vinegar. Sprinkle it on the temples.[49]

Oblivio, or age-related memory problems, did not feature in descriptions of the drawbacks of old age in extant Old English literary sources, according to a comprehensive review by Porck.[50] *Bald's Leechbook* mentioned older age only in relation to poor eyesight, indigestion and 'the half-dead disease', Byrthferth did note that the elderly were '*ceald and snoflig*'-cold and full of phlegm, without detailing the putative effects of phlegm on memory.[51]

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[46] G. Bos, '*Baladhur* (Marking-Nut): A Popular Medieval Drug for Strengthening Memory', *Bulletin of the School of Oriental and African Studies*, vol. 59 (1996), p. 230.
[47] Bos, *Ibn al-Jazāar on Forgetfulness,* pp. 25-6. R**.** Kieckhefer, *Magic in the Middle Ages* (Cambridge, 1989), p. 25, note 4.
[48] *St Augustine on Christian Doctrine*, D.W. Robertson (trans.) (Indianapolis, 1958), p. 55, XX. 30, cited in Meaney, *Anglo-Saxon Amulets and Curing Stones*, p. 9. Of course, in this case, Constantine and his sources could cover themselves by the attribution to 'Tiberitis'.
[49] *Herbarium*, Ch. 91, pp. 188-9. Pollington, *Leechcraft*, pp. 324-5. The term *ofergytulnys* can equally be translated as *oblivio.*
[50] T. Porck, *Old Age in Early Medieval England: A Cultural History* (Woodbridge, 2019), Ch. 3.
[51] *Ibid*, pp. 77-8; Byrthferth, *Enchiridion*, pp. 131-3.

Earlier and contemporary Latin sources

In *De temporum ratione*, Bede had also remarked that phlegmatic humours dominated in the elderly and that their effect was to make people slow, sleepy and forgetful (*obliviosus*).[52] This seems to relate to normal ageing, whilst Isidore explained the disorder of *lethargia* as follows:

> *Lethargia* is named after the word for sleep (cf. ληθαργία 'drowsiness'). It is an overpowering of the brain accompanied by forgetfulness and incessant sleep like that of one who is snoring.[53]

Of the medical writers they had, few gave much detail on the symptoms of lethargy. Cassius Felix wrote that in *lethargia* the patient suffered from *oblivio*, unnatural sleep, movement difficulties, and a prominent pulse. He added that the patient was tormented by an acute fever, or that it followed fever or frenzy.[54] Alexander distinguished between 'true' *lethargia* and 'false' *lethargia* according to cause. In the true form the patient could not recall what was said to him and showed inactivity, in the false kind he could be wakeful, sleepy or delirious, unresponsive and lacking in comprehension. He also discussed a lethargic sleeping termed *caron*, like *stupor*, sometimes with pain.[55] Unlike the other ancient writers he did not mention a role of fever. The writer of the *Tereoperica* emphasised *lethargia's* similarities to frenzy, with fever, blunting of the senses and forgetfulness, cries and plucking at the eyelashes; the patient retained urine and faeces and was the colour of a corpse. In a variant form there was stupor, sometimes with wakefulness.[56] The *Passionarius* gave a very similar description of *lethargia* as a disorder of the mind with acute fever, where the patient might be unresponsive or say strange things. It gave a vivid description of the patient's worsening condition and a warning of the prognostic signs of possible death.[57] Several authors wrote of *lethargia* as closely related to frenzy, associated with fever but with a passive presentation, and sometimes equally fatal. Only some authors mentioned the aspect of memory loss, Oribasius was perhaps clearer about the contradictions of the category of

[52] Bede, *The Reckoning of Time*, pp. 101.
[53] Isidore, *Etymologies*, p. 110.
[54] Cassius Felix, Ch. 63, p. 155.
[55] Alexander, pp. 72-3 and 77.
[56] *Tereoperica* , fols. 82v-83r.
[57] *Passionarius*, Book 1, Ch. 13.

lethargy, and wrote of two conditions, '*memoria perdita'* (memory loss) and *lethargia* which involved exhaustion.[58]

Causes

Some Latin medical writers had nothing to say about the causes of lethargy or associated problems, others gave a sentence or so at most, noting the role of phlegm, cold and moisture, or sometimes phlegm mixed with bile. Oribasius noted that memory loss could be due to excess moisture/dryness or heat/ cold in the brain, impacting on the brain's ability to retain a memory imprint.[59] *Lethargia* was a disorder of the meninges, arising when thick phlegm attacked them; it was exacerbated by fever.[60] Alexander attributed it to cold and moisture together, suffocating the animal spirit and leading to stupor. 'True' *lethargia* was caused by phlegm alone, but 'false' *lethargia* arose when this was mixed with bile.[61] He stated that *caron,* a stuporous state, arose in the front part of the head, and when there is damage to the meninges, compressing the middle ventricle of the brain, with the suggestion that this is a result of bone fracture.[62] The *Tereoperica* agreed that phlegm caused moisture and cold in the brain, causing forgetfulness, and that if bile was also present stupor or wakefulness would result.[63] The *Passionarius* simply explained that *lethargia* was a disorder of the meninges, and briefly mentioned that cold may be involved.[64]

Treatment

Pliny had a number of recommendations for lethargy, such as oil of oenanthe, or a dose of seven *cimicum* ('bugs') in water.[65] Various animal products could be used to rouse the patient, such as an excrescence from the leg of an ass which was applied to the nostrils.[66] Other rousing pungent smells could be derived from the dried testicles or burnt liver of a weasel, and, as in frenzy, it was useful to wrap the warm lung of a beast around the patient's

[58] Oribasius, *Synopsis,* vol. 6, pp. 202-4.
[59] Oribasius, *Synopsis,* vol. 6, pp. 202-3.
[60] Oribasius, *Synopsis,* vol. 6, p. 204.
[61] Alexander, pp. 72-3.
[62] Alexander, p. 77.
[63] *Tereoperica* , fol. 83r.
[64] *Passionarius,* Book 1, Ch. 14.
[65] Pliny, Book 23, p. 469, Book 29, p. 225.
[66] Pliny, Book 28, pp. 155-7.

head.[67] As usual Pliny offered no rationale for his suggestions, but many of them involved trying to rouse the patient. The *Passionarius* noted the need to keep the lethargic awake, and Oribasius explained that their thick humours should be reduced, they should be roused and kept warm.[68] Apart from this, therapeutic aims were only implied. However, all authors worked hard at bestirring their patients in a variety of imaginative ways. Cassius Felix suggested striking them with stinging nettles or rubbing them with salt, the writers of the *Tereoperica* and *Passionarius* both recommended calling the patient's name and hitting them, the latter to press his body hard to cause pain.[69] A variety of irritating substances might be applied, such as a poultice with mustard, burnt human hair or sea onion, Oribasius put sharp stavesacre on the palate.[70] This was important - Alexander's treatment where castoreum was applied to aggravate the scalp was said to save lives.[71] Strong smelling substances were applied to the nose, and a variety of drugs given to provoke sneezing.[72] The sense is that this would be to stimulate the patient out of his stupor rather than as a purgative treatment.

As with frenzy, many authors, such as Alexander and Oribasius, let blood as a first step, sometimes by scarification and cupping glasses.[73] The *Tereoperica* and *Passionarius,* both present in Anglo-Norman England, suggested leeches, perhaps applied to the forehead.[74] Oribasius applied cupping glasses to the head and neck without scarification, in persistent cases.[75] Cassius Felix, the *Tereoperica* and the *Passionarius* all agreed that the patient should be in a light room, often because this would keep him awake; Felix advised that the bed should be firm with cold bedding to arouse him, conversely the *Tereoperica* emphasised the need to allow the patient to sleep in some cases, with a firm bed prolonging sleep.[76] Little

[67] Pliny, Book 30, p. 341 ('pecudis' is translated as sheep, but this can mean many kinds of herd animals or cattle).
[68] *Passionarius,* Book 1, Ch. 13; Oribasius, *Synopsis,* vol. 6, p. 204.
[69] Cassius Felix, Ch. 63, p. 156; *Tereoperica* , fol. 83r; *Passionarius,* Book 1, Ch. 13.
[70] Cassius Felix, Ch. 63, p. 156; Alexander, p. 74; Oribasius, *Synopsis,* vol. 6, p. 204.
[71] Alexander, p. 75.
[72] Oribasius, *Synopsis,* vol. 6, p. 204; *Tereoperica* , fol. 83r; Cassius Felix, Ch. 63, p. 156; *Passionarius* Book 1, Ch. 14.
[73] Alexander, p. 73, Oribasius, *Synopsis,* vol. 6, pp. 204 and 203; Cassius Felix, Ch. 63, p. 155; *Tereoperica* , fol. 83r.
[74] *Tereoperica* fol. 83r; *Passionarius,* Book 1, Ch. 14.
[75] Oribasius, *Synopsis,* vol. 6, p. 204.
[76] Cassius Felix, Ch. 63, p. 156; *Tereoperica* , fol. 83r; *Passionarius,* Book 1, Ch. 13.

advice was given about the diet in the Latin texts, although some suggested that wine was helpful, and Alexander gave lethargic patients a week of warm baths.[77]

With regard to pharmaceuticals, oxyrhodinum was applied to the head, often recommended as a first step along with bloodletting, as seen in frenzy.[78] Massaging various parts of the body, with oils like rue, was instructed by most writers. Oribasius preferred the use of poultices with mustard and sedge.[79] Many medicinal drinks were advised, such as one from Cassius Felix with thyme and cabbage to draw out phlegm, or from Alexander, a barley drink with leek and celery.[80] Oribasius offered a gargle for loss of memory, made with pellitory and hyssop.[81] Several authors recommended clysters, Alexander recommended inhalations, Oribasius a *hiera* for loss of memory, or chewing on simples like pepper.[82] BL, MS. Sloane 1621 offered *hieralogodion* and two *hieras* attributed to Galen with aloes and parsley.[83] The *Passionarius* suggested a number of useful animal products, the blood of a tortoise applied to the forehead, the use of a deer's horn, and again Pliny's warm lung of a beast tied around the head (some of these were taken up in the *Practica*).[84] Less certainly available in pre-Conquest England was the impractical advice of Pseudo-Priscianus, that the eye of a bird of prey, inserted into a phoenix, be tied around the neck of the patient suffering *oblivio*.[85]

It is difficult to avoid the conclusion that different Latin authors were probably discussing different conditions, some in which fever, denoting acute infection, was a defining symptom, and others where it was not mentioned. This is important to note as it is illustrative of why retrospective diagnosis can be only tentative at best and misleading at worst. The disorder term of frenzy had long been unhelpfully and overly broad, possibly due to a lack of interest in causation, or the difficulties in establishing cause in pre-modern medicine. The range of drugs used by Latin authors was quite small, with *materia medica* such as oxyrhodinum, mustard and rue met repeatedly in accounts, and of course the animal products. The rationale

[77] *Passionarius*, Book 1, Ch. 13; Alexander, pp. 75-6.
[78] Cassius Felix, Ch. 63, p. 156; Alexander, p. 73; Oribasius, *Synopsis*, vol. 6, p. 204.
[79] Oribasius, *Synopsis*, vol. 6, p. 204.
[80] Cassius Felix, Ch. 63, p. 156; Alexander, p. 75.
[81] Oribasius, *Synopsis*, vol. 6, p. 203.
[82] *Tereoperica* , fol. 83r; *Passionarius*, Book 1, Ch. 13; Cassius Felix, Ch. 63, p. 155; Alexander, p. 74; Oribasius, *Synopsis*, vol. 6, p. 203.
[83] BL, Sloane MS 1621, fols. 21v, 23r and 50r.
[84] *Passionarius*, Book 1, Ch. 14.
[85] Priscianus, p. 308.

for the treatments was implied but never stated; some were purgative, so it is assumed that it is the phlegm (or cold, moisture or bile) that is being purged. Many treatments aimed at stimulating and rousing the lethargic patient, sometimes harshly, and it seems that they thought this self evidently helpful; this may or may not have been the case, depending on the nature of the illness.[86] All of the Latin authors except for Pliny recommended bloodletting, and although this was well-intended, it could only have been harmful.

Later medieval writers

In following centuries, Constantine's work on these disorders was of interest to medical writers. All four selected authors were clear that forgetfulness and lethargy were disorders affecting the rear cell of the brain which served memory.[87] Bartholomeus gave the *Viaticum's* symptoms for stupor, quoting Constantine that stupor was a blindness of reason, the patient is as if asleep with eyes closed, but although he claimed his comments came from Constantine generally, they bore little resemblance to Constantinian texts.[88] Conversely Gilbertus, Gaddesden and De Gordon used many ideas from these texts, but without attribution. It is clear that De Gordon, for example, had read the *Pantegni, Viaticum, De oblivione,* and possibly the *Practica,* on this subject. All three authors paid much attention to the symptoms and causes of lethargy, with some distinctive symptoms from the *Pantegni*.[89] There was continued confusion about the role of fever, with De Gordon and Gaddesden suggesting that this was always present in lethargy, but Gilbertus only sometimes; De Gordon did however put 'corruption of the memory' into a separate category.[90]

Most of these authors continued to recommend the more aggressive rousing treatments such as tugging the patient's hair or beard, or employing noisy musical instruments, although at times sleep was to be encouraged.[91] Gilbertus, De Gordon and Gaddesden also did still indicate bloodletting, although the latter two authors did not use this in the specific case of

[86] See footnote 103 below.
[87] Bartholomeus, p. 121; Gilbertus, p. 230; Gaddesden, fol. 131v; De Gordon, p. 98.
[88] Bartholomeus, p. 121. He writes (in the Middle English translation) 'Al þis I haue drawe of Platearius and of Constantinus'.
[89] Gilbertus, p. 230; Gaddesden, fol. 131v; De Gordon, p. 98.
[90] De Gordon, pp. 98, 100-1; Gaddesden, fol. 131v; Gilbertus, p. 230; Bartholomeus, p. 121.
[91] Gilbertus, pp. 229, 231-2; Gaddesden, fol. 131v; Bartholomeus, p. 121. Gaddesden tied the patient's extremities until they went red.

memory problems.[92] Despite disregarding his advice in these aspects, some of Constantine's treatments for lethargy and forgetfulness were particularly influential. Gilbertus, De Gordon and Gaddesden all cited the use of anacardium, it featured several times in the Latin version of Gilbertus, with one use of the myrobalans.[93] De Gordon wrote that anacardium was the best thing for memory, and his recipe with chebulic, embelic and belleric myrobalans and anacardium, was only slightly different from one given in *De oblivione*.[94] Gilbertus took two treatments almost exactly from the *Viaticum*, with coccus pills and an aloe potion, and these were also thought useful enough to make it into the Middle English version.[95] Gaddesden used treatments likely to have come from *De oblivione*, with the use of cupping glasses, hoopoe parts (the heart rather than the tongue) and the inclusion of anacardium. Anacardium for lethargy and forgetfulness was to prove one of Constantine's most popular and enduring remedies, also appearing in Henry of Huntingdon's *Anglicanus ortus* and in medical texts and commonplace books into the fifteenth century.[96] Clearly, even when Constantine was no longer a prestigious author to claim you are citing, as for Bartholomeus in 1240, his model of the cause of forgetfulness and his *materia medica* were still considered useful.

Conclusion

Forgetfulness and its treatment were of great interest in the ancient world, covered by Rufus of Ephesus and Galen.[97] However, apart from Augustine's comments on memory (discussed in Chapter 3), few of these classical ideas are known to have been available in pre-Conquest England. When Constantine's *Liber de oblivione* started to arrive in the first half of the twelfth century it would have been the first comprehensive treatment of the subject. The Islamicate writer al-Jazzār had further taken Galen's dissections and ideas and developed a complete model of the function of the memory, as the basis for the treatment of its problems. In fact, it may be one of the first examples where a medical text had detailed the anatomy

[92] Gilbertus, pp. 231-2; De Gordon, pp. 98, 100-1; Gaddesden, fol. 131v.
[93] Gilbertus, pp. 230-2.
[94] De Gordon, p. 101.
[95] Gilbertus, p. 230; Getz, *Healing and Society*, p. 17. Some further treatment recommendations come from the *Practica.*
[96] Henry of Huntingdon, *Anglicanus ortus*, Book 6, p. 339; John Argentine's *Loci Communes: sue liber de morbis et medicinis* in Oxford, Bodleian Library, MS. Ashmole 1437, fols. 79v and 92r; medical recipes also found in Bodleian Library, MS. Ashmole 1437, part 10, fol. 2v. See Ch. 12 for details.
[97] Bos, *Ibn al-Jazzār on Forgetfulness*, p. vii. Rufus of Ephesus wrote *On the Loss of Memory*, and Galen wrote on memory in *De locis affectis.*

and physiology of a bodily system, given in order to explain a disorder and its treatment rationale.[98] *De oblivione* is a model of what a medical book should be, following the theory with detailed treatments, often with specified quantities and careful preparation guidelines where needed. The low circulation figures for this text are therefore particularly unfortunate.[99] It may be that, given that problems of memory loss or descriptions of cognitive difficulties in old age are not mentioned in Old English literature, perhaps these were the least of their concerns, a rarer occurrence in a period of shorter life spans.[100] Sadly the work has also been neglected by modern scholarship, not mentioned by writers such as Coleman or Carruthers.[101] The broader condition of lethargy has also been even more neglected than that of frenzy; it is perhaps an unsatisfying object of study, as a difficult, inconsistent category.[102]

Constantine's literature on *lethargia* in the *Pantegni* and the *Viaticum* was however well known and widely available. Despite the range of conditions covered by the term, his texts may nevertheless have been more useful than what had gone before. Again, there was great detail on the diverse symptoms and their causes, and those of allied problems. Generally, Constantine's treatments were humane and often pleasant, with music to delight the mind of those suffering stupor, and fragrant anointings of the head. Restraint from the usual practice of bloodletting would have been beneficial; the patients were not further weakened and the risks of a drop in blood pressure, anaemia or additional infection, were avoided. Neither did Constantine recommend fierce rousing techniques, but the gentle ones of sneezing, massage and music. There is some evidence for the usefulness of music and other stimulation treatments in coma and for critically ill patients in modern clinical settings, although in some

[98] The closest seen is the explanation of liver function in *Bald's Leechbook II*, Chs. 17 and 18, but this is not used in developing a treatment rationale.
[99] It may have been more available after its inclusion in the Lyons 1515 printed edition of some of Constantine's work (although not the Basel editions).
[100] Porck, *Old Age in Early Medieval England,* Ch. 3. Dementia and senile dementia were discussed by some authors of antiquity including Galen, but not in texts thought to be available in England- see N. Papavramidou, 'The ancient history of dementia', *Neurological Sciences*, vol. 39 (2018), pp. 2011-6.
[101] Coleman, *Ancient and Medieval Memories*; Carruthers, *The Book of Memory.* Carruthers mentions only 'Arabic sources' on p. 61.
[102] It is not discussed by Jackson in his paper, S.W. Jackson,'Unusual Mental States in Medieval Europe I. Medical Syndromes of Mental Disorder: 400-1100 A.D', *Journal of the History of Medicine*, (July 1972), pp. 262-97, and barely mentioned in Demaitre, *Medieval Medicine.*

circumstances a state of coma is considered to be protective and promote healing, best undisturbed.[103]

Constantine offered a large range of pharmaceutical choices for *lethargia* from the Islamicate tradition. Some were new treatments offered for this condition and several might have been genuinely helpful, for memory and cognitive problems at least. The *Liber de oblivione*, the *Viaticum* and *Practica* all specifically extol the virtues of anacardium.[104] Recent pharmacological research has in fact found that the modern form of the plant works as an anticholinesterase, when most effective modern drugs used for dementia, a condition characterised primarily by memory loss, are anticholinesterases.[105] However, anacardium is potentially toxic, alternatively named *baladhur* as it was notorious for causing the death of the Arab historian al-Baladhur, which is why *De oblivione* gives careful instructions for its preparation.[106] The myrobalans of Constantine's recipe might also have had therapeutic potential in forgetfulness and lethargy; studies of the modern variety of chebulic myrobalan also show it to have anticholinesterase properties, with some evidence also for drugs such as

[103] R. Padilla and A. Domina, 'Effectiveness of Sensory Stimulation to Improve Arousal and Alertness of People in a Coma or Persistent Vegetative State After Traumatic Brain Injury: A Systematic Review', *The American Journal of Occupational Therapy,* vol. 70 (2016); D. Biello, 'What Is a Medically Induced Coma and Why Is It Used?', *Scientific American* (January 10, 2011); C. Schnakers, W.L. Magee and B. Harris, 'Sensory Stimulation and Music Therapy Programs for Treating Disorders of Consciousness', *Frontiers of Psychology* (March 2016).

[104] 'Item ant(idotum) cum melle anacardi revocat mentem, lithargiam tollit', *De oblivione*' p. 231; 'Propria huis morbi medicina est potio anarchardia', *Viaticum*, Book 1, Ch. 14, fol. 5v; 'propria huius medicina est anacardum', *Practica,* Book 5, Ch. 7, fol. 140v.

[105] *Alzheimers Society* [website] (last updated 2024) <https://www.alzheimers.org.uk/about-dementia/treatments/dementia-drugs/how-do-drugs-alzheimers-disease-work#content-start> (last accessed 11 April 2024). A team led by B. Vinutha found *Semecarpus anacardium* to be one of the most potent of 37 Indian medicinal plants for acetylcholinesterase inhibitory activity. (B. Vinutha et al., 'Screening of selected Indian medicinal plants for acetylcholinesterase inhibitory activity', *J of Ethno. Pharmacol,* vol. 109 (2007), pp. 359-63). A further study by Hamid-Reza Adhami and colleagues yielded similar results, and isolated two specific components which were responsible for this effect (H.R. Adhami, H. Farsam and L. Krenn, 'Screening of Medicinal Plants from Iranian Traditional Medicine for Acetylcholinesterase Inhibition', *Phytotherapy Research*, vol. 25 (2011), pp. 1148-52). In other research, treatment with anacardium helped protect hippocampus cells in rats, an area of the brain associated with memory formation, which degenerates in Alzheimer's (S.D. Shukla et al., 'Stress induced neuron degeneration and protective effects of *Semecarpus anacardium* Linn. and *Withania somnifera* Dunn. in hippocampus of albino rats: An ultrastructural study', *Indian Journal of Experimental Biology,* vol. 38 (2000), pp. 1007-13). See also A.K.A. Raut et al, 'Bhallatak (*Semecarpus anacardium* Linn) – A Review', *Ind J Traditional Knowledge,* vol. 6 (2007), pp. 653-9 and S.H. Majumdar, G.S. Chakraborthy and K.S. Kulkarni, 'Medicinal Potentials of *Semecarpus anacardium* nut - a review', *J Herbal Medicine and Toxicology,* vol. 2 (2008), pp. 9-13

[106] Bos, '*Baladhur* (Marking-Nut)', pp. 229-36.

ginger and frankincense, which are recommended in *De oblivione* and the *Viaticum.*[107] Many of these new treatments from the Islamicate tradition continued to be recommended, anacardium particularly remaining a favoured drug for memory and lethargy at least until the fifteenth century, presumably because it was found to work.

[107] A.R. Afshari, H.R. Sadeghnia and H. Mollazadeh, 'A Review on Potential Mechanisms of *Terminalia chebula* in Alzheimer's Disease', *Advances in Pharmacological Sciences,* (2016), pp. 1-14; R. Rahimi, S. Irannejad, and M. Noroozian, 'Avicenna's pharmacological approach to memory enhancement', *Neurological Science,* vol. 38 (2017), pp. 1147-57.

Chapter 7: Apoplexy and paralysis

Acute onset disorders with loss of consciousness, movement and other abilities have been well known since antiquity, presenting dramatically. The term *apoplexia* came from a Greek term meaning to be struck down, and it was generally understood to be a very serious disorder of the head with poor prognosis, often resulting in some degree of paralysis. Paralysis itself was, understandably, sometimes understood as arising purely in the body, rather than in the brain. Such disorders perhaps present a more straightforward picture than the two previous disorder categories.[1] Constantine discussed apoplexy in the *Pantegni* under disorders of the head, in a chapter with epilepsy, and again more fully in the *Viaticum*. The writer of the *Practica* repeated much of the *Viaticum* on apoplexy, and felt the need to add a separate chapter on paralysis.

Symptoms

The *Pantegni* states that in apoplexy sensation and movement are impaired, and many bodily functions cease.[2] It might be preceded by pain in the head, swelling in the throat, blurred vision, vertigo, grandiose fancies, cold extremities or tickling sensations in the body.[3] Then the patient does not feel himself falling, and suffers with eyes stuck open or closed, severe breathlessness, phlegm coming from his nose, and redness or blackness of the face.[4] In a form referred to as *ebrius,* intoxicated apoplexy, the patient might suffer from convulsions or death, it is a more lethal kind of the disorder.[5] In Constantine's writing, epilepsy is said to be a related condition, a less severe form of apoplexy.[6]

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[1] *Apoplexia* has been understood to overlap in symptoms with the modern term of 'stroke', due to cerebrovascular problems, although the term could include many causes of collapse or paralysis. Engelhardt, 'Apoplexy, cerebrovascular disease, and stroke', pp. 449-50.

[2] 'et subito unde virtus sensibilis et mobilis transire prohibentur, ut menbra sensibilia et motus voluntarius aliquid operetur. Cessant ergo virtus et motus et regitive virtutis actiones', *Pantegni,* Book 9, Ch. 6, fol. 115r.

[3] 'Antecedit passionem hanc dolor in capite acutus, tumor in faucibus, obscruitas in visu, vertigo, splendoris imaginatio extremitatum frigitudo, corporis titillatio', *Pantegni,* Book 9, Ch. 6, fols. 115r-v.

[4] 'Infirmus non dormit nociva super corpus cadentia non sentit. Anhelitus eius quasi stertentis auditor ... flegma ... per nares emittitur ... facies rubet ... facies nigredini pertinet, patientes oculos habent apertos, sive clausos et permanent sicut fuerunt', *Pantegni,* Book 9, Ch. 6, fol. 115v.

[5] 'aliquando ex vini plenitudine et ebrietate, Que apoplexie species mortalis est, *Pantegni*, Book 9, Ch. 6, fol. 115r.

[6] 'dicunt epilempsie causam, apoplexie esse mediam', *Pantegni,* Book 9, Ch. 6, fol. 115v.

The *Viaticum* adds that in apoplexy the power passing through to the limbs is lost, the patient loses understanding, vision or hearing and is as if dead or exhausted.[7] The severity of the breathing difficulties are said to indicate the gravity of the illness.[8] It passes on the basic ideas coming down from Galen of *apoplexia magna* (understood as this unconscious state with complete loss of movement and sensation) and the less serious *apoplexia minor,* but divides the latter into a severe '*dura*' form and a mild '*lenis*' kind.[9] The *dura* form is said to take away speech and strength and movement on one side; in the *lenis* form the speech is retained and there is a reduction in sense or movement on one side or limb.[10] In such cases there is thought to be more possibility of recovery; sensation or movement might return to the feet or hands after a few days.[11] The text makes the observation that loss of speech is worst when loss of movement affects the right side.[12] The association with epilepsy is repeated, referred to as '*apoplexiam parvam'*.[13]

The *Pantegni* discusses loss of movement in a general sense and says that apoplexy can move into paralysis, but with no further details.[14] The *Viaticum* does refer to what we might now call hemiplegia, noting that the humours coming down affect the right or left side, with power and movement lost on that side.[15] Many of the treatments for apoplexy are also recommended for paralysis, implying that it is a major symptom. The compiler of the *Practica* felt it necessary to add a separate chapter on paralysis, explaining that this could

[7] 'Sed tamen apoplexia totius virtutis per membra discurrentis est ablativa', *Viaticum,* Book 1, Ch. 22, fol. 8r; 'non intelligens; non videns neque audiens quasi exanimatus', *Viaticum,* Book 1, Ch. 23, fol. 8v.
[8] 'cuis magnitude vel parvitas ex qualitate anelitus sit intelligenda', *Viaticum,* Book 1, Ch. 23, fol. 8v.
[9] 'infirmitatem hanc philosophi vocatur ... apoplexiam magnam … si autem ... apoplexiam minorem vocatur … minor apoplexia … apoplexia aliquando est lenis, aliquando dura', *Viaticum,* Book 1, Ch. 23, fol. 8v.
[10] 'Dura sermonem aufert et virtutem et voluntarium motum totius lateribus (illius lateris in other versions) ... Lenis sermonem quidem sed parvam virtutem sensum quibusdam membris immo toti illi aufert lateri', *Viaticum,* Book 1, Ch. 23, fol. 8v.
[11] 'sensus vel motus in pedes post dies .iii. vel .iiii. seu in manus post viginti ... venerit', *Viaticum,* Book 1, Ch. 23, fol. 8v.
[12] Dura sermonem aufert et virtutem et voluntarium motum totius lateribus (illius lateris in other versions) et maxime si in dextro sit', *Viaticum,* Book 1, Ch. 23, fol. 8v.
[13] 'medici epilepsiam vocatur apoplexiam parvam', *Viaticum,* Book 1, Ch. 22, fol. 8r.
[14] 'Si debilis ad sanandum dura fit, sed movetur in epilempsiam et paralisin', *Pantegni,* Book 9, Ch. 6, fol. 115v. There is no separate section on paralysis in the *Pantegni*, but a short section on palsy, a type of paralysis accompanied by weakness with trembling.
[15] 'humores veniant in quolibet partem dextram seu sinistram ... Dura sermonem aufert et virtutem et voluntarium motum totius lateribus (illius lateris in other versions) et maxime si in dextro sit', *Viaticum,* Book 1, Ch. 23, fol. 8v. The *Viaticum* goes on to cover tics, tremors, and numbness of the limbs, again all in Book 1, as disorders of the head.

affect the whole body, one side of the body, the ability to walk, or various parts such as the tongue, hands or bladder.[16] If the tongue is paralysed speech is said to be impeded, and paralysis in general can be accompanied by loss of reason, sense or memory.[17]

Causes

The *Pantegni* explains that the cause of apoplexy is that the three ventricles of the brain are completely blocked, so that the powers of sense and movement cannot get through to operate in the body.[18] This blockage could be caused by humours of thick, sticky phlegm, phlegm with black bile mixed with thick blood, or otherwise result from heavy drinking.[19] Epilepsy, little apoplexy, is also due to blockages in the ventricles, but is less severe, when only some of the ventricles are thought to be blocked, and the nerves governing movement.[20] Certain causes of apoplexy are said to be apparent in the symptoms: phlegm or blood showing as redness, and black bile in darkening of the face.[21] Where intoxication is the cause, the patient may have convulsions or die, or subsequently suffer fever or loss of speech.[22] The *Viaticum* echoes the idea that apoplexy is due to the ventricles filling with humours, blood or phlegm alone, or mixed with other humours.[23] It adds that the humours might come down from the head to part of the body on the right or the left, or descend the nerve causing a blockage

[16] 'Diximus enim quia paralysis aliquando sit in toto corpore; de cuius cura sufficienter disputavimus. Aliquando in aliqua corporis parte ut in capite lingua et aliis membris quam pluribus', *Practica*, Book 5, Ch. 24, fol. 141v. Whilst the *Practica's* section on *apoplexia* is mostly taken from the *Viaticum*, its author has clearly borrowed very heavily from the *Passionarius* or its sources. The *Practica* also discusses a related disorder referred to as 'epilepsia spasmi' with a loss of sense and movement, treated as for epilepsy. I have excluded discussion of this for the sake of clarity.

[17] 'si lingua paralisi sint ... nullum gustum senciat, vel sit impedita ad loquendum ... Si memoriam et sensum perdiderint vel sint alienati…', *Practica*, Book 5, Ch. 24, fol. 142v.

[18] 'Apoplexia et epilempsia nascuntur ex ventriculorum cerebri constipationibus. Est autem apoplexia cum tres ventriculi cerebri omnino oppilantur, et subito unde virtus sensibilis et mobilis transire prohibentur, ut menbra sensibilia et motus voluntarius aliquid operetur', *Pantegni*, Book 9, Ch. 6, fol. 115r.

[19] 'Oppilatio autem huius passionis ex humoribus est flegmaticis, crossis (grossis) et viscosis, aut de flegmate cum melancolia se miscente seu crossissimo (grossissimo) sanguine, aliquando ex vini plenitudine et ebrietate', *Pantegni*, Book 9, Ch. 6, fol. 115r.

[20] 'non est in omnibus cerebri ventriculis, sed quidam oppilantur ventriculorum et vie neruorum menbra moventium', *Pantegni*, Book 9, Ch. 6, fol. 115v.

[21] 'Si hec passio fit ex flegmate vel sanguine facies rubet. Si de colera nigra facies nigredini pertinent', *Pantegni*, Book 9, Ch. 6, fol. 115v.

[22] 'spasmatur atque moritur si non febres superveniant, aut non loquatur cum ebrietas disoluatur', *Pantegni*, Book 9, Ch. 6, fol. 115r.

[23] 'Omnes cerebri ventriculi impleantur humiditate solius sanginis seu phlegmatis seu mixtorum cum humoribus aliis', *Viaticum*, Book 1, Ch. 23, fol. 8v.

affecting a particular limb or organ. If the blockage affects the spine, the senses and movement are affected.[24]

Further causes of apoplexy are given in the *Pantegni,* Book 5, on the non-naturals. Weather and the seasons can contribute, for example in the winter cold air, lack of heat and the kinds of food eaten increase humours in the head; then in the spring these start to dissolve and cause problems such as apoplexy if they run into the ventricles.[25] Again, heavy drinking could lead to filling of the veins and ventricles of the brain, extinguishing the natural heat, and leading to apoplexy or epilepsy, paralysis and tremor.[26] The causes of paralysis, according to the *Pantegni,* are the same as those for apoplexy generally. The *Practica* mentions two further possible causes, paralysis could be due to a wound, or come from blood.[27] It attributes loss of speech to paralysis of the tongue, but this idea is not present in Constantine's own texts.[28]

Overall, Constantine's translations on *apoplexia* offer many interesting observations on the symptoms of the disorder and their causes and categorisation. They note an association of right-sided weakness with language loss, and further extend the Hippocratic-Galenic classification of major and minor *apoplexia* into three categories of severity. His description of the neuropsychology of apoplexy, with the ventricles filled and blocked with humours, affecting movement and sense, and descending and blocking the nerves to cause partial paralyses, is a compelling explanatory picture, which came from Galenic ideas, much developed by al-Mağūsī.[29] The *Pantegni* specifies that the blockage can come from several

[24] 'Si autem humores veniant in quolibet partem dextram seu sinistram ... et si constipatio illa in unum tantum nervum descendant sit mollities in illo membro…Si oppilatio in nervis spondilis est in initio aufert sensus et voluntarii motus', *Viaticum,* Book 1, Ch. 23, fol. 8v.
[25] 'Sicut qui in hyeme multis et diversis utuntur cibariis in horum corporibus humores augmentantur, capita propter frigiditatem aeris et defectionem caloris humoribus implentur. Cum autem ver veniat et humores in hieme congelati incipiunt iam dissolui, si in capite sint et in ventriculos cucurrerint, apoplexiam, epilempsiam generant', *Pantegni,* Book 5, Ch. 4, fol. 50v.
[26] 'Frequenter enim inde inebriati multas et diversas infirmitates sunt passuri ... quia venis et cerebri ventriculis repletis calor extinguitur naturalis et infrigdatur. Unde apoplexia generatur, epilempsia comitatur, paralisis sequitur, tremit succedit et spasmus', *Pantegni,* Book 5, Ch. 29, fol. 65r.
[27] 'Si paralyis ex plaga nostri evenerit … Sed si membra dormitacionem vel contractionem paciantur; et sine dolore et fuerit ex sanguine', *Practica,* Book 5, Ch. 24, fol. 142v.
[28] 'si lingua paralisi sint ... nullum gustum senciat, vel sit impedita ad loquendum', *Practica,* Book 5, Ch. 24, fol. 142v.
[29] Karenberg and Hort, 'Medieval Descriptions and Doctrines of Stroke, Part I', p. 167, and Part II, p. 178.

of the humours, including *grossissimo sanguine*, the thickest blood.[30] He also explains the role of the non-naturals and of alcohol, and heavy drinking is currently associated with greater risk of the similar modern condition of stroke.[31] The association made with epilepsy may seem odd to the modern reader, but seems to derive from some similarity in symptoms and a shared explanatory model of blockage of the ventricles.[32]

Treatment

The *Pantegni* gives no treatment advice for *apoplexia*, except to repeat Hippocrates' aphorism that in severe cases it is incurable, and not easy to cure if mild.[33] This is repeated in the *Viaticum* together with the signs of the severity of the case.[34] The principle of the treatments given in the *Viaticum* is the purging of thick viscous humours, said to be achieved with cathartic drugs or by sneezing, whilst John's *hiera* purges the head of phlegm.[35] Since both apoplexy and paralysis are said to be cold conditions, many treatments have warm properties.

Compound cathartic drugs such as *theodoricon*, Galen's *hiera*, *hieralogodion*, and white *hierapigra* are purgative, and pills of cassia, spurge or asafoetida are also prescribed.[36] Sneezing is recommended to remove humours but also to agitate the brain.[37] Blood might be let if the patient was strong, but it does not seem to be a priority; for the elderly or weak

[30] Karenberg and Hort, 'Medieval Descriptions and Doctrines of Stroke, Part II', p. 178.
[31] L. Sundell et al., 'Increased Stroke Risk Is Related to a Binge Drinking Habit', *Stroke*, (Dec. 2008), pp. 3179-84.
[32] It is interesting to note also, that epilepsy is quite commonly seen in survivors of stroke. In 11.5% of cases in one study (P.K. Myint, E.F.A. Staufenberg and K. Sabanathan, 'Post-stroke seizure and post-stroke epilepsy', *Postgraduate Medical Journal*, vol. 82 (2006), pp. 568-72).
[33] 'Ista passio si sit fortis non sanatur, si debilis ad sanandum dura fit … sicut ypocras dixit', *Pantegni*, Book 9, Ch. 6, fol. 115v.
[34] 'Unde in apho. Ypocras. Apoplexia si sit fortis; impossibile est curari. In parva non facilis est cura ... apoplexiam magnam, cuius magnitude vel parvitas ex qualitate anelitus sit intelligenda. Si enim apoplectici cum maiori angustia et quasi impossibilitate suspiratur morbus esse gravissimum autumatur', *Viaticum*, Book 1, Ch. 23, fol. 8v.
[35] 'Cum hic morbus ex humoribus grossis seu viscosis nascitur preceperunt anteriores nostri ante omnia purgationibus humorem incipi', *Viaticum*, Book 1, Ch. 23, fol. 8v; 'Sternutatio fiat valens apoplecticis… mundat cerebrum ab humoribus grossis', *Viaticum*, Book 1, Ch. 23, fol. 9r; 'Yera johannis damascenus velet ad mundificandum caput de flegmate', *Viaticum*, Book 1, Ch. 23, fol. 8v.
[36] 'preceperunt anteriores nostri ante omnia a purgationibus humorem incipi cum maioribus antidotis et catarticis, sicut theodoricon yera G, yera logodion, yera pigre et similibus. Item est cassiae pill', euforbii pill', fetidis pill'', *Viaticum*, Book 1, Ch. 23, fol. 8v.
[37] 'Sternutationes dande sunt similiter ut cerebrum moveatur', *Viaticum*, Book 1, Ch. 23, fol. 8v; 'Sternutatio fiat valens apoplecticis, epilepticis, quia mundat cerebrum a grossis humoribus', *Viaticum*, Book 1, Ch. 23, fol. 9r.

other medicine will suffice.[38] In terms of warming treatments, clysters given should be of warm ingredients, gargle recipes including mustard are used, and their food should be *calidissimi* – the hottest.[39] If fever arises, this is regarded as excellent medicine because it warms the body and dissolves humours.[40] Other advice is to wash the head, neck and spine with a camomile decoction, and to apply poultices to the numb or warm parts of the body.[41] The patient should be bathed on the twenty-first day of the illness and given strong vintage wine.[42]

The bulk of this chapter in the *Viaticum* is then taken up with sixteen recipes for pills, potions, gargles and ointments, some to provoke sneezing. Many have multiple ingredients in measured quantities and with careful instructions, for example:

> Recipe: elder oil, sesame oil, laurel oil 3 drams, all mixed together with 2 pounds of water, and after take greater celandine, costmary, mastic gum 3 drams, pellitory, bdellium, male frankincense, hemlock seed, 2 drams, pound and mix this all together, (cook) until all the water is gone and only the oil remains.[43]

A *hiera* attributed to John of Damascus, which involves 30 different ingredients, is said to also help those who had developed paralysis.[44] Many of these remedies are not just considered to be helpful in apoplexy but also paralysis and sometimes epilepsy, as related conditions. All in all, over eighty drugs and ingredients are named in the *Viaticum*, many of which were already known in the literature, but several are more recent additions such as turpeth, bdellium, anacardium and myrobalan.

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[38] 'si virtus custodiatur et plenus esse videatur ... flebotomandus. Si in etate magna et virtute defecta, cavenda est flebotomia. Sufficit habent altera medicina', *Viaticum*, Book 1, Ch. 23, fol. 8v.
[39] 'Si oporteat clisterizari cum rebus fiat calidis. Gargarisma fiat cum sinapi vel melle et cum piretro; staphisagria; yera pigra et oximelle…Cibi eorum sint calidissimi', *Viaticum*, Book 1, Ch. 23, fol. 8v.
[40] 'Si ex nostra medicina infirmus febrem incidat, febris ipsa sit perfecta medicina quia corpus calefacit dissolventur humores', *Viaticum*, Book 1, Ch. 23, fol. 8v.
[41] 'Lavandum caput, collum et spondiles, si morbus in illis est, cum aqua ubi cocta sint camomilla, anetum, melilotum, sansucus, iuniperin. Epithima ponamus in loca non sentientia et in locis calidis', *Viaticum*, Book 1, Ch. 23, fol. 8v.
[42] 'vinum forte et vetus; post xxi diem balneetur, post balneum vinum detur', *Viaticum*, Book 1, Ch. 23, fol. 8v.
[43] 'Rx sambuceleon, sisameleon, dapnaleon ana ʒ iii omnia conmisce esse ii libris aquae et post accipe celidonie, costi masticis ana ʒ iiii piretri, bdellii, thus masculin, cicute seminis ana ʒ .ii. pista omnia et conmisce; (coque) quo ad aqua pereat et solum oleum remaneat', *Viaticum*, Book 1, Ch. 23, fol. 9r.
[44] 'Yera johannis damascenus velet ad mundificandum caput de flegmate et apoplexie flegma generanti paralisi', *Viaticum*, Book 1, Ch. 23, fol. 9r.

The *Practica* gives many of these treatment recommendations for apoplexy little altered from the *Viaticum* but does particularly promote the benefits of fever. Should the patient not become feverish naturally, it should be provoked by rubbing their pulse points with ointment of aconite. His arms should be put into hot water, or he should be put in a bath, and the humours will be cooked and dispersed.[45]

The *Pantegni* and the *Viaticum* give no treatment for general paralysis, although the *Viaticum* advises that numbness in the limbs may be treated by massage and warming medicines such as *theodoricon.*[46] The later *Practica* does have a long section of treatments specifically for paralysis: the paralysed part of the body is massaged with animal fats, and blood taken.[47] Pitch plasters, vomiting, a fumigation and a gargle are indicated.[48] There are further specific recommendations for paralysis of the lips or tongue (affecting speech), paralysis affecting the hands, feet and the ability to walk. Paralysis could be associated with loss of memory or reason, when stories can be used to help them come to their senses.[49]

Apoplexy and paralysis were clearly very difficult and worrying problems for the *medicus* to treat, and the patient might not survive or improve. A large number of treatments were therefore suggested, with many recipes and compound drugs which were often cathartics. Many of these drugs and ingredients were novel in England, and the recipes often had long lists of *materia medica,* with weights and measures. Many drugs and treatments were warming, as the disorder was a cold one, with fever even encouraged. Unusually in medieval medicine, Constantine did not particularly recommend bloodletting for these problems; the *Practica* does, but the advice is from other sources.

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[45] Si non pervenerit fe(bre). ungatur pulsus cum unguento scorpionato fe.(bre) enim provocat. … infirmum mittantur brachia eius in aqua calida et infirmus balneetur, humoribus ita digestis et excoctis', *Practica*, Book 5, Ch. 17, fol. 141v.

[46] 'donemus que calefiant, dissolvant et superfluitatem minuant; sicut theodoriton; yera logodion et similia…oleum et unguenta superioribus fiant similia ... fricationes', *Viaticum,* Book 1, Ch. 26, fol. 9v.

[47] 'cum mollioribus fricentur; in medullis cervorum et unguentis et adipibus compositis … et ungantur odorifera ex spica refina, pipere; euforbio … flebotometur ex brachio alterius partis', *Practica,* Book 5, Ch. 24, fol. 142v.

[48] 'Si aliquid nobis obviaverit cum dropathe ... et cum vomitu ex elleboro curabis … flebotometur et caput vaporatur ... cum farina tritici cocta in vino … Gargarismum ex sinapi, pipere … gargarismus hic per triduum fiat ut omnis humorum eiciatur per os', *Practica*, Book 5, Ch. 24, fol. 142v.

[49] 'Si memoriam et sensum perdiderint vel sint alienati ... et fabulis exerceantur ut sermones componant; et ad sensum pristinium veniant', *Practica*, Book 5, Ch. 24, fol. 142v.

Concepts and treatments in England before Constantine

Vernacular sources

Before these translations arrived in England, the English were well aware of problems of paralysis affecting the whole or part of the body. Christ himself had healed cases of paralysis and cases are also seen in hagiographies.[50] The monk Baduthegn who was healed by St Cuthbert was said to have fallen and then 'one side of his body was afflicted with paralysis from head to foot', a good description of a case of probable hemiplegia (Image 7.1).[51]

Image 7.1. St Cuthbert's arm emerging from his tomb to heal Baduthegn
in Bede's *Prose Life of St Cuthbert*, London, BL, MS. Yates Thompson 26, fol. 83r.

The vernacular medical texts nowhere mentioned apoplexy. *Bald's Leechbook I* did give treatments for the stricken, possibly paralysed, body (*wiþ aslegenum lice*).[52] McIlwain does not consider it likely that this refers to apoplexy, since one of the remedies suggested it was

[50] Matthew, Ch. 9, v. 1-8; Mark, Ch. 2, v. 1-12; Luke, Ch. 5, v. 17-26; John, Ch. 5, v. 1-15.
[51] Bede, *Ecclesiastical History of the English People,* p. 231.
[52] *Bald's Leechbook I,* Chs. 55 and 56, pp. 131-2.

treatable, whereas they may have thought *apoplexia* to be always fatal.[53] However an attitude and assurance that the patient would 'soon be well' was ubiquitous, and the condition may have involved paralysis; several of the herbs used were also used for paralysis in other vernacular sources. Elm bark and elecampane were used for paralysis in *Leechbook III,* and sedge was a treatment for a paralysed body in the Omont fragment.[54]

Bald's Leechbook II had a lot to say about *healfdead adl*, the rather disturbingly named half-dead disease (possibly hemiplegia), much more than for the other conditions under consideration.[55] Much of this information apparently came from the *Liber Tertius* and Oribasius.[56] There was also a section on *lyftadl* in *Leechbook I*, understood as palsy or paralysis.[57] The symptoms of *healfdead adl* were that the right or left side of the body would be affected and the *sina* (sinews or possibly 'nerves') dissolved and filled with humours.[58] This seems to suggest that it was not considered a 'disorder of the head', indeed it was discussed between bladder and gynaecological problems in *Leechbook II*, whereas disorders of the head were discussed in *Leechbook I*.[59] In further description of the disorder it was said to come on in the later years, after forty in someone of a cold nature, but usually after fifty; in a younger person one limb might be affected, and this was not the same disorder, that limb alone being impacted by humours.[60] The specific humours responsible were initially described as slippery (*slipigre),* thick and evil, that affecting the limb being an *ɣfel wæte,* an evil humour.[61] However *slipigre* suggests phlegm and one of the treatments was said to purge these humours, which were '*swa swa horh oðde risoda oðde gillistre*', like phlegm or rheum or mucus.[62]

[53] McIlwain, 'Theory and Practice in the Anglo-Saxon Leechbooks', p. 68.
[54] *Leechbook III,* pp. 73-4 and Pollington, *Leechcraft,* pp. 394-5.
[55] *Bald's Leechbook II*, Ch. 59, pp. 308-15. As noted in Ch. 1, this chapter is missing from BL, MS. Royal 12. D. XVII but appears to survive in BL, Harley 55, fol. 1. This extract fits the contents entry for *Leechbook II*, Ch. 59, and it has been accepted and included as part of *Bald's Leechbook* by Conan Doyle and Cockayne.
[56] For its sources see the footnotes to Doyle's translation in Doyle, *Anglo-Saxon Medicine and Disease,* vol. 2, pp. 308-15.
[57] *Bald's Leechbook I*, Ch. 59, p. 134.
[58] *Bald's Leechbook II,* Ch. 59, p. 308.
[59] Although if the head was sore there were treatments to draw the phlegm (*horh*) from the head through the nose or mouth. *Bald's Leechbook II,* Ch. 59, p. 311.
[60] *Bald's Leechbook II*, Ch. 59, pp. 312-3.
[61] *Bald's Leechbook II*, Ch. 59, pp. 308 and 313.
[62] Doyle, *Anglo-Saxon Medicine and Disease*, vol. 1, p. 194; *Bald's Leechbook II*, Ch. 59, p. 310.

The goal of treatment was therefore to remove the humours with bloodletting and other remedies, and six different suggestions were given.[63] The first involved keeping the patient in a warm room, with blood taken from the colder side; purging herb drinks were given, aloes and scammony, then cupping glasses applied to the affected place. The second recommended applying salves and a poultice, laying on goats' droppings, then an herbal drink. Treatment three had the physician applying salt, honey and pepper to the affected parts, drawing blood, provoking sneezing, with advice about food, drink and not bathing. The remaining suggestions offered a recipe for oxymel with radish, to be followed with measured vomiting, a fumigation of pine, or a variety of herbal drinks.

For *lyftadl* (paralysis or palsy) of the mouth, *Leechbook III* instructed that the patient should take a hot bath with boiled red ants, and blood should be taken three times a month on specific days of the moon's cycle.[64] The Omont fragment shows that there had been medical ideas about the treatment of paralysis in the vernacular from at least as early as the ninth century, since it included a steam treatment and salves for a paralysed body.[65]

In summary, although McIlwain has shown that literate, educated English *læce* should have understood that the brain was involved in mental phenomena and voluntary movement, it does not seem that they considered the half-dead disease or paralysis to be disorders of the head.[66] They had been concerned about the problem of paralysis, probably since before the ninth century, and felt that the half-dead disease particularly merited studying and copying Latin authors. This section in *Bald's Leechbook II* contained much 'sophisticated' continental medicine, drawing from the *Liber Tertius* and Oribasius alongside home-grown remedies.[67] It gave detail on the cause and humours involved, which suggested that the 'evil humour' could be phlegm. These writers were interested in *aslegenum,* stricken bodies, but not obviously in *apoplexia*, even though this was also discussed in Latin texts that they knew. The vernacular texts also showed a natural preference for locally known *materia medica*, omitting mention of some ingredients in Latin remedies, with instead, the suggestion of

[63] *Bald's Leechbook II*, Ch. 59, pp. 308-15.
[64] *Leechbook III*, pp. 394-5.
[65] Pollington, *Leechcraft*, pp. 73-4.
[66] McIlwain, 'Theory and Practice in the Anglo-Saxon Leechbooks' and McIlwain, 'Brain and Mind in Anglo-Saxon Medicine', pp. 103-12. The disorder seems to have been thought to be due to a local blocking of the sinews/nerves, and there was some attention paid to treating the head, but only in cases when the head or face was sore.
[67] Footnotes in Doyle, *Anglo-Saxon Medicine and Disease*, vol. 2, pp. 308-15.

'efficacious herbs'.[68] The chapter on *healfdead adl* again showed its Latin roots in far more prescription of bloodletting as a specific treatment, compared to many other disorders of the head.

Earlier and contemporary Latin sources

Turning to concepts and treatments in Latin texts already known in Anglo-Norman England, there can be confidence that information from Latin sources was available for these conditions, since the information in *Leechbook II* clearly drew upon them.

Isidore wrote that:

> Apoplexy is a sudden effusion of blood on which one chokes and dies. It is called apoplexy because sudden death occurs from its fatal stroke.[69]

He did not link paralysis to apoplexy specifically but mentioned it under chronic illnesses, explaining that it was due to damage to the body caused by excessive chilling.[70] Of the medical texts, most discussed apoplexy and paralysis separately.[71] The eleventh-century *Passionarius* gave several pages of extensive detail, especially on paralysis. It is of note that these conditions were discussed in Book 5, along with illnesses like diabetes and arthritis, suggesting that this important later compiler saw them primarily as ailments of the body.[72]

Symptoms

Apoplexy was described by most authors as a general loss of sense and movement following a stroke, described by Cassius Felix as a '*mortifero ictu'* or in the *Passionarius* as a seizing and falling (*deprehensio atque lapsus*).[73] Two writers mentioned a passing, acute form which might reflect experience of patients suffering collapse and recovering, but most were concerned with the chronic condition.[74] With paralysis and loss of sense, the patient could

[68] *Bald's Leechbook II,* Ch. 59, p. 309.
[69] Isidore, *Etymologies*, p. 110.
[70] *Ibid*, p. 112.
[71] Alexander of Tralles' original text in Greek had sections on apoplexy and paralysis but these were omitted in the Latin translation so were not available. McIlwain, 'Theory and Practice in the Anglo-Saxon Leechbooks', pp. 72-3 and Karenberg and Hort, 'Medieval Descriptions and Doctrines of Stroke, Part I', pp. 168-9.
[72] *Passionarius,* Book 5, Chs. 19 and 25. Disorders of the head are covered in Book 1.
[73] Cassius Felix, Ch. 65, p. 158, *Passionarius,* Book 5, Ch. 19.
[74] Priscianus, p. 121, *Passionarius,* Book 5, Ch. 19.

lie as if dead, could suffer loss of speech or fail to recognise people.[75] The *Tereoperica* and *Passionarius* added further descriptions of speech problems, it was difficult to understand such patients, who tried 'to show their words with their hands'.[76] Cassius Felix noted that some could suffer choking problems.[77] They could be '*veluti amentes*' as if mad, and very sleepy; if roused from sleep they could talk nonsense, they wanted to get up but were unable to bear their weight.[78] Questions of severity were important, Priscianus referred to a severe form where there was no sense, they were cold and in despair, whilst others retained sense, in a lighter form.[79] The *Passionarius* gave Galen's division of apoplexy into major and minor forms, which might have different causes, and with the major kind often resulting in death. This could be very sudden, arising whilst eating, bathing or sleeping.[80] There was some confusion amongst writers about how this all related to paralysis. Oribasius was clear that apoplexy was a complete loss of sense and movement, and hemiplegia was to be termed paralysis.[81] The *Tereoperica* said that paralysis in one part of the body was a sign of apoplexy, and the *Passionarius* noted that sometimes apoplexy turned into paralysis.[82]

Many pre-Constantinian Latin texts covered paralysis separately, this was an illness affecting the movement and function of a single limb, or giving rise to hemiplegia; some also referred to cases where it affected the whole body but was not, apparently, apoplexy.[83] Loss of function was noted, the patient could not perform his duties and had difficulties in walking.[84] The *Passionarius* offered separate chapters on general paralysis, and of the tongue, head, hand, foot, throat and kidneys.[85]

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[75] *Tereoperica* , fols. 80v-81r; Cassius Felix, Ch. 65, p. 158; *Passionarius*, Ch. 19.
[76] *Tereoperica* , fols. 80v-81r and *Passionarius,* Book 5, Ch. 20, 'manibus verb sua volunt ostendere'.
[77] Cassius Felix, Ch. 65, p. 159.
[78] *Passionarius*, Book 5, Ch. 20.
[79] Priscianus, p. 122. This could be ascertained by examining the breathing, and touching the throat with a feather to see if this provoked vomiting.
[80] *Passionarius*, Book 5, Ch. 20.
[81] Oribasius, *Synopsis*, vol. 6, pp. 222-3.
[82] *Tereoperica* , fol. 80v; *Passionarius,* Book 5, Ch. 19; Karenberg and Hort, 'Medieval Descriptions and Doctrines of Stroke. Part I', p. 166.
[83] Cassius Felix, Ch. 54, p. 139; Oribasius, *Synopsis,* vol. 6, p. 222; *Tereoperica* , fol. 81r; *Passionarius*, Book 5, Ch. 22. Chs. 21 and 22 of the *Passionarius* reflect a confusion as to distinctions between apoplexy and paralysis.
[84] *Passionarius*, Book 5, Chs. 21 and 22.
[85] *Passionarius*, Book 5, Chs. 24-29.

Causes

Cassius Felix gave the cause of apoplexy as a paralysis of the nerves serving movement and sense, thick humours could be involved in the specific symptom of choking.[86] Only two other texts had anything to say about etiology, the *Passionarius* stating that blood was the cause and that the meninges might be affected.[87] The *Passionarius* and *Tereoperica* said that it could be due to too much food or drink, falling asleep after eating, from too hot baths or from an illness or wound; it was said to go with aging, unlikely to occur until after 40.[88] Discussions of the causes of paralysis were more satisfactory, with the most helpful explanations coming from Oribasius and the *Passionarius.* Oribasius informed his readers that it arose from moisture and fat or thick humours blocking the nerves which served the senses and voluntary movement.[89] According to the *Passionarius* it was largely due to cold, a cold nature or cold humours, naturally more common in the elderly; young people could however suffer the condition from an excess of blood.[90]

To summarise these ideas, confusion over the terminology and the distinction between apoplexy and paralysis had been present from the Hippocratic writings onwards, and is evident across, and sometimes within, the Latin texts.[91] Generally paralysis seems to have been more of interest to these writers than apoplexy, with the *Passionarius* devoting several pages to it. None mentioned a connection between epilepsy and apoplexy, but some authors wrote of an acute, temporary form, which might include many kinds of collapse.[92] A large variety of causes and associations were given, but rarely in any detail, there was an association with cold, and therefore age; an excess of phlegm or sometimes blood could be the cause. The most developed explanation was that of Oribasius on paralysis, one of the sources for *Leechbook II* - thick humours, probably phlegm, blocking the sensory and motor nerves.

[86] Cassius Felix, Ch. 65, p. 158.
[87] *Passionarius,* Book 5, Ch. 19.
[88] *Tereoperica* , fols. 80v-81r; *Passionarius,* Book 5, Ch. 20. Young people could not suffer from apoplexy, in cases where they had similar symptoms, this was said to be something they were born with, or due to an illness or wound.
[89] Oribasius, *Synopsis,* vol. 6, pp. 223-4.
[90] *Passionarius,* Book 5, Ch. 22.
[91] Karenberg and Hort, 'Medieval Descriptions and Doctrines of Stroke. Part I', p. 166.
[92] Including perhaps, what is known today as a transient ischemic attack.

Treatment

These understandings of cause were not always explicitly applied practically, Oribasius variously explained that his treatments purged or dried out humours, that they drew off thick sticky humours and phlegm, and other authors made occasional mention of drawing off humours, sometimes specified as phlegm.[93] The writer of the *Passionarius* did state that the cause of a paralysis must be determined in order to remove it.[94]

Many authors repeated the aphorism that severe apoplexy was incurable, minor apoplexy only with difficulty. The *Passionarius* commented that the patient often died suddenly, before medical help could be sought.[95] An important part of treatment for most medical writers, and often the first step, was to provoke vomiting.[96] Equally useful were various oils and ointments, applied variously to the whole body, head, nostrils, joints, or the anus.[97] Oribasius, Cassius Felix and the *Tereoperica* all recommended bloodletting.[98] The *Passionarius* especially recommended this for the younger patient, where blood was the cause of the condition.[99] Sneezing was sometimes provoked, by applying drugs like castoreum to the nostrils.[100] There was little use of internally taken medicines, however the later BL, MS. Sloane 1621 gave five recipes for apoplexy, one example involving seventeen carefully measured ingredients.[101] In some cases rectal treatments were employed. For example, the *Passionarius* suggested anointing the anus with bull's bile or stavesacre, and gave recipes for a suppository and a clyster.[102]

[93] Oribasius, *Synopsis*, vol. 6, pp. 223-4; Cassius Felix, Ch. 54, p. 140 and Ch. 65, p. 159; *Passionarius*, Book 5, Ch. 21.
[94] *Passionarius*, Book 5, Ch. 22.
[95] Priscianus, p. 121; Cassius Felix, Ch. 65, p. 158; *Tereoperica* , fol. 80v; *Passionarius*, Book 5, Ch. 20.
[96] *Passionarius*, Book 5, Ch. 20; Oribasius, *Synopsis*, vol. 6, p. 211; Cassius Felix, Ch. 65, pp. 158-9; *Tereoperica* , fol. 81r.
[97] Oribasius, *Synopsis*, vol. 6, p. 211; Priscianus, p. 121; *Passionarius*, Book 5, Ch. 20.
[98] Oribasius, *Synopsis*, vol. 6, p. 211; Cassius Felix, Ch. 65, p. 159; *Tereoperica* , fol. 81r.
[99] P*assionarius*, Book 5, Chs. 19 and 20.
[100] Priscianus, p. 121; *Tereoperica* , fol. 81r; *Passionarius*, Book 5, Ch. 20.
[101] BL, MS. Sloane 1621, fol. 24v.
[102] *Passionarius*, Book 5, Ch. 20.

Further remedies were offered specifically for paralysis. Some suggested bloodletting, and some indicated that blood be taken from the opposite arm to the affected side.[103] Vomiting was said to be helpful, and the *Passionarius* recommended giving a cup of hydroleon, measuring the amount of vomit and repeating this until more is vomited than drunk.[104] There were a number of oral medicines to be taken, the *Tereoperica* giving four potions and BL, MS. Sloane 1621 seventeen, often elaborate and with quantities, one with over seventy ingredients.[105] Various salves and animal fats could be used to massage the patient. The *Passionarius* suggested using squill and mustard to sting and rouse deadened parts.[106] Poultices, pitch plasters, or cupping glasses might be applied, the patient should be kept warm, bathed, made to sneeze, gargle, and given a fumigation treatment or an enema.[107] Some added dietary advice, and Priscianus suggested adding an increasingly thick layer of lead to the feet, leaving it for 40 days.[108] Then there were recommendations for paralysis affecting specific parts and cognition. For loss of memory or reason, the *Passionarius* suggested physical treatments but also the use of stories to restore speech and senses, as in the *Practica*.[109] Loss of speech, apparently due to paralysis of the tongue, attracted many remedies, from a gargle to cutting the vein under the tongue.[110] Priscianus suggested shocking the patient with fire or a snake to make them speak.[111]

In short, there was a mass of medical writing on these conditions and Latin physicians seem to have tried every conceivable treatment for their unfortunate patients, given the poor prognosis of these conditions. Vomiting, bloodletting and sneezing, salves, suppositories, clysters, and over a hundred different *materia medica* were used, with some long and

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[103] Cassius Felix, Ch. 54, p. 140; *Tereoperica* , fol. 81r; *Passionarius*, Book 5, Chs. 21 and 23. Cassius Felix also recommended light cutting of the affected area, but not obviously to bleed the patient.
[104] Cassius Felix, Ch. 54, p. 140; *Passionarius*, Book 5, Chs. 21 and 23.
[105] Cassius Felix, Ch. 54, p. 140; *Passionarius*, Book 5, Chs. 21 and 23; Pliny, Book 26, pp. 348-9, Book 25, pp. 176-7 and Book 27, pp. 444-5; Oribasius, *Synopsis*, vol. 6, p. 223; *Tereoperica* , fol. 81r; BL, MS. Sloane 1621, fols. 5r-v.
[106] *Passionarius*, Book 5, Chs. 21, 22 and 26; Priscianus, pp. 155-6.
[107] Marcellus, p. 362; *Passionarius*, Book 5, Chs. 21, 22, 23, 26 and 26; Priscianus, pp. 153, 155-7; *Tereoperica* , fol. 81r.
[107] Priscianus, pp. 153, 155 and 157; *Passionarius*, Book 5, Chs. 21 23, 26 and 27; Oribasius, *Synopsis*, vol. 6, p. 223; *Tereoperica* , fol. 81r.
[108] Oribasius indicates that the diet should be such as to draw out thick sticky humours and the *Tereoperica* claims that fish sauce should be avoided. Oribasius, *Synopsis*, vol. 6, p. 223; *Tereoperica* , fol. 81r; Priscianus, pp. 156-7.
[109] *Passionarius*, Book 5, Ch. 25.
[110] Priscianus, p. 153; Cassius Felix, Ch. 54, pp. 140-1; *Passionarius*, Book 5, Ch. 24.
[111] Priscianus, p. 153.

complicated recipes. For loss of memory, reason or speech, some unusually psychological treatments were offered. Certainly, through both their vernacular and Latin volumes, the English were not short of treatment ideas for paralysis and apoplexy by the twelfth century.

Later medieval writers

Following Constantine, all of the four authors considered were clear that apoplexy and paralysis were disorders of the brain. Bartholomeus, Gilbertus, De Gordon and Gaddesden all gave the new explanation of apoplexy as representing a blockage of all the chambers of the brain causing loss of sense and movement.[112] This seems to have been considered a useful model for understanding the condition: it was the first or main thing Bartholomeus, Gilbertus and De Gordon had to say about the condition.[113] As usual, Bartholomeus cited Constantine frequently and followed him in putting apoplexy and epilepsy together, others did not take this up, except to comment that epilepsy was a partial blockage, known as little apoplexy.[114] Gilbertus did credit 'Isaac' (incorrectly, and rather than Constantine) for a distinction between minor, medium and major forms of apoplexy, renaming Constantine's division of Galen's minor apoplexy into '*dura*' and '*lenis*'.[115] De Gordon also used this threefold classification without attribution, explaining that it referred to the degree of ventricular blockage involved.[116]

Constantine's writings on apoplexy were not taken up very prominently by Gaddesden or De Gordon, although De Gordon had clearly read the *Pantegni* and *Viaticum* on the subject.[117] Bartholomeus had little to say on apoplexy, but under paralysis he did give the *Viaticum* as one of the sources on treatment for this.[118] Gilbertus had however used information from the *Pantegni, Viaticum* and probably the *Practica*, but continued to cite Isaac and Galen rather than Constantine or his direct sources. Many of his symptom

[112] Bartholomeus, p. 122; Gilbertus, p. 243; De Gordon, p. 124; Gaddesden, fol. 60v (chapter on epilepsy).
[113] Only Bartholomeus credits Constantine for the information, and that indirectly. Bartholomeus, p. 122; Gilbertus, p. 243; De Gordon, p. 124.
[114] Bartholomeus, pp. 122-23; Gilbertus, p. 233; Gaddesden, fol. 60v.
[115] Gilbertus, p. 243.
[116] De Gordon, p. 124.
[117] De Gordon gave several distinctive symptoms as in the *Pantegni* and some similar treatments to the *Viaticum*, but these do not make up a significant component of his writing on apoplexy.
[118] Bartholomeus, p. 124.

descriptions were clearly from Constantine's translations, and in particular several of his treatments were similar or identical to those of the *Viaticum*.[119] His prescriptions of *hierapigra, hieralogodion, theodoricon,* and a distinctive camomile head wash all came from the *Viaticum*, and continued to be offered as helpful in the abridged version in Middle English.[120]

Conclusion

Given the amount and quality of the information which the Anglo-Normans had on these conditions, did Constantine's translations have anything to add? In fact, the Old English and Latin texts show much crossover and shared content, whereas Constantine brought distinct contributions from a different, Islamicate tradition.[121]

His texts showed a greater interest in apoplexy itself, giving rather more detail on its symptoms than even the fullest previous description in the Latin texts. Constantine's translations offered a more sophisticated level of observation, some apparently drawn from al-Mağūsī's own clinical experience.[122] The observation of an association of speech loss with right-sided weakness or paralysis, was to be important in beginning to understand the lateralisation of the brain.[123] Karenberg and Hort, in their comprehensive survey of the development of ideas on stroke, state that 'this association of a probable aphasia with a paralysis of the right side of the body seems to have no known precedent'.[124] They are also impressed with al-Jazzār's innovation in the *Viaticum* which developed the ancient division of *apoplexia* into major and minor, into a tripartite categorisation, with *maior*, *media* and *minor* forms, coming from the distinction between *dura* and *lenis* presentations; this became an influential way of thinking about apoplexy, taken up by subsequent medical writers.[125] Another novelty, perhaps less useful, was the idea of a relationship with epilepsy, as a form

[119] For example, he describes the colour of the patient's face as demonstrating the responsible humour, and signs in the patient's feet and hands being important, Gilbertus, p. 245.
[120] Gilbertus, p. 246; Getz, *Healing and Society,* pp. 27-8.
[121] This does not necessarily apply to the later *Practica,* much of which is the same as the *Passionarius* and its source the *Liber Tertius.*
[122] Karenberg and Hort, 'Medieval Descriptions and Doctrines of Stroke, Part II', p. 177.
[123] *Ibid*, pp. 181-2.
[124] *Ibid*, p. 182.
[125] It has further been thought that the description of hard and soft varieties of *apoplexia* might constitute the first description of spastic and flaccid paralyses, which have separate etiologies, but unfortunately there is not sufficient detail to be certain. Karenberg and Hort, 'Medieval Descriptions and Doctrines of Stroke, Part II', p. 182.

of ‘little apoplexy’, but it is interesting in terms of the proposed model of how the brain worked in both conditions.

Before Constantine’s translations arrived, not all English doctors may have considered apoplexy and paralysis to be conditions originating in the brain. *Bald’s Leechbook* put *healfdeadan adle* alongside disorders of the lower body, and neither the *Passionarius* nor the *Liber Tertius* discussed apoplexy and paralysis under disorders of the head.[126] The *Pantegni, Viaticum* and *Practica* clearly placed them among problems of the head and a clear brain-based explanatory model was offered. Al-Mağūsī had taken Galen’s basic idea that humours in the ventricles of the brain were a cause of apoplexy, together with Nemesius of Emesa’s three ‘cell doctrine’ and indicated that apoplexy occurred when all three ventricles of the brain are congested.[127] This new model was to prove particularly influential, given prominence in the explanations of subsequent English medical writers. Interestingly nowhere did the texts of Constantine himself suggest that speech problems were due to paralysis of the tongue, unlike previous writers who discussed this. However, it would be going beyond the evidence to state that this too was understood as a directly cerebral problem.[128]

Previous authors had been uninterested or vague about the causes of apoplexy and paralysis, with some ideas about humours, aging or hot baths. The best explanation seen is Oribasius’ account of paralysis as being due to a blockage of the nerves by ‘thick humours’. Constantine brought al-Mağūsī’s precision on the humoral causes of apoplexy. Not just a thick humour, the *Pantegni* gave three possibilities, of which a blockage with ‘thick blood’ is interesting given modern understandings of the condition of stroke.[129] Alcohol had sometimes been suggested as an underlying factor, but the *Pantegni* described more of a form of apoplexy brought on by drinking. How alcohol intake affected the ventricles of the brain was discussed

[126] In the copy of the *Liber Tertius* in CUL, MS. Peterhouse 251 disorders of the head are covered in the initial chapters, whereas apoplexy comes in Ch. 55, after stomach and lung problems. In the *Passionarius* apoplexy and paralysis come in Book 5, along with cancer and leprosy.
[127] Karenberg and Hort, ‘Medieval Descriptions and Doctrines of Stroke Part II’, p. 178.
[128] Problems with the tongue or mouth can cause problems with articulation (dysarthria) but the most significant language problems following stroke result from damage to language regions of the brain.
[129] ‘Oppilatio autem huius passionis ex humoribus ... crossissimo (grossissimo) sanguine’, *Pantegni,* Book 9, Ch. 6, fol. 115r.

along with the other non-naturals, in understanding the factors which made these illnesses more likely.

Despite offering more sophisticated observations, categorisation and theory about causation, Constantine's texts were not necessarily better at applying this in treatment rationale. Humours were obviously to be purged and perhaps that was all there was to say about that. Nor were the *Pantegni* or *Viaticum* especially informative about the serious problem of paralysis, leaving it as a gap for the author of the *Practica* to fill. There were some different treatment ideas however: bloodletting was not a priority, and fever was said to be helpful because it dissolved humours. There was much greater use of new compound drugs such as *theodoricon* and *hieralogodion.* Many of Constantine's *materia medica* were the same as those in the Latin texts but with some novelties, and he continued the trend towards precision in instructions and measurement in the preparation of medications.

Constantine's works conveyed several important steps from Islamicate medicine in the observation and modelling of apoplexy and paralysis. They were clear about the role of the brain in these apparently physical problems, and again emphasised the importance of understanding etiology, the physiology underlying a disorder or loss of function. In this case, the model of brain functioning in apoplexy appears to have been given largely for its own sake, not just for what it meant for treatment; this was an elegant solution to a medical puzzle. The ventricular model of mental functioning Constantine passed on was proving its utility not only in explaining memory and its loss, but also two disabling conditions, apoplexy and epilepsy.

Chapter 8: Epilepsy

Alarming to observe, and indeed experience, epilepsy and convulsions received much attention in early medicine and culture.[1] With names such as 'the falling sickness', or 'the sacred disease', the symptoms were often attributed to demons, the gods or the moon goddess, as the periodic nature of epileptic attacks could associate them with the lunar cycle.[2] The Hippocratic text *On the Sacred Disease* described convulsive epileptic fits, clear that they were due to a physical disorder without supernatural cause; Galen also understood them as a physical problem arising in the head, stomach or elsewhere. [3] However biblical accounts of Jesus' encounter with a boy suffering from convulsions clearly indicated that his symptoms were caused by a demon or evil spirit.[4] This was of course the most important perspective in the Christian West. However, an element of uncertainty was present since, in a list of people brought to Christ for healing, demoniacs were listed separately from those described as *seleniazomai*, a term often translated as 'lunatic' but also associated with epilepsy.[5] There could be, and was, room for both religious and medical approaches to the condition in medieval thought.

The Hippocratic and Galenic descriptions focussed on the dramatic full convulsive seizure, although some sources discuss 'the falling sickness' where the patient suddenly falls without spasm.

Symptoms

Constantine addresses epilepsy in the *Pantegni* in Book 9, Chapter 6 (along with apoplexy), whilst the *Viaticum* gives the condition its own separate section, and the *Practica* offers further treatment advice. Epilepsy is also mentioned briefly in *De melancholia*, and in the

[1] The first known description of an epileptic seizure comes as early as 2000 BCE in a Mesopotamian text, with further reports in Ancient Egyptian, Babylonian, Chinese and Indian writings, in which it was often attributed to demons or spirits. E. Magiorkinis, K. Sidiropoulou and A. Diamantis, 'Hallmarks in the history of epilepsy: Epilepsy in Antiquity', *Epilepsy and Behaviour*, vol. 17 (2010), pp. 103-4; M.J. Eadie and P.F. Bladin, *A Disease once Sacred: A history of the medical understanding of epilepsy* (Eastleigh, 2001), pp. 17-21.
[2] Magiorkinis et al, 'Hallmarks in the history of epilepsy', p. 104; J. Longrigg, 'Epilepsy in ancient Greek medicine – the vital step', *Seizure*, vol. 9 (2000), pp. 12-3; Demaitre, *Medieval Medicine*, p. 147.
[3] Eadie and Bladin, *A Disease once Sacred,* pp. 21-2.
[4] Matthew, Ch. 17, v. 14-18; Mark, Ch. 9, v. 17-27; Luke, Ch. 9, v. 38-42.
[5] Matthew, Ch. 4, v. 24. *Seleniazomai* could be translated as 'moonstruck' or 'lunatic'. See Ch. 1, footnote 13.

Pantegni's coverage of the non-naturals. The *Pantegni* and *Viaticum* further give information about convulsions and spasms occurring other than in cases of epilepsy.[6]

The *Pantegni* describes the condition: *epilempsia* is when the whole body suffers convulsions, such that the patient falls to the ground.[7] It is said to be related to apoplexy but is less serious because the patient can still feel and move.[8] A number of symptoms can precede an attack; the *Pantegni* gives these as discomfort at the mouth of the stomach, the heart quaking, a prickling feeling in the stomach and darkening of vision. The *Viaticum* reports fear, heaviness of the head, tiredness and shadows in the eyes.[9] The patient may then cry out, fall down or falter, with saliva running from his mouth.[10] The *Pantegni* describes the particular and unique signs of this illness: patients fall hard, shout, chew their tongues, and their food, urine and sometimes sperm can leave their bodies involuntarily.[11] In all types of the condition there is foaming at the mouth or spitting, and flailing around, but in epilepsy due to nerve spasms, spasm affects all parts of the body as the sufferer falls to the floor.[12] There are said to be many kinds of this illness, and the *Pantegni* gives four, from the brain, the nerves, other body part, or idiopathic.[13]

Before the onset of the condition, prodromal symptoms might be seen, which are that sufferers experience a disturbance during sleep, where they feel that something terrible is

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[6] The *Pantegni, Viaticum* and *Practica* have further sections on spasms, tetanus and tremors, not included in this discussion.

[7] 'Epilempsia est cum totum corpus spasmum patitur, ut in terram cadat infirmus', *Pantegni,* Book 9, Ch. 6, fol. 115v.

[8] 'minor est quam apoplectica ... unde fit ut infirmus in epilempsia sentiat, et se moveat, quod non fit in apoplexia, *Pantegni,* Book 9, Ch. 6, fol. 115v; 'Est autem epilempsia apoplexie vicina ... Sed tamen apoplexia totius virtutis per membra discurrentis est ablativa', *Viaticum,* Book 1, Ch. 22, fol. 8r.

[9] 'Precedit hanc nimia oris stomachi angustia, abhominatio, cordis tremor, punctura in stomacho,…. et aliquando precedit obscuritas', *Pantegni,* Book 9, Ch. 6, fol. 115v -116r; 'timor et gravitas precedent capitis, et pigrita atque tenebrositas in oculis', *Viaticum,* Book 1, Ch. 22, fol. 8r.

[10] 'aliquando clamant voce magna, aliquando non cadunt, sed debilitantur et deficiunt. Currit de oribus eorum saliva', *Pantegni,* Book 9, Ch. 6, fol. 116r.

[11] 'Particularia singulorum hominum in hac passione accidentia, fortiter cadunt, clamant, linguas masticant, preter voluntatem exeunt, digestio et urina in aliis sperma', *Pantegni,* Book 9, Ch. 6, fol. 116r. The latter symptoms are also described in the *Viaticum*: 'Aliquando pollutio et gestio hanc passionem comitantur et urina praeter voluntatem emittitur', *Viaticum,* Book 1, Ch. 22, fol. 8r.

[12] 'omnium specierum habent significationem, sputa in ore, flagellationem ex sui parte', 'Epilempsia ex spasmo que ceteris est peior, est cum spasmum per omnia menbra corporis consequitur', *Pantegni,* Book 9, Ch. 6, fol. 116r.

[13] 'cuis ergo magna huis morbi genera', *Viaticum,* Book 1, Ch. 22, fol. 8r; 'Quaedam autem epilempsia est ex cerebro, quaedam ex nervorum spasmo ... quaedam ex ipso solo, quaedam ex colligantia oris stomachi vel alterius menbri', *Pantegni,* Book 9, Ch. 6, fol. 115v.

happening to them, and they want to shout but cannot be heard.[14] The epileptic condition can subsequently become established over time, be intermittent or else go into remission, although many die from the illness.[15] It has troubling symptoms, and is often chronic and life-long.[16] It can afflict children or adults, but rarely the old; pregnant women might suffer this, but they recover after giving birth.[17] Children with epilepsy might outgrow the condition with age, as their complexions become drier and warmer; those who develop epilepsy later might recover through treatment or a change of diet and place of residence.[18]

Unusually, the *Pantegni* gives two diagnostic tests for epilepsy. The patient is treated with smoke of a goat's horn, given the roast liver of a goat, or covered in the hide of freshly skinned goat.[19] If the patient suddenly falls, this is a sign of epilepsy. The later *Practica,* attributed to Constantine, gives the same tests and another, in which the words 'begone demon' are spoken in the patients ear.[20] This enables the physician to tell whether the patient is instead a lunatic or demoniac.

[14] 'Hec passio precedit stuporem et epilempsiam. Oportet ergo hanc (non) negligi, si appareat homini. Signa, quia vident in somnis, quasi res incidat gravis, aut quasi aliquid eum accipiat et constringat, aut sicut ab aliquo suffocetur, vellet autem clamare cum non audiatur', *Pantegni,* Book 9, Ch. 6, fol. 116r-v.

[15] 'Aliquando temporibus constitutis aliquando interpolans diversis', *Pantegni,* Book 9, Ch. 6, fol. 115v, 'Multi hac passionem moriuntur', *Pantegni,* Book 9, Ch. 6, fol. 116r.

[16]'accidentibus his molestantur … Sed si .xx. annos transeat, morietur in ipsa', *Pantegni,* Book 9, Ch. 6, fol. 116r.

[17] 'Plurimum hoc pueris parvis evenit, posteriori quoque etati et iuvenili, raro senium et senectus propter siccitatem menbrorum suorum patiuntur', 'Aliquando etiam contingit mulieribus concipientibus, sed cum parturierint sanantur', *Pantegni,* Book 9, Ch. 6, fol. 116r.

[18] 'huiusmodi sanatur in pueritie vel adolescentiae mutationibus, quia eorum complexiones in calidiores mutantur et sicciores', *Viaticum,* Book 1, Ch. 22, fol. 8r. 'Si post has etates venit in pueritia multi curantur, si secundum quod oportet medicinentur. Sanitas eorum in etatis regionis et diete est commutatione', *Pantegni,* Book 9, Ch. 6, fol. 116r.

[19] 'Signa ut infirmus cum uino et mirra, et cornu caprino fumigetur. Detur ad commedendum epar caprinum, assatum et odoret ipsum. Cito enim propter hoc incidunt terre, et apparent significationes dictae. Alii dicunt si pelles caprinas vestiunt, noviter excoriatas que infundantur aqua ilico cadunt', *Pantegni,* Book 9, Ch. 6, fol. 116r. Giving the liver of a goat as a test is also present in the *Viaticum*.

[20] 'dicunt quidam quia si caprini cor vel cornu adinatur (aduratur) ex quo epilepticus si fumigetur; mox cadet. Similiter epar caprini si comedit. Alii dicunt quia si pelles caprinas induat statim cadet Est et aliud experimentum, dic in aure patientis, Recede demon…Si lunaticus sit vel demoniacus statim efficitur quasi mortuus per i horam; eo surgente interoga eum de quacumque re volueris; et dicet tibi; si enim ceciderit audito hoc nomine scias epilepticus esse ... sive epilepticus sive lunaticus sive demoniacus curabitur', *Practica,* fol. 141v.

Causes

The cause of both apoplexy and epilepsy is said to be a blockage of the ventricles, but in epilepsy only certain ventricles are affected, and the route of the nerves governing the movement of the limbs.[21] When the ventricles are blocked this hinders the animal spirit and the power of voluntary movement, which cannot then pass to the limbs.[22] The humours responsible for the blockage can be thick, gluey phlegm or black bile, but fractures of the skull, compressing the brain, can also cause blockages and fits.[23] *De melancholia* notes that epilepsy can follow melancholy or vice versa, when black bile is involved.[24] Whilst epilepsy can arise in the brain itself, it can also be due to nerve spasms or from connections to the mouth of the stomach or another part of the body, as vapours of phlegm or black bile can ascend to the brain.[25] It can even arise from the hands and fingers, feet, toes, or the womb, from cold fumes rising.[26] Fits can apparently sometimes be brought on by the patient whirling and turning around, or by the sting of a scorpion if a nerve is cut into by the sting.[27] In children, epilepsy can be present from birth due to their complexion, the natural moisture of their brains, or a poor diet; some adults acquire it through lifestyle factors, heavy drinking, a rich diet, and a lack of bathing or exercise.[28] As seen for apoplexy, the chapters on the non-

[21] 'Apoplexia et epilempsia nascuntur ex ventriculorum cerebri constipationibus', *Pantegni,* Book 9, Ch. 6, fol. 115r; 'Epilempsia ... causa eius causa est apoplectica. Sed tamen minor in fortitudine et virtute. Causa enim quae epilempsiam facit, non est in omnibus cerebri ventriculis, sed quidam oppilantur ventriculorum et vie neruorum menbra corporis moventium', *Pantegni,* Book 9, Ch. 6, fol. 115v.

[22] 'Quiae est solius cerebri nascitur sicut dixi ex constipatis ipsius ventriculis, et quia spiritus atque virtus motiva prohibentur, ne ad menbra transeant, quae voluntarie moventur', *Pantegni,* Book 9, Ch. 6, fol. 115v

[23] 'Hae oppilationes ex humoribus sunt flegmaticis, crossis et viscosis, in hora passionis ad ventriculos descendentibus cerebri, aut ex crossis humoribus melancolicis, aut ex compressione cerebri cum franguntur ossa capitis', *Pantegni,* Book 9, Ch. 6, fol. 115v.

[24] 'Quidam enim epileptici fiunt et quidam epileptici fiunt melancholici … Ut melancholia fiat epileptica, hoc colera nigra facit corrupta in complexione spiritus animati et oppilatio sui ventriculi', *De melancholia*, pp. 131-2.

[25] 'Quaedam autem epilempsia est ex cerebro, quaedam ex nervorum spasmo ... quaedam est ex ipso solo, quaedam ex colligantia oris stomachi vel alterius menbri … Epilemptici propter stomachum ex fumo patiuntur flegmatico, vel melancolico, ad cerebrum ascendentibus, et ventriculos eius inplentibus, et oppilantibus', *Pantegni,* Book 9, Ch. 6, fol. 115v

[26] 'Epilemptici ex aliis menbris corporis, ex fumo patiuntur, frigido ascendente ad cerebrum de patiente menbro, sicut in manuum pedum, digitorum videmus passionibus, et in ... matricis passionibus', *Pantegni,* Book 9, Ch. 6, fol. 116r.

[27] 'Aliquando haec passio nascitur cum rotando vel circumeundo homo se moveat', *Pantegni,* Book 9, Ch. 6, fol. 115v; 'Aliquando a scorpionibus morsi si nervos inciderit morsus', *Pantegni,* Book 9, Ch. 6, fol. 116r.

[28] 'Pueri duabus habent ex causis, aut propter naturalem humectationem sui cerebri aut propter malam dietam. Si causa huiusmodi ex complexionem est naturali in initio nativitatis contingit…Est et alia passio ex crosso nascens flegmate. Hanc aliquando propter ebrietatem solent pati et ex mala

naturals explain that in the winter or much rainy weather, the brain is filled with humours, which can enter the ventricles and cause epilepsy.[29]

Different causes manifest themselves in different symptoms; cases arising in the head present with head pain and sensory difficulties.[30] If the humour responsible is phlegm, this is associated with a cold, moist diet, and the patient will be plump and white, but if it is black bile, this has come from a drying diet and he will be dark and thin.[31] Disorders from the stomach or other part present with great discomfort of the mouth of the stomach, unpleasant feelings, a beating heart, and stabbing pains in the stomach; the patient will see darkness, and might shout out, fall or falter and dribble saliva.[32] Epilepsy due to nerve spasms is said to be the worst kind, with spasms taking over the whole body, as the humours filling the ventricles also fill the nerves and limbs, and the patient falls to the floor.[33]

The *Viaticum* begins its explanation of the condition by saying that 'the common people' call it *accubatum* and that it is caused by the wrath of God.[34] It then gives the same causes as the *Pantegni*: phlegm or black bile partially blocking the ventricles or arising from other parts of the body, and in children, due to the moistness of their bodies or bad diet.[35] It

digestione et multa comestionem crossorum ciborum maxime quia neque balneant vel exercent', *Pantegni,* Book 9, Ch. 6, fol. 116r.

[29] 'Sicut qui in hyeme multis et diversis utuntur cibariis in horum corporibus humores augmentantur, capita propter frigiditatem aeris et defectionem caloris humoribus implentur. Cum autem ver veniat et humores in hieme congelati incipiunt iam dissolui, si in capite sint et in ventriculos cucurrerint, apoplexiam, epilempsiam generant', *Pantegni,* Book 5, Ch. 4, fol. 50v.

[30] 'Epilempsia cum de cerebro procedit capitis nimius dolor nascitur, cum gravitate et visus obscuritate, corruptionibus sensuum, auditus, gustus et odoratus', *Pantegni,* Book 9, Ch. 6, fol. 115v.

[31] 'Si fit ex flegmate fit corpus plenum, crossum et album, eius dieta fuit refrigerativa, humectiva, et flegmatis generativa. Si de colera est nigra fit homo macidus, color niger, eius dieta dessiccativa fuit, et melancolica', *Pantegni,* Book 9, Ch. 6, fol. 115v.

[32] 'Precedit hanc nimia oris stomachi angustia, abhominatio, cordis tremor, punctura in stomacho,…. et aliquando precedit obscuritas, aliquando clamant voce magna, aliquando non cadunt, sed debilitantur et deficiunt. Currit de oribus eorum saliva', *Pantegni,* Book 9, Ch. 6, fol. 115v -116r.

[33] 'Epilempsia ex spasmo quid ceteris est peior, est cum spasmum per omnia menbra corporis consequitur. Cum a cerebri ventriculis et omnes ex illa abundantia impleantur nervi. Actiones principales menbrorum et maxime regitivae virtutis patiuntur, et sicut ante diximus ex humoribus flegmaticis vel melancolicis consequitur, cum nervi per latum extendantur. Unde nervi spasmus pervenit, dein homo in terram decidit', *Pantegni,* Book 9, Ch. 6, fol. 116r.

[34] 'vulgus dicitur accubatum et iram dei esse dicitur', *Viaticum,* Book 1, Ch. 22, fol. 8r (accubatum may mean 'lying down', but possibly alludes to the idea of incubus).

[35] 'G hec inquit passio qua epilepsia vocatur: humor est humidus; quo ventriculi cerebri non perfecte oppilantur' ... 'Que tribus ex causis est; vel ex humoribus est flegmaticis, vel melancholicis nascentibus in prora cerebri; vel ex ventositate frigida et grossa dominante, vel

suggests that it is the front of the brain that is predominantly affected.[36] Citing Galen, it gives a role to the moon: in some patients with the most moist humours epileptic fits come on with a waxing moon as it increases moisture.[37] *De melancholia* echoes the idea that the common people regard the illness as having a divine origin, and adds that they think epileptics to be demoniacs.[38] It can arise at a full moon and vary with its waxing and waning, as the cause is moisture, identified as phlegm, black bile or sometimes red bile.[39] Whilst the *Practica* does not discuss causation, only treatment, it does connect it with demons and lunacy (and thus the moon) by the inclusion of a religious rite which is said to heal all three.[40]

In summary, Constantine provided detailed descriptions of symptoms and causes. He includes convulsions occurring in pregnancy under epilepsy, but does not seem to be aware of the range of phenomena which would now be considered epileptic, discussing mainly generalised seizures, although atonic seizures seem to be included.[41] This emphasis on tonic-clonic seizures follows that of Galen, whom he cites a number of times. Constantine's classification of head, nerve, idiopathic and bodily caused epilepsy seems to be a variation on Galen's, which gave three types, from the head, stomach or other part of the body.[42] Again he employs the ventricular model to explain epilepsy alongside apoplexy. He carefully

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cuislibet alii membro sicut stomacho; cum habent humor aliquis nascitur in his membris; fumus eorum ascendit per nervos ... Si puero hec contingit vel adolescentulo, his habent sepius contingit propter humiditatem corporis … Si vero ab initio nativitatis a mala nutrimentum incipit fieri; vel a quolibet alia extranea causa; huiusmodi opus medicari', *Viaticum*, Book 1, Ch. 22, fol. 8r.

[36] 'Epilepsiam ex humoribus in prora cerebri', *Viaticum*, Book 1, Ch. 22, fol. 8r.

[37] 'Unde G. epilempsia inquit que crescente luna venit; sui materiam sigertat (significat) humidissimam. Omne humidum luna habent crescente incrementum', *Viaticum*, Book 1, Ch. 22, fol. 8r.

[38] 'ab Helenis appellata est divina, dicentes deum hominibus iratum esse et hac passione eum eos percutere. A vulgo divinatio appellatur, quia morbus est absconsus, dicentes demoniacos esse hunc morbum patientes', *De melancholia*, p. 132.

[39] Galenus: Qualiscumque, inquit, epilepsia nascitur in plena luna, materia eius est humidissima, cum omnis res humida crescente luna crescat', 'qui de colera rubea nascitur ... Alius enim est melancholicus … Alius phlegmaticus, que de hac materia nascitur', *De melancholia*, p. 135.

[40] 'sive epilepticus sive lunaticus sive demoniacus curabitur absque dubio', *Practica*, Book 5, Ch. 16, fol. 141v.

[41] In current medical thinking epilepsy is understood as a group of neurological disorders. The symptoms can include full convulsive seizures (known as tonic-clonic seizures), partial seizures, absence seizures (loss of consciousness with few motor symptoms), myoclonic seizures (involving muscle jerks), and atonic seizures (where sudden loss of muscle tone causes falling). Non-epileptic convulsive fits also occur, such as in eclampsia in pregnancy, tetanus or fever, with febrile convulsions common in infants; medieval references to epilepsy might include all of these. Localised muscle jerks are however referred to in sections on spasms (Eadie and Bladin, *A Disease once Sacred*, Ch. 1).

[42] Eadie and Bladin, *A Disease once Sacred*, pp. 24-5; Temkin, *The Falling Sickness*, pp. 61-4.

explains the humoral causes of the condition, and how the phlegm or black bile interacts with the ventricles, different parts of the brain and nerves. As already seen, the idea of the humours blocking the ventricles being the main cause of epilepsy comes from the work of Galen, as developed by al-Mağūsī.[43] Other causes, such as head injury, are recognised, however generally Constantine avoids reference to demonic causes, presumably because al-Mağūsī did. In *De melancholia* he includes the dismissive suggestion that calling epileptics demoniacs is something only common people would do. The later *Practica*, not Constantine's own work, associates epileptics and demoniacs, but shows that they may be distinguished from each other. Constantine does pass on Galen's ideas about the role of the moon in epilepsy. The diagnostic tests used will be shown to have a long history, and the goat products involved may also be related to ideas about the moon.[44] However a connection between the moon and disorder would have been seen as an entirely natural, rather than supernatural, process.

Treatment

The *Pantegni* advises that the cure for epilepsy in youths is a change of diet and region, but it is often incurable.[45] Treatment in the *Viaticum* begins with warming drugs which dissolve and purge the humours of the brain, such as Galen's *hiera*, *theodoricon*, or *hieralogodion*.[46] After sneezing and bathing of the head, the patient is quite pampered:

> He should drink wine after he comes out of the bath.

Later copies add:

> Let him sleep, and after sleeping let him take delight in the bath with warm water and clear air, and he should not come near anything which he dislikes.[47]

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[43] Galen, 'De locis affectis' cited in Temkin, *The Falling Sickness*, pp. 62-3; Karenberg and Hort, 'Medieval Descriptions and Doctrines of Stroke: Part I', p. 167; Karenberg and Hort, 'Medieval Descriptions and Doctrines of Stroke, Part II', p. 178.

[44] Temkin, *The Falling Sickness*, p. 11. The goat was an animal traditionally sacred to the moon goddess.

[45] 'Sanitatis eorum in etatis regionis et dietae est commutatione. Sed si .xx. annos transeat morietur in ipsa', *Pantegni*, Book 9, Ch. 6, fol. 116r.

[46] 'Incidiendum a calefactoriis dissolventibus et purgantibus humores cerebri; cum yera G. theodoriton, yera logodion et similibus', *Viaticum*, Book 1, Ch. 22, fol. 8r.

[47] 'Bibat vinum postquam exierit balneum' (some later versions such as the printed Lyons edition have 'Bibat vinum. Postquam exierit balneum dormiat post somnum vero in balneum delectetur cum aqua tepida et aere lucido; neque eis accedat; quod animus ab horreat'), *Viaticum*, Book 1, Ch. 22, fol. 8r.

Other lifestyle advice was to drink the best wine three times a day, and to refrain from excessive sleep and certain foods such as milk, cheese or lentils.[48] A clyster with camomile, centaury and colocynth might be given, and the warming anacardium; various animal remedies are suggested, the rennet of a hare, the liver or burnt hoof of a donkey, or the brain of a deer.[49] A hair from a completely white dog, or the gall bladder of a bear can be hung around the neck.[50] A treatment for children from Galen is to hang a peony around the neck, as the fragrance is thought curative.[51] If the disorder comes from the stomach it should be cleansed with *hierapigra*.[52] Treatments prescribed in the chapter on apoplexy are also said to be good for epileptics, such as asafoetida pills, John's oil, and the recipe including elder and laurel oils.[53]

Much of this is repeated in the *Practica* with some additional treatments such as the drug mithridatum, or an antidote mixed with gold, silver and the excrement of a fox.[54] Items to be worn around the neck are amber, or stones from the breast of a swallow removed at midday.[55] There are other animal parts to be taken internally, such as the gall bladder of a vulture or bear, or wild boar's testicles.[56] The brain of a she-goat drawn through a gold ring can be

[48] 'His vel ter in die manducet vinum vetustissimum bibat subtile atque clarum, abstineat a lacte, caseo, lentibus, caulibus apio et similibus', *Viaticum,* Book 1, Ch. 22, fol. 8r.
[49] 'Si clisterizare oportuerit faciendum est cum camomilla aneto, centaurea, melitoto; coloquintida et similibus. Intervallatim vero detur tyriaca maior; diathesseron et calida antidota; sicut anacardion diatrion pipereon et similia. D. dixit epilepticis si coagulum leporis biberit iuvatur. Similiter asininum epar si assetur et bibatur; aut eius ungulae incense da z ii et cotidie… Cerebrum cervinum cum oleo roseo. Accipietur', *Viaticum,* Book 1, Ch. 22, fol. 8r.
[50] 'Pili quoque canis albi nigredinem nullam habentis collo si fuerint suspensi valent; fel ursinum similiter suspenditur', *Viaticum,* Book 1, Ch. 22, fol. 8r.
[51] 'Unde Ga. Peonia si collo pueri suspendatur… Et si in minima per odoratum intrat; loca sanat infirma', *Viaticum,* Book 1, Ch. 22, fols. 8r-v.
[52] 'Si ex stomacho esse certificabitur vomitus ei detur cum yera pigra; stomachus mundificetur; et cum aqua mell' aromatici', *Viaticum,* Book 1, Ch. 22, fol. 8r.
[53] 'fetide pillae valentes apopleticis, epilepticis', *Viaticum,* Book 1, Ch. 23, fol. 8v; 'Oleum Johannes damascenus valens paralyticis, apoplecticis epilepticis…Rx sambuceleon, sisameleon, dapnaleon ana ʒ iii …', *Viaticum,* Book 1, Ch. 23, fol. 9r.
[54] 'Interdum ... metridatum imperatorum; vel quoddam melius est antidotum; in quo aurum et argentum et stercus vulpini intrat', *Practica,* Book 5, Ch. 16, fol. 141v. See glossary for a description of mithridatum.
[55] 'et de lapidus ut kairibie (cacabre) et lapilli (lapides) in ventriculis yrundinis inventi. Qui si in collo suspendantur in perpetuum liberant. Apprehende yrundines de nido earum et fissis earum ventriculis aufer lapides in medio die. Utiles enim sunt quia epilepticos et lunaticos sanant si in collo suspenditur', *Practica,* Book 5, Ch. 16, fol. 141v.
[56] 'Sunt etiam allie quedam que modo valint ut coagulum leporis; fel vulturis, ursi; testiculi apri, hec omnia multum vallit si in mane sumantur', *Practica,* Book 5, Ch. 16, fol. 141v.

given to an infant to prevent epilepsy.[57] Finally the most powerful medicine for epileptics, but also lunatics and demoniacs, is a religious ritual in which:

> His father and mother take him to the church during the Ember Days and hear mass on Friday and Saturday. When Sunday arrives let a priest or a religious man write where it says: 'this kind cannot be cast out except by prayer and fasting'. Without doubt he will be cured, whether he be epileptic, lunatic or demoniac.[58]

Constantine thus gives many treatment ideas for epilepsy, with some information about prognosis and some treatment rationale. A range of compound medications are offered, some simple medicines, and sneezing, bathing and clysters are recommended, with attention to food, wine and sleep. There is no use of bloodletting, and only the *Practica* suggests emetics in some cases.[59] There are many treatment ideas which are unusual for Constantine, using a variety of animal parts and items worn around the neck, for the supposed benefits of their natural properties. Some of these come from Galen, apparently the use of hare's rennet, and of peony, and his endorsement meant that these had been mainstays in the treatment of epilepsy for centuries.[60] Many of the more unusual ideas came, from a long tradition of hundreds of remedies passed down from antique and early medicine, although others may have been new, such as wearing the hair of a white dog. Constantine seems to be happy to take these on ancient authority without giving reasons as to how they might work. The *Practica*, whilst giving many of the treatments in the *Viaticum,* also repeats some of the odder *ligaturae* from the medical tradition, such as the stones from the breast of a swallow. It adds a religious or ritual element to treatment which is not present in Constantine's own work, taking the patient to mass for the best medicine.[61]

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[57] 'si capre cerebrum per anulum aureum tractum fiunt et infanti antequam lac suggat ut tuisgluciat (transgluteri) datum nec caducus fieri nec fantastria (phantasticus) in currere posse', *Practica,* Book 5, Ch. 16, fol. 141v.

[58] 'hoc medicamine scissimo (firmissimo) medicetur. Si pater et mater ducunt eum ad ecclesiam in die iiii temporum; et audiat missam in vi seria similiter in die sabbati faciat; die dominici veniente sacerdos vel vir religiosus scribat evangelium ubi oratur (dicitur) Hoc genus demonii non eicitur nisi in oratione et ieiunio; sive epilepticus sive lunaticus sive demoniacus curabitur absque dubio', *Practica,* Book 5, Ch. 16, fol. 141v. This was not said to work for those born from incestuous unions. This ritual is further discussed in Chs. 11 and 12.

[59] 'si ex stomacho fuit hec passio, cum vomitu purgetur', *Practica,* Book 5, Ch. 16, fol. 141v.

[60] See Demaitre, *Medieval Medicine,* p. 143; Temkin, *The Falling Sickness*, p. 25. Constantine's peony cure is a version of Galen's, who reported a kind of controlled trial of hanging it around a child's neck and removing it to see the effect.

[61] 'scissimo (firmissimo) medicamine', *Practica,* Book 5, Ch. 16, fol. 141v.

Concepts and treatments in England before Constantine

Vernacular sources

The English were well aware of the condition they termed *fylleseocnysse*, the 'falling sickness'. The *Herbarium* recommended aster:

> For *fylleseocnysse*, take the berries of this plant that we call *asterion* (aster) and give them to eat when the moon is waning and when the sun is in the sign of Virgo, which is in the month of August. Hang the same plant around the neck. The person will be cured.[62]

A recipe for stomach problems using fennel given in *Bald's Leechbook II* was also helpful for epilepsy (*fellewærc*).[63] Two treatments were given in the vernacular version of the *Liber medicinae ex animalibus* by Sextus Placitus: like a suggestion in the *Practica* for a child with falling sickness, the brain of a mountain goat should be pulled through a golden ring and swallowed; another cure was a drink made from a boar's testicles.[64] A further treatment in the *Lacnunga* may be for epilepsy; the term *bringc adle* could be a mistake for *cringcadle* ('falling sickness'). The treatment involved a salve made from plants including elecampane with sulphur.[65] Dendle and Doyle translate *wið brœcseocum* as epilepsy, to be treated with herbs that had a mass sung over them, with holy water and prayers.[66] The religious element here is notable, and may reflect an idea of supernatural causation.

The condition *wið dweorh* has been translated as convulsions, possibly disturbed sleep and fever, or fever with convulsions.[67] Treatments involved eating the excrement of a white dog, and the *Lacnunga* offered three rituals, writing symbols on the arms or names on sacramental wafers with a charm sung.[68] Given the biblical and classical connection between epilepsy and the moon, and the periodicity of condition, the disorder termed *monaðsceonysse* may

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[62] *Herbarium,* Ch. 61, p. 176.
[63] *Bald's Leechbook II*, Ch. 16, p. 201.
[64] *Sextus Placitus*, pp. 392-3 and 402-3.
[65] *Lacnunga,* p. 215 and note 60. Several authors including Cockayne, Grattan and Singer and Pollington have understood it as epilepsy or the falling sickness, but *hringadl* (ringworm) is also a possibility. See Ch. 1, footnote 106.
[66] P. Dendle, 'Lupines, Manganese, and Devil-Sickness: An Anglo-Saxon Medical Response to Epilepsy', *Bulletin of the History of Medicine*, vol. 75 (2001), p. 94; *Bald's Leechbook I,* Ch. 63, p. 142.
[67] See Ch. 1, footnote 66 for other possible meanings of *wið dweorh*.
[68] *Lacnunga,* pp. 214-7.

also have meant epilepsy, at least in some cases.[69] That peony was used for this condition, when Galen recommended it for epilepsy, also supports this idea; buttercups bound with red thread around the neck under a waning moon in April and October, were also beneficial.[70] *Leechbook III's* remedy involving whipping the patient with a scourge made from a dolphin's skin was also for the *monaðseoc.*[71]

Early English people did not always think of seizures in medical terms. The episode at Bardney Abbey, described by Bede, looked like a fit, when a man suffered foaming at the mouth and convulsions. However, this was understood to be due to his being troubled by an unclean spirit and possessed by the devil; exposed to St Oswald's relics the evil spirits departed.[72] Dendle has suggested that the terms in the medical texts, *deofulseocnesse* and *feondseocnesse,* were broad names for a variety of problems such as demon possession, but would have included symptoms of epilepsy and convulsions. He notes that *elehtre* (lupins) were the most frequently prescribed plant in such disorders and gives evidence that they could have had anticonvulsant and other helpful effects.[73] Naturally these problems also called for rituals with holy water, the sign of the cross, masses and psalms.[74] Further evidence of a conflation between epilepsy and demon possession arises in two treatments which clearly had been used for epilepsy from antiquity, but are applied against supernatural agents in the vernacular texts. The jet stone had long been used as a test for epilepsy, but in *Bald's Leechbook II* it was used in a test to find out whether a person 'has the loathly fiend secretly upon him'.[75] It will be described below how Latin writers since Pliny had used stones taken from a swallow distinctively for epilepsy, but this is not their use in *Leechbook III,* where they are for headache, 'the enemy's temptations, night-goers ... nightmares ... enchantments and evil charm workings'.[76]

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[69] *Monaðsceonysse* may have referred to a variety of abnormal states which occurred intermittently but with some regularity, and attributed to the moon, such as epilepsy and lunacy. Temkin, *The Falling Sickness,* pp. 92-3.
[70] *Herbarium,* Ch. 66, p. 178 and Ch. 10, p. 152 (see Pollington, *Leechcraft,* pp. 315 and 289 for the Old English terms).
[71] *Leechbook III,* p. 391.
[72] Bede, *Ecclesiastical History of the English People,* pp. 127-8.
[73] Dendle, 'Lupines, Manganese, and Devil-Sickness', pp. 91-101. They contain alkaloids which have a sedative, mildly anticonvulsant effect, and also high levels of manganese which is depleted in those suffering frequent seizures.
[74] *Bald's Leechbook 1,* Ch. 63, pp. 141-2.
[75] *Bald's Leechbook II,* Ch. 66, p. 324. This and other tests for epilepsy had become separated from their rationale, leaving English writers to think they must have this purpose of detecting demons.
[76] *Leechbook III,* pp. 376-7.

In summary, the Old English texts gave no explicit description or explanation but offered treatments for the *fylleseocnysse*, and other conditions similar to epilepsy, or with convulsions. Falling sickness is a good description for atonic seizures where patients fall without muscle spasms, and it is possible that the English viewed this differently to generalised tonic-clonic seizures, considering it to have a physical cause, as might the disorder *brœcseoc*. Some other disorders attributed to demons, or associated with the moon, might today be considered cases of epilepsy. Being a Christian people, demonic possession would be a natural understanding of such violent loss of control, as it had been to others before them. Recourse to Christian healing would be the obvious solution, with the ritual treatments also appropriate. There are astrological considerations to do with the moon in the *Herbarium* treatment using aster. Neither aster, lupins, nor many of the other Old English plant remedies had a history in other sources for epilepsy, but seem to be part of a distinct vernacular tradition. It is possible that they had limited access to the Latin sources on this illness, or did not take them on board, regarding them as misinformed about the true, demonic, nature of seizures. It may be that this set of treatments came from practical experience and observation of remedies that were indeed helpful.

Earlier and contemporary Latin sources

Symptoms

Priscianus, Felix and the writers of the *Passionarius* and *Tereoperica* gave some detail of the main symptoms of epilepsy.[77] Some mentioned signs preceding a fit, such as mental images and sluggishness.[78] The condition could involve falling to the ground, or falling with convulsions, jerking of the limbs, sometimes wailing or foaming at the mouth; some writers mentioned defaecation and emission of sperm.[79] The *Passionarius* stressed the sudden nature of an attack, which could take the patient by surprise in the bath, market place or on a journey.[80] Cassius Felix noted that it was a particularly troubling disorder in infants and children.[81]

[77] Priscianus, p. 147; Cassius Felix, Ch. 71, pp. 168-9; *Tereoperica* , fol. 79v; *Passionarius*, Book 1, Chs. 6 and 7.
[78] Priscianus, pp. 147-8; Cassius Felix, Ch. 71, p. 169; Alexander, p. 78.
[79] Priscianus, pp. 147-8; Cassius Felix, Ch. 71, pp. 168-9; *Tereoperica* , fol. 79v; *Passionarius*, Book 1, Ch. 6
[80] *Passionarius*, Book 1, Ch. 7.
[81] Cassius Felix, Ch. 71, p. 169.

The Latin corpus offered several classifications of epilepsy: Alexander used Galen's tripartite division by cause, one kind arising from the head, one in the stomach, and a third elsewhere in the body.[82] Other authors alluded to these various sites of origin, suggesting some awareness of these Galenic ideas but without explanation.[83] In Anglo-Norman texts, the *Passionarius* gave a threefold classification of the disorder into *analepsia*, *catalepsia* and *epilepsia* with different causes. *Analepsia* was a loss of sense with falling, *catalepsia* a most severe form with fever and foaming at the mouth, and *epilepsia* itself a chronic disease which looked like possession; a subsection of youthful epileptics were described as *caducos* (those who fall).[84] The *Passionarius* (inconsistently) and the *Tereoperica* also reported that there are two kinds, one with florid convulsions, and another without significant fitting, but loss of awareness with falling.[85]

Several conditions were mentioned which seem to relate to epilepsy. The *Tereoperica* gave a chapter on epilepsy and two on *caducos* but did not explain the distinction.[86] A few texts indicated that lunacy was a related condition: in his chapters on epilepsy Alexander also described an epileptic patient as a *lunaticus*.[87] Isidore wrote that:

> Common people call epileptics 'lunatics' because they think that the insidious forces of demons follow them in accordance with the course of the moon. They are also called 'possessed by spirits'.[88]

Both the later-arriving *Passionarius* and *Tereoperica* reported that common people call epileptics demoniacs.[89] The writer of the *Tereoperica* seemed unsure about the distinction between demoniacs and epileptics, the section on epilepsy in BL, MS. Sloane 2839 is actually headed 'on demoniacs'. He then later gave a separate chapter on the treatment of demoniacs, followed by the second chapter of recommendations for *caducos*, suggesting a putative link.[90] A continuing connection between epilepsy and demon possession is also

[82] Alexander, pp. 77-79.
[83] Cassius Felix, Ch. 71, p. 169; Oribasius, *Synopsis*, vol. 6, p. 210; Priscianus, p. 147.
[84] *Passionarius*, Book 1, Ch. 7.
[85] Cassius Felix, Ch. 71, p. 168; *Tereoperica* , fol. 79v; *Passionarius*, Book 1, Ch. 7.
[86] *Tereoperica* , fols. 79v-80v, 84v and 97r-97v.
[87] Alexander, p. 95. Epilepsy is referred to as the comitial disease in the Latin text of Alexander.
[88] Isidore, *Etymologies*, p. 111.
[89] *Tereoperica* , fol. 79v; *Passionarius*, Book 1, Ch. 6.
[90] *Tereoperica* , fols. 79v, 97r-97v.

suggested in the later Anglo-Norman text BL, MS. Sloane 1621 which gave 'St Paul's antidote for paralysis and epilepsy and all demoniacs'.[91]

Causes

As in other conditions, etiology was not of prime importance to most writers.[92] The suggestion that epilepsy might be caused by demon possession is not present in most Latin texts. It arose mainly in the *Tereoperica* and the *Passionarius*, which gave this with some scepticism as a reputed cause; however the *Passionarius* did cite possession as one of a number of possible causes, erroneously claiming that Hippocrates supported this.[93] Old ideas that epilepsy was related to the moon, as mentioned by Isidore, were not repeated in the explanations in medical texts, but lingered in some of the remedies.[94]

The most common explanation was humoral, sometimes affecting the brain directly. Felix wrote that in epilepsy the brain and the nerves descending from it suffered under the humours of black bile and cold phlegm.[95] Isidore and the *Tereoperica* endorsed this, Isidore also explaining that 'epilepsy arises in the imagination, melancholy in the reason, and mania in the memory', suggesting it was disorder of the front ventricle.[96] Alexander did mention the ventricles in the context of infantile epilepsy, when heat and moisture in the head increased and filled the ventricles.[97]

Isidore wrote in terms of black bile moving into the brain, and many authors indicated that the disorder arose from humours arising elsewhere, some naming these as blood and black bile.[98] According to Felix epilepsy was commonly born in the stomach and fumes rose, again

[91] BL, MS. Sloane 1621, fol. 5r.
[92] Priscianus did not mention it, Oribasius just noted that it could come from the stomach. Pliny wrote that 'We spit on epileptics in a fit, that is, we throw back infection' suggesting an idea that it might be a contagious condition, or come from a contagious demon (Pliny, Book 28, p. 27). Temkin, *The Falling Sickness*, p. 8.
[93] *Passionarius*, Book 1, Ch. 7.
[94] Goat products appear frequently, an animal traditionally sacred to the moon goddess, Temkin, *The Falling Sickness*, p. 11. Treatments in Pliny, Cassius Felix, Alexander and the *Tereoperica* sometimes contain instructions about aspects of treatment needing to take place under different phases of the moon, or on specific days of the lunar cycle.
[95] Cassius Felix, Ch. 71, p. 169.
[96] *Tereoperica* , fol. 79v; Isidore, *Etymologies*, p. 111.
[97] Alexander, p. 79.
[98] Isidore, *Etymologies*, p. 111; *Tereoperica* , fol. 79v; *Passionarius*, Book 1, Chs. 6 and 7.

often due to black bile.[99] Alexander named bile, yellow bile, phlegm all as possible causes, and the *Passionarius* explained that *catalepsia* came from a great deal of blood or boiling bile trapped in the stomach.[100] Meanwhile the *analepsia* and *epilepsia* forms of the condition could be due to lifestyle and health factors such as too much sex, intoxication, anger, or the abundant moisture of youth.[101] Alexander was much concerned about the quality of milk given to infants, as thick fetid milk obstructed the nerves and could lead to convulsions.[102]

In summary, as elsewhere, few of the Latin writers gave much background information, descriptions of symptoms or theory. Alexander provided the best account, but the fact that this takes up only three pages of the 24 on epilepsy in the later Renaissance edition shows where the emphasis lay.[103] Many assumed that the reader knew what is meant by many of the terms used, sometimes including *epilepsia* itself. The descriptions of symptoms given concentrated on the generalised convulsive seizure. A few attempted a degree of classification and here some seem to have noticed a distinct case of atonic, falling attacks. Awareness of the Galenic classification was present but only really articulated by Alexander. Ironically, as the author of the *Passionarius* seemed to show least understanding of this, the terms he passed on were to become standard terminology for much of the Middle Ages, with *epilepsia* referring to that arising in the head, *analepsia* for that in the stomach, and *catalepsia* for that from elsewhere.[104] The causes of epilepsy were mostly given as humours arising at these locations, but with only an occasional allusion to the ventricles. All four humours were variously suggested, with dietary and lifestyle factors also implicated. Although no earlier Latin medical writers mentioned supernatural causes of epilepsy, the later versions of the *Passionarius* and *Tereoperica* that survive, do mention demon possession, apparently ambivalently. With Isidore, they seemed to scorn this attribution of 'the common people', but elsewhere they showed that they thought this was a real possibility. These were popular texts in Anglo-Norman medicine and may reflect a new ecclesiastical control and influence in medical thinking post-Conquest.

[99] Cassius Felix, Ch. 71, p. 169.
[100] Alexander, p. 87; *Passionarius*, Book 1, Ch. 7.
[101] *Passionarius*, Book 1, Ch. 7.
[102] Alexander, pp. 80-4.
[103] *Ibid*.
[104] Temkin, *The Falling Sickness*, p. 120. The modern use of the term cataplexy is very different.

Diagnosis and prevention

Alone amongst the conditions investigated, there were a large number of diagnostic tests for epilepsy in the Latin literature, and it seems that Constantine's own tests in the *Pantegni* had a long history. Burnt goat's horn, sulphur or bitumen were given as a means of detection of epilepsy by Pliny.[105] Many other tests were offered, variations of the goat skin test, smoke from dog's excrement, putting the patient's urine on their head, or the presence of a spider, would all provoke falls in hidden cases of epilepsy.[106] Several authors suggested using the smoke of a jet stone, as in *Bald's Leechbook*.[107]

Epilepsy was probably greatly feared, and Alexander offered much advice for those hoping to avoid it.[108] There were many natural materials which could be worn or carried to ward off the disorder: according to Felix a young swallow from the first litter of a new moon should be cut open, for the preventative stones to be found in its stomach.[109] Alexander said that a black and a white stone would be found in a swallow's stomach; the white would rouse the collapsed patient, and the black should be then worn; but he bemoaned how hard it was to find the right kind of chick, and that stones were not always present.[110] Amongst many other suggestions were that peony roots, a cross of nails, jasper or topaz stones, a piece of old sail, or worms from the head of a she-goat, should be carried on the body.[111]

Treatment

Concerns about epilepsy in the ancient world are demonstrated in the large number of treatments for the condition. During or just after the fit the patient might be restrained or massaged, but what followed might be less pleasant, with the patient's own blood or urine applied to the head, Priscianus applied the blood of a weasel then the urine of an ass.[112] Treatment plans generally consisted of vomiting to relieve the stomach of humours, whilst sneezing agitated the head and removed phlegm.[113] Blood was let from the arm or forehead,

[105] Pliny, Book 28, p. 153, Book 35, pp. 391 and 395.
[106] Alexander, p. 93; Priscianus, p. 253; *Passionarius*, Book 1, Ch. 6.
[107] *Ibid.*
[108] Alexander, pp. 100-1.
[109] Cassius Felix, Ch. 71, p. 172.
[110] Alexander, pp. 93-4.
[111] *Passionarius*, Book 1, Ch. 6; Priscianus, pp. 253-4; Alexander, pp. 97-9.
[112] Oribasius, *Synopsis*, vol. 6, p. 206: Alexander, pp. 92-3; Priscianus, pp. 148 and 254.
[113] Alexander, pp. 86-8; Priscianus, p. 148; *Passionarius*, Book 1, Chs. 6 and 7; Cassius Felix, Ch. 71, p. 171.

by scarification with cupping glasses, or in one case by applying leeches to the stomach.[114] Most authors used clysters, such as a decoction with colocynth, and poultices or plasters could be useful, perhaps with mustard.[115] Some treatments were very soothing, for example the recommendation that the patient should be massaged with oil. Felix and the *Tereoperica* recommended two weeks in bed and then an embrocation of rose oil and vinegar.[116] Some treatments were quite the opposite: Priscianus suggested cauterisation, and the *Passionarius* commented that the doctor might bore a hole through the head surgically and cauterise it – this is the only reference to trephination seen.[117]

There was a long list of useful *materia medica*. Pliny suggested 35 different plants useful for epilepsy and convulsions, such as radishes or rue.[118] Drugs were often cathartics, and there are many recipes, often with carefully measured ingredients, one with over seventy in BL, MS. Sloane 1621.[119] Alexander and the writer of the *Tereoperica* sometimes administered medications according to the phase of the moon, for example a mixture with asafoetida was to be drunk under a waning moon.[120] Human and animal parts or products were thought beneficial. Alexander had the patient drink their own blood or that of a gladiator.[121] Pliny suggested over forty animal products, such as animal testes, the meat or liver of a vulture, the flesh and blood of a tortoise, the rennet of a hare, or swallow's blood, which were common recommendations in later authors.[122] Rocks too could have curative properties: Alexander especially advised taking the Armenian stone internally, helpful even in hopeless cases.[123] Pliny further suggested driving a nail into the place where an epileptic hit his head,

[114] Oribasius, *Synopsis*, vol. 6, pp. 206-10; Cassius Felix, Ch. 71, pp. 169 and 171; *Tereoperica* , fols. 79v-80r; Priscianus, p. 149; *Passionarius*, Book 1, Chs. 6 and 7.
[115] Oribasius, *Synopsis*, vol. 6, pp. 206-8; Priscianus, pp. 148-9; *Passionarius*, Book 1, Ch. 7; Cassius Felix, Ch. 71, p. 170; *Tereoperica* , fol. 80r.
[116] Cassius Felix, Ch. 71, p. 170; *Tereoperica* , fol. 80r.
[117] Priscianus, p. 149; *Passionarius*, Book 1, Ch. 7.
[118] Pliny, Book 20, pp. 17, 21, 35, 53, 81, 99, 103, 111, 125, 133, 139, and 155, Book 21, pp. 259, 273 and 285, Book 22, pp. 309, 369, 391 and 401, Book 23, pp. 455, 471, 495 and 511, Book 24, pp. 7 and 23, Book 25, pp. 174-5, 181 and 257, Book 26, pp. 348-51, Book 27, pp. 407 and 445.
[119] Alexander, pp. 84-5; Cassius Felix, Ch. 71, p. 172; BL, MS. Sloane 1621, fols. 5r-5v.
[120] Alexander, p. 96; *Tereoperica* , fols. 80v and 84v.
[121] Alexander, pp. 93 and 96.
[122] Pliny, Book 28, pp. 63, 65, 151-3, Book 30, pp. 301, 335-7, Book 32, pp. 483, 485, 487, and 531-3; Priscianus, p. 254; Cassius Felix, Ch. 71, p. 171; Alexander, pp. 94-6; *Tereoperica* , fols. 80r, 84v and 97r; *Passionarius*, Book 1, Chs. 6 and 7.
[123] Alexander, p. 91. The stone is azurite, a naturally occurring copper carbonate.

and described a remedy from Artemon, of drinking water from the skull of a murdered man.[124]

Many authors covered lifestyle factors such as diet, exercise and bathing in the management of epilepsy, Alexander giving a lot of detail.[125] There were differing views on the benefits of baths: the *Passionarius* forbade baths, sex, noise and anger.[126] Dietary advice also varied considerably, with some against meat and wine; Alexander warned against undiluted wine as it excited the emotions, the *Tereoperica* advised general abstinence except for bread and water.[127]

Overall, epilepsy was 'one of the most baffling diseases since antiquity', as Demaitre comments, attracting some extraordinary remedies, with a long classical tradition of treatments.[128] Theory and ideas about causation took a back seat to the important business of diagnosis and cure. There were many diagnostic tests, not seen for any other condition, and it seems that the original reason for these lay in the business of buying slaves; a sufferer could go for months without an attack but might prove a poor purchase, so a test was needed.[129] No explanation was given in the texts, and similarly, a rationale for treatments was mostly absent. More often there was just a statement of efficacy, as for example in the *Passionarius*: 'the testicles of a bear in food work wonderfully well'.[130] Concerns about this serious illness are reflected in attempts to ward it off with lifestyle measures or many and various worn items. Once the condition struck, the fit could be managed, then the usual range of bloodletting, vomiting and purging, sneezing, clysters and poultices were applied. Extreme disorders could require extreme treatments, and so cauterisation and even trephination were possible. Whilst many of the *materia medica* involved were the usual herbs, here there are several rocks and stones, and some bizarre animal and human products. *Medici* and their assistants were clearly put to some considerable trouble obtaining vultures and swallow's stones, but this may have enhanced credibility for the patient. Some treatments were given at certain phases of the moon, but there were few religious elements.

[124] Pliny, Book 28, pp. 7, 45-7.
[125] Alexander, pp. 87-90.
[126] *Passionarius*, Book 1, Ch. 7.
[127] Alexander, p. 89; Priscianus, p. 149; *Tereoperica* , fol. 84v. There is also a lot of advice on the diets of children, Alexander particularly concerned about infants' milk (Alexander, pp. 79-84).
[128] Demaitre, *Medieval Medicine*, p. 141.
[129] Temkin, *The Falling Sickness*, pp. 48-9.
[130] *Passionarius*, Book 1, Ch. 7.

Later medieval writers

All of the subsequent medical writers considered gave much background theory on the condition, often several pages. Bartholomeus, Gilbertus, Gaddesden, and De Gordon were all quite taken with Constantine's model of epilepsy. Bartholomeus explained that according to Constantine, in epilepsy a moist humour blocked the ventricles incompletely; in apoplexy all of the ventricles were blocked with loss of reason and reduction in sense and movement, but in epilepsy just the principal ventricles.[131] Gilbertus expanded on this basic idea in detail, and it was also explained briefly in the English translation of his work.[132] Gaddesden mentioned it several times, and for all four authors it was one of the first things necessary to say about epilepsy, although without attribution.[133] Bartholomeus cited Constantine on the phlegmatic or melancholic humours responsible and Gilbertus agreed, although others suggest all possible humours.[134]

None of these later writers directly attributed epilepsy itself to the work of demons, although there was some continued expression of belief in the condition of demon-possession.[135] The two needed to be differentiated: Gilbertus was careful in explaining the difference between cases of epilepsy and *ephialtes* (demons or incubus).[136] Gaddesden cited 'Constantine' from the *Practica*, noting that epileptics, lunatics and demoniacs were similar and could be distinguished using his most effective test of saying '*recede demon'* in their ear.[137] Some authors did seem to retain concerns about possible supernatural elements in epilepsy, in that Gilbertus' treatments included some repetitions of the Lord's prayer, and a ritual where the power of Christ was asserted, whilst De Gordon gave a spoken religious charm.[138] Gaddesden cited Constantine as the originator of the *Practica's* treatment with masses said over the patient, and De Gordon also recommended a version of this, unattributed.[139] Of course the concern could simply have been to use all resources against this serious disorder, but certainly the *Practica's* test and treatments were valued and passed on.

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[131] Bartholomeus, p. 122.
[132] Gilbertus, p. 233; Getz, *Healing and Society,* pp. 20-1.
[133] Gilbertus, p. 233; Gaddesden, fol. 60r; De Gordon, p. 118. Gaddesden did cite 'Haly Abbas' *Tegni'* a few times on other aspects of theory and etiology however.
[134] Bartholomeus, p. 122; Gilbertus, pp. 233-4.
[135] There is no evidence of this in Bartholomeus, see Ch. 11.
[136] Gilbertus, p. 233.
[137] Gaddesden, fol. 61r.
[138] Gilbertus, p. 238; De Gordon, p. 120. This gives the names of the three magi and ends 'you are saved from the falling sickness by faith in Christ'.
[139] Gaddesden, fol. 62v; De Gordon, p. 120.

Constantine had given Galen's ideas about the role of the moon in epilepsy, when there had been previous allusions to this but never a full explanation. This was taken up enthusiastically, and Bartholomeus passed it on exactly as outlined in the *Viaticum*, De Gordon and Gaddesden gave details of how different moon phases affected the presentation of the disorder, and in people of different ages or complexions.[140] Gilbertus devoted a whole page to the moon and how it interacted with the qualities and humours of the body in epilepsy.[141]

Bartholomeus, as usual, valued Constantine's genuine work on epilepsy in the *Viaticum* and the *Pantegni*, citing him five times, although he did also draw on Platearius and sources such as the eleventh-century *Passionarius*.[142] The other three authors generally had a lot to say about this condition, using ideas and remedies from a wide range of previous authorities, but there is evidence to show that they knew the contents of the *Pantegni*, *Viaticum* and *Practica*, even if they did not use them extensively. Gaddesden cited 'Haly's *Tegni*' on causation and credited Constantine for explaining that spasms were the difference between apoplexy and epilepsy.[143] A few minor treatment recommendations from the *Viaticum* were taken up: Gilbertus used the camomile clyster and anacardium.[144] However De Gordon and Gaddesden showed a preference for remedies from the *Practica*: as well as the saying of masses, Gaddesden advised the use of the brain of a goat passed through a gold ring, the hair of a white dog with no black, and mithridatum.[145]

Many of them repeated the ancient remedies with stones taken from swallows, peonies, boars' testicles and hare's rennet. The huge array of treatments offered ranged from herbal recipes, some long and complicated, to some of the more exotic, with powdered human bones, the brain of a vulture given under a waning moon, or the blood of a weasel mixed with its urine and flesh.[146] Gilbertus went as far as recommending the cauterisation or opening of the skull, and a potentially dangerous treatment with mercury.[147] This was a

[140] Bartholomeus, p. 122; De Gordon, p. 118; Gaddesden, fol. 60v.
[141] Gilbertus, pp. 234-5.
[142] Bartholomeus, pp. 122-3.
[143] Gaddesden, fols. 60r, 61v and 62r.
[144] Gilbertus, pp. 237-8; Gaddesden, fol. 63v; De Gordon, p. 120.
[145] De Gordon, p. 120; Gaddesden, fols. 62v and 63v.
[146] Gilbertus, pp. 237 and 241; De Gordon, p. 120.
[147] Gilbertus, pp. 239 and 242.

highly resistant chronic disorder, and doctors tried every avenue of cure. Whilst his ventricular model of the disorder and his comments on the moon were influential, when it came to cures for epilepsy, Constantine was just one source amongst many.

Conclusion

Prior to the arrival of Constantine's texts, the English had a variety of possible approaches to epileptic symptoms. The Church understood them as due to demons, best dealt with by religious means. Their vernacular texts recognised illnesses they termed *fylleseocnysse* and *brœcseocum* but, following Christian ideas, other cases of generalised convulsions might often have come under *monaðsceonysse* or 'devil sickness', and their treatment included religious elements. Alongside these rituals, texts in Old English passed on several herbal treatments which represent a separate medical tradition from the Latin works they may have had available. The Latin authors they had mostly took a naturalistic, humoral view of epilepsy, and offered hundreds of treatment ideas and medicines from the conventional to the fantastical. All in all, a great deal of practical information was potentially available to highly educated doctors, although this was largely atheoretical.

Constantine's works brought such doctors the most detailed and comprehensive description of the symptoms and warning signs for epilepsy. They included new observations such as that convulsions can arise during pregnancy, and that head injury can sometimes bring on cases of epilepsy; unfortunately neither of these helpful insights were taken up in major medieval writings available in England.[148] Although there has not been space to discuss non-epileptic convulsions and spasms, Constantine's translations were the first to bring any significant understanding or treatment of these problems.[149] He offered a distinct classification of types of epilepsy by origin, elaborating that of Galen, previously poorly covered except by Alexander. Therapeutically, Constantine's treatments for epilepsy did not always have a clear rationale, and were not especially numerous nor innovative, several coming from the longstanding Latin tradition. There is no reason to think they would have been any more effective than those of the vernacular medicine, which may have had some merits. His texts used fewer unusual animal products and none of the human products, but

[148] The association with head injury had been previously noted in the Hippocratic corpus, but is not seen restated elsewhere. Temkin, *The Falling Sickness,* p. 131.
[149] They are only really mentioned by Oribasius (Oribasius, *Synopsis*, vol. 6, pp. 224-6) and briefly in Isidore's *Etymologies,* p. 110.

did introduce the use of several new compound drugs and the use of anacardium for epilepsy.[150] Notable too is the lack of vomiting and bloodletting treatments; instead there were some particularly pleasant treatments, as the patient enjoyed a bath and the best quality wine.

The most important contributions of Constantine's writings on epilepsy were again in the area of understanding etiology. They brought Galen's causal model of epilepsy as developed by al-Mağūsī, that of phlegm or black bile partially filling and blocking the ventricles, and so impeding the animal spirit.[151] This understanding of the underlying issue in epilepsy was to be very influential, featuring prominently in the work of later medical writers. Even into the late fifteenth century this was still the explanation given by John Argentine, a royal physician in his book *Loci Communes: sue liber de morbis et medicinis.*[152] Also influential was Constantine's description of Galen's ideas about the role of the moon in epilepsy, which had not been seen before, and helped to pave the way for the development of astrological medicine.

Al-Mağūsī's *Complete book of the medical art* did not include any reference to religious or supernatural concepts, and likewise its translation in the *Pantegni Theorica*, made not a single reference to demons as responsible for epilepsy.[153] This was of course in line with the longstanding classical medical tradition. The popular conception of epilepsy as caused by the wrath of God or demons was dismissed in *De melancholia* and the *Viaticum*, as the view of the ignorant. The wide circulation of Constantine's works in England could have helped to spread the idea that epileptics were not demon possessed, still a view suggested in a few medical texts popular at this time. However, the *Practica*, of course not Constantine's work, seems to have been more influential in this regard, subverting this message, for Gaddesden and De Gordon repeated the exorcism-like religious treatment in their widely circulated texts, the *Rosae medicinae* and *Lilium medicinae.* It was clearly a popular treatment, found in a variety of later sources such as Peter of Spain's *Thesaurus Pauperum.*[154] Unaware of

[150] The *Practica* still repeats some, the stones from a swallow's breast, the gall bladder of a vulture or bear, or wild boar's testicles, *Practica*, Book 5, Ch. 16, fol. 141v.
[151] Karenberg and Hort, 'Medieval Descriptions and Doctrines of Stroke, Part II', p. 178.
[152] Oxford, Bodleian Library, MS. Ashmole 1437, part 15, fols. 12v-13r. D.E. Rhodes, 'Provost Argentine of King's and his Books', *Transactions of the Cambridge Bibliographical Society*, vol. 2 (1956), pp. 205–12.
[153] Russell, 'After Galen', p. 65.
[154] *Thesaurus Pauperum*, seen in Oxford, Bodleian Library, MS. Ashmole 1432, fols. 146-51.

the status of the *Practica*, some current medical historians continue to attribute its 'superstitious' ideas and remedies to Constantine, when he should more justly be credited as one of those to have sustained the naturalistic medical tradition.[155]

Ideas about epilepsy were slowly starting to change. By the end of the twelfth century healings of epileptics were recorded separately from those of demoniacs in accounts of the miracles of St Thomas Becket.[156] The one case of epilepsy healed at the shrine of St Bartholomew was recorded as such, and ascribed to a problem with the sufferer's '*cerebri ventriculos'*.[157] However not all hagiographers or miracle accounts would have been so medically-informed or taken on such ideas, nor might the distinction necessarily have made much difference to the sufferers' experience in a church context. As late as 1500 a common remedy for epilepsy was to burn twelve candles bearing the names of the apostles during a mass, to see which lasted the longest; the epileptic would be healed if he fasted on the eve of that saint's day.[158] Despite Constantine's work and neat naturalistic explanation, and whatever the putative cause of epilepsy, the saints were still often considered the best recourse in this intractable condition.

[155] Temkin and Demaitre both fall into this trap. Temkin, *The Falling Sickness,* p. 105; Demaitre, *Medieval Medicine*, p. 141.
[156] Trenery, *Madness, Medicine and Miracle,* pp. 91-3.
[157] *Ibid*, p. 117.
[158] E. Duffy, *The Stripping of the Altars: Traditional Religion in England, 1400-1580* (New Haven and London, 1992), p. 179.

Chapter 9: *Melancholia*

Melancholia derived its name from the Greek words for black bile, μελαινα cηολε (*melaina chole*), the humour which was said to cause the illness. Hippocrates had first described the condition, which was also discussed by Rufus of Ephesus, Galen and other ancient writers. Rufus' book *On melancholy* was seminal in its influence, one of the first Greek medical texts to be translated into Arabic, but subsequently lost.[1] Based partly on this, Is'ḥāq ibn-'Imrān, a tenth-century Persian physician, expanded Rufus' ideas in his *Treatise on Melancholy*. Constantine wrote an adapted translation of this in his *Liber de melancholia,* which was critical in its retention and dissemination in the West. Unfortunately, this text has been neglected by historians, partly because of translation and accessibility issues, but it is particularly important in this study as the most lengthy work of Constantine on any disorder of the head (Image 9.1).[2] Melancholy is also discussed in the *Pantegni*, the *Viaticum* covers it briefly under frenzy, whilst the *Practica* gives a number of remedies for the condition. Taken together, Constantine's texts give a comprehensive picture of the nature, causes and treatment of melancholy, as understood in the eleventh century.

Symptoms

The *Pantegni* explains that *melancholia* is madness without fever arising from the actions of black bile in the brain, or from its vapours rising to the brain.[3] *De melancholia* gives much more detail, noting its importance as a very common condition.[4] It describes it as a threefold illness, arising in the substance of the brain itself, in the mouth of the stomach or belly (*hypochondria*), or in the body.[5] The symptoms of melancholy are given as many and various, affecting mood, perception, behaviour and cognition, with other, physical effects.

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[1] It remains only in a few fragments (critical edition in Rufus of Ephesus, *On Melancholy,* Pormann (ed.)).

[2] It has been translated into French (Bavouzet, 'Le *De Melancholia* de Constantin l'Africain'). Ibn-'Imrān's original Arabic treatise has now been translated into German and French in Is'ḥāq ibn-'Imrān, *Maqala fi l-malihuliya,* Garbers (ed.) and Is'ḥāq ibn-'Imrān, *Traite de la melancolie*, A. Omrani (ed. and trans.) (Carthage, 2009). Garbers also provides a transcription of Constantine's *Liber de melancholia* from several manuscripts including Oxford, Bodleian Library, MS. Laud misc. 567.

[3] 'Melancolia est sine febri alienatio mentis. Contingit ... ex humoribus est melancolicis in cerebro nascentibus aut ... a stomacho ad cerebrum ascendentes', *Pantegni*, Book 9, Ch. 7, fol. 116v.

[4] 'Cum qua maxima est haec infirmitas tum et maxime in his regionibus habundat', *De melancholia,* p. 84.

[5] 'melancholia igitur passio triplex est. Alia enim est in ore stomachi et in hypochondriis, alia in cerebro … aut enim in essentia cerebri, aut in toto corpore', *De melancholia,* p. 107.

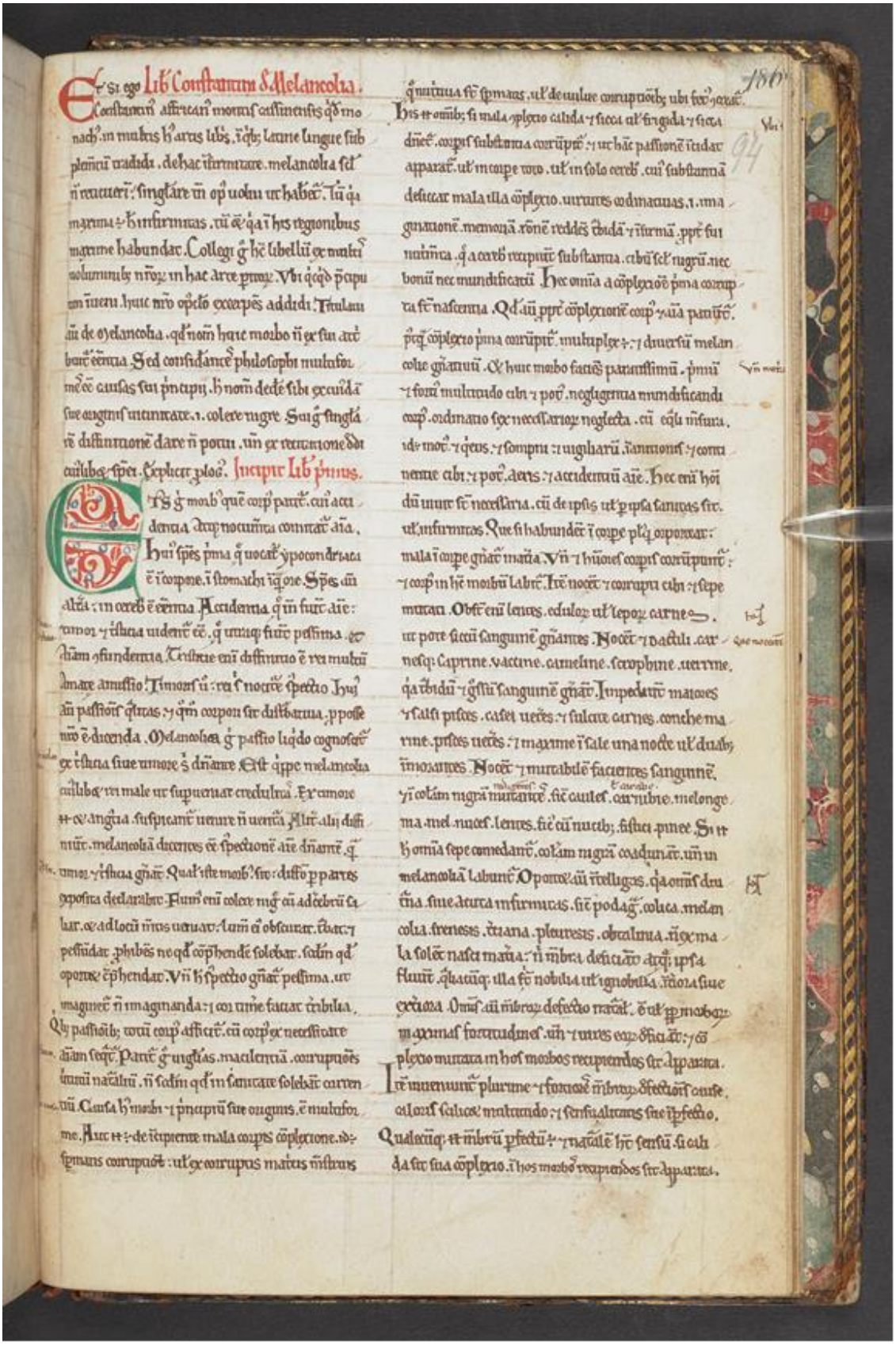

Image 9.1. *Liber de melancholia*, London, British Library, MS. Burney 216, fol. 1r, twelfth century, from the Augustinian priory at Kirkham, Yorkshire.

The most characteristic symptoms are mood changes with fear and sadness, and the *Viaticum* comments that 'those who have this illness are often sad without cause'.[6] The *Pantegni* states that the universal sign of melancholy is fear and sadness with 'bad thoughts'.[7] The patient may fear terrible things, fear things that are not dangerous, or be unconcerned about real dangers.[8] The feelings may become extreme or delusional:

> Some fear death, others desire it … some kill themselves, others think they are clay vessels and take care not to get broken.[9]

There can be perceptual problems: the patient misinterprets what he sees, including familiar people and objects.[10] In the worst cases there may be hallucinations where the patient sees things which are not there, or 'terrible and frightening black forms'.[11] Auditory hallucinations or possibly tinnitus may be experienced, noises such as running water, winds, and terrible voices.[12] Alterations can also be seen in the senses of taste or smell, when sufferers experience everything as smelling rotten.[13]

There can be disorders of thinking: thoughts can become fixated, for example some religious people become overwhelmed with thoughts of judgement, unable to think about anything but God.[14] Some thoughts are delusional, where 'bad things which do not exist come to seem

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[6] 'Unde omnes hanc passionem habentes; sine causa sepe sunt tristes', *Viaticum*, Book 1, Ch. 18 (on frenzy), fol. 6v.
[7] 'Signa melancolie universalia est timor et tristicia et mala intentio', *Pantegni*, Book 9, Ch. 7, fol. 116v.
[8] 'cor timere faciat terribilia', 'timor de re non timenda … certificatio rei terribilis et timorosae et tamen non timendae', *De melancholia,* pp. 88, 120.
[9] 'Alii enim timent mortem alii desiderant eandem ... alii se necant, alii vasa se esse lutea putant et cavent ne ea frangant', *Pantegni,* Book 9, Ch. 7, fol. 116v.
[10] 'cum fumus colerae nigrae ad ipsam ascendit … ut videat rem non secundum quod sit', 'rem fratrum et parentum horribilem vident quam amare debet, res familiaris fugitur, de qua videnda molestatur', *De melancholia,* pp. 108 and 95.
[11] 'vident multa ante se individua nigra etsi non certa, aliaque similia', 'vident enim ante oculos formas terribiles et timorosas nigras', *De melancholia,* pp. 107-8 and 120.
[12] 'alii audiunt quasi aquas currentes, ventos tempestuose moventes, voces timorosas et terribles in auribus suis sonantes … Quae tamen omnia sunt falsa', *De melancholia,* p. 120.
[13] 'alii foetentia odorant omnia', *De melancholia*, p. 120.
[14] 'Quae omnia superant eorum animas. Unde nec cogitant nec investigant, nisi ut solum deum ament et timeant', *De melancholia,* p. 103.

true'.[15] Some fear for the future, fear death, or that their friends dislike them.[16] Some even believe they do not have a head, whilst:

> Others think their bodies to be larger than they are. Others think that they are made of clay … a certain man believed that he had snakes in his belly ... There are others who think to flee the sky, fearing that it will fall upon them.[17]

Behavioural symptoms described in *De melancholia* include eating and drinking too much, self neglect with carelessness about washing and the non-naturals.[18] In a precursor stage there might be talkativeness, excitement and anger or even laughter.[19] Changes in behaviour are a clear sign that the disorder is making an attack, when chatty, short-tempered people go quiet, or timid, quiet people become bold and eloquent.[20] Some patients are 'cunning, bold and shameless' or even 'rise up strong and bold like lions'.[21] Melancholics can become socially withdrawn, whilst others cannot bear to be alone.[22]

The *Pantegni* describes some more extreme behaviours, with laughter, crying, suicidal tendencies, some thinking that they are divinely inspired and prophesying.[23] Disturbingly:

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[15] 'cogitent de re contra quod ratio videtur habere', 'Est ergo melancholia cuislibet rei malae non existentis ut superveniat credulitas', *De melancholia,* pp. 115 and 88.
[16] 'amicos et suos sibi putent esse horrendos', *De melancholia,* p. 115.
[17] 'Sunt et alii, qui putant se non habere caput…Alii sua corpora putant esse maiora quam sint. Alii putant se esse de creta ... Alii corruptam habent imaginationem et rationem, sicut quaedam, quae passa est in ventre se habere serpentes autumans….Sunt et alii qui coelum se fugere putant, timentes ne super se cadat', *De melancholia,* p. 120. The idea of not having a head may have been influenced by the belief that a race of headless people, the Blemmyes, lived in Africa.
[18] 'Primum et fortius multitudo cibi et potus, negligentia mundificari corpus, ordinatio sex necessariorum neglecta cum aequali mensura id est: motus et quietis, somni et vigiliarum, inanitionis et continentiae, cibi et potus, aeris, accidentium animae', *De melancholia,* p. 91.
[19] 'nondum ... nec melancolicae attinet passioni. Hanc sequitur facundia, excitatio atque ira', 'ridentium melancholia nondum est completa', *De melancholia,* pp. 107 and 127.
[20] 'Si intelligamus aliquem naturaliter vanum, facundum, iracundum, et postea iram eius quievisse viderimus et diu taciturnum … Similiter si tardu fuerit ad loquendum et mansuetus, timidus, et post in responsione festinus et verbis facundus et audax apparuerit, intelligimus, quod hanc infirmitatem incurrerit', *De melancholia,* p. 111.
[21] 'apparent autem sibi malum ingenium, astutiam, audaciam et frontositatem, ut castigationem nullam audiant de his', 'insurgunt ut leones et audaces et fortes sunt sicut leones', *De melancholia,* p. 108.
[22] 'Alii…amant solitudinem et obscuritatem et ab hominibus remotionem ... Alii … si soli remanserint, appropinquare videntur morti', *De melancholia,* p. 124.
[23] 'alii multum rident, alii multum flent, alii se necant … alii divinant, et se divinis predicere putant', *Pantegni,* Book 9, Ch. 7, fol. 116v.

> There are those who see themselves as like roosters, and they sing like roosters, others bark like dogs, indeed they believe themselves to be dogs, and go out by night to the tombs.[24]

The latter is is a reference to lycanthropy, a melancholic syndrome previously described by Galen and Oribasius.[25]

Disturbances of eating range from an extreme appetite to a complete loss of interest in food; loss of appetite shows a more severe case, and the patient may not survive very long.[26] Some might sleep excessively or alternatively suffer wakefulness.[27] None of the texts leave any doubt that melancholy is a physical disorder with physical signs, because the whole body is inflamed by humours.[28] *De melancholia* notes emaciation and 'a disintegration of the natural strength', sometimes head pains and weakness of the eyes.[29] Most notably, there are stomach symptoms, bad digestion, pain and burning sensations in the abdomen.[30] Where black bile affects the stomach in a hypochondriacal form of the illness, digestion is so disturbed as to be ineffective, with flatulence and bloating; this could be dangerous if it prevented normal excretion.[31] There can be visible changes to the appearance in some forms: a black skin disease could appear, sometimes a helpful sign, but cases with large pustules could be fatal.[32]

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[24] 'Est et alia species melancolica quam qui habent galli sibi habere videntur similitudinem, et clamant sicut galli, et latrant sicut canes, immo se esse dicunt canes, exeunt noctu ad monumenta', *Pantegni,* Book 9, Ch. 7, fol. 117r.

[25] Oribasius, *Synopsis*, vol. 6, p. 215. This delusion that one might be a wolf may have derived from popular folklore about werewolves. Jackson, 'Unusual Mental States in Medieval Europe I', pp. 282-3.

[26] 'Quod si uno momento ab appetitu retrahantur, vitae suae desperare videntur', 'Huiusmodi melancholici peiores sunt ceteris. Corpus consumitur et deficit, unde non diu in hac passione vivitur', *De melancholia,* p. 123.

[27] 'Colera autem nigra in actione sua duplex est circa somnum et vigilias. Quae enim dominatur essentialiter, cerebrum deprimens ex fumi multitudine, nimium facit dormire ... Fere incensa qualitas facit vigilias', *De melancholia,* p. 127.

[28] 'Est et melancolia que ex totius corporis humoribus est incensis', *Pantegni,* Book 9, Ch. 7, fol. 116v.

[29] 'Patitur ergo vigilias, macilentiam, corruptiones virtutum naturalium non secundum quod in sanitate solebant currentium', 'dolor capitis ... multotiens depressio oculorum', *De melancholia,* pp. 88 and 123.

[30] 'nimiam habent ... malam digestionem ... multa dolorem sub ypocondria ardorem', *Pantegni,* Book 9, Ch. 7, fol. 116v.

[31] 'digestivam molestans, eius bonitatem confundat, ut nec corpus iuvet nec nutriat, quod maximum est periculum ... neque mundificari permittitur a supervenientis cibi materia'; 'ventositem generans grossam et inflationem multam', *De melancholia,* pp. 116 and 119.

[32] 'Aliquando in omnibus corporibus melancholicis morphea nigra, impetigo parva apparentes adiuvant. Sed si pustulae magnae apparent, hae non adiuvant, cum potius aliquando interficiant', *De melancholia,* p. 131.

Black bile is a source of other illnesses, and melancholy is said to turn into epilepsy if black bile blocks the ventricles of the brain.[33]

In trying to understand the medieval disorder category of *melancholia* a modern understanding of what is meant by the word 'melancholy' must be put aside. To begin with, it is not simply a problem of the mind or head. Constantine is passing on Galen's threefold understanding of the illness, which includes a form affecting the whole body and another predominantly the stomach.[34] It is very much a physical disorder, with descriptions of the patient's pulse and appearance, and symptoms of bloating and flatulence which are equally part of the condition. Then, Constantine's *melancholia* includes virtually all kinds of psychological problems, with affective, 'neurotic' and 'psychotic' symptoms. As well as symptoms of depression and anxiety, there are delusions and hallucinations, eating difficulties and obsessional issues. Of all the disorder categories which Constantine discusses, *melancholia* is the main one which describes what would be thought of as mental illness or 'madness', and it covers it quite comprehensively. As Kemp comments:

> It is perhaps possible to criticize Constantinus' notion of melancholy as covering too wide a range of possible complaints and behaviours. Such a criticism would however miss the point that for Constantinus the unifying feature of the disorder is not in its symptoms but in its presumed cause.[35]

Causes

Black bile is understood as one of the normal humours of the body, which is necessary in small quantities but causes illness if excessive. The *Isagoge* explains that:

> Black bile comes in two kinds. One kind is natural -the dregs of the blood ... and this kind is truly cold and dry. The other kind is unnatural and its origin is from the

[33] 'coleram nigram coadunant in corporibus ... Oportet autem intelligas quia omnis diuturna sive acuta infirmitas ... ex mala solent nasci materia', 'Ut melancholia fiat epileptica, hoc colera nigra facit corrupta in complexione spiritus animati et oppilatio sui ventriculi', *De melancholia*, pp. 92 and 132. The association of *melancholia* with epilepsy also came from Galen, and was mentioned in Hippocratic writings and Rufus' writing.

[34] Jackson and others have attributed this model to Rufus, but whilst there are allusions to forms other than the hypochondriacal, this is his focus, and a threefold model is not clearly articulated until the work of Galen. Jackson, 'Unusual Mental States in Medieval Europe I', p. 17; Rufus of Ephesus, *On Melancholy*, pp. 5-6.

[35] Kemp, *Medieval Psychology*, p. 117.

> adustion of the choleric mixture ... having in itself ... a quality which makes it extremely deadly and pernicious.[36]

An excess of the humour is thought unhealthy, but this unnatural black bile is particularly problematic. Black bile can arise from the burning of red bile, changes in the blood, in different parts of the body, in different states of combustion, and as a fluid or vapour; according to the *Pantegni* it 'has the worst powers of destruction and causes the worst illnesses in the body'.[37] The humour of blood can also sometimes give rise to loss of reason with laughter and happiness, and red bile a kind of madness with anger and wakefulness.[38] Those whose brains are naturally of a moist complexion most easily fall into melancholy but any complexion can become corrupted.[39] Any imbalance of the humours, of the moisture or temperature of the body, affects the brain and the emotions, presumably by disrupting the spirits, but the texts allude to these processes rather than systematically explaining them in full.

This adverse humour is promoted by a multitude of factors. Many foods are listed as harmful in this way, such as lentils, the meat of hares or goats, aged cheese, cabbage, honey or nuts.[40] The patient's environment is important: those living in hot and dry, cold and dry, changeable, marshy regions, near lakes and major rivers, or in valleys, are all likely to suffer excess black bile.[41] Melancholy is more likely to arise in cold or dry seasons, and in climates or stages of life such as the autumn, and middle or old age.[42] Carelessness about the non-naturals increases black bile, including neglect of washing, or purification of the body through

[36] *Isagoge*, p. 141.
[37] 'Colera nigra non naturale ex incensa colera nigra … hec sunt pessimas qualitates destruendi; et morbos pessimas in corpore faciendi', *Pantegni*, Book 1, Ch. 25, fol. 13r.
[38] 'Que ex sanguine est ardente, alienationem habent cum risu, et letitia … In humoribus ex colera rubea habent alienationem, clamorem, instabilitatem, vigilias, non quiescunt multum irascuntur', *Pantegni*, Book 9, Ch. 7, fol. 116v.
[39] 'cuius habent ... complexionem vero cerebri humidam, facile cadunt in melancoliam' *Pantegni*, Book 9, Ch. 7, fol. 117r, 'incipiente mala corporis complexione', *De melancholia*, p. 88.
[40] 'Obsunt enim lentes edulorum vel leporum carnes ... Nocent et dactyli carnesque caprinae ... casei veteres ... caules ... mel, nuces'. *De melancholia*, pp. 91-2.
[41] 'habitantes in regione calidissima et siccissima vel frigida et sicca vel quae aerem instabilem sicut autumnalem habeat, nigra abundant colera. Et similes sunt his; in regionibus immorantes paludosis, lutosis, lacuosis, in vallibus sitis et super magna flumina', *De melancholia*, p. 95.
[42] 'Hec autem passio plurimum fit in autumno', *Pantegni*, Book 9, Ch. 7, fol. 117r; 'accidentia melancholia semper hanc aetatem comitantur propter parvitatem sanguinis in ipsis senibus ... siccitas quoque et frigiditas eorum membris dominantur', *De melancholia*, p. 131.

bloodletting, exercise and vomiting.[43] On the other hand too much hard exercise, excess sleep or pleasure are also problematic.[44] Melancholy can sometimes be inherited from the parents, or be due to problems arising from damage to the father's sperm, or to the poor condition of the mother's womb.[45]

Other causes can be too much studying or excess religiosity; the illness often affects religious men who spend their days fasting and their nights in wakefulness.[46] The overwhelming religious thoughts of judgement previously mentioned seem to be as much a cause as a consequence of melancholy. Emotional causes such as bereavement or loss can give rise to the burning of bile, which creates unnatural black bile. The text asks:

> What therefore is to be said of those who have lost … their sons and dearest friends or a precious thing which they cannot bring back? ... all of these cause lamentation, sadness and grief, which pierces the mind and renders it ready for melancholy.[47]

A final cause given for melancholy is philosophical, as *De melancholia* states:

> Plato's premise was that the mind bound to the body originally remembered whatever it knew before it was tied to the body. Melancholy is due to the search for truth and the fatigue of memory, and sadness at the lack of definite proof.[48]

This is referring to the Neoplatonic idea that the soul comes from a perfect Upper Realm before putting on the body. In the Upper Realm the soul has an awareness of Eternal Forms,

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[43] 'Similiter dimittentes consuetudinem mundificandi corpus, sicut phlebomiam, scarificationes, in balneo sudorem, exercitia, pharmacias, vomitus', *De melancholia*, p. 95.
[44] 'quod exercitia multa atque spissa incendunt corpora, humectationes eorum consumentia et in coleram nigram velociter immutantia…. Item multa quantitas suavitatis, quietis atque somni chymos colligit, qui post multa tempora mutate in coleram nigram sunt convertendi et sunt causa istius morbi', *De melancholia*, p. 100.
[45] 'haec passio a parentibus hereditetur', *Pantegni*, Book 9, Ch. 7, fol. 117r; 'de … spermatis corruptione, vel corruptis matricis menstruis, quae nutritiva sunt spermatis, vel de vulvae corruptionibus, ubi foetus concreatur', *De melancholia*, p. 88.
[46] 'Illo vero, qui semper sunt intenti studio, sicut philosophicis libris et aliis huiusmodi, passiones incurrunt', 'religiosi, ab hominibus reverendi, in die ieunantes et nocte vigilantes', *De melancholia*, pp. 100 and 103. Such behaviour diminished the blood, changing it into red bile, which later changed into black bile.
[47] 'Quod autem dicendum est de eis, qui ... filios et carissimos amices amiserunt vel rem preciosam, quam restaurare non possunt…haec omnia his gemitum et tristitiam et angustiam faciunt. Quae et mentes percutiunt et ad melancholiam paratas reddunt', *De melancholia*, pp. 104 and 107.
[48] 'Intentio Platonis fuit ut anima alligata corpori, autentice recordetur, quicquid scierit, antequam innecteretur corpori. Huiusmodi melancholiae sunt vicini propter investigationem scientiae et fatigationem suae memoriae et tristitiam de apodixis suae defectione', *De melancholia*, p. 104.

but as the body is associated with ignorance the soul cannot retain this knowledge; nevertheless there is a sense of what it used to know, with unsuccessful attempts to regain it, which cause sadness and psychic fatigue.[49]

De melancholia is unusually psychological in its approach compared to previous writings on the subject. Galen had mentioned in passing that 'grief and worry' could be causal, but as Jackson comments on the original text, 'Ishaq brought psychical factors into a position of unusual prominence as causes of *melancholia'*.[50] As noted, bereavement and loss are given as predisposing factors, as are mental overexertion, philosophical and existential enquiry, and extreme piety. Manfred Ullman points out that psychogenic explanations do not fit easily with a humoral one, but that ibn-'Imrān must have felt it necessary to include them from experience; sometimes there is an attempt here to explain a mode of interaction with black bile, but sometimes not.[51] The theme of the role of black bile and its very somatic effects is however the constant thread, the physical, natural basis of the illness, which is decreased or increased by diet, environment, lifestyle and emotional factors.

Treatment

This understanding of the causes of *melancholia* gives the basis for treatment, the aims being to purge black bile, prevent it through management of the non-naturals, and to alleviate the symptoms. In general, melancholy is said to be hard to cure, black bile being the most resistant to treatment, and patients not always compliant with the doctor's advice.[52] *De melancholia* gives sensible advice about first considering any symptoms which might be grievous and dangerous, putting the patient at risk, and probably referring to delusions or suicidal thoughts.[53] These should first be relieved, fixed ideas lifted with various kinds of

[49] A. Gowland, 'Burton's *Anatomy* and the Intellectual Traditions of Melancholy', *Babel, Litteratures plurielles,* vol. 25 (2012), pp. 221-57 (section 9).
[50] Galen, *Galen: On the Affected Parts*, R.E. Siegel (trans.) (Basel, 1976), Book 3, Ch. 10, p. 94; Jackson, *Melancholia and Depression,* p. 58.
[51] Ullman, *Islamic Medicine*, p. 76.
[52] 'omnis melancholia ad sanandum est dura. Multiplex est causa; una quia materia melancholica durior est aliis humoribus ad sanandum et purgandum…., quia melancholici ad medicandum sunt duri ... cum et medicinam fugiant, neque medicorum consiliis adquiescant', *De melancholia,* p. 187.
[53] 'suspitio scilicet falsa, imaginatio corrupta', *De melancholia*, p. 136.

music and good wine, before purging.[54] There is specific guidance on purging, depending on whether the illness is affecting the brain, the rest of the body or abdomen.[55]

The text then concentrates on the non-naturals, chiefly the diet, which should be simple and moist, with many recommendations of things to eat or avoid. Lamb, various kinds of poultry, certain fish and river crabs are good, and there is particular advice for those with the hypochondriacal form, and specific cooking methods to be used.[56] Careful attention is to be paid to moisture levels in the body through drinking water, food, baths and ointments.[57] A pleasant ritual of bathing is described, in which the patient bathes, then is wiped dry with a soft cloth, rubbed with oil, dressed and left to rest with a drink of rose syrup before being served dinner.[58] There are several pages on the drinking of wine as a treatment, which is helpful for improving the mood in moderation, but getting drunk to fall asleep is also encouraged.[59] Sleep is considered beneficial, to be brought on with wine, massages or moistening the head with human milk.[60] In terms of the air, *De melancholia* suggests that the East is a healthy place for the melancholic to live, but those who live in the North should try to sit by rivers when warm enough in the summer.[61] Moderate exercise is recommended, such as walking, or if they do not want to walk, strenuous riding, whilst those suffering the

[54] 'in primis auferenda sunt haec ... tollenda quae in anima sunt plantata, cum diversa musica et vino odorifero, claro et subtilissime', *De melancholia*, p. 136.
[55] 'Universalis autem medicina, qua purgari debet cholera nigra ... Particularis uniuscuisque medela est adhuc subdenda ... In ea, quae in essentis est cerebi ... Melancholia ascendente a corpore inferiori, oportet toti corpori aequaliter studeri, sed tamen cerebrum non negligi. In hypochondriacis oportet chymos expelli', *De melancholia*, p. 139.
[56] 'Cibus ergo melancholicus ... sicut annuales agni ... gallinae iuvenes et feminae perdices, starni, phasiani et similia ... pisces de mundis flumenibus ... Item cancri flumenei', 'In specie tamen hypchondriaca, quia digestio est mala, in iusculis suis quaedam sunt apponenda acria post humectationes suas, sicut cepae', 'Carnes ... in aqua coctae et cum pauco sale ... quibis si admisceantur obsomogarum ... desiccatur cibus et sua substantia mutatur', *De melancholia,* pp. 144 and 147.
[57] 'omni die infundatur aqua tepida, in aestate frigida. Ex siccato corpore, unguentis tepidis et humidis eum unge quae ... corpus humectent', 'Unde balneum duplex corporis est medicamentum ... humiditate sua humectant', *De melancholia*, pp. 140 and 189.
[58] 'cum balneum exierit, extergatur cum mappa subtili atque molli. Deinde ungatur cum oleo frigida et humido ... Post vestiantur et quiescant ... bibant sirupum rosatum ... Deinde sibi parata comedant, carnem sive folia vel utrumque. Et incipiant prandia', *De melancholia,* p. 190.
[59] 'timidus ergo et tristibus perfecta vinum erit medicina','Cum tamen quosdam melancholicos ebrietas adiuverit, quia ab ipsis, tristiciam, timorem, et suspitionem fugavit, propter nimium somnum qui ebrietatem semper sequitur, factum est', *De melancholia,* pp. 184 and 191.
[60] 'Si infirmus dormire nequiverit fricetur mollitie manuali, et cum oleo violato brachiis et cubitis, cruribus et pedibus suaviter, faciamus lac muliebre super caput mulgere', *De melancholia,* p. 191.
[61] 'Regio laudabilis, ubi infirmi huiusmodi habitent, sit orientalis propter temperamentum aeris ... Sedere super fluvios currentes iuvat in aestate, de septentrionali parte', *De melancholia,* p. 143.

hypochondriacal kind should climb hills or mountains after eating, to help digestion.[62] Evacuation is important to remove unwanted matter, through evacuation of the bowels, sweating, bloodletting or sneezing. *Melancholia* affecting the belly can involve a great deal of excrement filling the belly and causing wind, which needs to be removed.[63] Sexual intercourse is good for melancholics, partly as exercise, but it also expels humours - Constantine is careful to attribute this advice to Rufus.[64]

With regard to the emotions or *accidentia animae*, the physician is told to 'relieve the suspicions of melancholic patients, soothe their madness and indulge them with what they previously enjoyed'.[65] The general treatment with baths, massages and sleep is very soothing. The patient should further be distracted from their fixations with a variety of music, and the finest clear and fragrant wine.[66] There is further explanation of the power of music which changes the emotions, 'from anger to peace, from sadness to happiness, from seriousness to frivolity, from fear into boldness'.[67] Another psychological or behavioural approach is suggested for certain kinds of delusion, as in the example given of Rufus' treatment of a man who thought he had no head, when, 'he therefore made him a leaden hat, so that feeling the weight of this, he would not doubt that he had a head'.[68]

Management of the non-naturals is considered preferable to strong medicines, but simple medicines such as herbs are offered, various oils or human milk are used to bring on sneezing

[62] 'Melancholici ergo assuescant pedum exercitia aliquantulum apparente aurora, per loco spatiosa, atque plana, arenosa et sabulosa. Si nolint pedites, in mansuetis et quietis faciant animalibus, donec fatigentur, et sudore corpora infundantur', 'Post cibos moveri oportet hypochondriacos, quia motus post cibum debilem confortat, stomachum ut ad inferiora cibum deponat, et inferiori carnositate constringat…Hypochondriacos oportet post cibum ambulare per clivosa loca…sive montes', *De melancholia,* pp. 188-9, 190-1

[63] 'implendis intestinis et ventri stercore et ventositate faciendis', 'cum stomachus omni mala egestione fuerit evacuatus', De *melancholia*, pp. 148 and 189.

[64] 'Coitus etiam adiuvat, Rufo testante; coitus inquit, pacificat, anteriorem superbiam refrenat, melancholicos adiuvat. Nonne enim vides cum bruta irascantur animalia, qualiter post coitum fiat mitiora. Exercitia multis fiant modis', *De melancholia,* p. 185.

[65] 'Oportet autem medicum meliorare suspicionem melancholicorum, mitigare furorem eorum et gratificare quod prius habuerint carum', *De melancholia,* p. 187.

[66] 'tollenda quae in anima sunt plantata, cum diversa musica et vino odorifero, claro et subtilissime', *De melancholia,* p. 136.

[67] 'animos immutando, de ira in pacem, de tristitia in laetitiam, de gravitate in levitatem, de timore in audaciam', *De melancholia,* pp. 152 and 155.

[68] 'Sunt et alii, qui putant se non habere caput. Talem Rufus se vidisse testatur. Fecit ergo ei mitram plumbeam, ut sentiens gravitatem hanc, caput non dubitaret habere', *De melancholia,* p. 120.

or sleep, and ointments are helpful for the digestion and bloating.[69] Where black bile affects the brain, the patient has his head shaved, and human or ass's milk applied, with a decoction of herbs and flowers.[70] There is a list of plant juices said to be powerful against black bile, which includes that of St John's wort (an unusual recommendation for *melancholia*).[71] The *Viaticum* suggests purging with thyme dodder and agaric, and the compound medicines *hieralogodion*, *theodoricon* or the *hiera* of Galen.[72] In all this, phlebotomy is barely mentioned; regular bloodletting was part of the usual preventative routine, but is not generally recommended in melancholy.[73] *De melancholia* ends with fifteen recipes for medicines; these are not from ibn-'Imrān's work, but do contain many of the same ingredients.[74] Some of these are aimed at purging black bile and could be quite involved composite medicines. For example, recipe five, 'powerful against natural melancholy', uses black hellebore, chebulic myrobalan or thyme dodder.[75] Other remedies specifically target the problems of the hypochondriacal form, such as flatulence: a decoction with fennel roots clears wind and constipation.[76] Ingredients which appear regularly are thyme dodder, the myrobalans, scammony, and cassia fruit.

Most of the treatments for melancholy given in the *Practica* appear to be adapted from *De melancholia*. For example, false suspicions are to be removed with fine, pleasant words and

[69] 'unguentis tepidis et humidis eum unge quae dissolvant ventositam et hypochondriacam inflationem, digestionem confortent', *De melancholia,* p. 140.
[70] 'post rasum caput lac muliebre, maxime puellare, vel lac asinae craneo superponamus … capitis humectatione cum aqua tepida ubi camomilla, cortices paparveris, rosa, mellilotus, viola et similia sunt cocta', *De melancholia,* p. 139.
[71] 'Succus ameos valet ad coleram. Similiter succus calamenthis, et similiter succus hyperici ...' *De melancholia,* p. 196. St John's wort had been part of Western *materia medica* for hundreds of years but as a hot and dry drug it was not thought helpful for melancholy. K. Reeds, 'Saint John's Wort (*Hypericum perforatum* L.) in the Age of Paracelsus and the Great Herbals: Assessing the Historical Claims for a Traditional Remedy', in Van Arsdall and Graham, *Herbs and Healers from the Ancient Mediterranean,* pp. 265-305.
[72] 'Melancholicorum cerebrum oportet de nigra choler mundificari secundum qualitatem suam catartico. sicut yera logodion; theodoriton et similibus; yera G. et catartico de epithimo et agarico', *Viaticum,* Book 1, Ch. 18 (chapter on frenzy), fol. 7r,
[73] It is indicated in one case: 'Labor ... techinosa atque gravans medicabitur secundum phlebotomiam', *De melancholia,* p. 187. It is unclear what *labor techinosa* is, none of this is present in the original Arabic, *labor* seems to relate to overwork and pain.
[74] Ibn-'Imrān, *Traite de la melancolie,* pp. 86-117. There are 30 recipes in the original.
[75] 'Alius valens naturali melancholie: Rec: ellebori nigri drach C mirobalani kebuli, vel epithymi L drach ... ', De *melancholia,* p. 193.
[76] 'Apozema valens ad ventositatam hypochondriacam de colera nigra et ventositam grossam de phlegmate, constipatione viscorum et venarum aperit … Rec: marathri radicis ...', *De melancholia,* p. 194.

fragrant wine.[77] The *Practica* does give additional ingredients such as borage, sorrel, and various syrups.[78] Quite unlike the majority of Constantine's treatments, it also suggests that a cleaved open dog or hen placed on the head works very well.[79]

So, the general emphasis of treatment is the manipulation of the non-naturals: food, wine, bathing, sleep and exercise. Plenty of attention is paid to the digestion, because of the role of the *hypochondrium* in the condition. More drastic treatments are discouraged, with little use of bloodletting or vomiting, however removing black bile is important in all cases, so many of the medical recipes contain purgatives for this hard-to-shift humour. Some of the herbs used might have been helpful, in particular St John's wort and the myrobalans.[80] It is of note that Constantine's drug recipes depart completely from those of the text he was supposedly translating, and it may be that Constantine had his own ideas about the best treatments; if so it supports the idea that he was himself an experienced physician.[81] Most importantly, here music and other pleasurable activities are offered to improve mood, and attempts to distract the patient from their delusional ideas or challenge them. This is the main use of psychological or behavioural treatment strategies seen, appropriate when problems of mood and thinking are key symptoms.

Concepts and treatments in England before Constantine

Cultural Ideas

Constantine was clearly describing melancholia as a medical condition with its various symptoms, but English people, particularly prior to the Conquest, might not have thought in these terms at all. In literary sources those experiencing sadness or anxiety might be more likely to seek spiritual consolation than medical advice, and in ecclesiastical thinking such

[77] 'Auferenda sunt ... false suspiciones cum nobilibus et gratis verbis, vino quia odorifero', *Practica*, Book 5, Ch. 19, fol. 142r.
[78] *Practica,* Book 5, Ch. 19, fol. 142r.
[79] 'Catulus fissus capiti superponatur vel gallina crassa fissa; quia multum valet', *Practica,* Book 5, Ch. 19, fol. 142r.
[80] St John's wort has good scientific evidence for its efficacy in mood disorders, at least in its modern form (C. Yong-hua and Z. Yi , 'A meta-analysis on the efficacy and safety of St John's wort extract in depression therapy in comparison with selective serotonin reuptake inhibitors in adults', *Neuropsychiatric Disease and Treatment,* vol. 12 (2016), pp. 1715–23); Reeds, 'Saint John's Wort'. The myrobalans are known for their benefits to digestion and as laxatives, so helpful to the abdominal symptoms, and possibly to some mental ones Evidence on the relevant properties of the myrobalans is presented in Ch. 12
[81] Ibn-'Imrān, *Traite de la melancolie,* p. 37.

feelings might be considered to be sins.[82] Aelfric's Homilies listed sins of unrotnys, unhappiness with despair, and of asolcennys or ælmelnys, 'spiritual sloth' or accedia, which involved lethargy and loss of interest.[83] Following biblical precedents, cases of madness were often thought the result of divine retribution for sin, as in the case of Leofstan who violated the sanctity of St Edmund's shrine; the miracle accounts state that divine judgement sent him mad and allowed a demon to possess him.[84] Examples of odd behaviour might be understood as due to demon possession, as in the case of a robber in the Vita Gildae who went about naked and pulled garments to pieces.[85]

Since hallucinations or delusions might manifest with religious content they would easily be understood by the sufferer and others as spiritual reality. In the twelfth-century accounts of the miracles of William of Norwich, Lewin experienced visions during a state of delirium, which were seen as the genuine spiritual guidance of an angel.[86] Kroll and Bachrach examined 134 reports of visions from medieval Europe and found that none of the visionaries were said to have mental illness.[87] They conclude:

> It appears that the medieval acceptance of a spiritual world was so complete that all 'hallucinatory' phenomena were accepted as veridical perceptions of communication with celestial and demonic persons.[88]

Vernacular medical sources

Dendle writes that 'the classical construct 'melancholy' is of limited application to understanding the Anglo-Saxons' own perception of their disease states'.[89] Not a term familiar to early English people in general, it did not appear in their vernacular medical writings, nor does it map easily on to the problems these describe. They were well aware of

[82] Dendle, *Demon Possession,* p. 197.
[83] Aelfric of Winchester, *Aelfric's Catholic Homilies,* pp. 124-5.
[84] Herman the Archdeacon, 'Miracles of St Edmund', in *Herman the Archdeacon and Goscelin of St-Bertin. Miracles of St Edmund,* T. Licence (ed. and trans.) (Oxford, 2014) 3, pp. 12-3, cited in Trenery, *Madness, Medicine and Miracle,* pp. 31-3.
[85] H. Williams (trans.) *Two Lives of Gildas* (Felinfach, 1990), p. 68.
[86] Thomas of Monmouth, *The Life and Miracles of St William of Norwich,* A. Jessopp and M.R. James, (ed. and trans.) (Cambridge, 1896), II.4, pp. 68- 72, cited in Trenery, *Madness, Medicine and Miracle,* p. 65.
[87] J. Kroll and B. Bachrach, 'Medieval visions and contemporary hallucinations', *Psychological Medicine,* vol. 12 (1982), pp. 709-21.
[88] *Ibid,* p. 716.
[89] Dendle, *Demon Possession,* p. 196.

abnormal experiences, feelings and behaviours, and their books noted difficulties named as terrifying visions and dreams (*egeslicum gesihðum 7 swefnum*), madness (*gemædla*), insanity (*ungemynde*), delusions (*gedwolþinge*) and being out of one's wits (*eac of his gewitte*); none of these were described.[90] *Bald's Leechbook* covered stomach problems which sometimes arose with psychological symptoms such as 'fluctuations of the mind' or with 'falling sickness, fiend's disease, great anxieties and sorrows without cause, excessive or lack of appetite, fastidiousness ... despondency and senseless words'.[91] The text also noted that the stomach was 'sympathetic with the brain'.[92]

There were remedies for other symptoms such as loss of appetite and wakefulness, which come into the range of melancholic symptoms. As discussed in the last chapter, *monaðseocnysse* may sometimes have referred to symptoms of epilepsy, but might also have included any intermittent recurring psychological problem, such as mood variability or episodic loss of reason.[93] The causes of such phenomena were rarely given or made explicit. In one instance the stomach problems were said to be due to 'the black bilious humour'; Byrhtferth had informed his readers about black bile but not its role in any disorder.[94] Psychological and behavioural problems were probably often regarded as cases of being *feond seocum* (fiend sick) or *ælfsidenne* ('full of elvish tricks'), due to supernatural agents, whilst the moon may have been associated with these monthly variations.

In these practical books of remedies, few related clearly to mood disorders.[95] The *Herbarium* suggested smearwort (*aristolochia*) for a child who was upset.[96] Fear and anxiety were rarely discussed except that the vernacular version of Sextus Placitus advised carrying a wolf's hairs to relieve anxiety about travelling; charms could be used preventatively against danger.[97] Delusions and hallucinations were apparently well known to the early English,

[90] *Herbarium*, Ch. 1, p. 139 (for the Old English see Pollington, *Leechcraft*, p. 276), *Leechbook III*, pp. 396-7, *Bald's Leechbook I,* Ch. 66, p. 145; *Bald's Leechbook II*, Ch. 64, pp. 316-8.
[91] *Bald's Leechbook II*, Ch. 16, pp. 198-9.
[92] *Bald's Leechbook II*, Ch. 1, p. 175.
[93] Temkin, *The Falling Sickness*, pp. 92-3.
[94] *Bald's Leechbook II,* Ch. 16, p. 198; Byrhtferth, *Enchiridion*, pp. 11-13.
[95] Remedy number 73 in Cockayne's translation of the *Lacnunga* is said to relate to 'heaviness of mind'. Pettit however is clear that *mnoðes* is a misspelling of *innoðes* meaning 'innards' – it is a problem of the stomach or digestion, although the treatment is said to lighten the *mod* (Pettit, 'A critical edition of the Anglo-Saxon *Lacnunga*', vol. 2, pp. 587-8).
[96] *Herbarium*, Ch. 20, p. 159.
[97] *Sextus Placitus*, pp. 404-5. For examples of a charm against danger see Niles and D'Aronco, *Medical Writings from Early Medieval England*, pp. 592-7.

given that there are several remedies. *Bald's Leechbook II* promised cures for these using balsam:

> This is an ointment of balsam for all infirmities … and against phantasms and against all deceptions. Similarly, this *petra oleum* is good … if one is out of his wits, then take a deal of this and make Christ's mark on every limb ... but not the cross on the forehead, which shall be of balsam, and the second on the top of the head … The white stone is efficacious against … all unknown calamities. You should shave it into water and drink a good deal … When the fire is struck from the stone it is good against lightning and thunder and for delusions of every kind.[98]

Sextus Placitus suggested eating a wolf's or lion's flesh for those troubled by *scinlac* (apparitions) or a drink from the excrement of a white dog.[99] The *Herbarium* gave betony as a treatment for 'frightful visions and dreams'.[100] Of course the conditions caused by demons, elves and other agents may have presented with hallucinations and strange ideas, but the symptoms are not described.

Women might show signs of disturbance: *Leechbook III* suggests 'for a woman's madness, let her eat radish's root at night ... for that day the madness may not harm you'.[101] Gynaecological problems might involve a woman being *gemyndum* (out of her mind) in *Bald's Leechbook II,* apparently related to the problem of 'suffocation of the womb'.[102] For specific symptoms which would come under Constantine's category of *melancholia,* betony was useful in loss of appetite, poppy in wakefulness.[103] There were many treatments for stomach problems, with or without psychological components, mainly dietary with herbal drinks.[104] The last chapter gave the remedies for *monaðseocnysse* involving peony, buttercup and whipping with a dolphin scourge.[105]

This odd ragbag of problems and treatments illustrates how the writers of the earlier vernacular texts seem to have been quite unaware of any unifying concept of *melancholia.*

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[98] *Bald's Leechbook II*, Ch. 64, pp. 316-8.
[99] *Sextus Placitus*, pp. 406-7, 404-5, 408-9.
[100] *Herbarium*, Ch. 1, p. 139.
[101] *Leechbook III*, pp. 396-7.
[102] *Bald's Leechbook II*, contents list, pp. 171-2, See Ch. 11 on 'suffocation of the womb'.
[103] *Bald's Leechbook 1,* Ch. 78, p. 153, Ch. 82, p. 154.
[104] *Bald's Leechbook II*, Ch. 1, pp. 174-80.
[105] *Herbarium*, Ch. 66, p. 178 and Ch. 10, p. 152; *Leechbook III,* pp. 390-1.

The fact that no treatments applied straightforwardly to serious mood disorders, and only a few to apparent hallucinations and delusions, may suggest that when such symptoms were seen, they were seen as spiritual or indeed supernatural problems to be addressed through religious rather than medical means. It is of course possible that they had absorbed an idea of mental symptoms as secondary to gastric ones and that they were treated through stomach ones, but there is little indication of this.[106] The ideas about melancholy that were potentially available in the Latin texts were either not much known of at the time of the leechbooks, or not taken on board, possibly they disagreed with them. Vernacular writings also seem quite divorced from the treatment traditions of the Latin texts; their *materia medica* were not those commonly seen in the classical Latin texts. Betony, radish, *aristolochia* and petroleum feature only very peripherally in the Latin authors, although betony might have been useful, having sedative properties.[107] Some ingredients appear to be unique to English vernacular medicine for such disorders, such as the use of 'the white stone' and balsam.

Earlier and contemporary Latin sources

Symptoms

Isidore wrote that *melancholia* was a disorder arising in the reason and called after black bile.[108] All of the Latin medical writers available in Anglo-Norman England except Felix described this illness with emotional and physical symptoms, often affecting the stomach. *The Ramsey Scientific Compendium* gave only indigestion amongst the symptoms of *melancholia,* and Oribasius only described a hypochondriacal form, with bloating, loss of reason and fear.[109] Other writers elaborated on the mental and emotional difficulties: the patient might feel hopeless, tearful, fearful, self critical, he might desire death and even kill himself, he might be lethargic, silent and withdrawn, others were raging and angry.[110] Alexander further described mental images and false imaginings: there might be paranoid ideas or severe delusions, (including some of those described by Constantine), such as that

[106] Except for what is said in *Bald's Leechbook II,* Ch. 1, as above. *Bald's Leechbook II,* Ch. 16, pp. 198-9 and Ch. 1, 175-80.
[107] Pell, '*Him Bid Sona Sel'*, p. 443. Betony and an ingredient which may be petroleum appear once as recipe ingredients in the *Tereoperica,* (fol. 86r), radish is used as a carrier for hellebore in Pliny, (Book 25, p. 181), and *aristolochia* occurs once as a minor ingredient in Oribasius (*Synopsis*, vol. 6, p. 213).
[108] Isidore, *Etymologies*, pp. 110-1.
[109] *Ramsey Compendium,* p. 129; Oribasius, *Synopsis,* vol. 6, p. 212.
[110] Priscianus, pp. 152-3; *Tereoperica* , fol. 85v; *Passionarius*, Book 1, Ch. 12; Alexander, pp. 113-4.

they were a cockerel, or responsible for holding up the sky.[111] Oribasius alone mentioned lycanthropy, and gave a whole chapter on it, with similar ideas to those of the *Pantegni*.[112]

All described important physical problems associated with the disorder. Priscianus listed indigestion, internal pains, sweating and loss of strength.[113] The writers of the *Tereoperica* and the *Passionarius* particularly expounded on stomach problems, which could involve belching the smell of fish, and producing black vomit and faeces.[114] Oribasius and Alexander explained the three forms of the illness, affecting the brain only, the body as a whole, or only the belly and praecordia.[115] Alexander gave the most extensive description; he described slightly different types of *melancholia* with different humoral causes, that from blood and bile was associated with anger and disturbed behaviour, but the worst form, with terrible delusions, was that from black bile.[116]

Causes

The *Tereoperica* simply stated that this sickness was from black bile; the *Passionarius* described an abundance of oppressive black bile which sought the head.[117] However some writers did suggest that other humours such as blood might be implicated. For example, Alexander explained that the condition might arise from an excess of blood, scraps of blood blocking the brain, blood mixed with bile or with black bile.[118] Abundance of the blood produced vapours which could obstruct the ventricles, but the worst form of the disease arose when burnt (*adustus*) blood sent vapours to the head affecting the animal spirit and producing black bile.[119] Alexander suggested that this kind might also be precipitated by life events or psychological factors, the only Latin author to mention this; the *medicus* should consider what had been happening and what had been going on in the patient's mind, which might have caused the change.[120]

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[111] Alexander, p. 123.
[112] Oribasius, *Synopsis*, vol. 6, p. 215.
[113] Priscianus, p. 152.
[114] *Tereoperica* , fol. 85v; *Passionarius*, Book 1, Ch. 12.
[115] Alexander, p. 114; Oribasius, *Synopsis*, vol. 6, pp. 211-2.
[116] Alexander, pp. 114-5, 118 and 122-3.
[117] *Tereoperica* , fol. 85v; *Passionarius*, Book 1, Ch. 12. Priscianus does not mention the cause at all.
[118] *Passionarius*, Book 1, Ch. 12; Alexander, p. 113.
[119] Alexander, pp. 114-9 and 122-4.
[120] Alexander, p. 124.

The *Passionarius* gave several other possible causes for melancholy, which could come from a poisoned drink, the bite of a rabid dog or from taking hot drugs.[121] The condition was more likely to occur in autumn or spring, and more common in men and older people, whilst Alexander wrote of complexions – slim, dark and hairy people were more likely to be afflicted.[122]

Prevention and treatment

Several writers gave preventative advice to manage black bile. Bede suggested that in the summer, when black bile increased, people should eat foods which are 'sweet, fragrant and somewhat cold'.[123] The *Ramsey Scientific Compendium* and Oribasius gave lists of bile producing foods to avoid, such as the meat of goats and hares.[124]

Oribasius used every means to remove black bile through baths and moist food, and others gave medicines which purged that humour.[125] Alexander was keen to find out the particular mixture of humours affecting the patient in order to treat it correctly.[126] All authors recommended bloodletting, for Oribasius this was the main treatment for black bile in the brain, and the *Tereoperica* indicated that blood should be taken to the point of pain.[127] In treating lycanthropy Oribasius took blood to the point of distress, whilst Priscianus removed blood from below the patient's testicles.[128] Since Alexander regarded excess blood as a prime cause of *melancholia*, phlebotomy was usually necessary, and could be the whole cure; in cases affecting the head the physician should confidently cut the vein in the forehead.[129]

The stomach was often a particular focus, and Oribasius' treatments seem to have been mainly for the hypochondriacal form of the illness.[130] Most authors recommended purgative

[121] *Passionarius*, Book 1, Ch. 12.
[122] *Passionarius*, Book 1, Ch. 12; Alexander, pp. 114-5.
[123] Bede, *The Reckoning of Time*, p. 87.
[124] *Ramsey Compendium*, p. 129; Oribasius, *Synopsis*, vol. 6, p. 9.
[125] Oribasius *Synopsis*, vol. 6, p. 212.
[126] Alexander, p. 114.
[127] Oribasius, *Synopsis*, vol. 6, pp. 212-3; *Tereoperica* , fol. 85v.
[128] Oribasius, *Synopsis*, vol. 6, p. 215; Priscianus, p. 154.
[129] Alexander, pp. 125 and 116-7.
[130] Oribasius, *Synopsis*, vol. 6, pp. 212-4. The stomach is the first area addressed in the *Passionarius* and Priscianus.

medicines, but Alexander noted that they could be risky, and choking, fainting and convulsions quite frequently followed.[131] Several authors indicated a need for regular vomiting.[132] Strong clysters might be used to draw faeces down the body, and poultices over the belly purged more gently than cathartic drugs; Oribasius gave a herbal poultice and cupping glasses relieved wind.[133]

In terms of *materia medica*, the same drugs are repeated across authors. Pliny had a few recommendations such as mallow, thyme, hellebores, calf's dung, or helenium drunk from a chameleon's skin.[134] Simple medicines frequently included the purgatives thyme dodder or scammony, and aloes or *hierapicra*. Alexander was particularly keen on the purgative Armenian stone, including it in his recipe for pills with aloes, thyme dodder, agaric and scammony.[135] Generally, standard compound drugs such as *hieras* were used, and a few recipes were given: BL, MS. Sloane 1621, for example, offered several, including one with over twenty ingredients, which also helped demoniacs.[136] Most of these were herbs; few animal products were used for *melancholia* except for Pliny's calf's dung. The *Passionarius* offered goat's milk and snake meat.[137]

Alexander asserted that diet could be more important than medicine, and Oribasius felt that many cases could be cured with baths and diet alone.[138] The non-naturals, so important in Constantine's treatments, were rather less in evidence except in Alexander's work. Priscianus offered his patients plenty of vintage wine, whilst Alexander, Oribasius and the *Passionarius* gave long lists of good and bad foods.[139] Peace and rest were important, so some had the patient lie in a darkened bedroom.[140] In lycanthropy, Oribasius used poppy to

[131] Alexander, pp. 128-9.
[132] E.g., Priscianus, p. 153; Alexander, p. 127.
[133] Oribasius, *Synopsis*, vol. 6, p. 214.
[134] Pliny, Book 20, p. 133, Book 21, p. 273, Book 25, pp. 173, 177 and 181, Book 28, pp. 155 and 83.
[135] Alexander, pp. 126-8. *Lapis armenus* or *lapis stellatus* is a blue-green stone similar to lapis lazuli.
[136] BL, MS. Sloane 1621, fol. 10v.
[137] *Passionarius*, Book 1, Ch. 12.
[138] Alexander, p. 120; Oribasius, *Synopsis*, vol. 6, p. 212.
[139] Priscianus, p. 152; Alexander, pp. 129-30; *Passionarius*, Book 1, Ch. 12; Oribasius, *Synopsis*, vol. 6, pp. 9 and 215. The lists vary, with some commonalities, for example all indicate that poultry is healthy, but that cabbage and lentils should be avoided.
[140] E.g., *Tereoperica* , fol. 85v; *Passionarius*, Book 1, Ch. 12.

help patients sleep and offered warm baths.[141] Alexander gave a whole section on bathing, with a ritual similar to that seen in *De melancholia,* of sleep, a bath, food, wine and more sleep.[142] A few writers discussed exercise, rather in passing, but coitus was included, particularly recommended by Pliny.[143] Oribasius explained Rufus' ideas that it helped through evacuating humours.[144]

Unusually, *melancholia* attracted some psychological and behavioural remedies from two Latin sources. For patients who withdrew from company, Priscianus advised long distance travelling.[145] Alexander noted that the worst cases required both humoral and psychological approaches.[146] He related how one woman was healed after being unexpectedly reunited with her husband, and how a doctor might use his ingenuity to counteract delusional ideas.[147] For example the eminent doctor Philodotus had used the lead hat treatment for the patient who thought his head had been cut off. Another woman thought she had swallowed a snake, but Philodotus had used an emetic and made her believe she had vomited it up.[148] Patients with chronic melancholy were to be exposed to things that brought delight to the soul, they were to talk with good friends, whose conversation encouraged rationality.[149]

Of all the Latin texts available in England before Constantine's work, Alexander gave the most detailed and sophisticated view on *melancholia,* thought to have added much from his own clinical experience.[150] The Latin authors all gave some description of the physical, abdominal symptoms of the disorder; a few did give the associated psychological symptoms, but without much detail. A long paragraph in Alexander's work described paranoia and florid examples of delusions. Only Alexander and Oribasius described Galen's threefold model of the condition, but others showed poor awareness of this, apparently most interested in the hypochondriacal form. All knew of black bile as the putative cause of *melancholia,* although Alexander gave a more complex humoral picture, and indicated that patients' life

[141] Oribasius, *Synopsis*, vol. 6, pp. 212-5.
[142] Alexander, pp. 121-2, 129-30.
[143] Pliny, Book 28, p. 43.
[144] Oribasius, *Synopsis,* vol. 5, p. 807.
[145] Priscianus, p. 153.
[146] Alexander, pp. 123-4.
[147] Alexander, pp. 124-5.
[148] Alexander, p. 124.
[149] Alexander, pp. 130-1.
[150] Jackson, *Melancholia and Depression,* p. 51.

events, thoughts and ideas could also be important etiological factors. In terms of treatments, there was generally a focus on the stomach, on purgatives and bloodletting, with some remedies unpleasant and admittedly potentially harmful. Some of the popular drugs used had a long tradition: many appeared in the work of Rufus, and hellebore was recommended from Hippocratic times.[151] Recipes for compound drugs seem to have become increasingly elaborate as time went on, in the later sources. Several authors tried to work primarily through diet, wine, baths, and sleep, Priscianus advised travel and hot baths, but only Alexander offered the psychological treatments of challenging delusions, pleasant experiences and helpful conversation.[152]

Later medieval writers

Subsequent medieval medical writers drew much from Constantine on melancholy. As usual, Bartholomeus cited him, specifically mentioning the *Liber de Melancholia*, but quoting it inaccurately.[153] Gilbertus followed much of the content of *De melancholia* closely, and some of the *Pantegni*, but without attribution.[154] John of Gaddesden cited 'Haly's *Pantegni*' in passing on one of Galen's examples, and gave some dietary advice from *De melancholia*, whilst De Gordon had also clearly read both the *Pantegni* and *De melancholia*, some descriptions of symptoms being almost identical.[155] The influence of other authorities on these writers is however equally apparent, such as that of Alexander and Avicenna.

These later writers, except Bartholomeus, were all clear that *melancholia* was usually due to black bile, and all showed an interest in how the ventricles of the brain were involved.[156] Gilbertus for example explained that mania affected the front part of the brain, whereas melancholy affected the middle cell which served reason, later explaining the action of the animal spirit in the ventricles.[157] Constantine had not specified which ventricles were

[151] Thyme dodder, aloes, wormwood, colocynth, black hellebore and scammony are prescribed by Rufus (Rufus of Ephesus, *On Melancholy*, pp. 49, 51 and 65); Ibn-'Imrān, *Traite de la melancolie*, Introduction, p. 18.
[152] Priscianus, p. 153; Alexander, pp. 124-5, 130-1.
[153] Bartholomeus, p. 120-1; P. Murray Jones, 'Music Therapy in the Later Middle Ages: The Case of Hugo van der Goes', in Horden, *Music as Medicine*, p. 129.
[154] Gilbertus described the symptoms, and the three types of melancholy as in Constantine, he also discussed the issue of 'labor' in the same terms, Gilbertus, pp. 220-3.
[155] Gaddesden, fol. 132r; De Gordon, pp. 108-11.
[156] Bartholomeus gave a variety of causes, including a non-specific corrupt humour, Bartholomeus, pp. 120-1.
[157] Gilbertus, pp. 220 and 222.

affected in melancholy, this may have come from Alexander and Isidore, but his general emphasis on ventricular involvement in mental disorders had been influential. Bartholomeus and Gaddesden were clear that the psychological causes Constantine gave could be implicated, *melancholia* arising from passions of the soul, worry, sadness, excessive study and fear'.[158]

All four authors gave recommendations for treatments which were psychological in nature, like those in *De melancholia*. Bartholomeus instructed that the patient be relieved of worries and responsibilities, and cheered up with musical instruments.[159] Gilbertus thought it important to relieve fears and suspicions with skill, with music and wine, and Gaddesden's first cure was to bring things which gladden, and are joyful and beautiful.[160] Gilbertus also offered Constantine's management of the condition with a bath, massage, dinner then a sleep.[161] He gave similar advice on wine and diet, but generally preferred treatments from Alexander.[162] Gaddesden approved of the treatment from the *Practica* of a split dog or hen put over the head and used the myrobalans; De Gordon also gave some similar *materia medica* including the myrobalans.[163] Potentially unfortunately for some patients, the chapters on melancholy also covered mania, and severe treatments for mania, such as 'craft of surgerye' cauterisation and whipping, were not always clearly separated.

Beyond these four writers, the section on melancholy in Johannes Platearius' *Practica Brevis* is based on *De melancholia*, and was itself widely circulated in England.[164] In the late fifteenth century John Argentine, was still citing Constantine as the source of his advice on melancholy in his *Loci Communes.*[165]

[158] Bartholomeus, p. 120; Gaddesden, fol. 132r. There was a slight concern about supernatural causes, De Gordon cited Avicenna that sometimes this illness comes from the devil (p. 108).
[159] Bartholomeus, p. 121. De Gordon also offered all kinds of music, 'things which rejoice the heart' and being with attractive people (De Gordon, p. 110).
[160] Gilbertus, p. 223; Gaddesden, fol. 132r.
[161] Gilbertus, p. 225.
[162] Gilbertus, pp. 224-7.
[163] Gaddesden, fols. 132r-v; De Gordon, pp. 110-1.
[164] Murray Jones, 'Music Therapy in the Later Middle Ages', p. 129.
[165] Bodleian Library, MS. Ashmole 1437, part 15, fols. 182-3.

Conclusion

Constantine's contribution in the understanding and management of disorders of the head may have been greatest in regard to this problem of melancholy. The longest of Constantine's translations on any mental or neurological disorder, *De melancholia* was innovative in its attention to psychological symptoms, causes and treatments, and began a change in the notion of *melancholia* to more predominantly a mental disorder. Murray Jones writes that it 'became the starting point of the Western medical tradition on this subject'.[166] Given the nature and wide range of difficulties which fell under the category of melancholy, it would not be unreasonable to cite it as a first textbook of what was to become 'psychiatry' in medieval Europe.

De melancholia and the *Pantegni* gave a very detailed specification of the range of emotional and behavioural symptoms of melancholy as well as the physical ones. Previous authors had relayed the idea that *melancholia* was in the brain, and gave some of the mental symptoms, but were often more interested in the patient's abdomen. Constantine's translations increased awareness of the Galenic explanation of the three forms of the condition, affecting brain, *hypochondria* or the body as a whole. This was very much the fullest picture given so far of the condition, in all its variety, that any Anglo-Norman doctor would have seen. Given that the vernacular texts lacked any articulated concept of *melancholia*, despite its long presence in ancient medicine, this must have been quite a conceptual shift in the way many presentations of illness or behaviour were understood.

An even greater conceptual shift is apparent in the understanding of the etiology of this disorder. The cause was given as black bile, with various physical emotional and lifestyle factors exacerbating or reducing this. All of the Constantinian texts gave natural, largely physical explanations for these various abnormal behaviours and experiences, including delusions and frightening hallucinations - this was in line with the Latin texts but could be at variance with ideas about spiritual problems or demon possession. Certainly, as the idea of *melancholia* percolated into Anglo-Norman culture, this would have provided a new way of thinking about mental experience in the context of physical factors, and steered the management of distress and behavioural deviance more towards the medical, and not just the spiritual. By the end of the twelfth century, demons were still present in miracle healing

[166] Murray Jones, 'Music Therapy in the Later Middle Ages', p. 133.

accounts but alongside some medical ideas; in the miracles of Thomas Becket, it was said that Elward, a man healed of insanity, only *thought* he saw demons.[167]

An understanding of any psychological causes in melancholy had also only been seen before by those who had been able to read Alexander of Tralles, and it is not entirely certain that these sections from his *Practica* were available in England.[168] Constantine's translations considered the role of the various non-naturals in the origin of the disorder, and implicated several behaviours and psychological factors. Tracing the history of the idea of melancholy, Angus Gowland notes two important new developments from the work of ibn-'Imrān: an understanding of how 'movements of the soul' could affect the body, such that melancholy could be caused by things like mental overexertion, and of the role of loss or grief in the condition.[169]

This understanding of cause and contributing factors formed the basis of Constantine's treatment plans. In action the treatments were generally humane and gentle, with less use of invasive bloodletting than in the Latin texts, but some strong purgatives. Many of the drugs used were in the ancient tradition of *materia medica*, but he did encourage the use of the myrobalans, and other herbs such as St John's wort which might have been helpful in some mood disorders. However, the preference was for management of the condition through the lifestyle, the non-naturals. Some of these suggestions would have been helpful, such as getting exercise, some were unlikely to have made much difference, some, like wine-drinking, could have been harmful. Of most interest here is the new emphasis on manipulating the *accidentia animae*. The patient's mood was improved with things they enjoyed, distractions and soothing treatments, and the new suggestion of the use of music. The soothing benefits of music had long been known, and it appeared as a therapy in the work of Boethius and the then lost work of Rufus.[170] By the thirteenth century its therapeutic use was to become well established; even at St Augustine's Abbey, sick monks in the

[167] Bailey, 'Miracles and Madness', p. 252; Benedict of Peterborough, 'Miracula S. Thomae Cantuariensis', in *Materials for the History of Thomas Becket, Archbishop of Canterbury*, J.C. Robertson (ed.) (London, 1875) vol. 2, p. 82; Trenery, *Madness, Medicine and Miracle*, p. 97.
[168] See Ch. 1, pp. 37-8.
[169] Gowland, 'Burton's *Anatomy*', (section 9).
[170] In the biblical account, David soothed Saul with music in his state of madness, Murray Jones, 'Music Therapy in the Later Middle Ages', p. 124; Archambeau, 'Medical and Scientific Understandings', p. 19.

infirmary were allowed to hear music if needed for their health.[171] This was of course an institution which owned three copies of *De melancholia*.[172] By the fifteenth century there was a long tradition of music being recommended specifically as a therapy in mania and melancholy, which started with the recommendations in Constantine's works.[173]

Directly working with the melancholic's odd ideas was also something relatively new to the English medical audience, again only previously possibly seen in the work of Alexander. Of course, when ritual elements were used for the *feond seoc*, these might have created cognitive change, such as a belief that a demon had now gone, but this was not the main intention. Here in Constantine's work the patient was to be distracted from his ideas, or in one case challenged with evidence.[174]

Apart from providing practical advice to the physician, Constantine's translations preserved and disseminated ancient medical knowledge and wisdom from the Islamicate world. Several historians have hailed *De melancholia* as a transmission of Greek knowledge; many of ibn-'Imrān's ideas did indeed come from Rufus and Galen, but both still focused on the stomach rather than the mental component.[175] To give the glory to Rufus neglects the considerable advance ibn-'Imrān's work represents with regard to the psychological aspects; to pass on, albeit without attribution, the work of ibn-'Imrān, was Constantine's greater contribution. *De melancholia* was available in respectable numbers from very early on, and later writers would take up its ideas about the humoral, brain-based and psychological causes, and pleasant psychological and behavioural treatments.[176] Still in the sixteenth

[171] C. Page, 'Music and Medicine in the Thirteenth Century', in Horden, *Music as Medicine*, pp. 109-19.
[172] Barker-Benfield, S*t Augustine's Abbey, Canterbury,* vol. 2, pp. 1209-12, 1255-6 and 1271-2 (copies of *De melancholia* numbered 1181, 1236 and 1253).
[173] Murray Jones, 'Music Therapy in the Later Middle Ages', pp. 130 and 133.
[174] Interestingly, distraction techniques and such 'behavioural experiments' are standard components of modern cognitive-behavioural therapy J. Bennett-Levy et al. (eds.), *Oxford guide to behavioural experiments in cognitive therapy* (Oxford, 2004), p. 8.
[175] Rufus' importance can be difficult to assess. In the surviving fragments of Rufus' treatise there are details of the mental and behavioural problems, comments on 'violent thoughts and worries' as causal, a few psychological treatments and music therapy, but the concentration is often on the stomach. Galen placed more emphasis on the brain, noting some mental symptoms and causes, but the stomach was still a major focus for him, with physical treatments. Rufus of Ephesus, *On Melancholy*, pp. 29-33, 47, 53 and 69; J. Radden (ed.), *The Nature of Melancholy from Aristotle to Kristeva* (Oxford, 2000), Ch. 2; R. Klibansky, E. Panofsky, and F. Saxl, *Saturn and melancholy: studies in the history of natural philosophy, religion, and art* (London, 1964), pp. 48-50, 82-3.
[176] Bodleian Library, MS. Ashmole 1437, fols. 182-3.

century there is evidence of Constantine's influence in Timothy Bright's *Treatise of Melancholy*.[177] In the seventeenth century, Robert Burton mentioned Constantine by name in his *Anatomy of Melancholy*, and quoted from *De melancholia*; his influence here was one of many, but he seems still to have been seen as an authority on the subject.[178] The *Anatomy* has enjoyed enduring fame, but the English first really heard about melancholy in Constantine's now largely forgotten work.

[177] Timothy Bright, *A treatise of melancholy* (London, 1586), p. ix, via *Hathi Trust* [website] <https://babel.hathitrust.org/cgi/pt?id=mdp.49015000413873&seq=7> (last accessed 11 April 2024). For example, Bright gives great study as a cause of melancholy (pp. 244-6) and seems to have known Constantine's model of the emotions from the *Pantegni* (pp. 81-9).
[178] Robert Burton, *The anatomy of melancholy*, T.C. Faulkner, N.K. Kiessling and R.L. Blair (eds.) (Oxford, 1989), vol. 1, pp. 2, 168 and note 419.

Chapter 10: Mania and lovesickness

In Constantine's medicine, mania and lovesickness were both variants of melancholy and will therefore be discussed here together. Mania was understood as a condition manifesting in agitation and wild behaviour. It was not central in the work of Constantine, who barely mentioned mania as a term, but he covered it under discussions of melancholy. However, it is worthy of separate consideration because of its distinct symptomatology and importance to other medical writers. It was one of the three types of madness in classical medicine, together with *phrenitis* and *melancholia,* and is still considered a clinically useful term in the twenty-first century.[1] Meanwhile lovesickness was a disease afflicting the brain with love, longing and sexual desire, and Constantine devoted several pages to the subject. Of all of his translations on mental disorder, this is the disorder which has attracted the most attention, with Wack devoting a ground-breaking book to lovesickness in the *Viaticum* and its commentaries.[2] This chapter will consider Constantine's contribution to the understanding of mania, then go on to lovesickness and its medical and cultural impact.

Mania

Constantine discusses mania indirectly in the *Pantegni* and *De melancholia*, and mentions it by name only in passing elsewhere.[3] The compiler of the *Practica* saw fit to rectify this apparent omission, in giving this subject its own chapter of treatments from other sources, but without giving a description.[4] It seems that Constantine subsumed the symptoms of mania under the broader category of *melancholia*; the *Pantegni* mentions many mania symptoms under melancholy, which could involve laughter, anger, wakefulness, agitation and self-harm, as well as sadness and delusions.

Galen had indicated that mania was due to yellow bile (later often referred to as red bile), which burnt to produce a form of black bile which led to a different kind of melancholy, a

[1] Jackson, *Melancholia and Depression*, pp. 30 and 249-50. J.R. Calabrese, G. Keming and G. Sachs, 'Diagnosing Mania in the Age of DSM-5', *American Journal of Psychiatry*, vol. 174 (2017), pp. 8-10.
[2] Wack, *Lovesickness.*
[3] The passing references are in *De melancholia* in a discussion of epilepsy: 'Sed medicorum alii epilepsiam, alii dicunt esse maniam', *De melancholia*, pp. 34-5, and in the *Viaticum* on frenzy, 'G. (Galen) omnes inquit alienationem acuti sequuntur acuti humores punctae (pungitivae) propter maniam vel melancholiam', *Viaticum*, Book 1, Ch. 18, fol. 6v.
[4] *Practica*, Book 5, Ch. 21, fols. 142r-v.

violent madness.[5] Although not naming this as mania, the *Pantegni* explains that where the melancholy comes from red bile, it is with typically manic symptoms, loss of reason, shouting, anger, and restlessness.[6] *De melancholia* describes symptoms of talkativeness, excitement and anger, where the disorder came from burning red bile.[7] The cause of this variety of melancholy from red bile is given as a hot and dry diet, strenuous fasting, and drinking too much wine.[8] The *Practica* explains that mania could arise from ingesting poison or harmful substances, or from the bite of a rabid dog.[9]

No specific treatment is offered for melancholy from red bile; *De melancholia* explains that this kind is difficult to cure and hard to treat.[10] However the *Practica* is concerned to help with mania, giving many treatments including poultices and anointments to induce sleep, with purging and sneezing.[11] The patient should eat lightly and be left in silence, but clysters might be used, and blood is to be let from the arteries to the head until the patient fainted.[12] Almost all of this seems to have been copied from the *Passionarius,* except for a drink of tortoise ashes to be taken in the case due to poisoning.[13] No cure is offered for mania due to the dog bite, when foaming at the mouth is said to indicate death within a week.[14]

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[5] Jackson, *Melancholia and Depression,* p. 253.
[6] 'In humoribus ex colera rubea habent alienationem, clamorem, instabilitatem, vigilias, non quiescunt multum irascantur', *Pantegni,* Book 9, Ch. 7, fol. 116v.
[7] 'Haec ex colera rubea contingit, cum ad incensionem devenit et nondum nigrescit…Hanc sequitur facundia, excitatio atque ira', *De melancholia,* p. 107.
[8] 'Dieta calida et sicca … laboriosos ieiunatores ... multum bibentes vinum', *Pantegni,* Book 9, Ch. 7, fol. 116v.
[9] 'Si mentis alienacio vel insania fit vel fiat ex potacione vel comestione pessima ut ... cicute, iusquiami mandragore et cerebro cate ... Et sciendum quia si ex morsu rabidi canis hec passio alicui contingat ... ', *Practica,* Book 5, Ch. 21, fols. 142r-v.
[10] 'Haec species ad sanandum molesta est et ad medicandum dura', *De melancholia,* p. 108.
[11] 'Sacellus calida ex farina vino cocta cum absinthio capiti imponantur et stomachi, pectori et cordi. Capiti infirmi usque ad cutem raso emplastrum pone, hoc mirifice sanat ... sompniferis inunctionibus nares et timpora ut sompnum provocent ungantur. Vomitus provocetur interdum cum raphano … Post xiiii dies purgetur cum yera rufini … sternutamenta provocentur', *Practica,* Book 5, Ch. 21, fol. 142r.
[12] 'Cibum accipient levem ... ova sorbilia vel succum spelte et dimissionis tempore accipient fortiorem cibum .et silincium habeant ... Si necesse est clisterizetur, si vires et etas permiserint, flebotometur usque ad lippotomiam ... caput radatur arterie capitis incidantur', *Practica,* Book 5, Ch. 21, fol. 142r.
[13] 'Si mentis alienacio vel insania fit vel fiat ex potacione vel comestione pessima ... testudo tota iuiatur (igniatur) et pulverizetur et detur. Omnem enim alienacionem mentis et insaniam sine dubio sanat', *Practica,* Book 5, Ch. 21, fols. 142r-v.
[14] 'Et sciendum quia si ex morsu rabidi canis hec passio alicui contingat; et spumam per os emittant in … vii dies morietur', *Practica,* Book 5, Ch. 21, fol. 142v.

Concepts and treatment of mania before and contemporary to Constantine

Mania did not arise as a disorder term in the vernacular sources, although Doyle does give mania as a possible translation of *weden heorte*.[15] This was treated in *Bald's Leechbook* with a herbal mixture, masses and prayers.[16] Amongst previous Latin authors, Isidore mentioned mania under chronic illnesses, suggesting it is an unbalanced state which had been associated with divination, and that it arose in the back of the brain.[17] Several writers did not discuss mania at all, but Alexander described a form of *melancholia* with extreme wildness he called 'insania'.[18] Oribasius gave a very short chapter on mania without any description, and similar treatments as for melancholy.[19]

However, the more contemporary arrivals, the *Tereoperica* and *Passionarius* included extensive accounts of the disorder, their chapters on mania and melancholy made a fairly clear distinction between the two conditions.[20] The *Passionarius* suggested that mania often developed following melancholy if not successfully treated.[21] Some sufferers were cheerful, laughed, sang or said mad things, some were angry, raving and quarrelsome, others fearful or sad and taciturn. Some were constantly on the go, running around naked, showed excessive lust and did forbidden things, whilst others harmed themselves. Both texts also discuss a particularly dangerous and disturbing form, *entenasmon*, in which sufferers heard voices or music, and could be seized with dancing or running, some took swords and harmed or bit themselves.[22]

Mania in general could be caused by black bile or blood, and the heat from these humours. However, it could also follow loss of blood, ingesting toxic substances such as mandrake or hemlock, indigestion, excess drinking or studying. It could affect all ages, and in women it often came from the womb.[23] It was reported, but not endorsed, that some thought

[15] *Bald's Leechbook I*, contents list, p. 16. It may also have some overlap with the ill-defined disorders *monaðseocnysse* or devil sickness.
[16] *Bald's Leechbook I,* Ch. 63, p. 142.
[17] Isidore, *Etymologies*, p. 111.
[18] Alexander, pp. 117-8.
[19] Oribasius, *Synopsis*, vol. 6, pp. 214-5.
[20] *Tereoperica* , 83v-84r; *Passionarius,* Book 1, Chs. 9 and 10.
[21] *Passionarius,* Book 1, Ch. 12.
[22] *Tereoperica* , fol. 84r; *Passionarius*, Book 1, Ch. 11. *Entenasmon* means a form of derangement or hallucination.
[23] *Tereoperica* , 83v; *Passionarius,* Book 1, Chs. 9 and 10.

entenasmon to be due to demons - the preferred explanation was that it was due to flatulence or the bite of a rabid dog.[24]

Both Oribasius and Pliny recommended intercourse for mania and insanity, and various herbs such as black hellebore, fennel or bryony roots.[25] BL, MS. Sloane 1621 gave ten antidotes helpful in mania.[26] As noted, the treatment methods given in the *Practica* were almost identical to those in the *Passionarius*, and similar to those of the *Tereoperica* .[27] However, whereas in the *Practica* blood was to be let from the arteries of the head, both instead recommended cauterising the back of the head down to the bone, removing the flesh.[28] Those suffering from *entenasmon* were to be confined in silence and phlebotomised; it was important to relieve windiness which was the cause of the auditory hallucinations. The *Tereoperica* gave a remedy with southernwood and holy water; BL, MS. Sloane 1621 recommended another using spurge and cloves.[29]

Later medieval writers

Later authors followed Constantine in discussing mania in chapters on melancholy. Within this, some did discuss it as a separate case and in more detail, often more influenced by the *Passionarius, Tereoperica* or the *Practica*. Gilbertus and John of Gaddesden did take on the Galenic idea of red bile being a specific cause of mania from Constantine.[30] Gilbertus also gave other possible humoral causes, several attributed it to a problem of the front cell of imagination, or it could come from the bite of a dog.[31] Unlike Constantine, not everyone was ruling out supernatural causes. Gilbertus explained how mania could be distinguished from demon possession, but cases of *entenasmon* might indeed be possession, or alternatively due to windiness of the brain, or the sufferer's own evil disposition.[32] Bernard de Gordon cited Avicenna's view that melancholy and mania could come from the devil.[33]

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[24] *Tereoperica* , fol. 84r; *Passionarius*, Book 1, Ch. 11.
[25] Oribasius, *Synopsis*, vol. 5, p. 807, and vol. 6, pp. 214-5; Pliny, Book 28, p. 43, Book 25, pp. 177 and 181.
[26] BL, MS. Sloane 1621, fols. 20r, 20v, 21v, 22r, 23r, 29v, 30r, 33r and 50r.
[27] *Tereoperica* , fol. 84r; *Passionarius*, Book 1, Chs. 9 and 10.
[28] *Tereoperica* , fol. 84r; *Passionarius*, Book 1, Ch. 10.
[29] *Tereoperica* , fols. 84r-v; BL, MS. Sloane 1621, fol. 26r.
[30] Gilbertus, p. 221; Gaddesden, fol. 131v.
[31] Gilbertus, pp. 220-1; Bartholomeus, pp. 120-1; Gaddesden, fol. 132r.
[32] Gilbertus, p. 220. In mania, as opposed to possession, they do not prophesy and demons do not speak through them.
[33] De Gordon, p. 108.

As for cure, some repeated *De melancholia's* pessimistic prognosis: if the patient looked wild or terrible, they might not be successfully treated, and similarly those suffering after the bite of a dog would die within a week.[34] Treatments worth trying, however, included intercourse, a decoction of Armenian stone and lotus, and Gaddesden repeated the remedy from the *Practica* of powdered burnt tortoise.[35] However mania did attract some more drastic treatments: Gaddesden suggested a whole day of bloodletting followed by cauterisation of the head, Bartholomeus wrote that surgical art would be necessary; Gilbertus gave a last resort of making an incision and perforating the skull.[36]

Conclusion

Constantine was the first medieval writer to pass on the idea, starting with Galen, that mania was due to yellow (subsequently red) bile affecting the brain.[37] This was taken up by later writers, Gilbertus and Gaddesden giving this as a main cause. Otherwise, Constantine's translations were uninformative about mania compared to the other texts available to the Anglo-Normans; indeed the compiler of the *Practica* felt it necessary to turn to these sources for treatment guidance. It seems that Constantine largely missed an opportunity to help this group of highly distressed and agitated people whose behaviour was problematic for their families, wider society and their physicians. This is even more unfortunate when it is considered that Constantine's treatments were often the most humane; although the *Practica* is not his, it avoids some of the most invasive and unpleasant cauteries of the head given in the *Passionarius*. Subsequent English authors were to persist in administering cauterisation or even trephination.

Lovesickness

Symptoms

Lovesickness is discussed briefly in the *Pantegni*, but at some length in the *Viaticum*, with treatment suggestions repeated in the *Practica*.[38] The *Pantegni* describes a disorder of love,

[34] Gilbertus, pp. 226-7; Gaddesden, fol. 132r.
[35] Gilbertus, p. 227; Gaddesden, fol. 132r.
[36] Gaddesden, fol. 132r; Bartholomeus, p. 121; Gilbertus, p. 227.
[37] Galen writes of yellow bile, Constantine of red bile, the two generally became interchangeable terms.
[38] It is not mentioned in *De melancholia.*

in which the patient thinks constantly about the loved one.[39] It is accompanied by physical symptoms: their eyes look hollow and their eyelids are constantly moving, but they do not shed tears; they become unattractive and thin, and if the name of the beloved is mentioned there are changes in the pulse.[40] This is taken up in more detail in the *Viaticum* as *eros* or lovesickness, a disorder causing great longing, intense sexual desire and affliction of the thoughts; at the same time this is an extreme form of pleasure.[41] Their eyes could also be yellow and their constant movements are caused by sleeplessness and worries about possessing what they desired.[42] The erotic lover is at risk of sinking in mood and excessive thought, and falling into this melancholic disease.[43]

Causes

Both texts are clear that lovesickness is an illness affecting the brain.[44] It is to be assumed that black bile is the cause, given that it is described under *melancholia* in the *Pantegni*; the *Viaticum* reports that sometimes the cause is a need to expel an excess of humours, and cites Rufus that intercourse helps those affected by black bile.[45] However there are also direct external and psychological causes: in the contemplation of beauty, the soul could go mad

[39] 'Amor est confidentia animae suspitiosa, in re amata et cogitationis in eadem assiduitas', *Pantegni,* Book 9, Ch. 7, fol. 117r.
[40] 'Cuius significatio oculorum est concavitas et eorum motio assidua, maxime palpebrarum, neque lacrimantur pulcritudinem habent in visu, menbra preter oculos in maciem mutantur, pulsus eorum sicut tristium sed et si res amata nominetur pulsus de sua natura mutatur, diversatur et turbatur', *Pantegni,* Book 9, Ch. 7, fol. 117r. Issues to do with the pulse are also repeated in the *Viaticum* 'pulsus induratur neque naturaliter dilatatur neque sua percussio secundum quod oportet custoditur', *Viaticum,* Book 1, Ch. 20, fol. 7v.
[41] 'Amor qui zeros (eros) dicitur morbus…Est autem magnum desiderium cum nimia concupiscentia et afflictionem cogitationum…ita et zeros (eros) delectationis quedam est extremitas', *Viaticum,* Book 1, Ch. 20, fol. 7r.
[42] 'Fiunt oculi eorum semper concavi, cito mobiles propter animae cogitationes, solliciti ad invenienda et habenda ea que desiderant. Palpebre eorum graves, citrini ipsorum colores. Hoc ex calore fit motus qui ex vigiliis consequitur', *Viaticum,* Book 1, Ch. 20, fol. 7v.
[43] 'Si non ebriosis (eriosus) succuratur ut cogitatio eorum auferatur et anima levigetur in passionem melancolicam necessario incident', *Viaticum,* Book 1, Ch. 20, fol. 7v. The fact that the twelfth-century scribe of Bodleian Library, MS. Laud 567 usually renders the word for *eriosus* as *ebriosus* indicates that this was a novel idea to him.
[44] 'Hec est significatio morborum in cerebro nascentium' *Pantegni,* Book 9, Ch. 7, fol. 117r; 'Amor qui zeros (eros) dicitur morbus est cerebro contiguus', *Viaticum,* Book 1, Ch. 20, fol. 7r.
[45] 'aliquando huius amoris necessitas nimia est in multa humorum superfluitate expellenda. Unde Rufus: Coitus, inquit, videtur valere quibus colera N et mania dominatur', *Viaticum,* Book 1, Ch. 20, fol. 7r.

seeing a form similar to itself and seeking the fulfilment of its pleasure.[46] Sinking into obsessive thoughts, both mind and body are affected.[47] The idea of an affinity between lovers, and the striving after beauty, has its roots in Platonic ideas and the Islamic concept of *'ishk*.[48] There is also a physical basis to the condition and an interaction between soul and body: 'the body follows the soul in its action, and the soul accompanies the body in its passion'.[49]

In the disorder of lovesickness, a psychological dimension is again evident in the causation of illness. Fear and sadness could cause the body to be inflamed with black bile, but it seems that here, the psychological effects of seeing a beautiful person could cause illness without a humoral intermediary being cited.[50] Perhaps this is to be taken as read, but it is appropriate then that the main treatments work through psychological means.

Treatment

Lovesickness is to be treated with wine, music, baths, pleasurable surroundings and company, and sexual intercourse. Wine is especially celebrated in the *Viaticum* as a treatment for lovesickness, endorsed by the greatest ancient physicians: Rufus is quoted recommending wine as 'a strong medication for the sad, the timid, and erotic lovers'.[51] Rufus is also quoted on intercourse as a means of expelling humours and relieving *eros*, even if it was not with the loved person.[52] Generally the treatments offered are delightful:

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[46] 'Aliquando et zeros (eros) causa pulcra est formositas considerata. Quia si in sibi simili forma conspiciat, quasi insanit anima in ea ad voluntatem (voluptatem) explendam adipiscenda', *Viaticum*, Book 1, Ch. 20, fols. 7r-v.

[47] 'Si in cogitationibus pessundatur (profundatur), actio animae et corporis corrumpitur ... et sicut ex nimio labore corporis in passionem laboriosam incidit, itidem ex labore animae in melancolicam', *Viaticum*, Book 1, Ch. 20, fol. 7v.

[48] Wack, *Lovesickness*, pp. 35-6. *'Isk* was an irresistible desire, a reaching for perfection, including the quest for God.

[49] 'Corpus animam in sua actione sequitur, et anima corpus in sua passionem comitatur', *Viaticum*, Book 1, Ch. 20, fol. 7v.

[50] 'totius corporis humoribus est incensis aliquando ex timore est et tristitia', *Pantegni*, Book 9, Ch. 7, fol. 116v.

[51] 'Rufus inquit vinum est medicina fortis tristibus timidis ebriosis (eriosus)', *Viaticum*, Book 1, Ch. 20, fol. 7v.

[52] 'Aliquando huius amoris necessitas nimia est in multa humorum superfluitate expellenda. Unde Rufus: Coitus, inquit videtur valere quibus colera N et mania dominatur. Redditur ei sensus et molestatio herios tollitur, si etiam cum non dilectusis (dilectis) loquatur', *Viaticum*, Book 1, Ch. 20, fol. 7r. See also footnote 45 above.

> What better helps the lovesick so that they do not sink into excessive thoughts: temperate and fragrant wine; listening to different kinds of music; conversing with dearest friends; recitation of poetry; looking at bright, sweet-smelling and fruitful gardens having clear running water; walking or amusing themselves with attractive women or men … indeed other similar things, like a temperate bath. Thus it happens that when certain people enter a bath they are moved to sing … let the rooms where they are to sit be clean and bright, let roses and myrtle, willow, basil, and similar things be placed there. Let them avoid drunkenness and ... let them sleep. After sleep let them take pleasure in a bath with bright and temperate water and air, and do not let anything happen to them that their mind dislikes.[53]

The *Practica's* treatments for lovesickness are an abbreviated version of the *Viaticum's,* again emphasising wine, music and conversation. It does not mention intercourse, and adds a list of helpful *materia medica* such as borage, saffron, ambergris and an electuary of musk.[54]

The disorder having both physical and mental causes, remedies are for both body and mind, aiming to rebalance the humours, although in the *Viaticum* they are primarily behavioural or environmental. Treatments have some overlap with those for melancholy generally: both involve wine, baths and sleep, possibly intercourse, again listening to a variety of music and even therapeutic singing in the bath. However, whereas *De melancholia* emphasises diet, medicines, and attention to the digestive system, there is none of this here. The *Viaticum* offers no drugs or herbs, rather there is enjoyment of gardens, poetry and talking to friends. It is further specified that the cure 'is judged most perfect if good companions are gathered who are outstanding in beauty, wisdom or morals', with the idea that the patient might fix

[53] 'Quod melius ebriosos (eriosos) adiuvat ne in cogitationes profundantur nimias est vinum temperatum et odoriferum et audire genera musicorum; colliqui dilectissimis amicis, versuum recitatio, lucidos videre ortos, odoriferos et fructiferos, currentem spectare aquam et claram; spatiari seu deducere cum femina sive est maribus personae pulcre … sed et alia quidam similia, sicut baleneum temperatum. Unde fit ut cum quidam balneum ingrediuntur ad cantandum animantur … caminata eorum ubi sessuri sunt munda sit et lucida, apponantur rosa et myrta, salices, basilicon et similia. Ab ebrietate caveant et cum oportet dormiant. Post somnum in balneo delectentur cum aqua et aere temperato et lucido, neque accedat ad eos quod animus eorum abhorreat', *Viaticum,* Book 1, Ch. 20, fol. 7v.

[54] 'ut borago basilicon crocus ... ambra ... mascus (muscus) electuarium quod vocatur leticia', *Practica*, Book 5, Ch. 20, fol. 142r.

his ideas on other, finer things and people.[55] This might sit oddly with the idea of therapeutic intercourse without love, presumably with prostitutes or slaves, and especially passed on by a monk - Constantine is clear that this advice is from the great authority Rufus rather than from himself. The nature of this advice suggests that these treatments are aimed at men, lovesickness in women is not specifically addressed; they are regarded here as either a cause of the illness, or as its treatment. The patients would presumably be secular men, although the remedy of coitus would still be sinful. The Church might disapprove, and some would not be able to use the treatment: Thomas, archbishop of York died of an illness in 1114 having refused to break his vow of chastity, intercourse being the recommended treatment.[56]

Concepts and treatments in England before and contemporary to Constantine

The vernacular medical texts did not discuss any such problem of lovesickness, having also omitted melancholy. Vernacular poetry however did describe the feeling of love-longing, *langað*, which occurs in *The Wife's Complaint*, and *Beowulf*; love was also described as like a sickness in the poem *Wulf and Eadwacer*.[57] More influential would have been biblical references on this theme. In *2 Samuel* Amnon was said to be sick for the love of his half-sister Tamar, whilst the *Song of Songs* was devoted to the desire and longing of two lovers, the beloved being 'sick with love'.[58] Particularly popular in the eleventh and twelfth centuries, the *Song of Songs* was important in the development of both sacred and secular ideas of love: seen as an allegory of the soul's longing for God, it described symptoms of constant longing and obsessive thoughts applicable also to carnal love.[59]

In the classical world problems of love had been described, with case studies given by Hippocrates and Galen, and Plato regarded the 'intemperance of the passion of love' as one of four main types of madness.[60] There was a tradition of distrust of the passion of love, as

[55] 'Quod perfectissimum sibi esse dinoscitur si boni consocii aggregentur qui et in pulcritudine valeant et scientia vel moribus', *Viaticum*, Book 1, Ch. 20, fol. 7v.
[56] J. Burton, 'Thomas of York', *Oxford Dictionary of National Biography* [website] (23 September 2004) <https://doi-org.ezproxy-prd.bodleian.ox.ac.uk/10.1093/ref:odnb/27200> (last accessed 6 May 2023).
[57] M. Alexander (ed. and trans.), *The Earliest English Poems*, 3rd edition (London, 1991): *The Wife's Complaint*, pp. 58-9, line 53, *Wulf and Eadwacer*, p. 62, lines 13-15; Anonymous, *Beowulf*, S. Mitchell (trans.) (New Haven and London, 2017), p. 122, line 1879. Strong emotional ties could also exist between lord and male follower, as in the laments expressed in 'The Wanderer'.
[58] 2 Samuel, Ch. 13; Song of Songs, Ch. 2, v. 5.
[59] Wack, *Lovesickness*, p. 22.
[60] *Ibid*, pp. 3 and 7-10; Jackson, *Melancholia and Depression*, p. 16.

destabilising to rationality and society as a whole.[61] However amongst the Latin literature available in England was Ovid's work *Ars amatoria*, the *Art of Love*. Its early presence is evidenced in *St Dunstan's Classbook*, apparently owned by Dunstan in the tenth century, which contains part of a ninth-century copy.[62] The *Ars* wrote of love as a kind of warfare, love can pierce and wound, and *Book III, Cures for love*, gave advice to avoid catching this 'sudden illness'.[63] Farming, hunting, travelling or seeking the company of friends might help, whilst dietary advice included either avoiding wine or drinking to excess.[64] These rather masculine pursuits perhaps again indicate that this was considered predominantly a problem of male patients.

Isidore did not mention love under medical problems, but elsewhere wrote of an issue of 'excessive love' which the ancients called 'feminine love'.[65] Pliny clearly thought that love could sometimes be a problem, agnus castus checked violent sexual desire, and a toad worn as an amulet would kill love.[66] In medical texts Galen had first given problems of love a prominent place in medicine in several case studies, taken up by Aurelianus and Paul of Aegina, but only a chapter in Oribasius' *Synopsis* might have been known in England before Constantine.[67] This spoke of the problems of those made sad with love, who suffer insomnia, self-neglect and again the hollow, tearless but flickering eyes. No cause or explanation for the problem was given but the treatment was wine and baths; the patient should look at pictures and hear happy stories and sounds.[68] Elsewhere Oribasius also explained Rufus's ideas about the benefits of the sexual act to melancholics, although he did not mention its use in lovesickness specifically.[69]

[61] Wack, *Lovesickness*, p. 6.
[62] Oxford, Bodleian Library, MS. Auct. F.4.32. See P.A. Hayward, *Lancaster University Medieval Primary Sources* [website] (last updated 2023) <https://www.lancaster.ac.uk/staff/haywardp/hist424/index.htm> (last accessed 7 March 2024).
[63] Ovid, *The Love Poems – The Amores, Ars Amatoria and Remedia Amoris*, A.S. Kline (trans.) (Poetry in translation, digital edition, 2001), p. 168, *Remedia amoris*, pp. 231-66.
[64] Ovid, *The Love Poems*, pp. 238, 241-3, 256-7, 266.
[65] Isidore, *Etymologies*, Book 11, p. 242.
[66] Pliny, Book 24, p. 49, Book 32, p. 549.
[67] Wack, *Lovesickness*, pp. 7-10; Jackson, *Melancholia and Depression*, pp. 353-4.
[68] Oribasius, *Synopsis*, vol. 6, p. 215; Wack, *Lovesickness*, p. 10.
[69] Oribasius, *Synopsis*, vol. 5, p. 807.

Later medieval medical writers

Not all later medical writers took an interest in lovesickness. It was not mentioned by Gilbertus or Bartholomeus. However, the influential Bernard de Gordon gave a long account of the condition, with more details of the symptoms of this ailment, which could lead to mania or death if not cured. He noted that it was a disorder of the reason in which the imagination was captured; the face and figure of the beloved became fixed in the patient's mind and he overestimated her, blind to her faults.[70] He drew from the *Pantegni* and particularly the *Viaticum*, but misquoted it, saying that it is a disorder of nobles and the rich.[71] He followed the *Viaticum* more closely with his recommendations about bathing, drinking wine, listening to music, mixing with friends, and spending time in lovely places, but intercourse was only for those permitted. He departed from Constantine in that he prescribed regular severe flogging, and drew instead upon Avicenna in having a wise person slander the girl and make her seem disgusting.[72] If the person did not change their mind he had no patience, but regarded them as 'the devil incarnate, and lost in folly'.[73] Gaddesden generally followed Constantine in surrounding his melancholic patients with beautiful and joyful things, with wine, intercourse and baths, however the lovesick should be reproved, and camphor and lettuce placed over their kidneys.[74]

Subsequently this teaching, along with that of Avicenna, was taken up by generations of medical writers; whole treatises and many translations, chapters in medical texts and commentaries survive from the Middle Ages, on this disorder.[75] In the entry on lovesickness in a fourteenth-century medical concordance written in Paris, Constantine was named as one of the main authorities on the condition, his work clearly well known in French centres where many English physicians were trained.[76] At least one text in Middle English also featured

[70] This idea is seen in the various commentaries on the *Viaticum*, see V.L. Ile, 'Is melancholy contagious? Interplays between the medieval notions of melancholy and lovesickness', *Hermeneia*, vol. 29 (2022), p. 30.
[71] This is not in Constantine, but an idea that developed over time, seen in Gerard of Berry's *Glosses on the Viaticum:* 'Heroes are said to be noble men who on account of riches and the softness of their lives are more likely to suffer this disease' (Wack, *Lovesickness*, p. 203). Constantine gives excess pleasure and rest as a cause of melancholy in *De melancholia* (p. 100), not specifically of lovesickness.
[72] Ile, 'Is melancholy contagious?', pp. 29-30.
[73] De Gordon, pp. 111-3.
[74] Gaddesden, fol. 132r.
[75] E.g., Arnaldus de Villanova's *Tractatus de amore heroico* (see Wack, *Lovesickness*, p. 149).
[76] Wack, *Lovesickness*, pp. 48-9.

much from Constantine on lovesickness: a popular fourteenth-century uroscopy by Henry Daniel drew on the *Viaticum* in his descriptions of the symptoms.[77]

Cultural impact

The influence of this work on the problem of love was to be wider than the purely medical sphere. Thomas of Chobham wrote a penitential for confessors in the early thirteenth century, with a chapter on 'insane love', which had physical symptoms and was to be treated with both medicine and penitence.[78] The twelfth century saw renewed enthusiasm for Ovid's poetry which was widely read and quoted across medieval Europe; this coincided with the availability of Constantine's work and would have encouraged the acceptance of these new medical ideas.[79] Conversely, the authority of medicine, and of Constantine himself as a respected medical 'writer', brought credence to the concept of lovesickness. Andreas Capellanus' *Treatise on Love* noted that love was 'a certain inborn suffering derived from the sight of and excessive meditation upon ... beauty' and was affected by physiological factors such as the natural heat and natural moisture of the body.[80] The *Treatise* suggested that romantic love could not exist between husband and wife, and that it was the preserve of those with some wealth, not of peasants.[81] Over following centuries the melancholy lover was to become a familiar literary trope. Of many specifically English examples, the foremost are seen in Chaucer's lovesick Troilus, and Arcite in the *Knight's Tale* who suffered 'nat oonly lik the loveris maladye/of hereos, but rather lyk manye, /Engendered of humour malencolik'.[82] Chaucer clearly drew on medical theories and language, and this suggests that they were well known in the fourteenth century. He gave a full description of the symptoms, some of which seem to have come directly from the *Viaticum*, such as Arcite's hollow eyes and sickly yellow colour, although he showed awareness of other writings, implicating the 'celle fantastick'.[83] In his *Confessio Amantis* John Gower's melancholic lover complained

[77] J. Walsh Morrissey, 'Anxious Love and Disordered Urine: The Englishing of *Amor Hereos* in Henry Daniel's *Liber uricrisiarum*', *The Chaucer Review*, vol. 49 (2014), pp. 174, 182-3.
[78] Thomas of Chobham, *Thomae de Chobham summa confessorum*, F. Broomfield (ed.) (Louvain, 1968), pp. 389-90. He gave several examples of cases successfully managed, but with an emphasis on rebuke rather than the methods suggested in the *Viaticum*.
[79] Wack, *Lovesickness*, pp. 14-5.
[80] Andreas Capellanus, *The Art of Courtly Love*, J.J. Parry, (ed. and trans.) (New York, 1960) pp. 28, 32. He cited the *Isagoge* in his discussion of the ill effects of love, which affected sleep (p. 199).
[81] *Ibid*, pp. 106-7, 149-50.
[82] Geoffrey Chaucer, *The Riverside Chaucer*, L.D. Benson (ed.) (Oxford, 1987), 'Troilus and Criseyde', and 'The Knight's Tale', lines 1373-5.
[83] Chaucer, *The Riverside Chaucer*, 'The Knight's Tale', lines 1363-4, 1376.

to the gods that he needed to be cured. At length Venus, taking pity on him for the 'wofull peine of loves maladie', provided a treatment which was medical, 'an oignement'.[84] An image in a copy of Gower's work in London, BL, Egerton MS 1991 portrays the unfortunate

Image 10.1. *Confessio Amantis*, London, BL, Egerton MS 1991, fol. 7v.

[84] John Gower, *Confessio Amantis; Or, Tales of the Seven Deadly Sins*, G.C. Macaulay (ed.), Book 8, lines 2217 and 2817, via *Project Gutenberg* [website] (last updated 21 August 2022) <https://www.gutenberg.org/cache/epub/266/pg266-images.html#link2H_4_0009> (last accessed 11 April 2024).

sufferer of lovesickness (Image 10.1). In Chaucer's *Legend of Good Women* Jason feigned lovesickness, 'contrefeted peyne' as a means of seduction in the game of love.[85]

Conclusion

The clinical discussion of lovesickness which began with Constantine was absorbed into the developing ideas of 'courtly love'. The chapter in the *Viaticum* was reproduced as the *Liber de heros morbo* which, like De Gordon, suggested lovesickness afflicted heroes or nobles, and the text compared sexual love with loyalty to a lord.[86] Medical descriptions of symptoms such as obsessive desire, and treatments such as poetry reading and listening to music, easily lent themselves to this cultural trend. It seems that the practices of courtly love may have addressed a real social and psychological need, many people, especially of high rank, would not have been able to choose their marital partners, and this provided a culturally accepted way of expressing love elsewhere. In an age of high maternal mortality, wet nursing and the practice of sending young children away to be educated in other households, disturbed attachments would have been common and could have manifested as 'sickness' in adult romantic attraction.[87] The disorder of lovesickness recognised and validated this, and brought an offer of support, at least to rich male patients.

Lovesickness was not an entirely new idea to the people of England at the beginning of the twelfth century, as it was a theme seen in literature and especially Ovid. However only a few physicians would have had access to Oribasius, the only potentially available source of medical information on this condition. Constantine's coverage of lovesickness was therefore a step-change in medical understanding. As Wack writes, medical works up to this time:

> offer only sketchy analyses of the disease of love, and their limitations suggest why Constantine's chapter on love enjoyed the success it did. Having been granted the status of a separate disease in Islamic medical handbooks, lovesickness entered the West, in the Cassinese monk's Latinised version, accompanied by a comparatively full theoretical and practical discussion of its causes, symptoms, consequences and cures.[88]

[85] Chaucer, *The Riverside Chaucer*, 'The Legend of Good Women', line 1376. See Wack, *Lovesickness*, p. 169.
[86] Wack, *Lovesickness*, pp. 46-7. The *Liber de heros morbo* was possibly written by Johannes Afflacius, Constantine's pupil. It changed the terms used from *eriosos* to *heros.*
[87] See Wack, *Lovesickness*, pp. 160-2.
[88] *Ibid*, p. 30.

Conclusion

In conclusion, Constantine's translations offered little of practical guidance in the management of mania, leaving others to fill this void with less humane treatments, probably to the detriment of many patients. He made only one real contribution to knowledge about the condition, in that he passed on Galen's ideas about the role and effects of yellow/red bile, which was taken up by later medical writers. Although apparently not of great interest to Constantine, mania remains the only ancient term for a mental disorder still in use.[89]

Lovesickness had some history as a clinical disorder from the time of Galen, but was all but unknown in England until the work of Constantine. This clearly described some genuine problems in medieval circumstances, given their own psychological and social pressures, and was to have an extensive cultural impact. It was useful to confessors and a romantic source of inspiration for writers and poets. The medical conceptualisation of lovesickness gave legitimacy to the phenomenon of courtly love, particularly with its treatments of music, reciting poetry, mixing with attractive people, and the developing picture of it being an affliction of rich and noble 'heroes'. All of this has been well covered in Wack's work, but she pays less attention to the medical issues, not taking it in the full context of *melancholia*, or medieval understandings of disorders of the head.

In lovesickness is seen the most 'psychological' of medieval disorders of the head. Physical causes were possible, but apparently not always necessary, as just the contemplation of beauty could send the soul into mad, obsessive rumination. Elsewhere, in standard *melancholia*, behavioural contributors were usually explained in terms of their humoral effects.[90] Treatments here were also at their most psychological; it is unclear whether sexual intercourse and wine were primarily of physical benefit, but one of the functions of wine was to prevent the patient sinking into excessive thought and relieve sadness.[91] If wine

[89] Its symptoms are still described in the current classificatory system, the *Diagnostic and statistical manual of mental disorders*, where the presentation of a manic episode would be recognisable to medieval physicians. See American Psychiatric Association, *Diagnostic and statistical manual of mental disorders: DSM-5-TR* (Washington, DC, 2022) under Bipolar Disorder codes 296, and also in the International Classification of Diseases (ICD-10) under Bipolar codes F31.

[90] For example, behaviours of the religious, of fasting and wakefulness diminished the blood, too much comfort and pleasure brought together chyme which turned into black bile (*De melancholia*, pp. 99-100)..

[91] 'Quod melius ebriosos (eriosos) adiuvat ne in cogitationes profundantur nimias est vinum temperatum et odoriferum …vinum temperate ebibitum aufert tristiciam', *Viaticum*, Book 1, Ch. 20, fol. 7v. See also footnote 53 above.

worked on both body and mind, music worked specifically on the spirit, bending spirits from anger to mildness, sadness to joy.[92] All of the treatments were pleasurable, and were likely to bring psychological benefit to the melancholic lover.

[92] 'Philosophi dicunt sonitum esse quasi spiritum, vinum quasi corpus, quorum alterum ab altero diuuatur … animos ... flectere ... sicut de ira ad mansuetudinem, de tristicia ad leticiam', *Viaticum*, Book 1, Ch. 20, fol. 7v.

Chapter 11: Excluded and marginal disorders

Constantine wrote of a number of other disorders of the head which will not be discussed here, such as headaches, drunkenness, and vertigo. His translations did in fact bring original contributions in some of these conditions: for example, the *Pantegni* gave the first known description of what would now be called chronic migraine.[1] However these conditions are peripheral to the topic covered here, not being problems of mental or neurological function. At the same time some relevant disorders or issues did not appear in Constantine's texts at all, and some of these omissions are in themselves significant. This chapter considers the important omission of demon possession. His works did not discuss intellectual disability to any extent, but nevertheless they offered much to the understanding of this form of difficulty. They did discuss a condition known as 'suffocation of the womb' which was not a disorder of the head, but had psychological and neurological implications, and is important in the later history of psychiatry. After some brief comments on other disorders Constantine left out, this chapter concludes with a discussion of the significance of his inclusions and omissions.

Demon possession

The most notable exclusion in the authentic translations of Constantine, is that of demon possession. It might be expected that this problem would not be included in medical books, but as outlined in the introduction of the thesis, possession and several other supernatural conditions had previously been included by Old English medical writers and some Latin ones. Such problems were at least partially a form of illness, placed alongside mental disorders and epilepsy in these texts. The problem of possession was endorsed in scripture and hagiographical writings, where it could show itself in disturbed behaviour or physical seizures.

Constantine's own translations mention demoniacs only once, in *De melancholia*, where he notes that 'the common people' call epileptics demoniacs, although doctors call the illness epilepsy or mania.[2] The later *Practica* does briefly mention demon possession along with

[1] A.L. Guerrero-Peral, V. de Frutos Gonzalez and M.I. Pedraza-Hueso, '*Galeata*: chronic migraine independently considered in a medieval headache classification', *The Journal of Headache and Pain*, vol. 15 (2014), p. 16.
[2] 'a vulgo …dicentes demoniacos esse hunc morbum patientes. Sed medicorum alii epilepsiam, alii dicunt esse maniam', *De melancholia,* p. 132.

lunacy and epilepsy as a possible condition. It was diagnosed by the response to the command '*Recede demon*', and to be treated by being taken to church during the Ember days to hear mass (as outlined in Chapter 8).[3]

Image 11.1. Diseased man afflicted by demons, tearing his cloak.
Eadwine Psalter, Cambridge, Trinity College, MS. R. 17. 1, fol. 66r, c. 1150.

Previously in vernacular medical texts, demon possession was the most frequently mentioned complaint listed amongst psychological and behavioural problems, followed by temptations of the devil and problems caused by elves, themselves considered a kind of demon.[4] An experience of such problems is illustrated in the Eadwine Psalter (Image 11.1).

[3] 'Est et aliud experimentum dic in aure patientis, Recede demon ... Si pater et mater ducant eum ad ecclesiam in die iiii temporum; et audiat missam', *Practica,* Book 5, Ch. 16, fol. 141v.
[4] Looking at all the vernacular texts, demon possession is mentioned ten times, temptations of the devil six times, mental disorders caused by elves five times, with lunacy, apparitions/visions and

Possession was mentioned in all of the vernacular texts: the *Herbarium* offered the remedies of mugwort, mandrake or periwinkle, whilst the *Liber medicinae ex animalibus* advised eating wolf meat.[5] *Bald's Leechbook* offered two remedies, an emetic with holy water and:

> A drink for demoniacs … corncockle, houndstongue … lupin, … moss from a cross … make the drink of clear ale, sing seven masses over the herbs, add garlic and holy water ... and sing the psalms *Beati immaculati* and *Exurgat* and *Saluum me fac deus* and then drink the drink from a church-bell, and the mass priest should sing this over the drink: *Holy Lord, Father omnipotent.*[6]

It is not surprising that religious elements such as holy water were common in treatments for possession, although masses and prayers were also involved in the treatment of patients suffering from other mental or physical problems.[7] Supernatural agents were a particular concern of *Leechbook III* with treatments against *feondes costungum* (temptations of the devil): a plant called rudmolin, for example, prevented the devil from harming you.[8] The problem of being *deofolseoce* was treated with herbal drinks, one with holy water.[9] Emetics might have been of psychological benefit if patients believed they were literally vomiting out a demon, whilst some of the sedative herbs involved in vernacular remedies might have been beneficial.[10]

However, the earlier and contemporary Latin medical texts known in Anglo-Norman England neglected demon possession as a disorder category. Isidore and later the writer of the *Passionarius* were dismissive of the idea that epilepsy was caused by demons as ignorant,

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sleep problems also appearing five times, whilst other problems each arise less than five times. See Ch.1, p. 45.

[5] *Herbarium*, Ch. 11, p. 152, Ch. 132, p. 206, Ch. 179, p. 227; *Sextus Placitus*, pp. 404-5.

[6] *Bald's Leechbook I,* Ch. 63, p. 141.

[7] E.g., for *brœcseocum* ('brain sick') or *weden heorte* (frenzy)', *Bald's Leechbook I*, Ch. 63, p. 142. Examples of physical illness treated with prayers are internal swellings and the skin problem 'black blains', *Lacnunga*, pp. 202-3 and 186-7.

[8] E.g., *Leechbook III*, pp. 392-3 and 396-7. The plant referred to is unknown.

[9] *Ibid*, pp. 402-3 The *Lacnunga* offered a 'holy drink' against *aelfsidene* and *feondes costungum* with masses and prayers, and ends with Latin prayers which ask God to 'remove all the devils works from this man' and 'free the soul of your servant', *Lacnunga*, Ch. 29, pp. 188-9, Chs. 64 and 65, pp. 200-1.

[10] Mandrake and henbane have sedative properties, and lupin is potentially helpful for epileptic symptoms. Dendle, *Demon Possession*, pp. 102-4, Dendle, 'Lupines, Manganese, and Devil-Sickness'.

and Oribasius refuted the idea of a demon as the cause of sleep paralysis.[11] This seems to have changed in some of the new texts coming in post-Conquest. Although the *Tereoperica* has older roots, only full versions from the early twelfth century onwards survive. These gave a section of treatments 'for demoniacs and those affected by dusios'; they conflated lunatics ('*vocantur demoniossos'*) with demoniacs and seem uncertain about epilepsy in some manuscripts.[12] Three treatments were given, an emetic, a fumigation with powdered jet stone, or a drink of storax in holy water.[13] Two other Anglo-Norman texts also contain remedies for demoniacs, The *Canterbury Classbook* gave a '*Potio contra demoniacum*' which involved frankincense, myrrh and holy water; the patient was not to come near any dead body.[14] BL, MS. Sloane 1621 gave ten remedies for demoniacs, sometimes straightforwardly, but the descriptions betray uncertainty: there were remedies for those thought to have a demon, 'epileptics, who the common people call demoniacs', and 'those who suddenly fall mad, foam at the mouth, chew their tongues, and suffer spasms, and who are called demoniacs'.[15]

Constantine apparently followed the earlier Latin tradition in leaving demon possession out of his medical texts. Most likely it was simply that it was absent in the Arabic texts, which were usually translations of Greek Galenic works. Galenic medicine put mental disorders firmly into the same category as somatic ones, all caused by humours, and classical Greek culture lacked the same ideas about demons.[16] A person might have a *daemon* or guardian spirit, which were sometimes positive and protective, sometimes evil, and they acted as intermediaries between the gods and men. At oracle shrines priests or priestesses could go into a trance and be possessed by the gods.[17] However Wesley Smith has argued that the idea of demonic possession did not really exist in ancient Greek thought, only appearing in

[11] Isidore, *Etymologies*, Book 4, p. 11; *Passionarius*, Book 1, Ch. 6; Oribasius, *Synopsis*, vol. 6, p. 205.
[12] Extracts of the *Tereoperica* exist in earlier manuscripts, Cambridge, CUL, MS. Gg.5.35 and London, BL, MS. Sloane 475. Lockett, 'The Limited Role of the Brain', p. 43. The full versions considered are BL, MS. Sloane 2839 and BL, MS. Harley 4977. *Tereoperica* (Sloane 2839, fols. 97r and 84v, Harley 4977, fols. 69v and 61v). *Dusios* were sexually predatory demons.
[13] *Tereoperica*, fol. 97r.
[14] Sigerist, 'Das Cambridger Antidotarium', p. 165.
[15] BL, MS. Sloane 1621, fols. 5r, 10v, 12r, 18v, 21v 22r, 42r, 43v, 44r and 48v.
[16] P. Horden, 'Responses to Possession and Insanity in the Earlier Byzantine World', *Social History of Medicine*, vol. 6 (1993), pp. 186-7. Ideas changed in later Byzantine culture, when possession was considered a possible cause of mental disturbance.
[17] Dendle, *Demon Possession*, pp. 13 and 52.

Hellenic cultures in the early Christian period.[18] In broader Islamic society supernatural explanations for mental disorder were available: supernatural creatures were thought to exist such as *shaytan* and *jinn*, sometimes responsible for illness - the word for madness, *al-junūn,* literally means possession by *jinn*.[19] The Qu'ran endorsed their existence and role in insanity and epilepsy, whilst mandating care for those mentally unable to look after themselves.[20] Nevertheless most Islamic traditions did not promote supernatural means of healing and imams did not perform exorcisms, healing had a more secular character. Some doctors openly disputed supernatural explanations, many Muslim physicians having thoroughly absorbed Galenic humoral theories of mental disorder.[21]

The naturalistic approaches of Constantine's translations of the Galenic-Islamicate texts were however muddied by the *Practica*, which bore Constantine's name and did endorse the existence and medical treatment of demoniacs in its remedies. This gave a mixed set of messages for those that followed. Most subsequent medical authors rarely mentioned the demonic in their works and none gave chapters on demon possession.[22] Bartholomeus, who followed Constantine most closely, mentioned God, and frequently quoted from scripture, but never mentioned supernatural causes for disorders of the head.[23] For other writers, however, there continued to be a few suspicions around the problems of epilepsy and mania. Gilbertus explained that epilepsy could be distinguished from cases of affliction by *ephialtes* (demons or incubus), since *ephialtes* did not deprive the patient of sense or movement.[24] Nevertheless those diagnosed with epilepsy still needed more religious remedies than those seen for other conditions. The Lord's Prayer, or assertions such as that 'Christ conquers'

[18] W. Smith, 'So-Called Possession in Pre-Christian Greece', *Transactions and Proceedings of the American Philological Association*, vol. 96 (1965), pp. 403-26.
[19] M. Dols, 'Insanity in Byzantine and Islamic Medicine' *Dumbarton Oaks Papers*, vol. 38, Symposium on Byzantine Medicine (1984), pp. 135-48.
[20] G. Hussein Rassool, *Evil Eye, Jinn Possession, and Mental Health Issues: An Islamic Perspective* (Abingdon, Oxon., 2019), Chs. 9-11; Dols, 'Insanity in Byzantine and Islamic Medicine', p. 148. Illness is not seen as due to sin in the Islamic tradition.
[21] Dols, 'Insanity in Byzantine and Islamic Medicine', p. 147, Horden, 'Responses to Possession and Insanity', p. 190.
[22] Gilbertus gave a chapter on *ephialtes* and *incubus*, sleep paralysis, (Book 2, Ch. 12), as did De Gordon (Book 2, Ch. 23) but these have natural explanations and treatments. In Book 2, Chs. 19 and 20, Bartholomeus wrote about the devil and malign spirits which could afflict good people, but this is not mentioned in the medical sections of *The Properties of Things*.
[23] Bartholomeus, p. 122. He wrote that epilepsy had been called God's anger, 'ira dei', but apparently not any longer.
[24] Gilbertus, p. 233.

were to be spoken over them.[25] Gaddesden thought it important to differentiate epileptics from demoniacs and lunatics, using the test from the *Practica*, and he also gave its treatment with fasting and masses.[26] De Gordon also gave this treatment, and a charm to be spoken in the patient's ear, ending 'you are saved from the falling sickness by faith in Christ'.[27] People with this intractable condition of course needed assistance from all available sources, medical and spiritual. Regarding mania and melancholy, De Gordon cited Avicenna, that sometimes this illness came from the devil, although this does not mean necessarily that sufferers were demoniacs.[28] Gilbertus also thought it was important to distinguish mania from a kind of possession: one could tell them apart because demons did not prophesy or speak through patients with mania.[29]

These concerns about distinguishing between the natural and the demonic seem most likely to have reflected a need to decide whether a problem was a matter for the *medicus* or for a cleric. Constantine was himself a monk and therefore would have subscribed to Christian beliefs about the devil and his activities, whatever his translations said. There was almost certainly no loss of belief in the devil and demons, and that they could afflict humans, but probably a stronger demarcation between the roles of medicine and the Church. The understanding was that medicine might be able to help with imbalances of humours, but could not deal with any underlying supernatural agent. Constantine did not explicitly explain this, but Avicenna wrote that demons were not a concern of the physician, although they had effects on the humours which should be treated.[30] Humoral explanations were not therefore thought to be incompatible with demonic causes, and Constantine's work could be accepted alongside Church teaching, cultural beliefs and experience.

The medical writers that followed would have shared this view, and their treatments were also largely humoral. Although the treatments from the *Practica* had a continued popularity, references to demons and religious elements in treatment were now very much in the

[25] Gilbertus, p. 238.
[26] Gaddesden, fols. 61r-62v.
[27] De Gordon, p. 120.
[28] De Gordon, p. 108.
[29] Gilbertus, p. 220.
[30] Avicenna, *Canon of Medicine*, 3.1.4.19, fol. 150r, cited in Trenery, *Madness, Medicine and Miracle*, pp. 129-30.

minority.[31] Medicine did however take some time to change ideas about demons in illness. On the continent, during the treatment of the painter Van der Goes in the fifteenth century, ideas about causation were nuanced, or at least uncertain:

> People talked of a peculiar case of *frenesis magna*, the great frenzy of the brain. Others however believed him to be possessed of an evil spirit. There were in fact, symptoms of both unfortunate diseases present in him.[32]

In the early seventeenth century the English physician Richard Napier saw 2483 patients presenting with symptoms of mental disorder, of which he considered only 18 to be demon possessed.[33] Early modern concerns about witchcraft saw doctors' expertise as crucial in ruling out natural causes in apparent possession, and the validity of the idea of demon possession persisted in the medical profession even into the eighteenth century.[34]

Particularly given the mixed nature of his supposed legacy, Constantine's medical works can only partly be credited for changes in wider society towards a more naturalistic view of symptoms of mental illness, but such changes did slowly follow. As seen in Chapter 1, ecclesiastical sources had tended to advertise healings from possession as their stock in trade, but an increasing influence of medical ideas in such healings is apparent as time went on. Studying English hagiographies, Bailey notes a naturalisation of miracle accounts from the mid-twelfth century, which she attributes to the availability of Galenic medical texts in English ecclesiastical institutions.[35] Religious and physical causes were not mutually exclusive and there was a new interest in having scientific evidence to validate miracles.[36] Comparing earlier to later miracle collections, before 1150 she found two thirds of cases were ascribed a demonic cause, reducing to less than half after 1150.[37] Certainly at Canterbury in the 1170s the writers of St Thomas Becket's miracles separated out epileptic conditions and were knowledgeable about medical ideas of the illness, as at some other

[31] Apart from its endorsement in De Gordon and Gaddesden, it features in the Anglo-Norman text Edinburgh, National Library of Scotland, MS. Adv. 18.6.9, and Peter of Spain's *Thesaurus Pauperum.*
[32] Rosen, *Madness in Society,* p. 145.
[33] M. Macdonald, *Mystical Bedlam* (Cambridge, 1981), p. 211.
[34] J. Bonzol, 'The Medical Diagnosis of Demonic Possession in an Early Modern English Community', *Parergon,* vol. 26 (2009), pp. 115-40; S. Clark, *Thinking with demons: the idea of witchcraft in early modern Europe* (Oxford, 1997), pp. 390-1.
[35] Bailey, 'Miracles and Madness', pp. 235-55.
[36] *Ibid,* p. 237.
[37] *Ibid,* p. 253.

shrines.[38] However when it came to madness, this process of naturalisation is less certain, and took longer; demon-related language persists in the records of miracle healings of insanity up to the 1220s reviewed by Trenery.[39] By the time of the 1307 canonisation process of Thomas Cantilupe, it was important to the commissioners to distinguish between possession and madness in cases such as one of Editha from Hereford.[40] By the fifteenth century, in the miracles at the tomb of Henry VI, only six of 24 case accounts of mental or behavioral problems mention supernatural elements.[41] Only one of these seems to be an unambiguous case of demon possession, in other cases the author, whilst clearly believing in the activity of the devil, tended to be vague, one case is described 'as if delirious or seized by a devil'.[42]

Looking at the legal sphere, there is not a great deal of evidence before the twelfth century, but it seems that insanity, specifically in the case of suicide, was often considered as due to demons, although there was an awareness of other kinds of insanity.[43] In a study of the insanity defence in thirteenth and fourteenth-century England, Butler found that by that time only 15 out of 192 (7.8%) cases were attributed to demonic activity, clearly insanity was understood as an illness otherwise.[44] In extensive studies of English legal records over the period 1200-1700, Richard Neugebauer and Turner each found only one reference to supernatural causes of mental illness; a list of terms related to mental illness and incapacity used during this period does not include any related to demon possession.[45] Meanwhile Doob's study of madness in Old English literature indicates that the literary view across the medieval period remained that madness was the result of sin, either God's punishment or

[38] Trenery, *Madness, Medicine and Miracle*, pp. 90-1 and 117.
[39] *Ibid*, p. 171.
[40] S. Katajala-Peltomaa, 'Madness, demonic possession, and methods of categorization', in S. Katajala-Peltomaa, J. Kuuliala and I. McCleery (eds.), *A Companion to Medieval Miracle Collections* (Leiden, 2021), pp. 211-3.
[41] Clarke, *Mental Disorder in Earlier Britain*, pp. 151-75.
[42] *Ibid*, pp. 163-5.
[43] Some could go insane through a 'sudden seizure'. Jurasinki, 'Madness and Responsibility in Anglo-Saxon England', pp. 99-120.
[44] Butler, 'Representing the Middle Ages: The Insanity Defence', pp. 122, 124. Again, many of the cases attributed to demons were suicides; most cases generally were said to be due to frenzy, lunacy or fury.
[45] R. Neugebauer, 'Medieval and early modern theories of mental illness', *Archives of General Psychiatry*, vol. 36 (1979), pp. 481-2. Turner, *Care and Custody of the Mentally Ill*, pp. 82-83 and 77-8. Neugebauer's study covered the thirteenth to seventeenth centuries, Turner's the period 1200-1500. Neugebauer found that the usual causes given were physical illness or injury, or else psychological, such as sudden shock, grief or stressful life events, pp. 481-2.

purgative. However, references to demonic involvement in literary sources appear to have tailed off over the period: they are not mentioned in the late-medieval poet Hoccleve's extensive writings about disease, madness and melancholy.[46]

Constantine's work contributed to these general medical and wider societal changes, as summarised by Kemp:

> In the early medieval period people displaying a broad range of symptoms ... were regarded by their contemporaries as demonically possessed. In the later medieval period however, following the wider dissemination of medical writings based on translations from the Arabic, this range was narrowed ... the general trend ... is of a very slowly increasing reluctance to attribute mental disorder to demonic possession.[47]

Intellectual disabilities

Again, nowhere does Constantine explicitly discuss intellectual disability, either in those born with a learning disability or later acquired disability, except for the problem of forgetfulness. Of course, all societies include a number of such people who may have needs for care and accommodation. *Bald's Leechbook* included the conditions *ungemynde 7 wið dysgunge*, *ungemynde* (translated as insanity, mental vacancy and idiocy), and *dysgunge* (imbecility or folly, possibly madness generally), as usual without explanation.[48] As in Constantine, none of the Latin authors available had anything to say about any disorder similar to intellectual disability and it may be because this is a permanent condition; physicians have a long history of avoiding incurable problems to maintain their reputations and purses.[49] People with a variety of physical, sensory and mental disabilities would have been an accepted part of life, and Galen had had almost nothing to say on the subject since 'weakness of function' was not pathology or 'contrary to nature'.[50] The subject was

[46] Doob, *Nebuchadnezzar's children,* Ch. 5.
[47] Kemp, *Medieval Psychology,* p. 28.
[48] *Bald's Leechbook I,* Ch. 66, p. 145. Two herbal drinks were to be offered, one including holy water. See also Metzler, *Fools and idiots?,* p. 83. *Bald's Leechbook I* also addresses head injury/fractures of the head but not the longer-term problems of those who survive with head injury. *Bald's Leechbook I,* Ch. 1. p. 25.
[49] Metzler, *Fools and idiots?,* p. 53.
[50] *Ibid*, pp. 57-8.

apparently more of interest to philosophers and theologians as 'fools' raised questions about what it was to be human.[51]

Constantine's works were then, again, following classical tradition. Nevertheless, the *Pantegni* brought, for the first time, much information about brain anatomy and complexion, with detailed ideas about the functions of the ventricles and spirits.[52] Some specifically relevant comments arise in Book 1, which explains that a small head meant a small brain with weakened powers, and that those with a cold moist brain would be sluggish and forgetful, hard of intellect and sleepy.[53] *De oblivione* is also informative about the causes of varying abilities, related to the speed at which the passage between the middle and rear ventricles could open or close. Those who have a fast opening are wise and respond quickly, others who have a sluggish one are slow to respond and have to think very much.[54] It quotes Galen in saying that understanding, intellect and discernment arise from the right mixture of animal spirit in the middle of the brain.[55] All of this set the scene for a physiological understanding of intellectual deficiencies, taken up and developed by William of Conches, Bartholomeus, and later Arnaud de Villanova and others.[56] It was not however until the seventeenth century that Thomas Willis developed a fuller picture of mental impairment, at which point a moist, cold brain was still recognised among the variety of causes.[57]

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[51] *Ibid*, pp. 84-5 and Ch. 4.
[52] Metzler attributes early knowledge about these ideas to work by Costa ben Luca, but these do not add much to the information given in the *Pantegni* and *De oblivione*, and they were not available in the West until later than those works. *Ibid*, p. 60.
[53] 'caput parvum ... significat esse cerebrum cuius causa parva fuit materia; et formativae virtutis debilitas', *Pantegni,* Book 1, Ch. 10, fol. 7v; 'De actionibus cerebri ... piger ad intellectum obliviousus sive sompniculosus; frigidum et humidum (habet cerebrum)', *Pantegni*, Book 1, Ch. 10, fol. 8r.
[54] 'Et apertio istius vie variatur in omnibus et ex festinantia et pigritia. Nam sunt qui habent velocem qui sunt prudentes et velociter respondent et sunt qui habent pigram, qui sunt tardi ad respondendum et nimium cogitant', *De oblivione,* p. 227.
[55] 'Et G(alenus) dixit mentem et intellectum et discretionem non facit nisi contemperantia spiritus animalis qui est in medio cerebro', *De oblivione,* p. 227.
[56] Metzler, *Fools and idiots?*, pp. 62-9. John of Gaddesden writes of *desipientia* (foolishness) in his chapter on melancholy and mania but without definition – it appears to be an acquired problem from injury or infection of the brain, or due to old age (Gaddesden, fol. 131r).
[57] A.N. Williams, '"Of stupidity or folly": Thomas Willis' perspective on mental retardation', *Archives of Disease in Childhood*, (Dec 2002), p. 556.

Suffocation of the womb

The *Pantegni* and *Viaticum* do give chapters on a disorder termed 'suffocation of the womb'; this was not a problem of the head, but it is relevant because the womb was considered a source of loss of reason, apoplexy or epilepsy, through its connections with the brain.[58] 'Suffocation' referred to a situation which was thought to arise when *spermae* or menstrual blood got blocked up inside the womb.[59] The womb itself was thought to move up and down the body, it could even rise and block the throat or respiration.[60] As the *Viaticum* explains it, cold vapours from the blocked womb ascend to the diaphragm, which is connected to the throat and vocal chords, and this can cause suffocation.[61] This is considered potentially a very serious condition, some patients appearing near death.[62] Only the *Pantegni* mentions the psychological and neurological implications of the condition, which are not discussed in the *Viaticum* or the *Practica.*

Those *medici*, probably a small minority, who had the works of Cassius Felix and Priscianus would already have known something of suffocation of the womb. Priscianus associated it with the symptoms of loss of voice and possibly false imaginings; Felix explained that the womb could rise to the top of the body and could strike a woman dumb or cause loss of reason.[63] There was also a more serious disorder of the womb called '*metromania*', described as '*matricis furores sive insaniam'* - raging or insanity of the womb.[64] The condition seems to have been a little recognised in the vernacular texts, although not by the name of suffocation of the womb. Unfortunately, little of gynaecology from the Old English vernacular sources survives: the contents pages for *Bald's Leechbook II* indicate that it

[58] 'Significatio huius passionis ... in initio ... debilitas est mentis pigritia ... Cum augmentatur mens alienatur', *Pantegni*, Book 9, Ch. 39, fol. 139v; 'Suffocatio matricis ... contingit autem ex colligantia cerebri et cordis ad ipsam, et multae inde passiones veniunt sicut cephalea, epilempsia, apoplexia, epilempsia', *Pantegni*, Book 9, Ch. 39, fol. 139r.
[59] 'Vulvae et spermatis constrictione cum semine elongantur a copulatione ... augmentatur enim sperma in vasis', *Pantegni*, Book 9, Ch. 39, fol. 139r.
[60] 'matrix sursum trahitur ... et descendit ad inferiora', *Pantegni*, Book 9, Ch. 39, fol. 139v.
[61] 'Ab ispso frigidis fumus ascendit ad diapfragma; quia diafragma et vulva sunt coniunta; quia vero diapfragma coniuntus est congula (cum gula) et instrumentis vocis. Suffocatio hic inde contingit', *Viaticum*, Book 5, Ch. 5, fol. 40r.
[62] 'quasi mortua esset', *Viaticum*, Book 5, Ch. 5, fol. 40r.
[63] Priscianus, pp. 228-30, Cassius Felix, Ch. 77, pp. 187-9.
[64] Cassius Felix, Ch. 79, p. 191. The *Tereoperica* gave two electuaries for *stereticos* (hysterics), without comment, following a section on melancholy, which may suggest psychological symptoms, *Tereoperica*, fol. 86r.

contained a substantial chapter on 'all ailments of women', since lost.[65] The relevant section may have been that on *gif wif of gemyndum* (if a woman is out of her mind). This may have been related to the idea of suffocation of the womb, but of course there are a number of mental health problems which affect women, especially postnatally.[66] Certainly the *Leechbook II* listing of *gif mon semninga swigie* (if a woman suddenly goes quiet) could indicate suffocation of the womb, given that loss of voice was a classic symptom.[67]

In fact, Constantine's translations had little to say about the psychological aspects of the problem, nor did they add anything particularly new to this existing limited knowledge, but their discussion of the disorder would have validated it and increased awareness of the problem. The condition did certainly come to greater prominence. Gilbertus and Gaddesden each thought it important enough to devote three pages to this problem, and De Gordon one page.[68] Like Constantine they did not emphasise the psychological aspects, although Gilbertus and Gaddesden explained how to distinguish it from epilepsy, lethargy and apoplexy, and Gaddesden noting the connections between the womb and brain. Over the following centuries women's psychological difficulties would often be attributed to the womb, suffocation being a precursor to the idea of hysteria. This label of hysteria emerged from the seventeenth century as a largely mental condition with respiratory symptoms, and was to be important in the history of psychiatry, although not always a helpful development.[69] At the same time the often serious mental health problems which can arise postnatally seem to be entirely absent from Constantine's and other medieval medical texts. Of course, the presentation of illnesses can vary significantly over time and place, but Margery Kempe, for example, saw threatening devils after childbirth, which might alternatively be interpreted as visual and auditory hallucinations, psychotic symptoms.[70] It seems likely that postnatal mental illness existed in some form, but this demonstrates the

[65] *Bald's Leechbook II*, Ch. 60, p. 171-2
[66] The only other suggestion of such problems arises in the *Liber de animalibus* with treatments for women who 'after childbirth are ill at ease in some places'. During the fifth month of pregnancy the mother is also said to be *witleas* (witless) in *De Generatione Hominis,* Cockayne, *Leechdoms,* vol. 1, pp. 344-5 and 146-7.
[67] *Bald's Leechbook II*, contents list, pp. 171-2.
[68] Gilbertus, pp. 614-7; Gaddesden, fols. 81v-83r; De Gordon, pp. 320-1.
[69] H. Merskey and S.J. Merskey, 'Hysteria or 'suffocation of the mother'', *Canadian Medical Association Journal,* vol. 148 (1993), pp. 402-3; A. Scull, *Hysteria: The disturbing history* (Oxford, 2012).
[70] D. Jefferies and D. Horsfall, 'Forged by Fire: Margery Kempe's Account of Postnatal Psychosis', *Literature and Medicine,* vol. 32 (2014), pp. 348-64.

huge importance of cultural context and expectations in the recognition of, and response to, disorder.

Other disorders

Although the *Pantegni* covers sleep under the non-naturals, and the *Viaticum* addresses the problem of 'wakefulness', nowhere do Constantine's texts cover the problem of *incubus*, (which could be understood as a form of sleep paralysis). Yet odd night-time experiences do seem to have been a concern to the English, and several of the Latin authors addressed the topic, with naturalistic explanations.[71] Bartholomeus followed Constantine in not discussing the problem, although it did reappear in Gilbertus and De Gordon following the advent of the works of Avicenna, who did include it.[72] Maaike van der Lugt, reviewing the history of ideas about *incubus* notes a lack of interest in the phenomenon in the twelfth and first half of the thirteenth century in medical texts, and writes that 'this can probably be explained by the absence of the disorder from the two central medical texts ... of the period, the *Pantegni* and the *Viaticum*'.[73]

There are many other kinds of psychological problems which Constantine's translations do not mention, partly because they were not known of, or were not considered medical disorders. Obsessions and compulsions are not mentioned specifically, although if they occurred they would probably have been placed in the category of melancholy.[74] Lovesickness itself involved an obsessive fixation. Grief reactions and suicidal feelings and acts are also covered under melancholy, as would be the idea of *acedia*, a condition of apathy and despondency. This was much discussed in religious circles but was not a medical category.[75] Psychological reactions to trauma can be read into accounts from medieval

[71] The vernacular texts gave a wide range of remedies for *mare ride* (translated nightmare) *nihtgengan* (nightgoers) and *wið dweorh*, e.g., *Bald's Leechbook I*, Ch. 64, p. 144; *Leechbook III*, Chs. 54 and 61, pp. 394-5 and 396-7; *Lacnunga*, Chs. 87 and 88, pp. 214- 7; Oribasius, *Synopsis*, vol. 6, p. 205; *Passionarius*, Book 5, Ch. 17.
[72] Bartholomeus, pp. 121-2; Gilbertus, p. 242; De Gordon, p. 117; M. Van der Lugt, 'The Incubus in Scholastic Debate: Medicine, Theology and Popular Belief', in P. Biller and J. Ziegler (eds.), *Religion and Medicine in the Middle Ages* (Woodbridge, 2001), p. 193.
[73] Van der Lugt,'The Incubus in Scholastic Debate', p. 192.
[74] See the symptoms of melancholy, in Ch. 9. Obsessive-compulsive symptoms had been recognised by a ninth-century Islamic writer, Abu Zayd al-Balkhi, but were apparently not known to Constantine. Hussein Rassool, *Evil Eye, Jinn Possession, and Mental Health Issues*, p. 137.
[75] See Ch. 9; Radden, *The Nature of Melancholy*, pp. 69-74.

English literature and legal records, but were apparently understood as part of life, and not regarded as a matter for doctors.[76]

Conclusion

The fact that Constantine did not include any discussion of supernatural causes of mental problems was to be influential; he followed the Latin tradition in this, but now the English seem to have been ready, over time, to accept this from a Christian monk. Demonic possession was no longer used as a medical category in medical texts, and much mental disorder was understood to have natural causes, although there was still a clear role for both medical and religious forms of healing. Constantine's influence was such that whether he mentioned a disorder or not could significantly increase or decrease its profile in medicine, and sometimes wider society. The *Pantegni* and *Viaticum* were key texts and since they did not discuss *incubus*, this problem went off the radar for some time, it took the work of Avicenna to put it back on. Meanwhile his descriptions of suffocation of the womb raised the limited awareness of this condition, taken up by later authors and becoming an important, if unhelpful, idea in psychiatry in the centuries to follow. Even when his translations had little to say about a disorder, they could make a contribution: in intellectual disability his writings on the anatomy and physiology of the brain formed the foundation for later models of mental impairment.

[76] Turner and Lee, *Trauma in Medieval Society,* pp. 3-4.

Chapter 12: Evidence for Constantine's impact in England

This chapter will present evidence of the ownership and use of Constantine's works in monastic centres of medicine, by individual physicians, and in medical education. Specifically considering his work on disorders of the head, it will describe the use of his writings by later medical writers and in examples of vernacular compilations, as well as the use of some of the *materia medica* he promoted. Finally, the chapter discusses examples of his influence on broader intellectual ideas in philosophy and science, and in wider English culture. All of this will help answer one of the central questions posed from the outset, about the impact Constantine's translations had in England.

Monastic centres and their medical texts

The centres for which most evidence survives are Bury and both houses at Canterbury, although important evidence also exists from Durham. The abbey at Bury was one of the wealthiest and most powerful in England, a site of pilgrimage to the shrine of St Edmund, and with one of the largest libraries.[1] Banham has argued that it was a major centre of medical knowledge under Abbot Baldwin (1065-97) who had been doctor to several kings.[2] Bury had one of the earliest texts of the 'new medicine', BL, MS. Sloane 1621, and perhaps one of the first works of Constantine in England in Wellcome, MS. 801A, the *Isagoge* and *Articella* texts in a early Beneventan script.[3] The abbey also produced one of the first known copies of the *Pantegni* around 1125 and extant as Cambridge, Trinity College, MS. R.14.34. It is a highly decorated reference manuscript, but nevertheless was clearly used practically, with many additional marginal notes and red flags.[4] The sections on disorders of the head in Book 9 are not especially marked in this way, except for those on headache, and a red flag next to the causes of lethargy, forgetfulness and stupor, perhaps similar to the monk's

[1] Anonymous, *The Chronicle of Bury St Edmunds 1212-1301,* A. Gransden (ed. and trans.) (London and Edinburgh, 1964), pp. xi-xvi; Licence, *Bury St Edmunds and the Norman Conquest*, p. 3.
[2] Banham, *'Medicine at Bury in the Time of Abbot Baldwin'*, pp. 226-46.
[3] *Ibid*, pp. 228-9. Burnett, *The Introduction of Arabic Learning*, p. 25. It is unclear quite how soon Wellcome, MS. 801A arrived at Bury, but Burnett suggests early, the script is early to mid-twelfth-century, Wellcome 801A, *Wellcome Collection* [website] <https://wellcomecollection.org/collections> (last accessed 10 April 2024).
[4] Black, 'A star is born'; James, *The Western manuscripts in the library of Trinity College Cambridge*, vol. 2, no. 906, p. 319. The manuscript has been digitised, see the Bibliography.

problem of *accedie*.[5] The practical use of this manuscript is further evidenced by another surviving manuscript, Bethesda, MS. E8, which is a small, rough, and often mended medical notebook, also thought to have come from Bury St Edmunds *c.*1110-1150.[6] This includes many extracts from the *Pantegni, Theorica* and *Practica*, usually marked with Constantine's name as a particular authority. Unfortunately, it does not include content on disorders of the head.[7]

We know the abbey had several extant medical texts by 1200, but the late-twelfth-century catalogue mentions only three works of medicine, these being two copies of the *Pantegni* and a Dioscorides herbal.[8] The *Pantegni* was important enough to merit duplication, and to take pride of place in being named in the booklist. In the thirteenth century they also acquired a *Viaticum*.[9]

The pre-eminent ecclesiastical centre in England was Canterbury. Augustine had founded an abbey there, and also the church which became Canterbury Cathedral. Christ Church Cathedral Priory was added to this from the tenth century, also home to the archbishop and his household. Anglo-Norman archbishops Lanfranc and Anselm both had medical interests, and in the twelfth century Prior Wibert built a large infirmary with its own *Necessarium*, bathhouse, and state-of-the-art water system, apparently designed with a view to providing good health facilities, with two attending *medici* (Image 12.1).[10] Subsequently, the cathedral drew many pilgrims, particularly to the shrine of Thomas Becket, some seeking healing.

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[5] Cambridge, Trinity College, MS. R.14.34, flags at fols. 98v-99r, and 100v.
[6] Black, 'A star is born'.
[7] W. Black, personal communication 27 September 2022, and contents list in K.D. Fischer, 'Gesund durchs jahr mit Dr. Hippokrates – Monat für Monat!', in *The Frontiers of Ancient Science: Essays in Honor of Heinrich von Staden*, B. Holmes and K.D. Fischer (eds.) (Berlin, Boston, 2015), pp. 111-37, at 126-9.
[8] Cambridge, Pembroke College, MS. 47, cited in Sharpe et al., *English Benedictine Libraries*, pp. 68 and 70.
[9] Extant as CUL, MS. Ii. 6.5.
[10] G. Gasper, ''A doctor in the house'? The context for Anselm of Canterbury's interest in medicine with reference to a probable case of malaria', *Journal of Medieval History*, vol. 30 (2004), pp. 245-61; G. Gasper and F. Wallis, 'Anselm and the *Articella*.', *Traditio: studies in ancient and medieval history, thought and religion*, vol. 59 (2004), p. 133; P. Fergusson, *Canterbury Cathedral Priory in the Age of Becket* (New Haven, CT and London, 2011), pp. 1 and 110-23. There is evidence that from early on the Benedictines were interested in planning their monasteries with health issues in mind, see D'Aronco, 'The Benedictine Rule and the Care of the Sick', pp. 235-51.

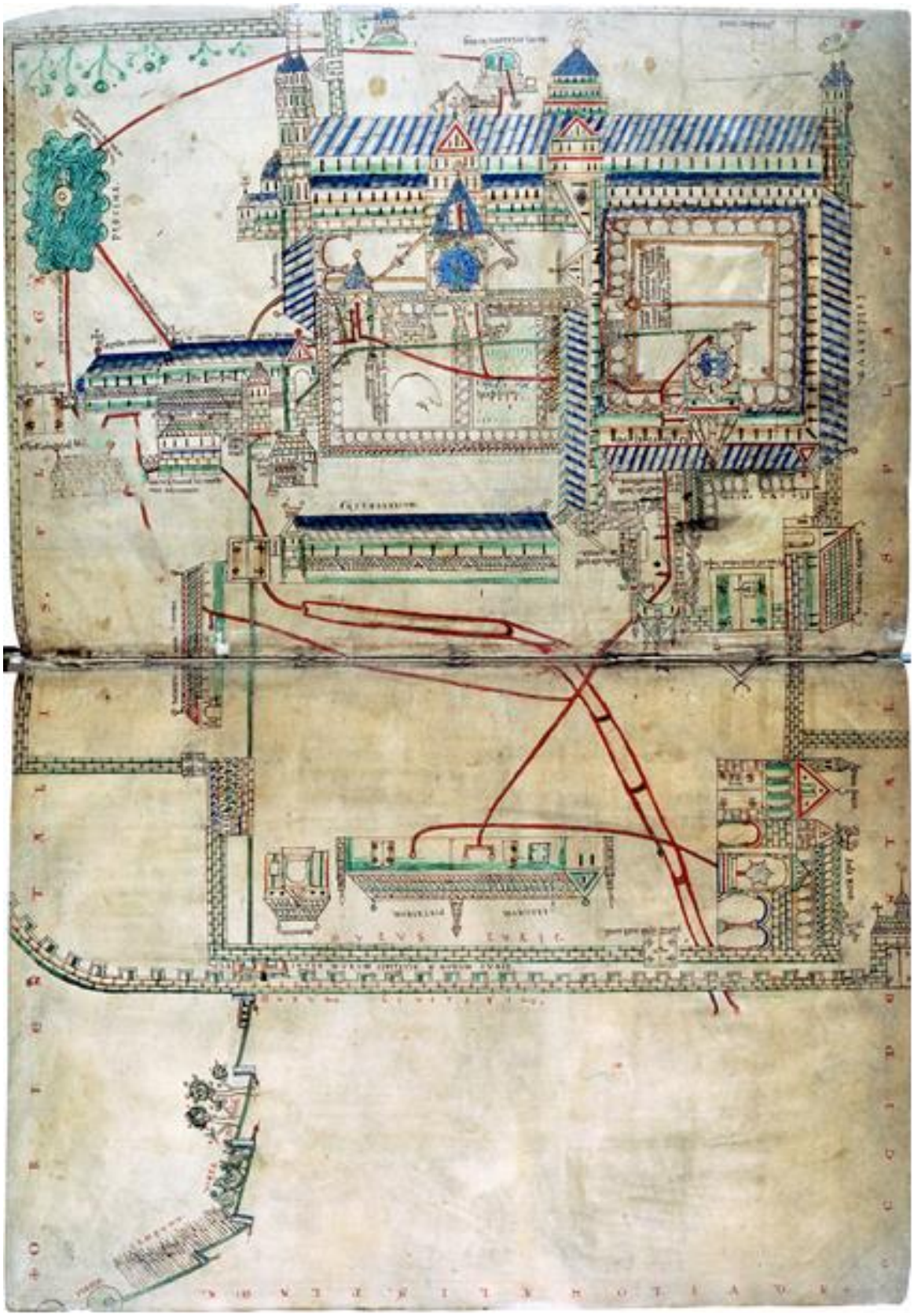

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Image 12.1. Map of buildings and water system at Christ Church Priory, Canterbury, The Eadwine Psalter, Cambridge, Trinity College, MS. R. 17. 1, fols. 284v and 285r.

The priory may have had Salernitan texts, as early as the 1070's, although the arrival of such texts by this time is debated.[11] The library catalogue of 1331 demonstrates that by this period the priory had substantial medical holdings, with nearly 80 volumes containing medical works. They had seven copies of the *Isagoge*, three of the *Pantegni*, eight of the *Viaticum*, and one of *De melancholia*, along with many other of Constantine's translations, such as the *Liber graduum.* Other texts and writers are represented, such as Avicenna, Bartholomeus, and Gilbertus, however Constantine's works certainly predominate, nearly half of the volumes either being or containing one of his texts.[12] Some monks are listed as having or donating their own books, where again Constantine features. The previous prior, Thomas Ringmer, and Thomas Cherringge both had copies of the *Viaticum*, the *Isagoge*, and other Constantinian works.[13]

There is some evidence of an interest in disorders of the head: in 1331 the general library held a copy of *De melancholia*.[14] A twelfth-century copy of the *Viaticum* survives as Oxford, Corpus Christi College, MS. 189, which was in the possession of Christ Church around 1300.[15] Examination of this shows evidence of much use and notation, often in different and early hands, on the pages about lethargy, stupor, frenzy, epilepsy and apoplexy (Image 12.2).[16] This seems to have been a specific interest, whilst some other sections, for example, on disorders of the spleen are similar, most folios are largely unmarked.[17]

[11] Anselm was writing to a monk at Canterbury, asking for copies the *Aphorisms* and *De pulsibus* that were held there, Gasper and Wallis, 'Anselm and the *Articella*', pp. 129-30.
[12] James, *The Ancient Libraries of Canterbury and Dover,* see Prior Eastry's catalogue, medical books may be found on pp. 54-63, 80-81, 122-3 and 138. Around 35 out of 79 are Constantine's translations, some names of texts are vague or of uncertain authorship.
[13] *Ibid*, pp. 122-3 and 81-2.
[14] *Ibid*, pp. 60, 57 and 58.
[15] Thomson, *A descriptive catalogue of the medieval manuscripts of Corpus Christi College Oxford*, pp. 94-5. See Ch. 2, note 94. It was produced in the south-west midlands, possibly at Worcester, and has been identified as one of the books recorded in a surviving booklist from Christ Church; John Holyngborn, who wrote is name on the manuscript was a monk of Christ Church.
[16] Oxford, Corpus Christi College, MS. 189, fols. 12r-17r.
[17] The manuscript also contains weights and measures, other recipes, the *Liber Pauperum* and the *Antidotarium Nicholai.*

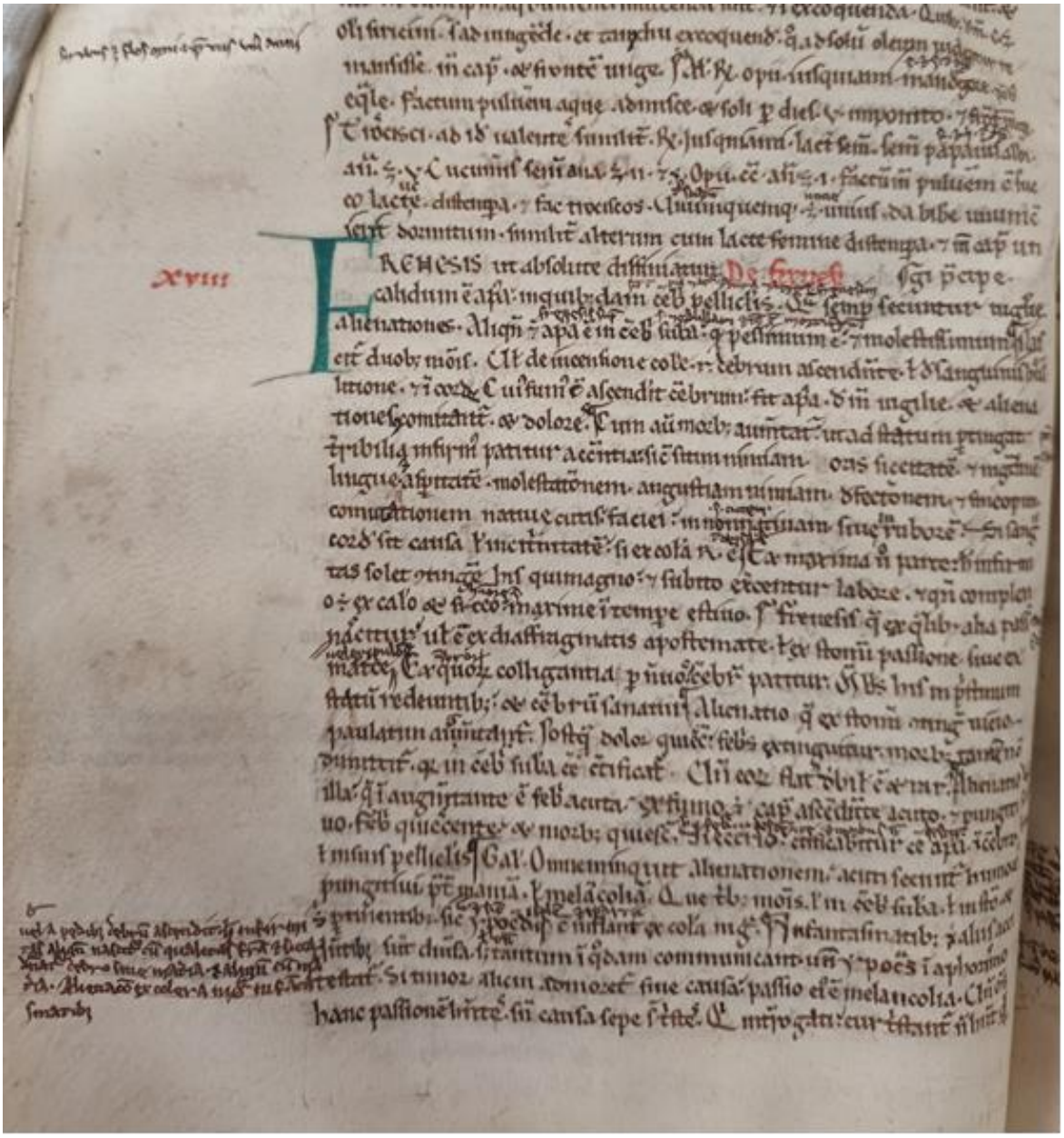

Image 12.2. *Viaticum*
in Oxford, Corpus Christi College, MS. 189, fol. 13v on *Frenesis*, showing notations.

Insight into medical learning at the priory also comes from the extensive miracle accounts recorded at the shrine of Thomas Becket by Benedict of Peterborough and William of Canterbury in the 1170s. William certainly had access to medical texts and was keen to display his expertise in his miracle narratives, using precise classical medical terms, explaining the causes of disease, and showing careful observation of symptoms.[18] He was

[18] Trenery, *Madness, Medicine and Miracle*, p. 84.

aware of at least some Constantinian works, as his accounts included quotations from the *Viaticum*, on vertigo and on leprosy, which he discussed in relation to spiritual health.[19]

When it came to disorders of the head, William placed healings from epilepsy in a separate section from madness, showing that he had understood recent medical thinking; he gave a detailed account of the nature and causes of epilepsy, although this did not derive from Constantine.[20] Nor did either William or Benedict draw upon the precise terms and careful classification of mental disorders found in the *Pantegni* or *Viaticum*, sufferers for example *insanire* or had *amentia*.[21] Naturally for a cleric recording miracles, neither did William shy away from demonic causes of madness: one, Robert, had been seized by a demon, whilst two women healed in Essex were possessed.[22] If he had read the content on disorders of the head in Constantine's work, it appears that William had not really taken it on board, and did not go along wholeheartedly with a naturalistic account of mental disorder.

Meanwhile, by the end of the twelfth century St Augustine's Abbey held a copy of the *Liber graduum*, extant in Cambridge, Trinity College, MS. R.14.31.[23] Along with texts on surgery and drugs, it includes the '*Liber graduum Constantinus*' proudly announced on the fly leaf, when other authors are not attributed. St Augustine's also had a copy of the *Herbarium*, and possibly owned CUL, MS. Peterhouse 251.[24]

Certain abbots, such as Roger of Chichester (1253-73), took an interest in medicine, and the abbey was home to many scholarly monks with medical, scientific and even occult

[19] William of Canterbury, 'Miracula S. Thomae auctore Willelmo Cantuariensis', vol. 1, pp. 248-9 and 332-3. The quotations come from the *Viaticum*, Book 1, Ch. 13, and Book 7, Ch. 17. See also Long, 'Of Monks and Miracles'.
[20] Trenery, *Madness, Medicine and Miracle,* pp. 91-3; William of Canterbury, 'Miracula S. Thomae auctore Willelmo Cantuariensis', pp. 162-3.
[21] Trenery, Madness, *Medicine and Miracle,* pp. 87-9, Benedict of Peterborough, 'Miracula S. Thomae Cantuariensis', vol. 2, Book 2, Ch. 13, and Book 4, Ch. 37, pp. 66 and 209.
[22] William of Canterbury, 'Miracula S. Thomae auctore Willelmo Cantuariensis', Book 3, Ch. 49, p. 305 (*a daemonio arreptus*), and Ch. 51, p. 306 (*energumena, spiritus arreptus*).
[23] Cambridge, Trinity College, MS. R. 14.31 digitised at *James Catalogue of Western Manuscripts* [website] (last updated 2024) <https://mss-cat.trin.cam.ac.uk/Manuscript/R.14.31> (last accessed 7 March 2024).
[24] The *Herbarium* is extant as Oxford, Bodleian Library, MS. Ashmole 1431, see Gameson, *The Manuscripts of Early Norman England,* p. 126; CUL, MS. Peterhouse 251 is discussed in Ch. 1, and contains Galen's *Ad Glauconem,* with versions of the *Liber Tertius, Liber Aurelii,* and *Liber Esculapii*; Banham, 'Medicine at Bury in the Time of Abbot Baldwin', pp. 227-8; Gameson, *The Manuscripts of Early Norman England,* p. 68.

interests.[25] Unusually, they were allowed to own medical equipment and medicines, possibly carrying out practical treatment, and encouraged to build up their own personal libraries.[26] Their donations to the communal abbey library, one of the largest library collections in the country, are recorded in the library catalogue.[27] This indicates that they owned other Constantinian texts early on: by 1250 they had two copies of the *Viaticum*. By the end of the thirteenth century the abbey probably had no less than five copies of the *Pantegni*, four *Viaticums* and probably the three recorded copies of *De melancholia*; by 1350 they had acquired four further *Viaticums,* and by 1420 they had eleven altogether. This was alongside many copies of the *Isagoge,* and Constantine's translations on diet, simple medicines, urine and gynaecology. His corpus is very prominent in the substantial medical collection, including works by Oribasius, Alexander, Avicenna, Gilbertus and De Gordon; of 99 listed volumes containing medicine, over half contain at least one of Constantine's works.

Certain individual thirteenth-century Christ Church monks were also especially interested in Constantinian texts. Saloman gave six volumes of medical works, which included a *Viaticum*, *Isagoge, Liber graduum* and at least four of his other translations.[28] Walter of St George left thirteen medical volumes in which Constantine's translations predominate, as he had a *Viaticum*, *Isagoge*, and about nine in all.[29] William of Chichester and John of Sturry may have had a specific interest in mental disorders; both donated copies of *De melancholia,* William giving two.[30] Constantine's work was therefore important to monks with an interest

[25] S. Page, *Magic in the cloister: pious motives, illicit interests and occult approaches to the medieval universe* (Pennsylvania, 2013), Ch. 1. Roger of Chichester donated several medical books, one on surgery and problems of the eyes (see James, *The Ancient Libraries of Canterbury and Dover,* pp. 346-7).

[26] *Ibid*, pp. 6-8 and note 25. This is particularly noteworthy since Canon 22 of the Fourth Lateran Council of 1215 had clearly priortised the help of 'physicians of the soul' over those of the body and monks would have been aware of this. (*Papal Encyclicals Online* [website](last updated February 2020) <https://www.papalencyclicals.net/councils/ecum12-2.htm#22> (last accessed 21 March 2024)).

[27] Extant as Dublin, Trinity College, MS. 360, in James, *The Ancient Libraries at Canterbury and Dover*, medical books at pp. 332-49. The catalogue of the library was first compiled between 1375 and 1420 and transcribed in the late fifteenth century, but most of the books seem to have been present from the thirteenth, from tracing the dates of the donors in A.B. Emden, *Donors of Books to S. Augustine's Abbey, Canterbury* (Oxford, 1968).

[28] James, *The Ancient Libraries of Canterbury and Dover,* entry numbers 1184 (p. 334), 1193 (p. 335), 1204 (p. 336), 1239 and 1240 (p. 342), 1245 (p. 343). Saloman was present in the monastery in the early part of the thirteenth century, fl. 1239/40.

[29] Cavanaugh, 'A study of books privately owned in England', pp. 753-4; Emden, *Donors of Books to S. Augustine's Abbey,* p. 16. He was probably ordained at the abbey in 1286.

[30] James, *The Ancient Libraries of Canterbury and Dover,* entry nos. 1181 (p. 333), 1236 (p. 342) and 1253 (pp. 344-5).

in medicine but also generally to scholars and those interested in scientific topics. John of London, (fl. *c*. 1310) is an interesting example, a monk with broad ranging interests, clearly a member of the intellectual elite, bearing the title 'magister', he may have studied in Paris, or been a pupil of Roger Bacon.[31] He left over 80 volumes of religious, philosophical, scientific, medical and even magical works in his will. Constantinian texts were clearly a desirable part of the general scholar's library: he possessed a *Pantegni*, three copies of the *Viaticum*, *Isagoge* and others; these took their place amongst medical texts ranging from Alexander to Avicenna.[32]

Durham Priory was a Benedictine house associated with Durham Cathedral, and as home to the tomb and prestigious shrine of St Cuthbert it drew many pilgrims. Again, this was an important centre which possessed Constantine's texts early on. In the first part of the twelfth century, Durham had a copy of the *Viaticum* and *De oblivione* extant in Durham Cathedral, MS. C. IV. 12.[33] The later twelfth-century catalogue for the cathedral lists an impressive selection of '*Libri de Phisica'*.[34] These included several of Constantine's translations including Johannitius' *Isagoge* and Galen's *Tegni*, but most importantly his *Pantegni*, with '*Pars practica Constantini'* and a *Viaticum*. A separate section lists '*Libri quos Magister Herebertus Medicus dedit Sancto Cuthberto*'. His 26 medical books are listed, and seven of these are Constantine's translations, the *Pantegni Theorica*, *De Febribus* and *De melancholia* amongst others.[35]

Constantine's texts may have been one stimulus in what appears to have been a very active time for medicine in Durham. Significant knowledge of medicine is apparent in Reginald of Durham's accounts of miracles wrought through Saints Cuthbert and Godric, written in

[31] For more information about John of London see Page, *Magic in the cloister*, pp. 16-7 and Cavanaugh, 'A study of books privately owned in England', p. 525. He is titled 'magister' in Cambridge, St John's College, MS. 97 and may have been a pupil of Roger Bacon (Emden, *Donors of books to St Augustine's Abbey, Canterbury*, pp. 11-2). His name is a common one, so there are various speculations about him.

[32] Cavanaugh, 'A study of books privately owned in England', pp. 525-37, medical books are at pp. 534-7.

[33] *Durham University library archives and special collections;* Raine and Rud, *Codicum manuscriptorum Ecclesiae Cathedralis Dunelmensis*, pp. 298-9; Gameson, *The Manuscripts of Early Norman England*, no. 275, p. 86.

[34] Durham Cathedral, MS. B. IV. 24 in Botfield, *Catalogi veteres librorum cathedralis Dunelm*, pp. 6-8.

[35] Two volumes are extant: Cambridge, Jesus College, MS. Q.D.2 and Edinburgh, National Library of Scotland, MS. Advocates 18.6.11.

the 1160s and 70s.[36] Many of the miracles were cures, and precise, well informed descriptions of various symptoms were often given; doctors often attended and medicine was given.[37] Whilst the saints sometimes drove demons out, there was an awareness that demon possession was separate from epilepsy, and of other disorders of the head; one man was driven to the point of '*freneticus*' and there is a reference to the ventricles of the brain.[38] The *Vita* of St Godric has been described as a 'rich catalogue of medieval illness' and his use of medical terms shows 'a remarkable depth of twelfth-century clinical concepts', as in a case of '*vertigine cerebri*'.[39] The twelfth century saw the foundation of several hospitals, such as the leper house at Sherburn founded by the bishop.[40] A 'Gervase *medicus*' was also active in the area, with connections to the priory.[41] Towards the later medieval period there is less evidence of particular medical interests at Durham Priory but Constantine's name remains prominent in the 1391 library catalogue.[42]

These examples show how the most powerful monastic institutions in England, and those associated with them, sought out and used the work of Constantine from very early on. Others could be added, such as Peterborough and Bath, both of which had commissioned copies of the *Pantegni* before 1200.[43] In some cases a specific interest in disorders of the head can be demonstrated through book ownership and signs of use. The early *Pantegni* from Bath has notemarks at sections on apoplexy, epilepsy and *melancholia.*[44]

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[36] S. Crumplin, 'Modernizing St. Cuthbert: Reginald of Durham's Miracle Collection', in *Signs, Wonders, Miracles : Representations of Divine Power in the Life of the Church: Papers Read at the 2003 Summer Meeting and the 2004 Winter Meeting of the Ecclesiastical History Society*, K. Cooper and J. Gregory (eds.) (Rochester, 2005), pp. 179–91.
[37] Reginald of Durham, *Libellus de admirandis beati Cuthberti virtutibus quae novellis patratae sunt temporibus*, J. Raine (ed.) (England, 1835), e.g., Chs. LXIII, CXVII and CXIX.
[38] *Ibid*, Chs. CXXII and CXXIV, CII, and CXII; Reginald of Durham, *Libellus de vita et miraculis S. Godrici, heremitae de Finchal*, J. Stevenson (ed.) (London, 1847), pp. 423 and 448.
[39] S. Martin, 'St. Godric and the lost leper hospital of Darlington', *Hektoen International Journal*, (July 2021); Reginald of Durham *Libellus de vita et miraculis S. Godrici*, p. 374.
[40] Kealey, *Medieval Medicus*, pp. 153 and 105.
[41] He attested a charter before 1158, and was possibly the same person who bequeathed the priory a medical book, listed in the 1153 catalogue as '*Liber Gervasii medicii*', Kealey, *Medieval Medicus*, pp. 126-7; Botfield, *Catalogi veteres librorum cathedralis Dunelm*, p. 6.
[42] Botfield, *Catalogi veteres librorum cathedralis Dunelm*, p. 33. His name is rather less evident in the 1395 listings, p. 78.
[43] Peterborough Abbey was the latest of these, acquiring a *Pantegni* amongst others copied for Abbot Benedict (1177-83), Friis-Jenson and Willoughby, *Peterborough Abbey*; The *Pantegni* BL, MS. Add. 22719 was copied at Bath around 1125.
[44] BL, MS. Add. 22719 digitised at *British Library* [website] <https://www.bl.uk/manuscripts/Viewer.aspx?ref=add_ms_22719_fs001r> (last accessed 22 July 2023). See fols. 115r and 116v; folios are missing between 114v and 115r, the sections on frenzy

Secular practitioners and medical writers

Master Herebert who donated books to Durham has already been discussed, he was a secular *medicus* who may have lived in Beverley, and donated texts to the priory sometime before 1200.[45] Presumably successful and prosperous, Herebert was 'a particularly avid bibliophile' who kept up to date by having the latest texts, and might have had some contact with Salerno.[46] His collection included Dioscorides and Roger's *Cirurgiae*, but he had some of the best of Constantine's corpus, and specifically found the need to acquire *De melancholia*.[47] This may suggest some particular interest in mental disorders.

Other secular doctors and academics valued the translations well into the fourteenth century. Stephen of Cornwall was a *medicus* and Master of Balliol who died in 1307, leaving medical books extant as Oxford, Balliol, MS. 231. This includes the *Passionarius*, some Galenic texts in Constantine's translations, but in particular has *De oblivione*.[48] Simon Bredon was a noted physician and astronomer, fellow of Merton College and doctor to Joanna, queen of Scots.[49] Donating his balanced library to Merton, with a Bible, books by Isidore, Boethius and Albertus Magnus, his will of 1368 placed most emphasis on his medical texts. He had all the major texts in use by this time, with works by Avicenna, Gilbertus, De Gordon, and Gaddesden, but his *Pantegni* featured quite highly, amongst the first mentioned (although his *Viaticum* was mentioned nearly last).[50] The *Pantegni* is extant as Oxford, Merton College, MS. 231 and shows signs of use, with an index in Bredon's own writing.[51] Bredon also wrote a medical book himself, the *Trifolium*, which cited Constantine on urines.[52]

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and the first part of lethargy are entirely missing – possibly suggesting some use or interest in these at some time, or alternatively disregard.

[45] Kealey, *Medieval Medicus*, pp. 44-7 and 130-1 for details of evidence about his life.

[46] *Ibid*, pp. 44-5.

[47] Durham Cathedral, MS. B. IV. 24 in Botfield, *Catalogi veteres librorum cathedralis Dunelm*, pp. 7-8. Two volumes are extant: Cambridge, Jesus College, MS. Q.D.2 and Edinburgh, National Library of Scotland, MS. Advocates 18.6.11.

[48] Cavanaugh, 'A study of books privately owned in England', pp. 209-10. R.A.B. Mynors, *Catalogue of the manuscripts of Balliol College, Oxford* (Oxford, 1963), pp. 244-7.

[49] Cavanaugh, 'A study of books privately owned in England', pp. 127-34; Getz, 'The Faculty of Medicine before 1500', p. 389.

[50] UO110 in Thomson and Clark, *The University and College Libraries of Oxford*, pp. 1266-9.

[51] Thomson, *A descriptive catalogue of the medieval manuscripts of Merton College, Oxford*, pp. 166-7.

[52] Getz, 'The Faculty of Medicine before 1500', p. 392.

It has been considered how Constantine's translations were used by subsequent medical authors, writing on each of the disorders, in previous chapters. Here a general overview of their impact on medical writing available in England is given. A very early influence of Constantine's writings may be seen in the work of Henry of Huntingdon (*c*. 1085 -1156/64). A cleric best known for his chronicle, he also wrote a lapidary and composed a verse herbal, the *Anglicanus ortus,* quite popular throughout the Middle Ages and translated into English.[53] He drew upon The *Liber graduum* in his lapidary, and as the basis for nearly every one of the substances in Book VI, part 2 of the herbal.[54] Although Constantine was not named, this information was said to come from 'what the Arab once taught'.[55] Herbs for disorders of the head did feature and anacardium was said to be 'a precious antidote' for lethargy and memory.[56]

Bartholomeus Anglicus' *De Proprietatibus Rerum* (*c*. 1240) was written for scholars and the general reader, giving the latest ideas in science and medicine. Its popularity is testified by a large number of manuscript copies and several printed editions. Translated into English in the 1390s, it was to remain influential into the Tudor period.[57] Not primarily medical, it covered everything from God to animals and minerals. Bartholomeus frequently quoted Constantine as his main source on medical subjects, and took his discussion of the brain and its powers from the *Pantegni* and possibly *De oblivione*.[58] In Book 7 on illnesses, he mentioned Constantine 23 times in the ten chapters on relevant disorders of the head - more than any other author. He specifically cited the *Pantegni*, *Viaticum* and *De melancholia,* and sometimes refers the reader on to Constantine's work for further information.[59] He sometimes used material from Constantine without attribution, at other times he cited him rather dubiously – but this may be an indication that his name was authoritative and prestigious to drop.[60]

[53] Henry of Huntingdon, *Anglicanus ortus,* pp. 1 and 56-9. He wrote the *Historia Anglorum.*
[54] *Ibid*, pp. 317-41. Black, 'Henry of Huntingdon's Lapidary Rediscovered', pp. 64 -7.
[55] Henry of Huntingdon, *Anglicanus ortus,* p. 317.
[56] *Ibid*, pp. 319, 321, 323, 331 and 339.
[57] Seymour, *On the Properties of Things.*
[58] Jones, *The Medieval Natural World,* p. 68; Bartholomeus, pp. 56-8. See coverage of this in Ch. 3.
[59] Bartholomeus, pp. 122-4. He recommends looking at Constantine for further tests for epilepsy, and the *Viaticum* for further information on treatments for paralysis.
[60] Bartholomeus, pp. 120-3.

Gilbertus Anglicus wrote his *Compendium Medicine* somewhere between 1230-60, which was also very popular, surviving in 38 manuscripts, and later translated into English and other vernaculars.[61] It became required reading for English physicians, being on the curriculum at Oxford and Cambridge, and printed and still in use in the sixteenth century.[62] Gilbertus clearly read widely and the *Compendium* incorporated ideas from many ancient and contemporary authors from Aristotle to Avicenna, as well as giving his own. He was not much given to citing his sources though, and never named Constantine in his chapters on the disorders of the head, but did often mention Galen and sometimes 'Isaac' - referring to works translated by Constantine. Certainly, he did draw very heavily from Constantine's works, most obviously from the *Viaticum* and *De melancholia*, although he had probably also read the *Pantegni Theorica* and *Practica*, if not *De oblivione*. The influence of the *Viaticum* is clearly seen in his descriptions and treatments for frenzy, lethargy and, to a lesser extent, epilepsy.[63] His chapter on mania and melancholy very clearly took the explanation of melancholy from *De melancholia*, if not quite word for word, with some similar treatments and additions from the *Pantegni*.[64]

Working in Montpellier, Bernard de Gordon completed his *Lilium medicinae* around 1240, a key text also later translated into English, and printed in seven editions.[65] It mainly cited Avicenna, Galen and others, but rarely Constantine himself – sometimes he cited 'Haly' or 'Isaac', the original authors, or included Constantine in '*Salernitani'*.[66] However on disorders of the head he used ideas from all of the relevant texts, including *De oblivione*. He quoted the *Viaticum* twice on the subject of lovesickness (once incorrectly) and gave ideas and treatments for frenzy and lethargy from that text.[67] Some symptoms of mania and *melancholia* were explained almost exactly as they are in the *Pantegni* and *De melancholia*.[68] He used Constantine's anatomical explanations for epilepsy, apoplexy and

[61] McVaugh, 'Who was Gilbert the Englishman?', p. 295; Getz, *Healing and Society.*
[62] J. Pearn, 'Two medieval doctors: Gilbertus Anglicus (*c.* 1180 –*c.* 1250) and John of Gaddesden (1280 –1361)', *Journal of Medical Biography,* vol. 21 (2013), p. 4.
[63] Gilbertus, pp. 214-20, 230-3 and 233-42.
[64] Gilbertus, pp. 220-7. For example, the distinctive explanation of 'labor' and a pleasant treatment with a bath, massage, dinner and sleep are clearly from *De melancholia.*
[65] See Introduction, pp. 18-9. The middle English version is extant as Oxford, Bodleian Library MS. Ashmole 1505, transcribed in Connelly, '*Lylye of Medicyne'*.
[66] L. Demaitre, *Doctor Bernard de Gordon: Professor and Practitioner* (Toronto, 1980), Table 1, pp. 105, and 92.
[67] De Gordon, pp. 112, 115 (the herbs to be put in the patient's room are from the *Viaticum*), p. 98 (aloes recipe).
[68] De Gordon, pp. 108-9.

lethargy or forgetfulness; he gave a remedy almost identical to one from *De oblivione,* and, like Constantine, he recommended anacardium as the best thing for memory problems.[69] From the *Practica,* he gave a version of the recommendation that epileptic patients be taken to mass for the priest to utter certain words over him.[70] It has been suggested that Bernard disdained Constantine as a medical authority, but in practice the *Lilium* uses many of his ideas, at least in this area of medicine.[71]

John of Gaddesden's *Rosa anglica medicine* (*c*.1313) quoted from Galen, Rufus, often Avicenna, and borrowed heavily from Gilbertus. Constantine featured much less strongly, and in the sections on disorders of the head 'Haly' was more often cited; in fact, when 'Constantine' was cited it is the *Practica* being discussed – which of course was not his.[72] Gaddesden certainly drew on the *Pantegni Theorica*, the *Practica*, *De oblivione* and probably the *Viaticum*. He did directly cite the *Pantegni* on *melancholia* and Constantine on spasms as the difference between apoplexy and epilepsy.[73] For epilepsy he gave the ritual treatments from the *Practica*, attributing them to Constantine.[74] Like De Gordon he did not credit *De oblivione,* but clearly drew from it in his chapter on lethargy, using its distinctive treatments such as the use of anacardium and hoopoe parts.[75]

All of these later writers had read much of Constantine's work and were reflecting an interest in theory and anatomy, detailing naturalistic causes, and often taking the non-naturals into account. They used Constantine's brain-based models of disorder and used many of this treatments, if not always with attribution, and often showing a preference for those of the *Practica.*

Constantine's longer lasting legacy is seen in the work of John Argentine, who wrote his *Loci Communes* in the 1470s, and which survives as part of Bodleian Library, MS. Ashmole

[69] De Gordon, pp. 118, 124, 98-101.
[70] De Gordon, p. 120.
[71] Demaitre, *Doctor Bernard de Gordon,* p. 109. De Gordon may have preferred Stephen of Antioch's translation of al-Mağūsī's work; Y.V. O'Neill, 'Book review: *Doctor Bernard de Gordon: Professor and Practitioner* by Luke E. Demaitre', *Speculum,* vol. 56 (Oct. 1981), p. 859.
[72] When citing 'Haly', John of Gaddesden may have been using the later translation by Stephen of Antioch rather than the *Pantegni.*
[73] Gaddesden, fols. 132r, 62r.
[74] Gaddesden, fols. 61r, 62v.
[75] Gaddesden, fol. 131v. The application of cupping glasses to the neck without scarification is from *De oblivione,* although the hoopoe part is the heart not the tongue as in *De oblivione.*

1437.[76] He quoted Constantine frequently and his influence is often seen in regard to disorders of the head.[77] He followed the *Pantegni's* account of apoplexy and epilepsy as being due to blockages in the ventricles of the brain.[78] Although no recipes seen appear to have been copied directly, *materia medica* recommended in the *Viaticum* were used in the treatment of apoplexy, drunkenness and wakefulness.[79] Specifically Argentine recommended anacardium for memory problems.[80] The final two folios of the text are on *melancholia* and 'Constantinus' is clearly given as the source; again the recipes were not copied, but significant ingredients are the same, notably the myrobalans.[81]

Finally, the various glosses and commentaries which were produced on the *Viaticum* should not be neglected; although they were all written by continental authors, they are often seen in booklists from medieval England. Gerard of Berry wrote the *Glosule super viaticum*, clearly considering it important enough to deserve glossing.[82] There followed Giles' *Glose super viaticum,* Peter of Spain's *Questiones super viaticum*, and Bona Fortuna's *Tractatus super viaticum,* all produced for the use of university teaching.[83]

So, taken up quickly by doctors such as Herebert in the twelfth century, Constantine was still being cited as an authority by a high-status doctor at the end of the fifteenth. His work was collected and commented on by many in between, and used by most of the main medical writers, if not always acknowledged.

Medical Education

Constantine's work contributed greatly to the rise of formal medical education across Europe, as a discipline now rooted in natural philosophy.[84] In the twelfth and early-thirteenth centuries seven key medical texts had been established as the basis of the curriculum in the

[76] Oxford, Bodleian Library, MS. Ashmole 1437, part 15.
[77] W.H. Black and W.D. Macray, *A descriptive, analytical, and critical catalogue of the manuscripts bequeathed unto the University of Oxford by Elias Ashmole* (Oxford, 1845-1866), p. 1178.
[78] Bodleian Library, MS. Ashmole 1437, fols. 12v-13r and 15, although note the confused page numbering of the manuscript.
[79] *Ibid*, fols. 12v and 171r.
[80] *Ibid*, fols. 79v and 92.
[81] *Ibid*, fols. 182-3.
[82] Wack, *Lovesickness*, pp. 52-4.
[83] *Ibid*, pp. 76-8, 84-5, 126-9.
[84] Getz, 'The Faculty of Medicine before 1500', p. 374.

main medical centres, known as the *Articella*. As Getz writes, 'it was based primarily on the translations made in the eleventh century by Constantine the African', with his *Isagoge* the most important. It also included Galen's *Tegni*, Theophilus' *Urines*, Philaretus' *Pulses*, Hippocrates' *Aphorisms, Prognostics* and *Regimen acutorum*, some of these of course Constantine's translations.[85] A list of standard medical textbooks used in Paris at around 1200 also included the *Pantegni* and the *Viaticum*.[86] Both Oxford and Cambridge had small medical faculties by the fourteenth century, and statutes for Cambridge from about 1398 specified the *Viaticum* as required reading alongside the *Articella*.[87] At Oxford, students had to give lectures based on Salernitan texts including the *Tegni*.[88] This was despite the increasing prominence of the works of Avicenna in academic circles, favoured because they were based on Aristotelian philosophy and taken up by Thomas Aquinas.[89]

Taking one example of an Oxford college, Merton seems to have housed students with medical interests early as Archbishop Peckham criticised the study of medicine there in 1284.[90] However by the fourteenth century it was the college with the most medical students, five of the thirteen known, and produced both Gaddesden and Bredon; through these two men it was the only college to produce significant medical works.[91] No medical books were recorded in this unusually well-documented library until the 1370s, when Bredon bequeathed the *Pantegni* and *Viaticum*.[92] Another bequest from William Duffield in 1453 brought a *Viaticum*, two *Isagoges* and other medical books.[93] Certainly by 1452 the *Viaticum* and *Pantegni* were available to be distributed to students, along with works by more recent

[85] McVaugh, 'Who was Gilbert the Englishman?', p. 298.
[86] C.H. Haskins, 'A List of Text-Books from the Close of the Twelfth Century', *Harvard Studies in Classical Philology*, vol. 20 (1909), p. 93; Charters of the University of Paris, I 517 no. 453 cited in Getz, 'The Faculty of Medicine before 1500', p. 386. The *Viaticum* was required reading in 1270.
[87] V.L Bullough, 'Medical study at Mediaeval Oxford' *Speculum*, vol. 36 (1961), p. 611; V.L Bullough, 'The mediaeval medical school at Cambridge', *Mediaeval Studies*, vol. 24 (1962), pp. 164-5.
[88] Getz, 'The Faculty of Medicine before 1500', pp. 382-6; Bullough, 'Medical study at Mediaeval Oxford', p. 606.
[89] Cobb, *The Idea of the Brain*, p. 27. Avicenna does not appear in the reading list for Cambridge in 1398, but his works appear in subsequent catalogues (Bullough, 'The mediaeval medical school at Cambridge', p. 165).
[90] Bullough, 'Medical study at Mediaeval Oxford', p. 602. It was founded in the 1270s.
[91] Getz, 'The Faculty of Medicine before 1500', pp. 388, 390.
[92] Thomson and Clark, *The University and College Libraries of Oxford*, UO46, UO47, UO48, UO49 and UO110.
[93] Cavanaugh, 'A study of books privately owned in England', pp. 262-6, the *Viaticum* is Merton College, MS. 232, one *Isagoge* is part of the *Articella* in Merton College, MS. 255, see Thomson, *A descriptive catalogue of the medieval manuscripts of Merton College, Oxford*, pp. 1064 and 196-7.

authors: an inventory of the sixteenth century found the college had the whole range of important texts.[94] These included three *Isagoges*, the *Pantegni*, a *Viaticum* and two printed versions of the *Opera*, containing the *Pantegni Theorica*, Books 2 and 9 of the *Practica*, the *Viaticum* and *De melancholia*.[95] In 1461 they had acquired another manuscript which included *De melancholia*.[96] Surviving Merton manuscripts seem to have been well used, losing their original bindings and fly leaves, one copy of the *Isagoge* having added notes of cases and payments.[97] Although Merton was not an early adopter of Constantine's works, its scholars were using them and acquiring the latest printed version into the late medieval and early modern period; owning two copies of *De melancholia* may also reflect some interest in this disorder.

Vernacular writing and commonplace books

One source of evidence for Constantine's influence on practical medicine might be found in the many commonplace books usually owned by less elevated medical practitioners. Particularly from the late fourteenth century there was an explosion of vernacular medical compilations and remedy books, thousands of such manuscripts survive from this period.[98]

Hunt has made a study of surviving medical texts in Anglo-Norman French.[99] Of these one included Constantine's *De coitu* and gave his name as an authority.[100] Another cited him in the context of epilepsy and drunkenness, and gave the test to determine whether an epileptic is a lunatic or demoniac from the *Practica*, with its religious ritual treatment recommended

[94] Thomson and Clark, *The University and College Libraries of Oxford*, UO54 and UO68.
[95] *Ibid*, UO68; Burnett and Jacquart, *Constantine the African*, pp. 317-9. The *Pantegni* is extant as Oxford, Merton College, MS. 231, the *Viaticum* as Merton College, MS. 232, and the printed *Opera* is extant as Merton College, MS. 52.i.3, see Thomson and Clark, *The University and College Libraries of Oxford,* p. 1064.
[96] Thomson and Clark, *The University and College Libraries of Oxford,* UO68, no. 405, extant as Oxford, Merton College, MS. 219.
[97] F. M. Powicke, *The medieval books of Merton College* (Oxford, 1931), p. 198.
[98] L.E. Voigts, 'Multitudes of Middle English Medical Manuscripts, or the Englishing of Science and Medicine', in M.R. Schleissner (ed.), *Manuscript Sources of Medieval Medicine: A book of essays* (Oxfordshire, 2013), pp. 183-95. Many have sections in Latin as well as Middle English content.
[99] Hunt, *Anglo-Norman Medicine.*
[100] Oxford, Bodleian Library, MS. e musaeo 219 (SC3541), thirteenth century (Hunt, *Anglo-Norman Medicine*, vol. 2, pp. 4 and 77).

as ‘proven’.[101] A third offered very similar treatments for lethargy to those of the *Viaticum*.[102]

In the many Middle English compilations Constantine was not often mentioned, and he is not in the top fifteen authors cited, as found in a survey by Voigts.[103] A survey was made of the many manuscripts of the Bodleian Library, as a sample, along with others accessible from elsewhere, including those with printed editions. Those which looked most likely to have relevant content were then examined more closely.[104] Only rarely did this turn up Constantinian content or references to his works, and even then no great interest in disorders of the head was evident, except for the problem of headache. When Constantine’s writings appeared they were often those on other issues: for example, two cited Constantine’s translation on urines, two others reproduced *De coitu*.[105] Not all of the writings of John Mirfield have been translated, but he quoted Constantine on diet, showing much interest in the non-naturals.[106] Cambridge, Trinity College O.9.10 has poems on herbs with additions from Constantine; *theodoricon* and anacardium are the treatment for lethargy, as in *De*

[101] Edinburgh, National Library, MS. 18.6.9 (olim.A.6.13), fourteenth century (Hunt, *Anglo-Norman Medicine,* vol. 2, Constantine cited at pp. 143-4 and 7, 151, 177, section on disorders of the head pp. 139-145).
[102] *Practica* found in Cambridge, Trinity College, MS. O.5.32 (Hunt, *Anglo-Norman Medicine,* vol. 2, pp. 242 and 201-3). It dates from the fourteenth or fifteenth century.
[103] Voigts, ‘Multitudes of Middle English Medical Manuscripts’, p. 189.
[104] *Medieval Manuscripts in Oxford Libraries* [website] <https://medieval.bodleian.ox.ac.uk/> (last accessed 7 March 2024). Manuscripts and sources considered: Oxford, Bodleian Library, MS. Ashmole 1432; Bodleian Library, MS. Ashmole 1437 (this contains John Argentine’s work alongside remedy collections); Bodleian Library, MS. Ashmole 1438; Bodleian Library, MS. Ashmole 1404; Bodleian Library, MS. Ashmole 1471; also London, BL, MS. Harley 1735 (John Crophill’s notebook); Cambridge, Trinity College, MS. O.9.10; Cambridge, Trinity College, MS. R.14.52 (in Tavormina, *Sex, Aging and Death in a Medieval Medical Compendium*); Edinburgh, National Library, MS. 18.6.9 (olim.A.6.13); John Mirfield, *Johannes de Mirfeld of St Bartholomew's, Smithfield: his life and works,* P.H-S. Hartley and H.R. Aldridge (ed. and trans.) (Cambridge, 1936); ‘A leechbook of the fifteenth century’ belonging to the Medical Society of London in Anonymous, *A leechbook or collection of medical recipes of the fifteenth century,* W.R. Dawson (ed. and trans.) (London, 1934); BL, MS. Egerton 2572, R. Wragg, *The Guild Book of the Barbers and Surgeons of York (British Library, Egerton MS 2572), Study and Edition* (Woodbridge, 2021); Thomas Fayreford’s commonplace book in P. Murray Jones, ‘Harley MS 2558: A Fifteenth-Century Medical Commonplace Book’ in Schleissner, *Manuscript Sources of Medieval Medicine.*
[105] Bodleian Library, MS. Ashmole 1404 and BL, MS. Harley 1735 (John Crophill’s notebook) digitised at *British Library* [website] <https://www.bl.uk/manuscripts/FullDisplay.aspx?ref=Harley_MS_1735> (last accessed 25 July 2023), MS Ashmole 1471 and Cambridge, Trinity College, MS. R.14.52.
[106] John Mirfield, *Johannes de Mirfeld of St Bartholomew's,* p. 157. This does contain some of al-Maǧūsī’s ideas (e.g., p. 123) and Constantine’s work, but often second hand through Bernard de Gordon.

oblivione.[107] Some collections passed on Constantine second hand through other authors, or cited remedies from the *Practica* or elsewhere as his, when they are not.[108] In these late medieval works Avicenna's work was generally much more prominent and there was much information on astrology as it relates to medicine. Astrology and sometimes alchemy were also prominent in John Crophill's notebook, and the guild book of the Barbers and Surgeons of York.[109] One notable exception to this is a well circulated treatise on uroscopy by Henry Daniel, of which he produced vernacular versions in the 1370s; he passed on many of Constantine's ideas about the *accidentia animae* and lovesickness, which were clearly drawn from the *Pantegni, Viaticum* and Constantine's own translated work on urines.[110]

In elite medical education, Constantine's work was considered important from the twelfth century and remained of interest into the fifteenth. However practical remedy books from the later medieval period showed little use of his material, at least not the material on disorders of the head. Here his contribution was largely overshadowed by other authors and interests, although it should be remembered that his own text of practical medicine, the *Viaticum*, remained the most popular medical book seen in booklists and wills, and was still being acquired in the fifteenth century and beyond.[111]

Materia medica

The role of medical texts has been emphasised, but in fact goods, drugs and technical skills of practical use are known to travel faster than ideas and theories, particularly in less literate societies.[112] Medical ideas and treatments also make most impact when they are actually

[107] Cambridge, Trinity College, MS. O.9.10, fol. 50r; Black, 'Henry of Huntingdon's Lapidary Rediscovered', pp. 45 and 66-7.
[108] E.g., John Mirfield gives Constantinian content through Bernard de Gordon, others reproduce Peter of Spain's *Thesaurus Pauperum* (e.g., Bodleian Library, MS. Ashmole 1432), where he attributes a hemlock remedy for epilepsy to Constantine at fol. 151. 'A leechbook of the fifteenth century' has Peter of Spain as a source, elements from the *Pantegni* and *Practica* are seen. (Anonymous, *A leechbook or collection of medical recipes of the fifteenth century*).
[109] BL, MS. Harley 1735; Wragg, *The Guild Book of the Barbers and Surgeons of York,* pp. 239-50. Its phlebotomy treatments for disorders of the head, frenzy, lethargy and melancholy are not from Constantine, fol. 50r, pp. 233-5.
[110] Walsh Morrissey, 'Anxious Love and Disordered Urine', pp. 161-83.
[111] See Appendix 3, Table A.
[112] R. Yoeli-Tlalim, *Reorienting Histories of Medicine: Encounters along the Silk Roads* (London, 2021), p. 3.

helpful for the problems they claim to treat. Here two examples of new drugs which Constantine introduced or promoted in his recommendations are considered.

Some of Constantine's major contributions are in the arena of *materia medica*, particularly through the popular *Liber graduum*.[113] Islamicate medicine had long excelled in pharmacy, benefitting from access to drugs from Persia, India, China and Tibet.[114] Constantine's work seems to have introduced previously unknown drugs such as tamarind, and promoted several which were new to the West, for example anacardium and the myrobalans. Constantine's work made much use of anacardium, an Indian drug, which he indicated for lethargy, noting 'the special quality of anacardium is in its usefulness against forgetfulness'.[115] There are several varieties of myrobalan fruit, which also came primarily from India, where they were considered 'a wonder drug'.[116] Both of these new drugs had first been seen in new texts arriving post-Conquest such as BL, MS. Sloane 1621, but were to be much more widely known as Constantine's texts were disseminated.[117] In *De oblivione* Constantine prescribes a combination of myrobalans with anacardium for forgetfulness, and he also recommends myrobalans for lethargy, apoplexy, and particularly for *melancholia*.[118] They are important ingredients in six of the fifteen remedies in *De melancholia*.[119]

There is good evidence that these drugs were indeed taken on for these conditions, at least by the rich, and once they were more easily available.[120] Later medical authors often cited them in remedies: anacardium was recommended by Henry of Huntingdon for lethargy and memory, by Gilbertus for lethargy and melancholy, and by De Gordon for *corruptio memorie*, the Middle English version of his work stating that it was 'the best thing for a

[113] The *Liber graduum* was the 'mainstay of pharmacology' (Wallis, 'The Ghost in the *Articella*', p. 122). It influenced a number of verse herbals including that by Macer Floridus, widely distributed in England and translated into English. W. Black, '"I will add what the Arab once taught": Constantine the African in North European Medical Verse', in Van Arsdall and Graham, *Herbs and Healers from the Ancient Mediterranean,* pp. 153-9.
[114] Z. Amar and E. Lev, *Arabian Drugs in Early Medieval Mediterranean Medicine* (Edinburgh, 2017).
[115] Bos, 'Ibn al-Ǧazzār's *Risala Fin-Nisyan*', p. 230.
[116] Yoeli-Tlalim, *Reorienting Histories of Medicine,* pp. 77-8.
[117] E.g., BL, MS. Sloane 1621, fols. 5r-v and 23v. The myrobalans also appeared as an ingredient in the *Ramsay Compendium's* remedy for melancholy, and in the *Tereoperica* .
[118] Bos, 'Ibn al-Ǧazzār's *Risala Fin-Nisyan*', p. 232.
[119] *De melancholia*, pp. 192-6.
[120] Green suggests that Indian *materia medica* would most likely have been inaccessible for some time, a 'fantasy pharmacy' even to the wealthy. Green, 'A Fantasy Pharmacy'.

goode mynde'.[121] Gaddesden gave it as a minor ingredient in a remedy for lethargy.[122] At the same time Gilbertus was recommending all varieties of myrobalans, and De Gordon and Gaddesden were using them for melancholy, featuring very prominently for the condition in the *Rosa*.[123] In the fifteenth century John Argentine was still using myrobalans for melancholy, and anacardium for memory problems.[124] These drugs sometimes made their way into commonplace books or vernacular versions: a medical recipe in Bodleian Library, MS. Ashmole 1437 included several varieties of myrobalans for expelling black bile, and recommended anacardium for disorders of the head.[125] However anacardium did not make it through to the English version of Gilbertus and 'a leechbook of the fifteenth century' mentioned neither - they may have continued to be out of the reach of poorer patients.[126]

There are several reasons why drugs may persist in a medical tradition, despite being expensive and difficult to access, but a chief reason would be that they are actually curative. A majority of medieval treatments would probably have been ineffective or even harmful, but there is some reason to think that these two drugs may have indeed helped. Chapter 6 gave references to the scientific evidence of the memory enhancing properties of the current form of the plant *Semecarpus anacardium,* with both anacardium and chebulic myroblan acting as anticholinesterases.[127] Modern varieties of the myrobalans then have psychoactive properties, but whether they would have been useful for medieval *melancholia* in its various forms, is an open question.[128] *Melancholia* could involve symptoms of psychosis, and one small study has shown some benefits of black myrobalan in chronic schizophrenia.[129] The

[121] Henry of Huntingdon, *Anglicanus ortus,* p. 339; Gilbertus, pp. 230 and 226; Connelly, '*Lylye of Medicynes',* p. 199.
[122] Gaddesden, fol. 131v.
[123] Gaddesden, fols. 132r-v.
[124] Bodleian Library, MS. Ashmole 1437, fols. 182-3, 79v and 92r.
[125] *Ibid*, fol. 21v and part 10, fol. 2v (the numbering is confused). These recipes are separate from the work of Argentine.
[126] Getz, *Healing and Society*; Anonymous, *A leechbook or collection of medical recipes of the fifteenth century*.
[127] See Ch. 6, footnotes 105 and 107.
[128] Paul Fitzgerald and his team found that anticholinesterases can either reduce or increase depression, dependent on dose. P.J. Fitzgerald et al., 'Repurposing Cholinesterase Inhibitors as Antidepressants? Dose and Stress-Sensitivity may be Critical to Opening Possibilities', *Frontiers in Behavioural Neuroscience*, vol. 14 (2021).
[129] M. Banazadeh et al., 'Evaluating the effect of black myrobalan on cognitive, positive and negative symptoms in patients with chronic schizophrenia: a randomised, double-blind, placebo-controlled trial', *Phytotherapy Research*, vol. 36 (2022), pp. 543-50. He gave black myrobalan to a group of 48 chronic schizophrenics and found significant improvements in cognitive impairment,

myrobalans are used today for apparent gastrointestinal health benefits, and of course *melancholia* was partly a stomach problem.[130] Constantine also suggested the use of St John's wort for melancholy, and this has been found to be efficacious in depression.[131]

This is, of course, taking a standpoint of biological realism which has its critics and limits. The consistency of plant names cannot be assumed, their properties once prepared, or how the dosages worked – all critical.[132] Ronit Yoeli-Tlalim points out that there is more to a medicine than its active ingredients, the ideas that people project on to a substance really matter, but in these cases the two could have worked together.[133] Medicines with helpful properties would be potentiated by the idea that the patient was getting an expensive, exotic wonder drug, brought especially from the other side of the world. Many of Constantine's *materia medica* had these benefits of being novel and foreign, but some may have made an impact because they were indeed useful; the long persistence of these two particular drugs in the medical literature may testify to that.

Constantine's wider cultural presence

Constantine's works were found in monasteries and medical circles, but their impact can be seen outside these narrow confines, in scientific, philosophical and cultural developments. Galen's theories and Constantine's translations, especially the *Pantegni*, placed the study of the human body in natural philosophy, and were a spur to new scientific and philosophical thought from early in the twelfth century. It has already been seen how Constantine influenced Bartholomeus' scientific encyclopaedia. Another early impact on scientific thought came through Petrus Alfonsi, a Spanish astronomer and physician living in England.[134] In his *Epistola ad peripateticos* he cited Constantine on the effects of phases of the moon on critical days for treatment, putting his authority behind astronomical

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excitability and social withdrawal or apathy, with some improvements in anxiety and depression, as compared to a placebo control group.

[130] *Ibid*, p. 544; *Medical News Today* [website] (published 3 October 2019) <https://www.medicalnewstoday.com/articles/326547> (last accessed 11 April 2024); *Science Direct* [website] <https:/www.sciencedirect.com/topics/agricultural-and-biological-sciences/myrobalans> (last accessed 11 April 2024).

[131] See Ch. 9, footnote 80.

[132] Reeds, 'Saint John's Wort', p. 294.

[133] Yoeli-Tlalim, *Reorienting Histories of Medicine*, pp. 82-4.

[134] J. Tolan, *Petrus Alfonsi and His Medieval Readers* (Gainesville, 1993) Chs. 1 and 3.

medicine.[135] These ideas from the *Pantegni* may have been an influence in Walcher of Malvern's *De lunationibus*, moon phase tables important in the origins and expansion of medical astrology.[136]

Intellectual discussion and philosophical innovation were particularly vibrant in the schools of northern France, where Constantine's work was read with interest. It may have been here that John of Salisbury encountered the *Pantegni* and *Isagoge* with their important distinction between theory and practice, and other medical ideas which influenced his political writing, as seen in his extensive use of medical metaphor.[137] Hugh of Saint-Victor used the *Isagoge* as a source for his theological and philosophical work *Didascalicon*, quoting whole passages such as those on the non-naturals and *accidentia animae*.[138] Christian theologians and philosophers had long reflected on the nature of the soul and its workings, and now took up the issues of the difference between the bodily spirits and the soul itself, and affect as a power of the soul.[139] Several treatises on human psychology were written by Cistercian authors such as Aelred of Rievaulx, Isaac of Stella and William of St Thierry, using the new physiological models of cognition.[140] William de St Thierry particularly used ideas from the *Pantegni* and *Liber graduum* in his *De physica corporis et animae* written in the 1140s, although he never mentioned Constantine by name.[141] This work discussed the natural, animal and spiritual powers, the senses, voluntary movement, and the imagination, reason, and memory, located in the ventricles of the brain.[142] He was interested in the links and boundaries between the body, the spirits, and the soul, but had concerns about materialistic ideas coming from medicine.[143]

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[135] *Ibid, Epistola ad peripateticos,* p. 174. These comments come in the section on Prognostics in the *Pantegni.*
[136] C.P.E. Nothaft, *Walcher of Malvern, De Lunationibus and De Dracone* (Turnhout, 2017), pp. 59-61.
[137] T. Shogimen and C.J. Nederman, 'The Best Medicine? Medical Education, Practice and Metaphor in John of Salisbury's *Policratus* and *Metalogicon*', *Viator*, vol. 42 (2011), pp. 55-73. The influence seems to have been a general one, with no specific references to Constantine.
[138] D. Jacquart, 'The Introduction of Arabic Medicine into the West: The Question of Etiology', in Campbell, Hall and Klausner, *Health, Disease and Healing*, pp. 186–95.
[139] Burnett, 'The Chapter on the Spirits', p. 107; Boquet and Nagy, *Medieval Sensibilities,* p. 143.
[140] Boquet and Nagy, *Medieval Sensibilities,* p. 143; Coleman, *Ancient and Medieval Memories,* pp. 220 and 223.
[141] Glaze, 'The Perforated Wall', p. 220.
[142] Coleman, *Ancient and Medieval Memories,* p. 203; Boquet and Nagy, *Medieval Sensibilities,* p. 146; Long, 'Of Monks and Miracles'; Long, 'Body and soul', Ch. 4.
[143] *Natura corporis*, 48, 50, cccm 88:120, cited in A. Rydstrøm-Poulsen, 'The Humanism of William of Saint-Thierry', in J.P. Bequette (ed.), *A Companion to Medieval Christian Humanism: Essays on Principal Thinkers* (Leiden, 2016), p. 91.

The main case study however is that of William of Conches, a famous French scholastic philosopher who taught around 1120-54, possibly in Chartres.[144] He had extensive, up-to-date knowledge of the natural sciences and physiology though his reading of Islamicate texts, combining it with philosophical ideas. His most significant works were his encyclopaedias, *Philosophia* (*c.* 1125-30) and *Dragmaticon* (*c.* 1144-49), which were very popular, his influence in intellectual circles spreading well beyond France and the twelfth century. Both were widely distributed, leaving many extant copies and printed editions.[145] The *Philosophia* attempted to explain God and Creation, astronomy and meteorology, biology and particularly man. The *Dragmaticon* was an updated version of the science with some additional ideas, and both drew heavily on the *Pantegni* and *Isagoge*.[146] The examples given here are chiefly from the *Dragmaticon*, where references from Constantine are littered throughout the text; Italo Ronca counted 28 passages which clearly had their origin in the *Pantegni*.[147]

Understanding the basic components of matter was fundamental, and William of Conches cited Constantine almost verbatim on the elements and their qualities.[148] He had a lot to say about the seasons and weather with health advice, often from Constantine, who was his main authority on fevers.[149] He quoted from the *Pantegni* on the 'natural virtues' (natural, animal and spiritual), the sperm, conception, embryology, kidney stones, the breath, the structure of the eye, and the ages of man.[150] His notes about the sensory nerves, on voluntary movement and the structure of the nervous system were also from the *Pantegni*.[151] The same is true of

[144] William of Conches, *William of Conches: A Dialogue on Natural Philosophy (Dragmaticon Philosophiae)*, I. Ronca and M. Curr (trans.) (Notre Dame, 1997) pp. xv-xvi.
[145] Y.V. O'Neill, 'William of Conches' Description of the Brain', *Clio Medica*, vol. 3 (1968), p. 204.
[146] William of Conches, *A Dialogue on Natural Philosophy*, p. xxiii. Other sources have been identified as Macrobius, Priscian, Alfanus' translation of Nemesius, Adelard of Bath and possibly Stephen of Antioch's translation the *Liber Regalis* (O'Neill, 'William of Conches' Description of the Brain', pp. 204, 206 and 213).
[147] Since this is available in a translated, edited edition. Ronca, 'The Influence of the *Pantegni* on William of Conches' *Dragmaticon*', pp. 268 and 272. About half of these references were also to be found in the *Philosophia.*
[148] *Ibid*, pp. 271, 273 and 286, In the *Philosophia* he cites Constantine five times on the elements. William of Conches, *A Dialogue on Natural Philosophy*, pp. 15 and 43.
[149] William of Conches, *A Dialogue on Natural Philosophy*, Book 4, Ch. 11, p. 74. Book 4, Ch. 8 draws from Book 8, Ch. 4 of the *Pantegni* on fevers.
[150] William of Conches*: A Dialogue on Natural Philosophy*, Book 6, Chs. 13, 7, 8, 10, 12, 15, 19 and 26.
[151] *Ibid*, Book 6, Chs. 17 and 23.

his explanations of the sense of smell, of the meninges and the complexions of the brain.[152] He described the three cells of the brain and their functions as in the *Pantegni*, but brought in new ideas of his own about the qualities of each: the front cell serving imagination, for example, described as hot and dry.[153] He explained how the structure of the brain served memory, presenting Constantine's physiological model, and the role of the vermis, a 'little excrescence', which moved to open an orifice between the middle and rear cells.[154]

The *Philosophia* had described this process as if automatic, but following accusations of heresy in the intervening years, the *Dragmaticon* had all mental operations directed by the soul.[155] William of Conches had been criticised by William of St Thierry for his physical explanations of the metaphysical, and along with new scientific developments, this may have led him to downplay his reliance on Constantine, still using his work but citing him less.[156] The chapter on the spirits from the *Pantegni* discusses two philosophical positions: that the animal spirit was the soul itself, or just its instrument, the soul being incorporeal; William of Conches now explicitly endorsed the second view.[157] It is of interest that many manuscripts of the *Theorica* add extra discussion of this issue, which may have been a later attempt to avoid contention.[158] Ronca writes that 'the influence of the *Pantegni* on William of Conches is quite remarkable'.[159] He had clearly absorbed a great deal of Constantine's work, he mentioned it constantly, got into trouble over it, and added to it.[160] He contributed new ideas about the brain, and the qualities of the ventricles, which were passed on in future descriptions of brain functions.[161]

If Constantine's work was making an impact in the rarefied world of academic theology and philosophy, his name was also known in wider English culture. In the *Canterbury Tales*, Chaucer's Physician held Constantine among the medical authorities he reverenced:

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[152] *Ibid*, Book 6, Ch. 22, Book 6, Ch. 18. However, his later version has the sensory and motor nerves deriving from the meninges.
[153] *Ibid*, Book 6, Ch. 18; O'Neill, 'William of Conches' Description of the Brain', p. 207.
[154] *Ibid*, Book 6, Ch. 18 comes from the *Pantegni*, with similarities to *De oblivione*.
[155] O'Neill, 'William of Conches' Description of the Brain', pp. 203 and 213.
[156] Ronca, 'The Influence of the *Pantegni* on William of Conches' *Dragmaticon*', pp. 267, 270-2.
[157] *Pantegni*, Book 4, Ch. 19; William of Conches, *A Dialogue on Natural Philosophy*, Book 6, Ch. 16, pp. 150-1; Burnett, 'The Chapter on the Spirits', p. 106.
[158] Burnett, 'The Chapter on the Spirits', pp. 99-120.
[159] Ronca, 'The Influence of the *Pantegni* on William of Conches' *Dragmaticon*', p. 266.
[160] He also cited Constantine in his *Glosae super Platonem,* and he added various ideas about nutrition and the brain, and the qualities of the ventricles (see O'Neill, 'William of Conches' Description of the Brain', pp. 208, 210).
[161] *Ibid*, p. 208.

Wel knew he the olde Esculapius,
And Deyscorides, and eek Rufus,
Olde Ypocras, Haly and Galyen,
Serapio, Razis and Avycen,
Averrois, Damascien, and Constantyn,
Bernard, and Gatesden, and Gilbertyn.[162]

In a work of popular fiction, it is assumed that these were names which were familiar to the intended late fourteenth-century audience. In the *Roman de la Rose*, Constantine was also named amongst the great doctors, who despite their skills, could not flee Death.[163] Chaucer also referred to him more significantly in the *Merchant's Tale* when January, an old man with a new young wife, used aphrodisiacs from *De Coitu*.[164] He called Constantine 'the cursed monk', and it may be that to have translated such a book was considered disreputable, if amusing. It was widely circulated, largely in a medical context, but apparently known to Chaucer and some of his audience, possibly Constantine's 'most prominent claim to fame'.[165]

The disorder of lovesickness, outlined in the *Viaticum*, and later considered by other medical writers, was also to have a particular literary and social influence. It was taken up in Thomas of Chobham's penitential, and the poetry of Chaucer and Gower, who clearly drew on medical theories and language, indicating that by this time they were part of a shared social understanding.[166] The medical concept of lovesickness was absorbed into developing literary conventions of a romantic love which was idealised and illicit. This idea may well have been more than just a literary trope, perhaps filling a genuine social need, validating the probably common experience of disrupted attachments and loss, as a medical concern.

Constantine's work was therefore widely known, and Chaucer and Gower could mention him knowing that their readers would understand the reference without further explanation.

[162] Chaucer, *The Riverside Chaucer*, 'The Canterbury Tales, General prologue', lines 429-34, p. 30.
[163] Guillaume de Lorris and Jean de Meun, *The Romance of the Rose*, F. Horgan (ed. and trans.) (Oxford, 1994) p. 247.
[164] Chaucer, *The Riverside Chaucer*, 'The Merchant's Tale', lines 1810-1, p. 161.
[165] Bassan, 'Chaucer's' 'Cursed Monk'', pp. 138-40; Matheson, 'Constantinus Africanus: *De Coitu*', pp. 290-4; Green, 'He wrote what?'.
[166] See Ch. 10.

The clinical idea of lovesickness also entered literary and general discourse, affecting people's understandings of their own most intimate feelings. Meanwhile astronomers and philosophers were reading the *Pantegni*, and its ideas about the human brain and cognition were informing efforts to understand the human soul, which was a central project of twelfth-century philosophy.[167]

Conclusion

When Constantine's texts first arrived, they were taken up early and eagerly by the most influential monasteries and ecclesiastical institutions in medieval England. Houses at Bury, Canterbury, Durham, Peterborough and Bath had all acquired manuscripts by the end of the twelfth century. Constantine's works were predominant in monastic library collections, copied, read, considered and applied in practice. Evidence for this is seen in Oxford, Corpus Christi, MS. 189 and in Bethesda, MS. E8, in which he seems to have been regarded a medical 'star'.[168] William of Canterbury's use of the *Viaticum* in the *Miracula* shows how the medical text had been digested and considered in relation to cure-seekers' complaints, whilst needing to reconcile it with the religious perspective.[169] In several places the advent of the new texts was associated with a flowering of medical knowledge and activity, apparent in Durham and at Christ Church with its many sick pilgrims.

Medical monks were keen to have Constantine's translations, but so were secular doctors, the earliest and best example being Herebert at Durham in the late twelfth century. Even in the fourteenth century Simon Bredon valued and was using his *Pantegni*. Bredon, an intellectual like John of London, evidently felt it necessary to include Constantinian works as part of their broad libraries. Authors like Henry of Huntingdon and Bartholomeus enthusiastically endorsed the new texts by using or quoting from them in their own work, and even in the fifteenth century Argentine regarded Constantine as an authority. The *Articella*, including the *Isagoge* and other works, was to be central in medical education across the continent but also in England, the *Viaticum* being essential reading at Cambridge.

[167] Long, 'Body and soul', Ch. 4.
[168] Black, 'A star is born'.
[169] Long, 'Of Monks and Miracles'.

By the fourteenth century most medical writers took up Constantine's work rather more grudgingly, as his reputation as a medical expert had waned, and new texts by Avicenna and Averroes became easily available in Latin.[170] Less cited by name, Constantine's presence was however still felt, in the foundational assumptions of medicine, and in the frequent unattributed use of his ideas and treatments. The many commonplace books of practical medicine used him a lot less, uninterested in the theory. His popular short tracts sometimes featured, and his work sometimes appeared second hand, or was sometimes misattributed, as remedies from the *Practica* remained popular. Most practical medicine had moved on to more contemporary writers and translations, and more fashionable astrological and alchemical ideas. Nevertheless, in wider culture his name might still be given as one carrying weight; poets knew his name and ideas, whilst the philosophical debates they sparked carried on for centuries.

So far it has been easy to show the general influence of Constantine's work. What specific impact did it have on knowledge and ideas about the mind and on treatments for disorders of the head? Although the *Pantegni, Isagoge* and *Viaticum* were the most popular texts, Herebert, Christ Church Priory, Merton College, and William of Chichester and John Sturry (at St Augustine's) all collected copies of *De melancholia*. Herebert may have had access to *De oblivione* at Durham, and Stephen of Cornwall owned a copy. Where it has been possible to examine manuscripts it is sometimes apparent that users have taken an interest in the sections on mental disorders. The early *Pantegni* from Bath has notes at sections on apoplexy, epilepsy and *melancholia*, whilst the Bury *Pantegni* has a red flag at lethargy.[171] Particularly striking are the extensive notation and signs of use in the *Viaticum* from Christ Church, showing specific interests in mental and neurological disorders.[172]

Bartholomeus drew primarily from Constantine for his information on the human mind, brain and mental disorders, and frequently cited him. De Gordon and Gilbertus on the other hand rarely credited him as a source, but that De Gordon clearly knew all of his works is apparent in his treatment of disorders of the head; Gilbertus also drew heavily from the *Viaticum* and *De melancholia* in this area of medicine. Gaddesden used his translations less

[170] O'Neill, 'Book review: *Doctor Bernard de Gordon',* p. 859; Demaitre, *Medieval Medicine*, pp. 10-12, 325-6.
[171] See pp. 275-6 and 283.
[172] Oxford, Corpus Christi College, MS. 189, fols. 12r-17r.

frequently than other texts, often referring to the *Practica*, but did draw upon *De oblivione*. All had clearly read much of his work in this area, and took on his explanatory models of forgetfulness, apoplexy and epilepsy. By the later medieval period Constantine was just one source amongst many, but for John Argentine in the late fifteenth century, he was still the expert on *melancholia*. The evidence for medicine applied by users of remedy books by this time does not support wide use of Constantine's treatments for mental and neurological illness, but two did continue to be cited. His treatments for lethargy and forgetfulness persisted in professional medical writing and remedy collections, which frequently prescribed anacardium, perhaps because it was effective. Perhaps unfortunately for the progress of naturalistic medicine, another set of remedies which continued to be recommended frequently were those attributed to Constantine in the *Practica*, such as the masses to be said over the epileptic patient.[173]

Medical texts alone can never be certain guides to what happened in practice, and it was hoped to give evidence as to whether Constantine's treatments were used in the surviving accounts of the treatment of elite or royal patients. Edward III suffered a stroke, and Henry VI famously had a period of mental instability, however surviving accounts are never very medically specific.[174] Every possible kind of medical cure was suggested for Henry VI, as well as the use of relics and alchemy, but which ones were used is not known.[175] In general it does seem likely that the new pharmaceuticals were being applied however, since they continued to appear frequently in treatment recommendations. Although initially difficult to access, Indian drugs were available in Sicily from the eleventh century, with good trade links between England and Sicily under Norman rule.[176] Furthermore, it is hard to believe that the Christ Church *Viaticum* (Corpus Christi, MS. 189), with its pages on mental disorders well thumbed and marked, and with its battered cover, was not well-used by John Holyngborn who signed it, or by its other owners.

[173] This continued to be recommended by De Gordon and by Gaddesden, in Edinburgh, National Library, MS. 18.6.9 (olim.A.6.13) and in Peter of Spain's *Thesaurus Pauperum.*
[174] C. Brewer, *The Death of Kings: A medical history of the Kings and Queens of England,* 9th edn. (London, 2017), pp. 53 and 68-9.
[175] C. Rawcliffe, 'The Insanity of Henry VI', *The Historian*, vol. 50 (1996), pp. 10-1; D. Geoghegan, 'A Licence of Henry VI to Practice Alchemy', *Ambix,* vol. 6 (1957-8), pp. 15-6.
[176] Amar and Lev, *Arabian Drugs in Early Medieval Mediterranean Medicine,* p. 28.

Finally, Constantinian writings have been seen to have influenced scientific writers like Bartholomeus, Alfonsi and possibly Walcher. The anatomy and physiology of the brain passed on in the *Pantegni* and *De oblivione* caught the interest of philosophers like William of Thierry and William of Conches, who debated and developed these ideas, and how they related to the big questions of humanity. Subsequently Aristotelian views and the more sophisticated models of Avicenna's *De anima* and *Canon* would gain more currency, however only after the *Pantegni* had prepared the intellectual ground.[177]

[177] Cobb, *The Idea of the Brain,* pp. 26-7.

Conclusion

Constantine set out the aims of his work in his prologue to the *Pantegni*, offered to Abbot Desiderius. Medicine, he said, was an art of great usefulness which sat at the intersection of the various branches of knowledge: logic, the physical and the ethical. He had studied the great medical writers but found that most had neglected the great scheme of things: the elements, complexions, humours, members, powers, faculties and the spirits. Galen, on the other hand, had written so much that 'many have been overwhelmed by weariness', and Constantine sought to summarise and pass on his ideas. He wrote that:

> I, seeking to make it useful to all, have determined to write ... what is necessary to protect the health of the healthy and to heal illness. I have also listed the causes of diseases, and their natures, their signs also, and the accidentals. For healing sickness without knowledge of these matters is impossible.[1]

Such was Constantine's determination to convey this knowledge, that by the end of his life he had translated not only the *Pantegni*, but around thirty Islamicate and retrieved Greek medical texts. These translations were soon travelling widely across Europe and were starting to reach England from at least early in the twelfth century. The new Salernitan works were quickly taken up, sought after and copied by English scholars, whose surviving vernacular texts demonstrate a long-standing interest in medicine.

Chapter 1 of this thesis demonstrated that learned people in England already had access to a great deal of medical information, in vernacular and Latin texts, and new texts which were coming in with the Norman Conquest. The research presented here involved accessing many Latin works, sometimes in manuscript form, and much translation work to establish the full picture of what was known, and draw accurate comparisons. Constantine's medicine shared some continuities with the Latin textual tradition, but what was really new was that his translations brought ideas from both distinctively Galenic and Islamicate medicine. Galen's large body of work was informed by dissection and experience, to which Islamicate scholarship had added centuries of observation and enquiry, with new *materia medica*, and

[1] Kwakkel and Newton, *Medicine at Monte Cassino,* Appendix C, pp. 205-9.

synthesised it into the most sophisticated medical works yet seen.[2] Chapter 2 gave evidence of how Constantine's new translations of these works were to be widely taken up across the country. By 1300 they could be found from Durham in the north to Exeter and Canterbury in the south, as well as the Midlands and East Anglia: they were recorded in the most important monastic houses of the time, at Bury, St Augustine's Abbey and Christ Church Priory in Canterbury, and Durham Cathedral Priory.

These works of Constantine were of course not his own. He has been criticised for not acknowledging the original authors and for his poor Latin, but this does not greatly compromise his achievement.[3] Considering one area of Constantine's medicine, looking at its content in detail and comparing it to what had gone before and came after, has provided a good understanding of the nature of his contribution in general. Prior to this, all of early English medicine was essentially practical and remedy-based, and rarely showed interest in the theoretical aspects of medicine, anatomy or physiology. Constantine's *Isagoge* and *Pantegni* were to distinguish theory from practice, and to devote as much to the first as to the second. They were to show that medicine was part of natural philosophy, and place medicine more firmly into the model of the natural order illustrated by Byrhtferth. Constantine was a large part of a 'watershed' moment when *medicina* became *physica*.[4] There was a system to the universe, to man's environment, and to the human body within that environment. Islamicate medicine had a more theoretical and philosophical orientation, partly coming from Galen, whose view was that the 'best physician must also be a philosopher'.[5] These novel texts were very much Galenic, whereas previous access to his work had been only through a few short, distorted fragments.[6] Galen's work also provided a complete account of the structure and functioning of the human body, as passed on in the *Pantegni*.[7]

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[2] Getz, *Medicine in the English Middle Ages,* p. 38; Long, B., 'In Latin books, I found no author who gave certain and authentic information; therefore I turned to the Arabic language ... ', *Constantinus Africanus* [website] (22nd January 2018) <https://constantinusafricanus.com/2018/01/22/in-latin-books-i-found-no-author-who-gave-certain-and-authentic-information-therefore-i-turned-to-the-arabic-language/> (last accessed 17 May 2023).
[3] Bassan, 'Chaucer's 'Cursed Monk'', pp. 131-2.
[4] Wallis, *Medieval Medicine,* p. xxi.
[5] Smith et al., *The Animal Spirit Doctrine,* p. 34.
[6] *Ibid*, p. 67; Glaze, 'The perforated wall', p. 161.
[7] Harvey, *The Inward Wits,* p. 20.

Constantine's texts introduced Galenic and Islamicate terminology and concepts, finding comprehensible terms and phrases in Latin to pass on a new technical vocabulary; this was to be used by subsequent translators and became the language of physicians throughout the Middle Ages.[8] Chapters 3 and 4 of this thesis explained the conceptual categories of the naturals, non-naturals and contra-naturals which he developed, and which provided a framework for medical knowledge that was to be a key part of his legacy.[9] As has been demonstrated here in the case of disorders of the head, his translations offered a more sophisticated level of observation. Unlike English vernacular texts, and more in line with the Latin tradition, his works always carefully described the symptoms and presentation of illnesses, using consistent disorder names.

It has become clear that etiology was always emphasised in Constantine's descriptions of disorders. As he set out to do, his works surpassed all previously available texts in their coverage of questions of causation. Etiology might seem obviously important to mention, but of course not all previous texts had done so, and particularly those in Old English, whilst the Methodist school of ancient medicine had specifically excluded such considerations as unhelpful.[10] This emphasis on understanding causation was to be fundamental in the subsequent development of medicine. It was a defining characteristic of learned medicine, separating it from the mere mechanical arts, and the issue that separated the physician from the quack.[11] Without it, John of Salisbury wrote, doctors would only achieve cure by chance, and Henry of Huntingdon noted that 'happy is he who can know the causes of things, especially whatever will be the cause of health'.[12] These causes were natural and largely humoral, the humours being the basis of Galenic medicine. As opposed to the worms, 'flying venom', supernatural causes of illness, and the variable understanding of humours evidenced in the vernacular texts, the *Pantegni* and *Isagoge* set out the four humours in detail; in describing conditions, the humour or humours responsible were carefully specified.[13] The

[8] Long, 'Body and soul', p. 295.
[9] Archambeau, 'Medical and Scientific Understandings', p. 23.
[10] D.C. Lindberg, *The Beginnings of Western Science* (Chicago, 1992) p. 124. See also Ch. 1.
[11] Jacquart, 'The Introduction of Arabic Medicine into the West', pp. 190-2, 186.
[12] Shogimen and Nederman, 'The Best Medicine?', p. 65; Henry of Huntingdon, *Anglicanus ortus,* p. 299.
[13] Meaney, 'Anglo-Saxon View of the Causes of Illness', pp. 12-33; *Pantegni,* Book 1, Ch. 25; *Isagoge,* p. 141.

Pantegni also laid out the anatomy of the bones, blood vessels, nerves and organs, providing the tools for a conceptual model of an illness or loss of function in order to treat it.[14]

The idea of the non-naturals was also a major contribution to medical thought. Although the basic ideas behind this were present in Galen, it was in al-Mağūsī's work, and then the *Pantegni,* that they were fully articulated and named.[15] Chapter 4 described how the patient's environment, his complexion, lifestyle, health habits and especially diet, were all to be considered, bringing an emphasis on sanitation and preventative health.[16] In an age when cure was difficult at best, medieval doctors were to be at least as preoccupied with prevention, through regimen and diet, with a vast literature of regimen appearing over the course of the Middle Ages.[17] Whereas the vernacular texts suggest the English had only very generalised guidance on such matters, following Constantine's work individualised, holistic medicine was the rule of the day, part of all medical advice given by later English writers. On the basis of the idea of the non-naturals, English hospitals would attempt to provide an appropriate diet, warmth, peace for rest, and a water supply for washing.[18] This filtered through to wider culture: Chaucer commented that a poor widow maintained her health with exercise, a content heart, and a temperate diet, as 'al hir phisick'.[19]

In the disorders investigated, and outlined in Chapters 5-10, this understanding of cause and contributing factors formed the basis of Constantine's treatment plans. There was now a rationale for treatments, rather than remedies given without explanation. His texts continued the trend to give good preparation instructions, usually with weights and measures. One of their most important contributions may lie in the area of pharmaceutics. His *Antidotarium* and *Liber graduum* were very influential, and he promoted many of the new compound drugs, and the extended Galenic system of degrees of drugs and foods. He played an important part in introducing and promoting *materia medica* from Islamicate medicine, which had trading links extending as far as India and China, giving access to a large number of useful drugs. There were over 100 medicinal and other substances in Islamicate medicine

[14] *Pantegni,* Books 2 and 3.
[15] Garcia-Ballester, 'On the Origin of the 'Six Non-Natural Things'', p. 107.
[16] Horden, 'A Non-Natural Environment', pp. 138-9.
[17] Sotres, 'The Regimens of Health', pp. 291-318.
[18] Rawcliffe, 'Hospital Nurses and their Work', pp. 54-61.
[19] Chaucer, The *Riverside Chaucer,* 'The Nun's Priest's Tale', p. 253; Horden, 'A Non-Natural Environment', pp. 136-7.

which did not appear at all in Galen or Dioscorides, such as the myrobalans, galingale, cassia fruit, and tamarind.[20] In this regard Constantine is seen most clearly bringing not just Galenic but global medicine to England.

Chapter 11 illustrated how Constantine was influential even when he omitted or had little to say about particular conditions. Chapter 12 discussed the evidence of Constantine's impact from many examples. His translations were used by medically inclined monks and those seeking to understand and help the ailments of pilgrims, such as William of Canterbury. Secular doctors like Herebert and Simon Bredon sought them out and medical writers such as Henry of Huntingdon incorporated their contents into their own writing. Bartholomeus Anglicus' encyclopaedia of knowledge relied on them for all matters physical and medical, and other scientists such as Petrus Alfonsi cited them. In intellectual circles William of Conches quoted from the *Pantegni* extensively on matters such as the qualities of the elements. In wider English culture the poets Chaucer and Gower could mention Constantine's name, knowing that it would be familiar to their audiences.

Constantine's influence on the range of later English medical writing has been little explored previously. This research involved accessing these mostly unedited texts, requring translation from the Latin. Although their works were essentially therapeutic, learned medicine now involved giving full descriptions of symptoms, possible causes, advice on prevention, more carefully specified treatments, and some (sometimes a great deal) of the theory. In the fourteenth century and fifteenth centuries his key texts had become an important part of developing medical training in the new universities at Oxford and Cambridge. Students of medicine read the *Isagoge* as part of the *Articella*, and the *Viaticum* became essential reading at Cambridge, alongside its many commentaries. Theory would now be at the heart of medical education, and medical writers assumed their readers had some theoretical background. This all went with the increasing professionalisation of medicine, as considerable training was needed to master this complex body of knowledge, although possibly to the detriment of practical experience.[21]

[20] Amar and Lev, *Arabian Drugs in Early Medieval Mediterranean Medicine*, p. 61 and Ch. 3.
[21] Riddle, 'Theory and Practice', pp. 172-84; John of Salisbury was scathing about the medical skills of those returning from medical school in Salerno, writing in 1159 (John of Salisbury, *Metalogicon,* cited in Kealey, *Medieval Medicus,* pp. 37-8).

In twelfth and thirteenth-century England, Constantine was considered one of the great authorities of medicine; Roger Bacon listed him with Galen and Hippocrates.[22] The analysis of Chapter 2 showed that by the close of the Middle Ages several hundreds of copies of his works are likely to have passed through English hands, and they were still being printed in the sixteenth century. His translations 'would supply the foundation of medical literature on which the West would build for several centuries'.[23]

Disorders of the head

So, this was the general impact of Constantine's translations, but what has this research revealed about their effect in the specific area of mental and neurological disorders? The amount of information available on such conditions was certainly hugely increased. The *Pantegni*, *Isagoge* and *Viaticum* were increasingly widely circulated, at least in monastic houses, and evidence from the inspection of manuscripts from Bath, Bury and Christ Church indicates that the sections on disorders of the head were being read. Two new texts were available specifically devoted to mental disorder, in *De melancholia* and *De oblivione,* with *De melancholia* in particular becoming quite widely available. These works were both impressive texts of Islamicate medicine, and the first known works concentrating entirely on madness or neurological conditions to arrive in England, setting out the symptoms, causes and treatment of the respective problems in detail.

The *Pantegni* and *De oblivione* provided much new relevant background theory, laying out the anatomy and physiology of the brain, as described in Chapter 3. They provided models of mental functioning and even explained personality differences as arising from the complexion and varying qualities of the brain. Galen's description of the brain given in the *Pantegni* was a huge addition to the previously limited knowledge of the English, which was confined to some awareness of the ventricles and meninges.[24] The various parts of the brain and the animal spirits which served its functions were very much part of the body but also instruments of the soul. *De oblivione* described how memories were established in the rear ventricle of the brain, in an early information processing model which paired brain anatomy

[22] Writing around 1268, Roger Bacon listed Constantine as one of the great authorities of medicine: 'Hoc docent auctores medicine, scilicet Ypocrates, Galienus, Constantinus, Rasy, Haly, Ysaac', Roger Bacon, *De erroribus medicorum*, cited in Matheson, 'Constantinus Africanus: *De Coitu*', p. 289.
[23] Lindberg, *The Beginnings of Western Science,* p. 204.
[24] Smith et al., *The Animal Spirit Doctrine,* p. 67.

with cognitive function. Admittedly, some parts of Galen's descriptions of cow brains are inaccurate for humans, and the ventricles are not as presented, nor are they now thought to be involved in cognition, but these ideas provided a first coherent idea of brain functioning on which to build, and to try to understand mental and neurological illness.[25]

All of Constantine's books were clear that the brain was the seat of perception, reason and memory, and disorders of mental function were disorders of the head. Even some motor disorders such as apoplexy and paralysis were clearly located as arising in the brain.[26] The important role of the brain may have been news to many people in Anglo-Norman England, who took some time to leave behind their ideas of the mind-in-the-breast. Even when the Latin texts available had espoused cephalocentric ideas, it was not until the twelfth century that there are signs of the English fully taking this on board.[27] Lockett attributes this change to a number of incoming Galenic texts, but none of them gave such a clear and confident message of cephalocentric psychology as the *Pantegni,* which was quite probably the 'potentially compelling challenge' which brought about this important paradigm shift.[28]

The *Pantegni* also addressed the emotions, previously neglected in any medical text available in England, as outlined in Chapter 4. The *accidentia animae* were one of the non-naturals and were described in completely naturalistic, physical terms as the *calor naturalis* moved to or away from the heart, perhaps appealing to those from the English cardiocentric tradition. This was to be very influential in subsequent medical thought, but also in wider culture. The importance of the emotions in health became part of the common understanding, with Chaucer's poor widow relying on 'hertes suffisaunce' more than medicine.[29] The emotions could be assisted by manipulation of the non-naturals, and themselves could be harnessed to do therapeutic work: joy was to be fostered in the melancholic or lovesick, worry and anger to be avoided.[30]

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[25] *Ibid*, pp. 86-7.
[26] In *Bald's Leechbook,* the *Passionarius* and the *Liber Tertius* in CUL, MS. Peterhouse 251, they are discussed with conditions of the lower body.
[27] Lockett, 'The Limited Role of the Brain', p. 51.
[28] Lockett, *Anglo-Saxon Psychologies*, p. 440.
[29] Chaucer, *The Riverside Chaucer,* 'The Nun's Priest's Tale', p. 253; Horden, 'A non-natural Environment', p. 136.
[30] *Pantegni*, Book 5, Ch. 11. See Ch. 4, pp. 126-7.

Then Constantine's translations also brought new understandings of mental disorders and their symptoms, under the heading of the contra-naturals. They continued the Latin terminology with clear diagnosis names, as opposed to the ill-defined problems of the vernacular texts. The basis of diagnosis was careful observation and description of the symptoms and causes, not always present in the previous remedy-focused texts. A good example of this was described in Chapter 9 on melancholy, as *De melancholia* and the *Pantegni* gave by far the best picture of melancholy, in all its forms, that any Anglo-Norman doctor would have seen. Indeed, this would have been a novel diagnosis to those who only had the vernacular texts available to them, and quite a revelation in understanding many problems, some of which could have seemed demonic. A much more psychological picture was also presented, as opposed to previous preoccupations with the patient's abdomen. Overall, in Constantine's coverage of melancholy, the diagnosis which covered most forms of 'madness', there are early foundations of what would one day become the medical specialism of psychiatry.

Indeed, Constantine's works brought the most detailed and comprehensive descriptions of the symptoms of many mental and neurological conditions, including epilepsy. New observations are apparent, for example in epilepsy that convulsions could arise temporarily during pregnancy, or that it could sometimes result from head injury.[31] In apoplexy the *Viaticum* was the first text to associate speech loss with right-sided weakness or paralysis, important in understanding the lateralisation of the brain.[32] Elsewhere the symptoms of lovesickness were vividly described, a new disorder introduced to England in the work of Constantine, and clearly tapping into a need at that time.

Constantine thought it critically important for the physician to know the etiology of disorders, and again the causes of disorders of the head were fully set out in his texts. Over time this emphasis was to lead to more specific and useful disease concepts, and was presumably to be responsible for the decline of terms like frenzy and lethargy, as it became apparent that these were umbrella terms for a variety of conditions with different causes, and therefore fairly meaningless and unhelpful. It was increased understanding of causation that eventually led to a separation of neurological conditions from psychiatric problems. An

[31] Temkin, *The Falling Sickness,* p. 131.
[32] Karenberg and Hort, 'Medieval Descriptions and Doctrines of Stroke. Part II', pp. 181-2.

emphasis on causation also stimulated the development of brain-based explanatory models. The model of memory given in *De oblivione* drew upon ancient ideas of the seal ring going into wax, but placed it into the context of Galen's anatomy of the brain, and sited it in the rear ventricle of the brain. Chapters 7 and 8 gave al-Mağūsī's model of apoplexy and epilepsy, in which blocked ventricles cannot allow the smooth passage of movement messages to the body, either completely or partially. The ventricular model of mental functioning had therapeutic applications, but also provided satisfying hypotheses to explain otherwise mysterious symptoms. These may be primitive models, but they were a first step in modelling disorders in the important task of understanding them, and were enthusiastically taken up by later medical writers.

Constantine's works also fully explained humoral causes for mental and neurological disorders, as seen for example in Chapter 6 on lethargy and forgetfulness: cold wet phlegm affected the solidity of the substance of the brain in the posterior ventricle so that it could not retain impressions, whilst also suffocating the animal spirit. *Melancholia*, covered in Chapter 9, was *par excellence* a disorder of the humours, and the varieties of humoral causes were explained, particularly black bile and its transformation into unnatural black bile. Black bile could arise in different parts of the body, and in different states; the various environmental and dietary factors which promoted it were given, and variations in symptoms, such as the agitation and anger seen in mania, were explained as being due to the burning of red bile. All of this brought a new level of sophistication to humoral explanations.

Constantine brought new ideas about behavioural or psychological causes for mental illness, often working through their effects on the humours, as shown in Chapters 9 and 10. Such ideas would only really have been seen before if Alexander of Tralle's work on disorders of the head was available in England, and accessed by physicians.[33] This was partly a return to some of Galen's psychological insights, which had been lost in the earlier Middle Ages, together with those of Islamicate medicine, coming through ibn-'Imrān's work.[34] In melancholy, bereavement or loss, too much studying or thoughts of judgment led to the

[33] Although excessive reading or thinking is given as a cause of mania in the *Passionarius*, Book 1, Ch. 9.
[34] Galen, *Psychological Writings*, P.N. Singer (ed.) (Cambridge, 2013); D. Tremblinkski, 'Comparing Premodern Melancholy/Mania and Modern Trauma: An Argument in Favor of Historical Experiences of Trauma', *History of Psychology*, vol. 14 (2011), p. 86; Gowland, 'Burton's *Anatomy*', (section 9).

burning of black bile which made the mind vulnerable to the condition.[35] Lovesickness could arise simply from 'the contemplation of beauty'. Some philosophical causes were even invoked: melancholy could be induced by the soul's attempt to regain the truths of Platonic forms, and the search for perfection and deep affinity was part of the desperation of the lovesick.[36]

Chapter 11 drew attention to two potential causes of mental, behavioural or neurological difficulties which were not mentioned in any of Constantine's own translations, as he did not attribute such problems to sin, nor to any supernatural forces such as demons. The original Islamicate texts did not discuss any such causes, and this was in line with ideas seen in previous Latin texts. In Islamicate medical thought, madness was due to disease, to be cured with a secular approach to treatment. This went against what the English had long been taught by the Church and their vernacular medical texts, where supernatural agents seem to have been considered the predominant cause of convulsions and behavioural disturbance. Texts arriving in England post-Conquest reveal a time of uncertainty and confusion about the role of demons in illness, but Constantine's own translations were clear: the idea that epilepsy was due to demons or the wrath of God was ignorant. Epilepsy was due to blockages in the ventricles affecting the nerves to the limbs, or other causes such as skull fractures. All of the disturbing hallucinations, delusions and other abnormal behaviours that came under the heading of *melancholia* were attributed to an issue with black bile.

Anything which was related to sin or the devil was not the province of the doctor but the Church. Translation work on subsequent learned medical texts available or written in England has shown that they barely mentioned demons from this point on. The *Practica*, attributed to Constantine, did offer a test to determine whether a patient was a demoniac, lunatic or epileptic, and all such patients were to be taken to church for masses to be said over them, whatever the outcome. This test remained popular with later medieval writers, along with other new tests to check for possible demon possession. These writers did not however give any medical treatments for those considered possessed. It may be assumed they were directed to spiritual cures, with a greater demarcation of roles.[37]

[35] *De melancholia,* pp. 104 and 107. See Ch. 9, p. 225.
[36] *De melancholia,* p. 104, see Ch. 9, p. 225; Wack, *Lovesickness*, pp. 35-7.
[37] Although some religious rituals might be included in the treatment of epilepsy.

Treatments

In the work of Constantine, mental illnesses were not differentiated from physical ones, and were to be treated in similar ways. Causation was important as this formed the rational basis for treatment, in a way that had not been prioritised before. Giving an understanding of anatomy made sense of some frequent treatments such as the provocation of sneezing, since this was thought to draw excess humours directly from the brain. Constantine's treatments were often of the same kind as had always been offered, with many medicines based on herbs, with purgatives and bloodletting. However, they were different from the treatments of the vernacular texts in their less frequent use of animal parts, ligatures, and with almost no ritual or religious elements, except for the few of the *Practica;* they were different from those of the Latin texts in being rather gentler in approach.

Constantine's treatments also made use of the many new drugs from the Islamicate pharmacopoeia and gave novel drug recommendations for particular conditions. An example of this is given in Chapter 5 on frenzy, that the drugs he prescribed for the condition were mostly quite new to England, and new for frenzy, such as tamarind, the sugar mixture oxizaccara, and the compound medicines *hieralogodion* and Galen's *hiera*. Anacardium was a new drug to be used for lethargy and forgetfulness. In general, of course, there is no reason to think that the 'new' medicines were any better that the old, however Chapter 12 summarised evidence that some were promising, for example, in the evidence of the modern form of anacardium's helpful anticholinesterase properties. It continued to be recommended for memory problems and lethargy at least until the fifteenth century, presumably because it was indeed found to be useful. Meanwhile, some symptoms of *melancholia* might be helped by the myrobalans or St John's wort.

Other innovative treatments for mental disorders seen in Constantine's texts were psychological or behavioural, as seen for melancholy and lovesickness in Chapters 9 and 10. The first concern in *melancholia* was to relieve suspicions and fixations by the use of rational words, wine and distraction, or even by challenging them with evidence. The only author seen in England to have described such an approach before was Alexander, if this part of his work was indeed available. The earlier and contemporary Latin texts had paid some attention to diet, exercise, or what were now understood as the non-naturals, although the vernacular texts had largely ignored these, and certainly rarely mentioned the patient's feelings. Yet

working through the non-naturals offered the preferred therapies for *melancholia* and its variant of lovesickness, especially those that addressed the *accidentia animae*. The patient's mood was to be improved with things they enjoyed, pleasant distractions and soothing treatments, avoiding things that upset them. Bathing had been used before, but here it was quite pampering to the necessarily elite patient: the melancholic should have a bath then a massage and a meal, the epileptic and the lovesick should 'delight in the bath' and even be encouraged to sing. All kinds of music should be used to relieve the obsessive thinking of melancholy and lovesickness, or to awaken the lethargic patient, music also worked directly on changing the emotions. The benefits of music had indeed been known since biblical times, but Constantine's work established its therapeutic use in the West, especially for conditions like mania and melancholy.

All of this was very pleasant, and it has been shown here that Constantine's treatments were generally quite humane in comparison to much that had gone before. Bloodletting was less commonly recommended than in the Latin texts, and there was no cauterisation, whipping or binding, at least for these privileged patients of literate doctors. Given that in miracle accounts demoniacs and madmen were often restrained, bound or even beaten, Constantine's naturalistic medical account of conditions like *melancholia* and epilepsy offered alternative approaches.[38]

Medical impact

Translating the work of subsequent medical authors has shown that they were now well aware of the brain, its ventricles and the spirits, led by Bartholomeus with his detailed account drawn almost entirely from the writings of Constantine. All were clear that mental and behavioural disorders, as well as paralysis following apoplexy, had their roots in the brain, and used Constantine's brain-based models of epilepsy, apoplexy and forgetfulness. All used the established Latin names for disorders of the head, explaining their symptoms and causes, and some took up the new condition of lovesickness. As summarised in Chapter 12, they were mostly well acquainted with what Constantine had written on these conditions in the *Pantegni* and the *Viaticum*; most had read *De melancholia*, if possibly fewer *De*

[38] M. Laharie, *La folie au Moyen-Âge XI^e^-XIII^e^ siècles* (Paris, 1991) pp. 189-90, cited in Trenery, *Madness, Medicine and Miracle,* p. 57, and see also pp. 69-73 and 91 for a discussion and examples of restraint and violence or care in the treatment of those suffering insanity.

oblivione. Nevertheless, his treatments for lethargy and forgetfulness were universally popular, with anacardium given as a favoured drug both for learned doctors and in commonplace books. His ideas and treatments for *melancholia* were particularly influential, and many of his other treatments continued to be recommended, although the eclectic treatments from the *Practica* were also highly regarded. Further tracing his influence in later medical writing is an area ripe for continuing research.

Over time his work on these disorders was less directly cited as other ideas and authors such as Avicenna gained prominence, and it did not feature strongly in the many vernacular remedy books of the later Middle Ages, such as those from the Bodleian sample. There was continuing interest in the non-naturals, the *accidentia animae,* his treatments for lethargy and those from the *Practica*. However, Bodleian Library, MS. Ashmole 1437 revealed that as late as the 1470s John Argentine was often still quoting him and using his ideas regarding mental and neurological disorders, considering him especially an authority on melancholy.

Cultural impact

How far were these new medical ideas and approaches taken up in wider society? Miracle accounts are very useful in finding out the Church's perspective, and of course the Church was central to much medieval thinking. As discussed in Chapters 8 and 11, following the arrival of Constantine's texts some changes begin to be seen in these narratives. Whereas in earlier accounts such as those of Bede, symptoms such as those of epilepsy or insanity were almost uniformly attributed to demons or evil spirits, reports from the late twelfth century were much more nuanced and included medical ideas. At the shrine of Thomas Becket, cases of madness or disturbed behaviour might still be attributed to demons but this was now in a minority of cases. Where eight out of 28 such cases were said to be due to possession, the rest were described in naturalistic terms.[39] It is of note that the authors of this record may well have had access to Constantine's works such as the *Pantegni* and *Viaticum,* but also that they were reporting what they had been told, so that these reflected the shared understanding of the community.[40] These accounts also recorded healings of epileptics

[39] Trenery, *Madness, Medicine and Miracle,* pp. 86-90 and 97.
[40] *Ibid*, pp. 85-6. Benedict had a *Pantegni* at Peterborough. An eleventh or twelfth-century copy of the *Viaticum,* surviving as Oxford, Corpus Christi College MS. 189 is from Christ Church Priory and some of the Constantinian books recorded in Prior Eastry's catalogue of 1331 may have been there for some time (see Ch. 2).

separately from those of madmen or demoniacs, as did those of St Bartholomew's, London, which quoted the new medical ideas.[41] Of course medicine and the Church were not in conflict, both approaches were considered legitimate and the sick would continue to seek both spiritual and medical remedies, with the healing powers of Christ and the saints naturally considered superior. Literature in Middle English over this period continued to reflect views of madness which considered it mainly in terms of sin and divine punishment.[42]

Theologians and philosophers were influenced by ideas about the anatomy of the brain and the model of cognition found in the *Pantegni,* as they explored fundamental ideas about the soul as discussed in Chapters 3 and 12. One of the long-standing questions about the nature of the incorporeal soul was how it could operate within the corporeal body, without a corporeal component. The *Pantegni's* presentation of the spirits, and the imagination, reason and memory, located in the ventricles, was to inspire a wave of treatises on human psychology in the twelfth century such as that by William of St Thierry. William of Conches was even more entranced by the *Pantegni,* quoting it extensively, developing its physiological model, and discussing its implications. Could the animal spirit be the soul itself, or was it simply its instrument? All of this was a critical matter: materialistic ideas from medicine were potentially heretical, but certainly pushing the boundaries of debate about the very nature of human beings.

Human emotions were also of interest to philosophers and the Church. Previously in medieval society they had primarily been tied up with questions of sin or virtue, and hence salvation. The 'temptations of the fiend' of the *Lacnunga* may well have involved many emotional states and impulses, even if they were perceived as being demonic in causation. Constantine's physiological description of the *accidentia animae,* outlined in Chapter 4, brought a new conceptualisation of emotions as physical events, one of the non-naturals, and morally neutral. Previous understandings were questioned, encouraging a burst of literature on the emotions, both religious and secular. Meanwhile, Constantine's medical ideas about emotion and most forms of mental health difficulites were not widely taken up in English literature, which continued to deal in biblical and standard literary tropes of madness.[43]

[41] *Ibid,* p. 117. On the other hand, of four madmen healed at St Bartholomew's three were said to be due to demons (pp. 118-9).
[42] Doob, *Nebuchadnezzar's children,* Ch. 1.
[43] *Ibid.*

However, Chapter 10 showed that the new disorder of lovesickness was reaching the priest on the ground in penitentials and became part of the culture, as people tried to make sense of their experiences of desire and separation. It was an inspiration for poets like Chaucer and Gower and encouraged the new fashion for 'courtly love' with its medical validation.

Conclusion

Although medical texts can only give a very partial picture of how medieval medicine was actually practised at the bedside, they are one of our main sources of information, and here form the core data. The scale of Constantine's translations provides a rich seam of information, and the extent of his work on disorders of the head has made this an ambitious project. It was more challenging because there are so few published editions of his work and almost no English translations, which is also the case for most of the medical authors who preceded and followed him. It is hoped that, having established some of the most helpful available versions and manuscripts of these texts, the links and references given here may be of use to others who seek to continue the work of exploring the many ground-breaking works Constantine made available, as well as other under-researched medical writing of this period.

These translations by Constantine would have been a revelation to the Anglo-Norman *laec*, and even more so as Lockett points out that few had access to the existing Latin medical texts, or specifically their content on disorders of the head.[44] The numbers and distribution of Constantine's works across England indicate the increasing availability of this new sophisticated knowledge. As they spread, medicine was to be steered into a more theoretical discipline which involved consideration of such issues as underlying disease process, lifestyle factors, and the qualities of foods and drugs. The complexities of all of this required significant training and encouraged increasing professionalisation. Whilst lamenting the predominance of theory, Riddle also acknowledges that this attracted some of the best minds to the subject.[45] Despite many centuries of 'bad medicine', intelligent doctors thinking hard about the underlying causes of illness is of course at the root of any advance in medicine. It might not be possible to say that medicine had become a more 'scientific' discipline, in that

[44] This may be less true of the post-Conquest period when Latin sources were probably becoming more widely available, see the discussion in Ch. 1.
[45] Riddle, 'Theory and Practice', p. 183.

authority still took precedence over experience and any idea of experiment, whilst Constantine promoted humoral theory which was a long blind alley in terms of medical progress. What he did offer was a medicine now underpinned with an intellectually coherent and satisfying body of thought. Constantine's texts laid some early foundations for science, in their naturalistic approach to physical and mental phenomena, and emphases on the importance of observation, description, and understanding of etiology.

The English and their doctors were now clearer that the mind was in the brain. Not only that but they could read about the anatomy of the brain, and brain-based explanations of mental disorders, memory and emotion. All of this was grist to the mill of philosophical enquiry about the soul, which now had a machinery and animal spirits through which it operated. It prepared the ground for even more sophisticated models of mind that followed with Aristotelian ideas and those of Avicenna, illustrated below (Image 13.1).[46] Avicenna's work was ultimately to become more influential in intellectual circles and universities, but came rather late to England, Constantine's ideas long leading the way.[47]

[46] Cobb, *The Idea of the Brain*, pp. 25-7; Smith et al., *The Animal Spirit Doctrine*, pp. 72-3.
[47] Demaitre, *Medieval Medicine*, p. 11.

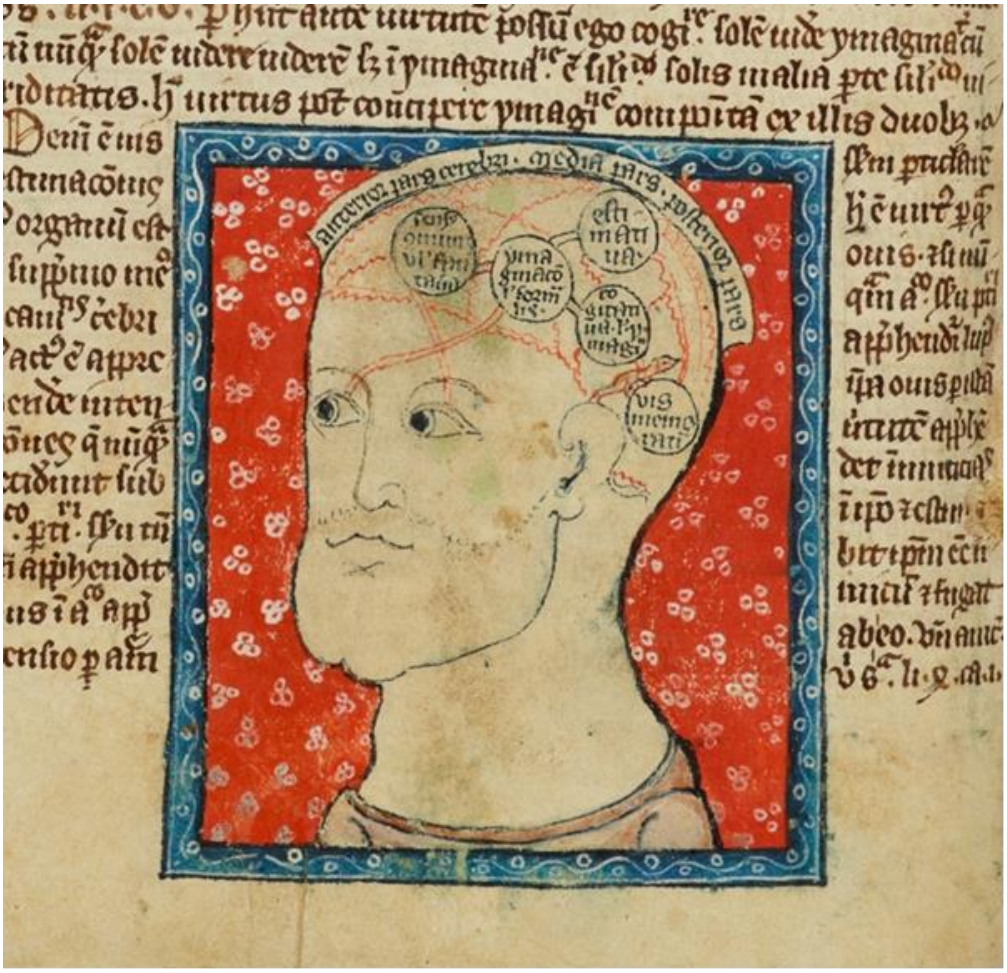

Image 13.1. Avicenna's model with five 'inner senses' in
CUL, MS. Gg. 1.1 fol. 490v, England, West Midlands, *c.* 1330.
Given that Gerard of Cremona's translation of Avicenna's *Canon* started to appear in English records early in the fourteenth century, this shows a rapid uptake.[48]

Constantine's main visible impact was in elite intellectual circles, but he was determined to be useful. The evidence that his *Viaticum*, his most practical, applied text, was the most popular medical book of the Middle Ages, more frequently listed than the *Canon*, suggests that he was considered so.[49] Would his work have made a difference to the unfortunate sufferers of madness, epilepsy and other disorders considered? English society in general might still have been wary of those with such problems, continuing to believe that their difficulties might be due to their sins or even a demon, although increasingly open to other views. The patient could try medicine, but also often turned to religious healing. For those patients who could afford literate physicians, their doctors could offer more reassurance,

[48] One is documented at Peterborough Abbey in 1321. Friis-Jenson and Willoughby, *Peterborough Abbey*, p. 39.
[49] See Ch. 2, p. 89, and Appendix 3, Tables A and E.

being more confident that they had an understanding of the cause of their suffering and what might help, and this confidence in itself could be therapeutic. A naturalistic account of their disorder would now have been available. Constantine's explanations might have been more reassuring than supernatural ones, and might have saved them from the worst excesses of the treatment of demoniacs. Treatments might have been kinder, with music therapy or a psychological emphasis. There was a holistic view of the body and mind, and the patient's lifestyle, diet, exercise and emotional state were carefully attended to. Depending on the condition, they might have been given some more helpful drugs. For the less wealthy, the medical options would be more limited, and although Constantine's ideas filtered down over time, they were less often seen in popular remedy books. This was not necessarily to the disadvantage of patient care, as most of it was still unlikely to be effective and sometimes potentially harmful. Those ideas which were widely passed on, of attention to the non-naturals and of the use of the drug anacardium, may be a testimony to some usefulness.

Mental, behavioural and neurological disturbance, with all its attendant suffering and potential for social disruption, has always presented a major challenge for humanity, and understanding the nature and working of the human brain remains one of its most persistent intellectual puzzles. Doob notes that Constantine was 'one of the most important medieval writers on madness', but it is rare for his contribution to be so acknowledged.[50] It is in fact rare to see any appreciation for the developments in this branch of medicine in the medieval period; 'psychiatry' as a term was not known in England until the 1800s and looking at histories of the subject it would be quite easy to think there was no medicine for the mentally ill before then.[51] This thesis has, for the first time, shown the whole picture of the many intelligent ideas and treatments for mental and neurological conditions which were becoming available from the twelfth century, through the work of Constantine.

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[50] Doob, *Nebuchadnezzar's children,* p. 29. Constantine is not mentioned by name at all, for example, in Scull, *Madness in Civilisation.*

[51] J. Duffin, *History of Medicine: A Scandalously Short Introduction* (Basingstoke, 2000), p. 277; Roy Porter gives the subject less than a page, jumping from antiquity to the sixteenth century (R. Porter, *Madness: A Brief History* (Oxford, 2002) p. 49).

Appendix 1: Ancient and medieval writers and texts mentioned (in chronological order)

Hippocrates (*c.* 460-370 BCE) Greek physician of the classical period, often called 'the father of Western medicine'. He was the first to describe a number of medical conditions and is credited with the development of humoral medicine. He established a school of medicine based on observation and natural explanation, separating medicine from religion. The Hippocratic corpus of around 60 medical texts is attributed to Hippocrates and his followers.

Galen (*c.* 130-210 CE) A Greek physician and philosopher from Pergamon, Galen later practised in Rome, becoming doctor to Roman emperors including Marcus Aurelius. His dissection work on animals brought advances in anatomy, whilst he promoted Hippocratic ideas and developed humoral theory. His work was to dominate and influence Western medical ideas for over 1,300 years.

Rufus of Ephesus (*c*. 80-150 CE) Another of the great physicians in the Hippocratic tradition, little is known of his life, but over 40 works have been attributed to him. These were often cited by Galen, Paul of Aegina and others, but they survive only in fragments, or passed on in the work of Oribasius. He also conducted dissection and described the brain, and wrote a treatise on *melancholia.*

Pliny the Elder (*c*. 23 – 79 CE) Roman author, military commander and naturalist, Pliny's ***Historia Naturalis*** may have been the first encyclopaedia written. In 37 books it aimed to pass on all the knowledge of his time. It covers topics such as botany, zoology, geology and minerology including medical applications, and was very influential in early medieval medicine.

Dioscorides (*c*. 40-90 CE) A Greek physician, pharmacologist and botanist, who wrote ***De materia medica*.** In five volumes, this gave information on over 600 medical herbs and substances, and 2,000 recipes. It never went out of circulation and was the primary text of pharmacology until the fifteenth century. His work was initially known in England through derivative works, the *Curae herbarum* and *Liber medicinae ex herbis feminis*, which were included in the *Herbarium*.

Oribasius (*c.* 320-403 CE) A pagan Byzantine doctor from Pergamon, known as the personal physician to Emperor Julian 'the Apostate'. He completed a 70-volume work, his *Medical Collections,* which he later abridged in the ***Synopsis*** and ***Euporistes.*** Although the *Medical Collections* were lost in the medieval West, the two shorter texts were translated into Latin around the early seventh century in two versions. They included excerpts from the work of Galen.

The *Epistula Hippocratis ad Antiochum Regem* was a short work of general health and preventative advice to balance the humours and help the patient avoid disease. It was one of a number of tracts circulating in the Middle Ages mostly inaccurately attributed to Hippocrates.

Vindicianus (fourth century) Physician at the Gallic court of emperors Valentinian and Gratian, and later proconsul in Africa, he wrote several treatises which aimed to disseminate Greek medicine to Latin speakers. His ***Epistula Vindiciani ad Pentadium Nepotem*** gave the first systematic exposition of humoral theory in Latin giving an account of the humours and the importance of balance. The ***Epitome Altera*** was attributed to him, although probably erroneously; it gave short descriptions of the structure and function of the various parts and organs of the body.

Theodorus Priscianus (*c.* fourth-fifth century CE) A physician probably from North Africa he was a pupil of Vindicianus. He wrote the ***Euperiston****,* a therapeutic compendium comprising four books, *Phaenomena*, external disorders, listed head to toe, *Logicus,* internal disorders divided into chronic and acute conditions, *Gynaecia* on female disorders, and *Physica,* which remains only in fragments. Originally in Greek it was translated into Latin.

Marcellus of Bordeaux (late fourth/early fifth century) A Roman official, Marcellus wrote his ***Liber de medicamentis*** (*c.* 408), a treatise about simple drugs for afflictions arranged from 'head to foot'. His sources included Pliny and popular remedies. Marcellus seems not to have been a physician, his medical advice was largely empirical and lacked any medical theory.

Cassius Felix (fifth century) A Christian physician from North African, who wrote the Latin ***De Medicina*** in 447 CE. Drawing from Galen and Hippocratic sources, it was intended as a simple practical handbook, and gave descriptions and treatments for 82 conditions in head-to-toe order.

Alexander of Tralles (*c.* 525-605 CE) An eminent Byzantine doctor who wrote *Libri duodecim de re medica*, making extensive use of Galen, but also based on his own practical experience. It was translated into Latin in the seventh century, known as **Alexander's *Practica***.

Isidore of Seville (560-636 CE) Isidore was a scholar, theologian and Bishop of Seville, later canonised. His many writings include ***De Natura Rerum***, on astronomy and natural history. His ***Etymologies*** was the first Christian encyclopaedia, preserving much classical learning in its 20 volumes. It was one of the most widely known works in Europe from the seventh century onwards, and much copied, with information relevant to medicine found in Books IV and XX.

Bede (673–735 CE) Bede was one of the most important and prolific English writers of the Middle Ages. He was a monk and scholar at Monkwearmouth-Jarrow Abbey, a renowned centre of learning with a library estimated as containing around 200 books., He is best known for his *Ecclesiastical History of the English People*, but he also wrote works of biblical exegesis, hagiography and three scientific treatises: *De temporibus,* and *De temporum ratione,* on computus, and *De natura rerum,* a survey of the cosmos.

Ḥunayn ibn I'sḥāq (Johannitius, 809-73 CE) An Arab Christian physician and scholar working in Baghdad. He wrote a summary of Galenic medicine the ***Masā'il fi ṭ-ṭibb*** translated as the *Isagoge*. It outlined the naturals, non-naturals and contra naturals, setting out the theoretical basis for medicine.

I'sḥāq ibn-Sulaymān al-Isrā'īlī (Isaac Israeli c. 832-932 CE) One of the foremost Jewish physicians of his time, living in the Islamicate world, latterly in Kairouan. He wrote a number of medical and philosophical works in Arabic, of which Constantine translated three as the *Liber febrium, Dieta ciborum* and *Liber urinae.*

Is'ḥāq ibn-'Imrān (died c. 903-9) A Muslim doctor from Baghdad who later went to work for the Aghlabid ruler in Kairouan, who later had him executed. He wrote several medical books including the ***Maqāla fīl-Mālankhūliyā*** which was translated as Constantine's *Liber de melancholia.*

Ibn al-Jazzār (895-979) A student of I'sḥāq ibn-Sulaymān al-Isrā'īlī, al-Jazzār was from a family of physicians and worked in Kairouan. He wrote a number of books on medical and non-medical subjects. His main work was the ***Kitāb Zād al-musāfir*** (Provisions for the Traveller and the Nourishment of the Settled), translated as the *Viaticum*, he also wrote the ***Risāla fī al-nisyān wa 'ilāji-hi*** translated as the *Liber de oblivione* and the ***Kitāb al-adwiya al-mufrada*** (Treatise on Simple Drugs) translated as Constantine's *Liber de gradibus*.

'Alī ibn Al-'Abbās al-Mağūsī (Haly Abbas, d. between 982-94) A Persian doctor, physician to an emir of the Buwayhid dynasty, working in Baghdad. He was a Muslim of Zoroastian background. Al-Mağūsī wrote the ***Kitāb al-malikī***, a work of Galenic medicine planned as a complete compendium so that no other book was needed. This was the basis of Constantine's *Pantegni*.

Ibn-Sīnā (Avicenna, 980-1037 CE) Persian physician, philosopher and polymath. He wrote around 40 texts on medicine, notably *The Book of Healing* and ***The Canon of Medicine***. The *Canon* became available in England from early in the fourteenth century and was to become the pre-eminent medical textbook in the Islamicate world and up until the eighteenth century in the West.

Gariopontus (fl. 1035-50) Author of the ***Passionarius Galeni***, which derives from, and expands upon, the earlier sources the *Liber Aurelii, Liber Esculapii* the *Liber Tertius* and the *Tereoperica*. In seven books it presented in head-to-foot order descriptions and treatments for more than 264 diseases. The *Passionarius* was widely popular throughout the Middle Ages and was printed three times during the Renaissance.

Tereoperica This is a work of unknown author, its title being a version of the Greek '*Therapeutica*'. Drawn largely from Cassius Felix' *De Medicina*, it also shares information from sources such as the *Liber Aurelii* and the *Liber Tertius*. The earliest known extant copy dates from the ninth century, and is of French origin. It is sometimes erroneously termed the *Petrocellus* or *Practical Petrocelli Salernitani* after an eleventh century Salernitan physician.

Henry of Huntingdon (*c.* 1088 -1157) A cleric best known for his chronicle, rather than a medical man, he composed an herbal in verse detailing the medicinal properties of 160 plants, known as the ***Anglicanus ortus***.

Ibn Rushd (Averroës, 1126-98) A Spanish philosopher who integrated Islamic ideas with Ancient Greek thought, writing extensively on Aristotle. He wrote over 100 books on philosophy and many other subjects. His medical encyclopaedia, the *Al-Kulliyat fi al-Tibb,* was translated into Latin and known as the **Colliget**, a standard textbook in Europe for centuries.

Bartholomew the Englishman (Bartholomeus Anglicus) (*c.* 1203-1273) A Franciscan who taught at the University of Paris. He wrote a 19-volume encyclopaedia ***De Proprietatibus Rerum***, of the most current ideas in science and medicine covering everything from God to the celestial bodies, elements, animals and minerals. Written for scholars and the general public, it was widely cited in the Middle Ages and survives in many manuscript copies and several printed editions. It was translated into English by John of Trevisa in the 1390s.

Gilbert the Englishman (Gilbertus Anglicus) (*c.* 1180-1250) The most famous English medical writer of the thirteenth century, who may have taught at one of the European medical schools. He wrote his popular ***Compendium Medicine*** somewhere between 1230-1260, surviving in 38 manuscripts, later to be translated into Middle English and other vernaculars. The work reflects scholastic medical thought with some more 'popular' remedies.

Bernard de Gordon (fl. 1283-1309) He taught at Montpellier, where he completed his encyclopaedia, the ***Lilium medicinae*** in 1305. This circulated quickly and widely, extant in approximately 50 manuscripts and many copies of its seven printed editions. In Latin, it was translated into several languages, including Middle English

John of Gaddesden (*c.* 1280-1361) A fellow of Merton College, Oxford, and royal physician, he wrote the ***Rosa Medicinae*** around 1313, drawing on over 46 medical authorities. It is considered to be the first English textbook of medicine, and gained a reputation across Europe, with many surviving Latin manuscript copies. It was translated into Middle English, and later printed in four editions.

John Argentine (d. 1507) Physician to Edward V and Prince Arthur, and later Provost of King's College, Cambridge. He wrote a book on diseases in the 1470s, the ***Loci Communes: sue liber de mobis et medicinis,*** which was never published but survives in one manuscript, Oxford, Bodleian Library, MS. Ashmole 1437.

Appendix 2: Glossary of key medical terms

Accidentia - 'things that happen' often used of symptoms and signs of illness: *Accidentia animae*- 'things that happen to the soul'- emotions.

Aposteme - swelling or abscess.

Articella - seven key medical text used as the basis of the curriculum for education in the main medical centres from the twelfth/early thirteenth centuries, including the *Isagoge.*

Cauterisation - the application of burning hot irons to parts of the body, with the idea that this would remove or change the humours, e.g., by creating a burn with pus.

Chyme – a product of digestion. The 'first digestion' of food in the stomach produced 'chyle', which became chyme as the more liquefied product of further digestion. This went on to be converted into blood and other humours.

Complexion - the combination of humours and qualities in a person, bodily organ, plant, food or animal.

Clyster - a liquid enema.

Cupping - using heated cupping glasses to the skin to promote blood flow or draw out humours, sometimes used with scarification to draw blood.

Diathessaron – a theriac (recipe given in Green, *Trotula,* p. 127).

Diatrionpiperion - a drug made of three kinds of peppers.

Dram - weight, 4.37 grams, apothecary symbol ʒ.

Electuary - a medicine consisting of a powder or other ingredient mixed with something sweet such as honey to make it more palatable.

Emetic - a substance or medicine which causes vomiting.

Etiology - the identification of causes, such as of a disease.

Hemiplegia - paralysis of one side of the body, usually following a stroke or brain damage in the cerebral hemisphere opposite to the affected side.

Hieralogodion - a compound medicine with colocynth, polypody and over 30 other ingredients with honey (recipe given in Green, *Trotula,* pp. 127-8).

Hiera - a medicine in which the dominant bitter simples are disguised with aromatics and spices, in tablets or lozenges.

Hierapigra or hierapicra - a bitter compound medicine with aloes as the predominant ingredient (recipe in Green, *Trotula,* p. 128).

Hydroleon - water with oil.

Hydromel - a mixture of honey and water.

Hypochondrium - the upper part of the abdomen.

Materia medica - medical material and substances.

Mellicrate - mixture of honey with water or wine.

Mithridatum - an antidote for poison, said to be invented by King Mithridates in the first century BCE. Many different versions of this drug were given over the centuries, with six recipes described by Galen, including his own; it could contain up to 65 ingredients in its different formulations.

Nosology - the classification of diseases.

Oxizaccara - a mixture of vinegar and sugar with pomegranate (recipe given in Green, *Trotula,* p. 129).

Oxyrhodinum - a mixture of rose oil and vinegar.

Oxymel - a mixture of vinegar and honey.

Phlebotomy - bloodletting by cutting into a vein.

Purgative - a medicine aiming to cleanse the body and remove excess or bad humours from the body through vomiting, laxative action or urination, although bloodletting or provoking menstruation could also achieve this.

Regimen - a plan or rules for exercise, rest and diet for good health.

Scarification - light cutting of the skin, used with or without cupping glasses, which drew blood from the cuts.

Simples - herbal medicines, in particular ones derived from one plant as opposed to mixtures and compounds.

Theriac – a compound medicine of varying recipes involving 50-100 ingredients. Initially an antidote to snakebite or poison, it became seen as an antidote to any illness**.**

Theodoricon - a compound medicine involving aloes and over 30 other ingredients and honey (recipe given in Green, *Trotula,* pp. 131-2).

Tisane - a medicinal drink or infusion.

Trifera magna - a compound medicine from the *Antidotarium Nicholai* involving opium poppy, 27 other ingredients and honey (recipe in Green, *Trotula,* p. 134).

Tyriaca magna – greater theriac, also known as Galen's theriac (recipe given in Green, *Trotula,* p. 132-3).

Ventricles - the four interconnected cavities in the brain, whose function is currently understood as the production and circulation of cerebrospinal fluid, which cushions and protects the brain.

Appendix 3: Additional data relating to the dissemination of the texts

Table A: Numbers of books mentioned as present in catalogues or donated by period, with cumulative totals

	By 1150	**By 1210**	**By 1300**	**By 1350**	**By 1400**	**By 1450**	**By 1500**	**After 1500**
Pantegni	0	4 (4)	1 (5)	3 (8)	6 (14)	5 (19)	5 (24)	5 (29)
Viaticum	0	2 (2)	9 (11)	20 (31)	13-14 (44-45)	9 (53-54)	9 (62-63)	5 (67-68)
De melancholia	0	1 (1)	3 (4)	1 (5)	0 (5)	0 (5)	0 (5)	2 (7)
De oblivione	0	0	0	0	0	0	0	0
***Practica* (Contents unspecified)**	0	2 (2)	0 (2)	0 (2)	0 (2)	0 (2)	1 (3)	1 (4)

Table B: Numbers of extant manuscripts per century, with cumulative totals

	12th century	**13th century**	**14th century**	**15th century**	**After 1500**
Pantegni	2	8 (10)	5 (15)	0 (15)	4 (19)
Viaticum	8	19 (27)	10 (37)	1 (38)	3 (41)
De melancholia	3	1 (4)	2 (6)	1 (7)	2 (9)
De oblivione	3	1 (4)	0 (4)	0 (4)	0 (4)
Practica	2	6 (8)	2 (10)	2 (12)	1 (13)
***Practica* with Book 5**	0	1	1 (2)	0 (2)	0 (2)

Table C: Cumulative totals of books either extant or mentioned as present in catalogues/donated, by period *

	By 1150	**By 1210**	**By 1300**	**By 1350**	**By 1400**	**By 1450**	**By 1500**	**After 1500**
Pantegni	2	6	14	22	27	32	37	45
Viaticum	2	8	30	50	71-72	80-81	88-89	95-96
De melancholia	1	4	8	9	11	11	12	15
De oblivione	2	3	4	4	4	4	4	4
Practica	1	4	10	10	12	12	15	16
-with Book 5	-	-	1	1	2	2	2	2

*These figures are not a simple sum of those from Tables A and B, as some books are both catalogued and extant, and they have not been counted twice

Table D: Numbers of extant manuscripts per century, with cumulative totals and estimated production of manuscripts per century

	12th century Rsurv 10.0	**13th century** RSurv 13.4	**14th century** RSurv 15.0	**15th century** RSurv 16.6	**Total** Estimated total
Pantegni	2	8	5	0	15
x Rsurv (estimated no. produced)	20	107.2	75	0	202.2
Viaticum	8	19	10	1	38
x RSurv (estimated no. produced)	80	254.6	150	16.6	501.2
De melancholia	3	1	2	1	7
x RSurv (estimated no. produced)	30	13.4	30	16.6	90
De oblivione	3	1	0	0	4
x RSurv (estimated no. produced)	30	13.4	0	0	43.4

Practica	2	6	2	2	12
x RSurv (estimated no. produced)	20	80.4	30	33.2	163.6
***Practica* with Book 5**	0	1	1	0	2
x RSurv (estimated no. produced)	0	13.4	15	0	28.4

Table E: Totals of books by other medical writers mentioned as present in catalogues or donated by the end of the Middle Ages

Gariopontus's *Passionarius*	18-19
Avicenna's *Canon of Medicine*	55
Gilbertus Anglicus' *Compendium Medicine*	29
John of Gaddesden's *Rosa anglica practica medicine*	30

Appendix 4A: Extant manuscripts known or thought to be from England, by century[1]

(Blue indicates a manuscript also identified as one given in a catalogue or will)

Pantegni Theorica

Twelfth century

Cambridge, Trinity College, MS. R. 14. 34 (906) s. xii$^{1-2/4}$ (from Bury St Edmunds, copied around 1125 at Bury under Abbot Baldwin).

London, BL, MS. Add.22719, s. xii^{1} (copied around 1125 at the Abbey of Bath, later at Exeter, St Nicholas).

Thirteenth century

Durham, Durham Cathedral MS. C.I.19, s.xiii (from Durham)

Edinburgh, National Library, Advocates 18.2.5, s.xiii

Gloucester, Cathedral Library MS. 7, s xiii^{2} fols. 1-52 (in England but probably acquired by Gloucester in the seventeenth century or later)

London, BL, MS. Sloane 3481 s. xiii, fols. 4r-194r

London, BL, MS. 12. C. XV, fols. 2r-82r, s. xiii

Oxford, Bodleian Library, MS. Auct. F.5.30, s. xiii^{2}

Oxford, St John's College, MS. 85, s. xiii^{2}

Worcester, Cathedral Chapter Library, MS. F. 70, s.xiii or xiv, fols. 2 r-111v, sections 1.2-10, (beginning missing)

Fourteenth century

Lincoln, Cathedral Chapter Library, MS. 113 (A.5.3), fols. 54r-108v, s. xiv^{1}

London, BL, MS. Sloane 3098, s. xiv fols. 1r-126r

London, Royal College of Physicians, MS-MAUS/397 *c.* 1400

Oxford, Merton College, MS 231 (H.3.5) s. xiv (left to the college by Simon Bredon (d. 1372), made in Southern France or Italy but in England by fourteenth century)

Oxford, Oriel College, MS. 55, s.xiv (given to the college by Thomas Graunt in 1440)

Sixteenth century

Exeter, Exeter Cathedral, MS. 149 *Constantini opera*, printed Basel, 1536, (includes the *Pantegni*, *Viaticum*, and *De Melancholia*)

London, BL, MS. Harley, 1676, fols. 2r-162v, s. xii /xiii, (from S. France but certainly in England by the early sixteenth century).

[1] The list is taken from British archives only. This list may not be complete, and necessarily contains some uncertainties about provenance and dating. Some subsequent checks were not possible due to problems with accessing British Library catalogues and manuscripts in 2023-4.

Oxford, Merton College, MS. 52.i.3 (2 vols. in 1, Basel, Henricus Petri 1536-9 – printed version, also includes parts 2 and 9 of the *Practica, Viaticum* and *De Melancholia)*

Worcester, Cathedral Chapter Library, MS. Q39, fols. 2r-106v, end missing, s. xiii (French or Italian bookhand, came later to Worcester).

Practica

Twelfth century

Cambridge, Gonville and Caius College, MS. 411 (415), fols. 169r-201v, s. xii, (also has *Viaticum*, *De melancholia* and *De oblivione*) **Only section 2**

London, BL, MS. Add.22719, s. xii[1] (from Bath Abbey, later Exeter, St Nicholas) **Sections 1, 2 and 9**

Bethesda, National Library of Medicine, MS. E8. Contains passages from the *Pantegni Theorica and Practica*, not included in the figures and analysis

Thirteenth century

Cambridge, Gonville and Caius College, MS. 400 (729) late addition to this search, not included in the figures and analysis

Durham, Dean and Chapter Library, MS. C.IV. 4, fols. 76-94, early s.xiii, (in Durham by the fourteenth century, also has a *Viaticum)* **Sections 1, 2 and 9**

Edinburgh, National Library, MS. Advocates 18.2.5, s.xiii **Sections 1, 2 and beginning of 9**

London, BL, MS. Sloane 2946, s. xiii **Sections 1.2-10**

London, BL, MS. Sloane 3481, fols. 4r-194r, s.xiii **All 10 sections**

Oxford, Bodleian Library, MS. Auct. F.5.30, s. xiii[2], fols. 159r-176v **Sections 1.1-30**

Oxford, St John's College, MS. 85, s. xiii[2] **Section 1 only**

Fourteenth century

London, BL, MS. Sloane 3098, s. xiv, fols. 1r-126r **Sections 1 and 2**

Oxford, Oriel College, MS. 55, s. xiv (given by Thomas Graunt in 1440) **All 10 sections**

Fifteenth century

London, BL, (No number, 'Medicine: *Collectanea Medica* from thirteenth to seventeenth centuries Owners of Manuscripts Thomas (John), Bernard (Francis)'), fols. 125-155, s.xv. **Sections unspecified**

Oxford, Bodleian Library, MS. Laud Misc. 724, fols. 137-160r, s.xv (*c.* 1400 in catalogue) **Section 9**

Sixteenth century

Oxford, Merton College, MS. 52.i.3 (2 vols in 1 Basel, Henricus Petri 1536-9 – printed version, , also includes *Pantegni theorica, Viaticum* and *De Melancholia)* **Sections 2 and 9**

Viaticum

Twelfth century

Cambridge, Trinity College, MS. O.1.40 (1064), (beginning missing, begins with Book 1, Ch. 15) – may be thirteenth century.

Cambridge, Gonville and Caius College, MS. 411 (415) s. xii, fols. 169r-201v (also has *Practica, De melancholia* and *De oblivione*)

Durham Cathedral C. IV.12, early s.xii. (also contains *De oblivione)*

Edinburgh, National Library of Scotland, MS. Adv 18.6.8, s. xii^{ex} –xiii^{in} (from St Augustine's Canterbury)

London, BL, MS. Harley 3407, (Book 1, Chs. 1-20 only) (although provenance uncertain)

London, BL, MS. Egerton 2900 (although may be of French origin)

Oxford, Corpus Christi College, MS. 189, (from Christ Church Priory, made in the South Midlands, belonged to Canterbury *c*. 1300).

Oxford, Bodleian Library, MS. Laud Misc 567, first half s.xii

Thirteenth century

Cambridge, CUL, MS. Ii.6.5, (from Bury St Edmunds)

Cambridge, St Johns College. MS. D.24 (99) (from St Augustine's Canterbury)

Cambridge, Gonville and Caius College, MS. 95/47, (in Cambridge by 1360, a gift from Walter Elvedon)

Cambridge, Corpus Christi College, MS. 511, late s. xiii

Cambridge, Trinity College, MS. 0.2.27 (or MS 1131), late s.xiii (incomplete *Viaticum*, contains Book 1 from Ch. 17 onwards)

Durham, Dean and Chapter Library, MS. C.IV. 4, fols. 76-94, early s. xiii, (also has *Practica)*

Gloucester, Cathedral Library, MS. 18, s xiii^{in} –xiii^{ex} (probably English and in England by s.xiii – but probably acquired by Gloucester in the seventeenth century or later)

London, BL, MS. Royal 12 D. ix, (from St Augustine's, Canterbury – from John Preston)

London, BL, MS. Sloane 1615, s.xiii (latterly belonged to the prior of the Friars preachers convent at Warwick)

London, BL, MS. Arundel, early s.xiii

London, BL, MS. Royal 12 E VIII, s.xiii (incomplete, but has relevant chapters from Book 1)

London, BL, MS. Sloane 2420, s. xiii/xiv

London, BL, MS. Sloane 3096- includes 2 copies of the *Viaticum*, one s.xiii and another s. xiii- xiv
Oxford, New College, MS. 167, s.xiii^{ex} (formerly owned by Henry Beaumond)

Oxford, Oriel College, MS. 62, s.xiii^{2} (given to Oriel in 1402)

Oxford, Corpus Christi College, MS. 64

Oxford, Bodl MS. 786, mid s.xiii, (from Exeter Cathedral)

Oxford, Merton College, MS. 255 (C.2.6) (owned by a physician practising in Gloucestershire and Somerset, later given to Merton by William Duffield)

Worcester, Worcester Cathedral, MS. Q41, s. xiii,-(probably made in France, in England early on)

Fourteenth century

Cambridge Trinity College, MS. R.14.35 (or MS 907), early s.xiv

Cambridge, Peterhouse, MS. 106, s.xiv.

London, BL, MS. Harley 3140, *c.* 1300 (from France but bought by the Benedictine abbey of Malmesbury in the fourteenth century)

London, BL, MS. Arundel 215, early s.xiv.

London, BL, MS. Sloane 1610, s.xiv

London, BL, MS. Sloane 371

London, BL, MS. Add 19701, s.xiv (with gloss by Gerard)

London, BL, MS. Add 2500, s.xiv

Oxford, Merton College, MS. 232 (MS H.2.6), s. xiv

Wellcome, MS. 209, late s.xiv, (possibly from Evesham)

Fifteenth century

London, BL, MS. Sloane 418, s.xv, (comes from Winchester Cathedral, owned by them in 1500)

Sixteenth century

Exeter, Exeter Cathedral, MS. 149 *Constantini opera*, Basel, 1536, (includes the *Pantegni, Viaticum*, and *De Melancholia)*

London, BL, MS. Add 2500 *Viaticum* printed at Lyons in 1510

Oxford, Merton College 52.i.3 (2 vols. in 1, Basel, Henricus Petri 1536-9 – printed version, also includes *Pantegni*, parts 2 and 9 of the *Practica*, and *De Melancholia)*

De Melancholia

Twelfth century

Cambridge Gonville and Caius College 411(415), s.xii

London, BL, MS. Burney 216 (part 2, fols. 89-103), 2nd or 3rd quarter s.xii. (from the Augustinian Priory of the Holy Trinity, Kirkham, Yorkshire)

Oxford, Bodleian Library, MS. Laud misc 567, first half s. xii

Thirteenth century

Oxford, Merton College MS 219, s.xiii

Fourteenth century

London, BL, MS. Sloane 3098, s. xiv

Oxford, Magdalen College, MS. 173, s.xiv

Fifteenth century

Oxford, Magdalen College, MS. 57, s.xv

Sixteenth century

Exeter, Exeter Cathedral MS. 149, *Constantini opera*, printed Basel, 1536, (includes the *Pantegni*, *Viaticum*, and *De Melancholia)*

Oxford, Merton College, MS. 52.i.3 (2 vols. in 1, Basel, Henricus Petri 1536-9 – printed version, also includes *Pantegni*, parts 2 and 9 of the *Practica*, and the *Viaticum)*

De oblivione

Twelfth century

Cambridge, Gonville and Caius College, MS. 411(415), s.xii

Durham, Durham Cathedral Library, MS. C.IV.12. mid s.xii, (possibly from Durham, with *Viaticum)*

Oxford, Bodleian Library, MS. Laud misc 567, first half s.xii

Thirteenth century

Oxford, Balliol College, MS. 231, fols. 205v-6, late s.xiii

Appendix 4B: Dissemination - catalogue evidence of ownership of texts by century

Twelfth century

By 1210
Durham Cathedral
Library of the Dean and Chapter, MS. B.IV.24[i]
Pantegni
Practica
Viaticum
Also gifts from 'Magister Herebertus medicus':
Pantegni Theorica
De melancholia

B13 Bury St Edmunds, Suffolk (Benedictine Abbey of St Edmund)
Late twelfth-century catalogue (Cambridge, Pembroke College, MS. 47)[ii]
110 *Pantegni* -2 copies (one extant, Cambridge, Trinity College, MS. R.14.34 known to date from 1125)

Peterborough Abbey
BP3 List of books copied for Abbot Benedict (1177-93) (CUL, MS. Peterborough 1, fol. 35v)[iii]
52 *Pantegni and Practica*

Rochester Cathedral Priory, Kent
B79 Cartulary of 1202 (BL, MS. Royal 5 B. XII, fol 2^{r})[iv]
217 *Viaticum*

Thirteenth century

By 1300
Bradsole, Kent
P2 Late thirteenth-century cartulary (Bodl. MS. Rawlinson B. 336)
Viaticum

Benedictine abbey of Glastonbury, Somerset
B39 Catalogue of 1247/48 (Cambridge, Trinity College MS R. 5. 33)[v]
277 *Viaticum*- 2 copies

St Augustine's Abbey, Canterbury
BA1 Catalogue of the library, Dublin, Trinity College, MS. 360 (Bernard 285) –first compiled between 1375 and 1420, transcribed in the late fifteenth century [2] [vi]
1181 *De medicina* includes *De melancholia* (given by William of Chichester, donations made by the end of the thirteenth century)
1236 includes *De melancholia* (given by William of Chichester)
1253 includes *De melancholia* (given by John of Sturry ordained in 1297)
1263 '*excerpciones universales in Pantegni'* (presumably a general collection of excerpts from the *Pantegni*, given by Henry of Cockering, monk and treasurer 1272-91)
1188 *Summa constantini de medicina (Viaticum)* (given by John Preston, extant as BL Royal MS 12 D. ix (s. xiii))

[2] Most books on the list are earlier, the list for St Augustine's has been broken down by the date it must have been given by the donor, or the age of the known extant manuscript. Where neither are known, they have been put at the later date.

1189 *Viaticum* (given by Walter of St George, 1289, may also be part of extant BL Royal MS 12 D. ix (s. xiii)
1218k *Viaticum* (extant as Cambridge, St Johns College MS. D.24 (99) s. xiii[2])
1193 *Viaticum* (extant as Edinburgh, National Library of Scotland, MS. Adv 18.6.8 (s. xii[ex] –xiii[in])
1194 *Viaticum* (given by Saloman, a monk, probably *c.* 1239)

Bury St Edmunds, Suffolk (Benedictine Abbey of St Edmund)
136 Henry of Kirkstede E.g. Cambridge, Corpus Christi MS 404.[vii]
3 *Viaticum* (extant as CUL, MS. Ii.6.5 (s. xiii))

By 1350

St Augustine's Abbey Canterbury
BA1 Catalogue of the library, Dublin, Trinity College, MS. 360 (Bernard 285) [viii]
1187 *Summa constantini de medicina (Pantegni)* (given by John of London, monk *c.* 1290-1330)
1187 *Viaticum* (with the above *Pantegni* –given by John of London)
1191a *Viaticum* (given by John of London)
1192 *Viaticum* (given by William de Byholt 1292-1336)
1201k *Viaticum* (given by John of London)

Christ Church Priory
Prior Henry of Eastry's catalogue 1331, London, BL, MS. Cotton Galba E. IV, fols. 1r-186v[ix]
444 *Pantegni Constantini, primus*
445 *Pantegni secundus*
4 copies of the *Viaticum* (in the general library (448, 450, 451, 452))
496 *De melancholia*

Libri I de Londoniis 507 *Viaticum*

Libri Thome de Cherringge 770 *Viaticum*

Libri Thome Prioris 1441 *Viaticum* with commentary by Gerald

Libri Willelmi de Refham 1483 *Viaticum* '*Viaticus Constantini imperfectus*'

Libri Martini de Clive 1613 *Viaticum*

Libri I. de Welles 1631 *Viaticum*

Libri M. Roberti de Cornubia medici 1713 *Viaticum* plus commentary

Benedictine abbey of Ramsey, Huntingdonshire
B 68 Mid C14th (BL, MS. Cotton Rolls II 16)[x]
60 *Viaticum*
248 *Viaticum*
259 *Viaticum*
309 *Viaticum*
417 *Liber Viatici*

Fourteenth century

Austin Friars at York
A8 Inventory for the year 1372 (Dublin, Trinity College. MS. 359 fo.5)[xi]
539 *Pantegni*
535 *Viaticum*

542 *Viaticum*

Bury St Edmunds, Suffolk (Benedictine Abbey of St Edmund)
Henry of Kirkstede, Cambridge, Corpus Christi, MS. 404[xii]
1 *Pantegni*
3 *Viaticum* (already counted above)

Dover Priory, Kent
Catalogue of the library compiled by John Whytefelde, 1389 (Bodl. MS Bodley 920)[xiii]
346 *Pantegni*

Lanthony Priory, Gloucestershire
A16 Catalogue of the Library 1355-60 BL MS Harley 460[xiv]
464 *Pantegni*
466 *Viaticum*
469 *Viaticum*

Peterborough Abbey
BP 21 Catalogue of the Library, late C14th (CUL, Peterborough Cathedral MS. 15)[xv]
98e *Viaticum*

University of Cambridge
UC 33 Kings Hall, Register of books borrowed 1386/7 Trinity college archives, King's Hall accounts II, fols. 18v-19r[xvi]
76 *Viaticum*

UC 36 Kings Hall Catalogue of chained and *electio* books 1390/91 Trinity College archives, King's Hall accounts IV, fols. 2r-3v[xvii]
20 *Viaticum* (possibly 2 copies see 22, one**[3])
is same as 76 above)
26 *Pantegni* and *Viaticum*

University of Oxford
Merton College
UO110 Will of Simon Bredon 1368, London, Lambeth Palace Library, Reg, Whittlesey, fols. 122r and 23r – left to Merton[xviii]
9 *Pantegni*
40 *Viaticum*

Durham Cathedral
1391 catalogue, Library of the Dean and Chapter, B. IV. 26[xix]
Pantegni **

1395 catalogue, Library of the Dean and Chapter, B. IV. 26[xx]
Viaticum
*Viaticum***

Titchfield Abbey, Hampshire
P6 Catalogue of the Library 29 Sept 1400 (BL, MS. Add. 70507)[xxi]
120 *Viaticum*
126 *Viaticum*
127 *Viaticum*

[3] ** indicates that the book is probably one mentioned before at an earlier date and is therefore not counted again in the figures.

By 1450

St Augustine's Abbey, Canterbury
BA1 Catalogue of the library, Dublin, Trinity College, MS. 360 (Bernard 285)[xxii]
1185 *Pantegni Theorica*
1186 *Pantegni Theorica*
1230 *Pantegni Theorica*
190a *Viaticum*
1195 *Viaticum*
1257l *Viaticum*

St Albans Abbey, Hertfordshire
B 87 List of books borrowed 1420-1437, unnumbered leaf held in Gonville and Caius College, Cambridge[xxiii]
44 *Viaticum*

UC 48 Peterhouse Catalogue of chained and *electio* books 24th Dec 1418 -Old Register of Peterhouse, pp. 1-21[xxiv]
294 *Viaticum*

Oxford University Library
UO1 Indenture recording a gift of books from Humfrey, duke of Gloucester
1439 Oxford University Archives NEP/Supra/Registrum F, fol. 52r[xxv]
64 *Pantegni*

Oxford All Souls College
UO6 Inventory of books in the library c 1443 All Souls Archives, Misc, 209, fol. 1r[xxvi]
137 *Viaticum*

Oxford Merton college
UO52 Indentures recording the distribution of books from the wardens collection *c*. 1408-37 MCR 4252 Mem 1[xxvii]
71 *Viaticum* (borrowed by Roger Martyn 24th May 1437)

Oxford New college
UO70 Inventory of the library 1415 NCA 9654 fol 1r[xxviii]
305 *Viaticum*
319 *Viaticum*

Oxford Oriel college
UO139 Will of John Maldon 1402, London, Lambeth Palace, Register of Archbishop Thomas Arundel, vol. 1, fol. 198r[xxix]
5c *Viaticum*

Durham Cathedral
1416 catalogue, Library of the Dean and Chapter, B. IV. 26[xxx]
Pantegni Theorica

Fifteenth century

Leicester Abbey
A20 Catalogue of books late C15th, Bodl MS. Laud misc. 623[xxxi]
1170j *Viaticum*
1176a *Viaticum*
1188d *Viaticum*
1192a *Viaticum*
1193 *Viaticum*
1197 *Viaticum*
1235b *Viaticum*
1181 *Pantegni*
1184a *Pantegni*, one may include the *Practica*

University of Cambridge
UC3 Register of Books 1473 CUA MS Collect. Admin. 4, fols. 1r-4r[xxxii]
22 *Viaticum*
33 *Pantegni (theorica)*

UC 29 King's College Inventory of the Library, *c.* 1457 King's College Archive KCA/684 fols 58r-65v[xxxiii]
124 *Pantegni*

London, Barber Surgeons Company
SH50 Will of Thomas Colard 14th Oct 1481 London, Guildhall Library, London Commissary Court Register, MS. 9171/6, fol. 326v [xxxiv]
An unspecificed work by Constantine the African

The University and College Libraries of Oxford-
UO11 List of books given by William Goldwin, William Denys and Richard Salter 1482-1519, Oxford, All Souls College Library, MS. 399, fol. 1r[xxxv]
5 *Viaticum*

Oxford UO54 List of arts books distributed in the annual *electio* 1452 MCR 42516 sheet 1[xxxvi]
3 *Viaticum***
18 *Pantegni*

Sixteenth century

Benedictine abbey of Glastonbury, Somerset
B 44 select list of works noted by Leland in 1536/40, Bodl MS Top. Gen. c.3 p.260[xxxvii]
30 *Pantegni*

Tavistock Abbey, Devon
B 97 Select list of books by Leland 1536-40, Bodl MS Top. Gen. c.3 p. 259[xxxviii]
4 *Constantinus Aphricanus de re medica* (one or more treatises, unknown)

Syon Abbey
SSI Registrum of the library of the Brethren c 1500-1524, Cambridge, Corpus Christi College, MS. 141[xxxix]
82 *Pantegni*
84 *Viaticum*
92 *Pantegni*

Cambridge UC 27 Gonville Hall Select list of works noted by Leland *c.* 1535 Bodl, MS. Top. Gen. c.3 p.18[xl]
7 *Viaticum*

Oxford Corpus Christi College
UO33 Catalogue of library 1589, Oxford, Corpus Christi College archives D/3/1 fol 1r[xli]
33 *Viaticum*

Oxford, Merton College
UO68 Inventory of goods for the Marian Commissioners 1556, MCR 4277[xlii]
252 *Constantini Africani Opera Med-* (printed edition, extant as Merton College, MS. 52.i.3, Basel editions 1536 and 1539, includes the *Pantegni*, books 2 and 9 of the *Practica*, the *Viaticum* and *De melancholia*)
405 *De melancholia*
339 *Theorica Pantegni*
399 *Viaticum*

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[i] Botfield, *Catalogi veteres librorum cathedralis Dunelm,* pp. 6-8.
[ii] Sharpe et al., *English Benedictine Libraries*, pp. 50-87.
[iii] Friis-Jenson and Willoughby, *Peterborough Abbey*, pp. 15-22.
[iv] Sharpe et al., *English Benedictine Libraries* pp. 497-526
[v] *Ibid*, pp. 167-215
[vi] Barker-Benfield, *St Augustine's Abbey, Canterbury,* pp. 1209-78.
[vii] Rouse and Rouse, *Henry of Kirkstede's Catalogus,* p. 190.
[viii] Barker-Benfield, *St Augustine's Abbey, Canterbury,* pp. 1216-26
[ix] James, *The Ancient Libraries at Canterbury and Dover,* pp. 13-142.
[x] Sharpe et al., *English Benedictine Libraries*, pp. 350-415.
[xi] Humphreys, *The Friars Libraries*, pp. 11-154.
[xii] Rouse and Rouse, *Henry of Kirkstede's Catalogus,* p. 190.
[xiii] Stoneman, *Dover Priory*, p. 141.
[xiv] Webber and Watson, *The Libraries of the Augustinian Canons,* p. 90.
[xv] Friis-Jenson and Willoughby, *Peterborough Abbey* pp. 49-177.
[xvi] Clarke, *The University and College Libraries of Cambridge*, pp. 323-9.
[xvii] *Ibid*, pp. 333-345.
[xviii] Thomson and Clark, *The University and College Libraries of Oxford*, pp. 1266-9.
[xix] Botfield, *Catalogi veteres librorum cathedralis Dunelm,* p. 33.
[xx] Ibid, pp. 78-9.
[xxi] Bell, *The Libraries of the Cistercians, Gilbertines and Premonstratensians*, pp. 215-8.
[xxii] Barker-Benfield, *St Augustine's Abbey, Canterbury*, pp. 1215-74
[xxiii] Sharpe et al., *English Benedictine Libraries,* p. 561
[xxiv] Clarke, *The University and College Libraries of Cambridge,* pp. 443-548.
[xxv] Thomson and Clark, *The University and College Libraries of Oxford,* pp. 8-29.
[xxvi] *Ibid*, pp. 82-127.
[xxvii] *Ibid,* pp. 910-30.
[xxviii] *Ibid*, pp. 1109-78
[xxix] *Ibid*, pp. 1331-2.
[xxx] Botfield, *Catalogi veteres librorum cathedralis Dunelm,* p. 110.
[xxxi] Webber and Watson, *The Libraries of the Augustinian Canons,* pp. 106-399.
[xxxii] Clarke, *The University and College Libraries of Cambridge* pp. 32-62.
[xxxiii] Clarke, *The University and College Libraries of Cambridge,* pp. 280-304.
[xxxiv] Ramsay and Willoughby, *Hospitals, Towns and the Professions,* pp. 167-8.
[xxxv] *Ibid*, pp. 212-6.
[xxxvi] Thomson and Clark, *The University and College Libraries of Oxford* pp. 932-51.
[xxxvii] Sharpe et al., *English Benedictine Libraries*, pp 233-8.
[xxxviii] *Ibid,* pp. 294-5.
[xxxix] Gillespie, *Syon Abbey*, pp. 27-34.
[xl] Clarke, *The University and College Libraries of Cambridge* pp. 274-7.
[xli] Thomson and Clark, *The University and College Libraries of Oxford,* p. 580.
[xlii] *Ibid*, pp. 1020-97.

Appendix 4C: Books consulted for evidence of the dissemination of texts

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Appendix 5: Translations of the main passages from Constantine's work

This is a selection of some of the main parts of the working translations done for the thesis.

Where alternative manuscripts or the printed Renaissance edition by Turinus give a different and possibly more helpful version of the text, this is added in brackets. Squared brackets contain my own additions for clarity or comment. Medical terms are explained in the glossary in Appendix 2.

Pantegni Theorica

De compositis menbris interioribus ut cerebro (On the composition of the brain)
Book 3, Ch. 11, fols. 21v-23v[1]

Compositorum menbrorum contexio, incipienda, est a cerebro, quia cerebrum est dignius et nobilius aliis menbris omnibus, quia materiale fundamentum est in homine, ut potestas rationalis anime, ad actualia possit procedere, quod in excellentiori parte positum, causa est oculorum.

> The beginning of a discussion of the composition of the organs should be with the brain, because the brain is the more worthy and renowned of all the other organs, because it is the material foundation of man, so that the powers of the rational soul can lead to practical action, for it is placed in the most excellent part, because of the eyes.

Sicut enim homo aliquod remotum discreturus altiora loca progreditur, ut latior prospectui detur visus, sic natura mirabilis in arce locavit superiori, ut que sibi cerebrum suppeditat discernere exterior visus valeat. Cerebrum ergo est corpus album, et si non (sine) sanguine humidum.

> For just as a man about to see something distant goes forward to a higher place so that a more extensive view is given, so these marvellous properties are located in a safe place above, so the brain is able to discern what is worth seeing outside. The brain is a moist white body, and without blood.

Quod ideo fit, ut cito mutetur in naturam sentiendi. Dividitur autem in duas partes principaliter, scilicet in proram et puppim. Quarum differentia grossior est cerebri pellicula que duplicatur inter duas. Prora et (est) puppi maior atque mollior. Magna ut nervi sensuales ab ea procederent, qui sunt .vii. pares. Pippis (puppis) minor est, quia pauci nervi ab ea exeunt.

> It is like this so that it may quickly be changed with the senses. It is divided into two main parts, namely the prow [front] and the stern [back]. Which are differentiated by a thick membrane of the brain which divides between the two. The front is larger and softer than the back. It is bigger as the sense nerves proceed from it, 7 pairs. The back is lesser because few nerves go out from it.

Hanc emolliri oportuit, ut sensum cito reciperent nervi. Puppis dura, ut facilius motum pateretur. Cerebrum tres habet concavitates que vocantur ventres (ventricles) cerebri. Duo ventriculi in prora positi, vocantur prore ventriculi, a quibus aer per nares egreditur, atque trahitur. Ex quibusdam vox erit a cerebro.

> It is necessary for it to be softer, so that the nerves can quickly carry the senses. The back is harder so that it can easily allow motion. The brain has three cavities which are called the ventricles of the brain. Two ventricles are positioned in the front, called the front

[1] From Helsinki, National Library of Finland, Codex EÖ.II.14.

ventricles, from which air comes out through the nose, and is drawn in. Out of these the voice comes from the brain.

In eisdem quoque ventriculis, spiritus vitalis in naturam mutatur animalis ... Puppis, unus est ventriculus. Qui puppis esse dicitur, ad quem spiritus accedit animalis, cum in duobus aliquantulum mutatus sit prore ventriculis. Qui viam habent perforatum unde spiritus animalis ad ventriculum transeat puppis. Necesse enim fuit, ut duo prore ventriculi, ventriculo iungerentur puppis.

Also in these ventricles, vital spirit is changed into animal spirit ... In the rear there is one ventricle to which the animal spirit goes when a small amount has been changed in the two front ventricles. There is a route pierced through by which the animal spirit passes to the back ventricle. This is necessary so that the two front ventricles may be joined to the rear ventricle.

Unde huius vie perforatio ventriculorum ipsorum (triduum) est continuatio. Sed hec via ante quam ad puppim veniat, in eundo repperit quedam spatios. Ubi dum dilatatur, quartus ventriculis conficitur. Qui ideo rotundatur, ut maior quantitas spiritus suscipatur et ne facile patiatur. Cuius ventriculi principium est quoddam corpus glandosum, cuius forma est quasi pinea ...

The piercing of the three ventricles is the continuation of this route, but before this way comes to the back, in going through it comes to a certain space. When this is dilated, a fourth ventricle is created, which becomes round so that it can receive a larger quantity of the spirit and so that it might not be easily damaged. At the beginning of this ventricle is a certain glandular body, whose shape is like a pine cone ...

Hec autem pinea usque ad locum sibi destinatum vadit suspensa, et in eundo quoddam frustulum obambulat, longum, quod huius vie habet concavum. Illud aut frustulum, vermis est vocatum. Cuius unum caput a fine pinee (pineae) incipit, et in ventriculum puppis secedit. A cerebro duo longa exeunt frustula, vermis, lateralia, et nates hominum iunctas, assimilantia ...

This pine cone hangs down all the way as it goes to its destination. And going on it goes round a certain long piece in a cavity along this way. This piece is called the worm [vermis] which starts as one at the head of the pineal and separates in the rear ventricles. Two long pieces leave from the brain, the vermis and side pieces which look like a man's buttocks [nates]...

... vermis non est uniformis, quia in extremitate sua puppi cerebri iam vicina ... Unde paulatim dilatatur, quo nativum intersticium inde repleatur. Quibus sociatus unum corpus cum natibus efficitur. Unde cum vermis in vie longitudine dilatetur, nates perfectissime clauduntur. Cum vermis rugatur nates quoque aperiuntur, quia pellicule gibbositati vermis iuncte cum eodem trahuntur. Quantitas foraminis fit ex rugatione vermis. Eius rugatio longitudinis est curtacio, latitudinis ampliatio, et in modum spere conformatio. Iste vermis in dorso natium ligatur, cum duabus cordis.

... the vermis is not uniform, because at its far end it is near the back of the brain ... From here it gradually extends, to fill the natural space between. Uniting with them, it becomes one body with the nates. Hence when the vermis extends its length, the nates are perfectly closed. When the vermis folds the nates are also opened, because they are drawn together by the skin of the swelling in the vermis. The extent of the hole comes from the folding of the vermis. The folding makes its length shorter, increasing its width, and makes it like the shape of a sphere. The vermis is tied to the back of the nates with two cords.

Quod fit, ne motu nimio, de suo moveatur loco. Est autem durior cerebro, ne forte patiatur quoquomodo. Cuius est iuvamentum, ut claudet foramen inter puppim et medium ventriculum, et intraturo animali spiritui aperiat, postquam intraverit claudat.

> This is so that great movement does not shift it from its place, and it is harder than the brain lest it should suffer in any way. Which is helpful as it closes the hole between the rear and middle venticles, and opens for the entry of animal spirit, and closes once it has entered.

Hec est forma cerebri, quod circumdant duo panniculi, qui vocantur matres cerebri. Unus grossus qui dura mater vocatur, hic craneo subponitur (supponitur) ... Dura mater non craneo solidatur, sed potius suspenditur, et ab eius foraminibus egreditur ... Hec autem pia mater, dure matri, supposita est que cerebro coniuncta, undique ipsum circumdat ... Hec mollior est in substantia qua mater dura ...

> This is the form of the brain which is enclosed with two little garments, called the 'mothers of the brain' [meninges]. One is thick which is called the dura mater, this comes below the cranium ... The dura mater is not joined to the skull, but rather is suspended from it, and from it there are openings for egress ... Now the pia mater, situated under the dura mater is connected to the brain, it surrounds it on all sides ... It is softer in substance than the dura mater ...

Dura enim mater perforata super nares, quasi quoddam colatorium huic superfluitati exibet. Similiter et duo narium ossa dure matri super posita sentiuntur esse perforata, unde et superfluitas exeat, et flatus ab exterioribus introeat ... Superfluitas est per buccam emittenda.

> The dura mater is perforated above the nostrils, like a sieve which allows through this excess humour. Similarly, the bone over the dura mater and the two nostrils is perforated here, and from here the excess leaves, and air comes in from the outside ... excess humours are expelled through the mouth.

... Glans autem extra duram matrem locatur. Quantitas huius sperice glandis spatium est illud, quod inter duram matrem est et ossa palati. Vene telate in modum retis, et ab ambabus iuvenilibus exeuntes, venis circumdant hec glandem spericam ... Istud enim ita sibi implicatur, ut vix umquam dissolvatur.

> ... There is a gland [acorn] located outside the dura mater. The extent of this spherical gland is in that space between the dura mater and the bone of the palate. The veins are woven like a net, and leaving both the [young /jugular?] veins go around this spherical gland ... And this is entangled in itself so that it could scarcely ever be taken apart.

... Rete fuit necessitas, ut vitalem spiritum per iuveniles ascendentem venas dequoquat, et in naturam animalis spiritus mutari faciat. Cum enim hic sit subtilior et dignior aliis spiritibus fecit natura rete, ubi inmorans vitalis spiritus dequoquatur, atque subtilietur, ut in naturam inmutetur animalis. Qui cum per duas venas a tela exeuntes cerebri, ventriculos ingrediatur ibi, magis magisque subtiliatur.

> ... The rete is necessary so that the vital spirit going up the *iuveniles* [young/ jugular veins?] should cook and be changed into the nature of animal spirit. For this is finer and more suitable than the other spirits which the rete produces, where remaining, the vital spirit is cooked down and refined, in order to change into the animal spirit. Which leaves the web by two veins and there goes into the ventricles of the brain more and more refined.

De virtute animata (The powers of the mind/ rational soul)
Book 4, Ch. 9 fols. 45r-v[2]

Virtutis animalis habitationem et fundamentum constat esse cerebrum. Et autem trium generum. Unum per se solum explet cerebrum, duo tamen nervis mediantibus ab eodem conficiuntur. Quod a solo cerebro efficitur ordinatione, quia in tria dividitur. Fantasiam, rationem et memoriam.

> It is established that the brain is the home and foundation of the powers of the mind. And they are of three kinds. One that the brain alone performs, two that the mediating nerves bring about. That which is accomplished by the brain alone is divided into three, imagination, reason and memory.

Sensus et motus voluntarius nervis conficiuntur mediantibus. Nos primitus dicemus, de virtute ordinationem faciente. He virtutes iii fantasia, mens et memoria, ratio, vocatur quibus inrationabilibus differimus animalibus, et maxime intellectu, que alie due ex ipso prodeunt.

> Sensation and voluntary movement are mediated by nerves. To begin with we discuss how these powers are arranged. These three powers, imagination, mind and memory, are called reason, by which we differ from the irrational animals, and especially intellect, from which come the other two.

Homini hec fuere necessaria, vel propria, que omnibus animalibus digniorem esse constat. Animal enim inrationale quicquid agit naturaliter facit, et sine discretione ulla. Unumquodque trium in cerebro locum habet proprium ubi sedent, et unde exeunt.

> This is necessary and appropriate for men, corresponding to their greater worth compared to all other animals. For an animal is irrational in that it does what comes naturally to it and is without any discernment. Each of the three properties has its place in the brain where they sit, and from where they go out.

Locus enim imaginationis ventriculi sunt prore cerebri, locus vero intellectus sive rationis sunt ventriculi que sunt in puppi cerebri, in quibus est spiritus animatus, qui has actiones exequitur. Harum unaqueque propriam habet actionem.

> The place of the imagination is the ventricles at the front of the brain, the place of the intellect or reason is the ventricles which are in the rear of the brain, where there is animal spirit, by which these functions are performed. And each of these has its own characteristic function.

Virtus enim imaginationis, que formatur et imaginatur, mittit et intellectui. Intellectus iudex et discretor est rei, quam ab imaginatione realiter sive solo intellectu suscipit. Ad operanda manualia spiritus animatus. Ille aperit menbra que operi sunt habilia ut motum expleant voluntarium. Que in solo sunt intellectu memorie tantum mandantur. Memoria format intellectum posita ad custodiendum ea donec ad altum ducat.

> For the power of imagination, by which things are pictured and shaped, sends them to the intellect. The intellect is the judge and discerner of things which it receives from the imagination in reality or by the intellect alone, working through the animal spirit. This opens the members which can complete the work of voluntary movement. Those things only in the intellect are ordered by memory. Memory shapes the understanding, fixed to guard it and direct it to noble things.

[2] From Helsinki, National Library of Finland, Codex EÖ.II.14.

De spiritibus (On the spirits)
Book 4, Ch. 18, fols. 47v-48r[3]

... Omnis ergo spiritus est tripertitus. Est enim naturalis, est spiritualis, est animalis. Naturalis in epate nascitur, unde per venas ad totius corporis vadit menbra, virtutem naturalem regit et augmentat, actiones eius custodiens.

> ... There are three kinds of spirit, natural, spiritual and animal. The natural spirit arises in the liver, from where it goes through the veins to the members of the whole body, where it rules and increases the natural power, guarding its actions.

Hic igitur ex perfecti sanguinis fumo nascitur, qui in epate mundificatur, et digestus ex omnibus humoribus clare depuratur. Spiritualis spiritus in corde nascitur, vadens per arterias ad tocius corporis menbra spiritualem virtutem augmentans, atque regens, actionesque eius custodiens. Spiritualis (spiritus animalis) in cerebri nascitur ventriculis, per nervos tendens ad menbra totius corporis. Unde animalis virtus regitur et augmentatur, eiusque actiones custodiuntur

> This therefore arises from perfected vapours of blood, which is purified in the liver and when it is digested it is clearly purified from all humours. The spiritual [vital] spirit arises in the heart, leaves through the arteries to the members of the whole body, increasing and ruling the spiritual/vital power, guarding its functions. The animal spirit arises in the ventricles of the brain, and goes through the nerves to the members of the whole body. By this animal strength is ruled and increased, and its actions are protected.

... Hic enim spiritus a corde ad cerebrum per arterias ascendit, que iuveniles dicuntur. Hec arterie cum ad cerebrum veniant craneum usque ad cerebri sedem penetrant, ubi multipliciter deluse (divise) telantur sicut rete subtus craneum dilatante.

> ... For this spirit rises from the heart to the brain up through the arteries which are called *iuveniles* [jugular?]. When these arteries come up to the brain they penetrate the skull to the seat of the brain where, divided many times, they are woven like a net spread out at the base of the skull.

Deinde rete due principales aggrediuntur (egrediuntur), que retorte super idem rete protenduntur. Spiritualis spiritus cum a corde progreditur, in tele modum multipliciter profusus (diffunditur), et ibi morans implicitus, tamdiu ibi digeritur quoad depuratus clarificetur, sicque animalis spiritus ab eo, generatur.

> Then two principal [arteries] leave the rete, which in turn extend over the rete. The vital spirit, when it advances from the heart, is poured out in many ways into this web, and there stays until it is digested, cleansed and refined, and thus animal spirit is generated from it.

Ad rete enim tantum illud contexitur, ut a spiritu spirituali digestio animalis concreetur, sicut ad hoc facta sunt, ubera ut sanguis depuratus ibi fieret lac. Post hic spiritualis recte per ambas arterias super rete retortas egreditur, et ad ventriculos prore cerebri dilabitur, ubi iterum subtiliatus quod depuratum supererat eiecit, per suos mediatus, id est palato atque naribus ipse vero vadit ad ventriculos puppis, per viam mediam medii ventriculi atque puppis.

> For it is joined to the rete so that animal spirit is created from digestion of the spiritual spirit, just as the breasts were made for the purpose that purified blood might there be made into milk. After this the spirit leaves through both arteries twisted over the rete and flows to

[3] From Helsinki, National Library of Finland, Codex EÖ.II.14.

the ventricles at the front of the brain where in turn it expels what has been cleansed and refined through the palate and nostrils, and itself goes out to the rear ventricles, through a route through the middle of the ventricles and rear.

Que non semper est aperta, quia in concavitate sua qua in corpore vermem assimilatur est clausa. Cum autem natura expetat ut spiritum hunc ad puppim mutat, rugatio vermis, spiritus eum transilit, et vermis se postea claudit ut prius fuerat.

This way is not always open because the hollow there is closed by a body like a worm [vermis]. When the natural spirit changes and is ready to go the rear, the vermis folds, the spirit goes through, and the vermis closes itself as it was before.

Spiritus autem qui ad puppim pertransit, motum ibi et memoriam facit. In prora inmorans sensum creat et fantasiam. Spiritus medii ventriculi, intellectus sive ratio fit. Dicunt quidam philosophi, hunc spiritum cerebri esse animam et eandem corpoream. Alii dicunt anime instrumentum, quam animam fatentur incorpoream. Que intentio priore est melior. Sed quia disputatio non huic suppetit intentioni, cum philosophica sit hic dimittenda censuimus ista.

The spirit which has passed through to the rear, there causes movement and memory. Remaining in the front, it creates sense and imagination. The spirit in the middle ventricle makes intellect and reason. Some philosophers have said that this spirit of the brain is the soul, and the same as the body. Others say that it is the instrument of the soul, and the soul is acknowledged to be incorporeal. The second opinion is better.[4] This is a philosophical discussion and not in accord with our purpose, so we thought it best to leave out such a matter.

De accidentibus anime (On things that happen to the soul (emotions))
Book 5, Ch. 38, fols. 77r-78r[5]

Purgatione expleta naturali et eius actionibus circa corpora expositis; subsequitur ut de accidentibus anime dicamus; et quid circa corpora operentur. Omnia ergo corpora mutantur ex accidentibus anime ... Irascentes enim quibuslibet ex causis angustiantes, tristantes atque timentes, suspicantes et amantes sepe pessimas incidunt infirmitates, et citissimas mortes ... Ira enim si frigide complexioni vel timide intervenerit; multum eis subvenit. Leticia, solicitos, tristes, et angustiantes iuvat.

Having given a full explanation of the natural excretions and their effects on the body, it follows that we should speak of the emotions, and how they work in the body. All bodies are changed by emotions ... For those who are angry about some cause, or who are distressed, sad and fearful, suspicious, or in love often fall into the worst illnesses, and the quickest deaths ... If anger comes in a case of a cold or timid complexion, it helps it. Happiness helps those who are worried sad or distressed.

Multos inquit galienus homines novi qui ex longo tempore angustiam sive tristitiam sunt perpessi, sed dum inde ad divicias sive gaudium sive pervenerint; ad sanitatem pristinam redierunt ... Alii ex infirmitate habita sanantur cumque amaverint adipisci videantur. Similiter complexionem cerebri calidam et siccam habentes et semper gaudium et leticiam, tristitia et angustia supervenientes adiuvant, quia calor in interiora rediens nullam patitur dispersionem exteriorem. Cum ergo ex

[4] Some versions cite various philosophers here, see Burnett, 'The Chapter on the Spirits', p. 105.
[5] From Helsinki, National Library of Finland, Codex EÖ.II.14.

accidentibus anime corpora mutentur, oportet eorum diversitates dicantur, et circa corpora eorum actiones. Accidentia anime ira, leticia, tristicia, angustia, timor et verecundia.

> Galen said, I know many men who suffered distress or sadness for a long time, but when they attained riches or joy they returned to their former health ... Others are cured of their illness by seeing what they love. In the same way, those having a hot and dry complexion of the brain are often joyful and happy; this helps to overcome sadness and distress; because the interior heat comes back, it does not suffer dispersion to the outside. Thus, therefore the body is changed by emotions, it is necessary to discuss their variety, and their actions around the body. The emotions are anger, happiness, sadness, anguish, fear and shame.

De ira (On anger)
Ira est ebullicio sanguinis in corde existentes, et motus caloris naturalis subito corpus exeuntis. Huius actio corporis est calefactio et exsiccatio ... Ira vero augmentante calor dissoluitur naturalis, virtus deficit, tremor fit, maxime his qui non adeo sunt virtuosi. Sed tamen hec ira non mortificat sicut frigide nature si non est superflua, aliquando est congrua. Calor enim naturalis exteriora movet corporis et cum ipsa vis movetur sanguinis ... Sanguis enim exiens arterias carnem implet et nutricat, manifestat calorem exire, rubor visus in facie, et quod vene replentur sanguine.

> Anger is a boiling of the the blood which is in the heart, and a sudden movement of the natural heat leaving the body. This action of the body is warming and drying ... When anger grows the natural heat is dissolved and the strength fails, tremor occurs, especially in those who are not strong. However, this anger does not weaken like a cold nature, if it is not excessive; for sometimes it is appropriate. The natural heat moves to the outside of the body and moves with the blood itself ... The blood coming out fills the arteries and nourishes the flesh, and the heat coming out is seen in the red colour of the face, because the veins are full of blood.

De gaudio (On joy)
Gaudium sive leticia est exitus caloris naturalis paulatim in exteriora. Unde anima confortata calorem naturalem per totum corpus temperat, sanguinem actione sua augmentat, corpus confirmat. Idcirco omnibus et maxime sanis congruit corporibus. Sed tamen gaudium aliquando interfecit, si sit subitum propter caloris naturalis extra corpus egressionem, et in exteriora dispersionem, quod imesus (rufus) dixit quandoque fuisse ex nimio, et subito gaudio superveniente.

> Joy or happiness is when natural heat gradually leaves for the outside of the body. From this the mind is strengthened and moderates the natural heat through the whole body, with this action it increases the blood and strengthens the body. Therefore, it agrees with all bodies, and especially healthy ones. However joy sometimes kills, if there is a sudden exit from the body of the natural heat, and it is dispersed outside, which Nemesius? Rufus said was sometimes from excessive and sudden joy.

De angustia On anguish/ distress
Angustia cum calor naturalis paulatim in interiora subintrat, unde febres nascuntur effimeres. Que angustia si diu moretur calor augmentatur. Solida membra calefiunt, et ita febres cadunt. Si autem in frigidis fuerit calor extinguitur. Est ergo angustia omnibus corporibus maxime frigidis et siccis nociva.

> Anguish arises when gradually natural heat enters into the interior of the body, from which ephemeral fevers arise. The distress is increased if the natural heat remains for a long time. All of the organs grow warm, and fevers occur. And if it is in a cold complexion the natural heat is quenched. And therefore, anguish is harmful to all bodies, especially those which are cold and dry.

De tristicia (On sadness)
Tristicia est cum calor naturalis aliquando exit, aliquando intrat. Intrat cum que speraverit, desperat; exit cum que desperaverat sperat. Oportet ergo hominem cum intoleribilem habuerit exultationem, ad forsitan quandoque futuram recurrere (revertere) calamitatem, ne calor naturalis subito exiens refrigeret interiora, spargens se per exteriora.

> Sadness arises when the natural heat sometimes leaves, sometimes enters. It comes in when the person despairs of what he had hoped, and leaves when he hopes of what he despaired. It is necessary therefore, if a man has unbearable joy, to perhaps come back to future misfortune, lest the natural heat suddenly leave, cooling the interior and scattering it outside the body.

De timore (On fear)
Timor est cum calor naturalis subito interiora ut anima fugit (ad animam fugiat) quod sibi nocet horror, et expavet.

> Fear is when the the natural heat suddenly flees the interior and runs to the mind, which dread harms it and makes it afraid.

De verecundia (On shame)
Verecundia est cum calor naturalis et interiora intret, et exteriora in uno momento visitant. Calor enim naturalis ad interiora sicut et in timore refugit in verecundia, et post memoriter recurrit ad exteriora ... Unde fit ut rubeat cutis in verecundia.

> Shame arises when the natural heat enters inside and at the same time goes outside the body. For in shame, the natural heat flees back inside just as in fear, and when (the event) comes back from memory it goes back to the outside ... Because of this the skin reddens in shame.

***Pantegni Theorica*, Book 9**

Frenesis (Frenzy)
Ch. 4, fols. 99v-100r[6]

Frenesis aut ex calida complexione quam patitur cerebrum aut sue pellicule aut de calido apostemate in pelliculis ipsius cerebri, aut in cerebro aut ex multitudine colere qui in venis est cerebri. Qui autem dolor est ex apostemate durior est, et fortior. Calidum vero apostema aut est de sanguine aut de colera R.

> Frenzy arises either as the brain or its membrane suffers from a warm complexion or from a warm abscess [swelling] in the membrane of the brain itself, or in the brain, or from an excess of bile which is in the veins of the brain. Moreover, the pain which is from the abscess is harder and stronger, A hot abcess is either from blood or red bile.

Significatio est continua febris, calor non fortis sub tactus capitis et faciei calidor est tactu totius corporis. Alienatio habetur mentis vigilie. Aliquando est somnus cum imaginatione et suscitatur cum clamore et fortitudine. Crossecit lingua nigrescens, accipit de vestimentis flocculos, propter imaginationis corruptionem, oculi eorum aliquando lachrimantur et lippi fiunt aliquando sicci.

> The sign of this is continuing fever, the heat is not strong to the touch, the touch of the head and face is warmer than that of the whole body. Delirium holds the mind in wakefulness.

[6] From Cambridge, Trinity College MS. R.14.34.

Sometimes there is sleep with mental images and the person is awakened with shouting and strength. The tongue grows fat and blackens and becomes furred like on garments because of the disease of the imagination: sometimes the patients' eyes water and are inflamed, sometimes they become dry.

Quod si sit ex apostemate sanguineo omnia accidentia cum risu sunt et somno, rubore oculorum alienatione calor eorum pungitivus, facies non multum rubea, sed citrinitati contigua, cum siccitate. Quoque patiuntur ex apostemate colerico. Hoc habent accidentia supradicta, cum ira, contentione et perfidia.

But if it caused by a bloody abscess, the symptoms are laughter and sleep, redness of their eyes as the heat from the delirium is stinging, the face is not very red, but bordering on yellowness, with dryness. Also, there are those who are suffering from an abscess from bile. These have the aforesaid symptoms, with anger, arguments and dishonesty.

Si autem apostema est melancolicum eadem sunt accidentia, cum vanitate, et levatione assidua, alienatione nimia, timore et suspitione, ac ploratione. Cum autem his materiis parum miscetur flegmatis habens (habent) superiora accidentia cum vigilis somno pulsus intota passione hac parvus defectus, parum durus nimium diuersus anhelitus spissus. Est et alia frenesis (nascens) in cerebro ex apostemate diafragmatis propter colligantiam nerui a cerebro descendentis.

If, however, the abscess is one of black bile, the symptoms are the same, with foolishness/aimlessness and constant getting up, great loss of reason, fear and suspicion, and weeping. However, if this matter is mixed up with a little phlegm patients will have the symptoms above with wakefulness from sleep. In all of this illness the pulse is little weak, or a little too strong, very variable, and there is rapid breathing. And another type of frenzy arises in the brain from an abscess of the diaphragm because of the connection of a nerve descending from the brain.

Omnia superiora accidentia frenesis habet ista, sed tamen illa non adeo fortia. Febris est fortior per totum corpus plus apparet calor ex vicinitate loci infirmitantis ad cor.

This has all the above symptoms of frenzy, but it is not so strong. The fever is stronger throughout the whole body, and the heat appears to come more from the area of sickness to the heart.

Ypocundria autem sursum trahitur anhelitus anguistiosus pectus, latus (et) ypochondria sunt calida quia cerebro sunt vicina. Hae passiones ambe sunt molestissime. Oportet autem intelligas: quia qui frenesim inciderint, et ad hanc etatem pervenerint non euadunt plurimi.

However the abdomen is drawn up by the distress and heavy breathing chest, the side and the abdomen are hot, because they are near the brain. Both of these illnesses are most distressing. It is necessary that you understand that of those who progress to the state of frenzy, not many escape.

Passio enim ista huic etati est contraria. Apostema nascens in cerebro sanguinolentum est unum (nimium) in ipso facie et arteriis tumescens ut sentiantur ossa serram assimilantia quasi sint separata, et nimius his est dolor et continuus rubor in facie, oculi quasi exeunt abhominationem patiuntur ...

Indeed, the suffering of this state is dangerous. An abscess arising in the brain is very bloody from which the face itself and the arteries swell, so that the bones feel as if they have been separated by a saw, and this pain is very great, the face is constantly red, and the eyes suffer a loathsome discharge ...

Lithargia (Lethargy)
Ch. 5, fols 100r-v[7]

Litargia est corruptio quam patitur memoria, nascens ex complexione mala et frigida aut de materia flegmatica que cerebro siue sui puppi dominatur, sicut frenesis que nascitur ex colere R. dominatione. Similiter hec est ex habundantia humiditatis et flegmatis. Significatio euis tepida et febris lenta propter putredinem flegmatis, et habet stuporem et somnum difficilem ad excitandum. Si autem de aliqua re interrogatur duriter et moleste ab eis respondetur

> Lethargy is a diseased condition which the memory suffers, arising from a bad and cold complexion or from phlegm dominating the brain or its posterior part, just as frenzy arises from a predominance of red bile. Similarly, this comes from an excess of moisture and phlegm. The sign of this is a slow warm fever because of putrefaction of the phlegm, and stupor and sleep from which it is difficult to wake. Moreover, if patients are questioned about something it is hard and vexing for them to respond to it.

Mente alienantur oscitationem habent nimiam buccam habent apertam, quasi obliti sint claudere eam. Alii habent solutionem flegmatis alii sunt constipati. Vrina eorum turbida quasis asinina vel iumentina habent etiam tremorem, et in extremitate corporis sudorem, et eorum facies nigredini pertinet, tremuit, pulsus eorum mollere est et magnus, diversus et estuosus, sicut peripleumonlorum pulsus anhelitus tardus et defectus et divisus.

> The mind becomes insane, there is excessive yawning with an open mouth, as if patients have forgotten to close it. Others have a loosening of phlegm, others are constipated. Their urine is cloudy like that produced by an ass or horse, and they also have trembling, and sweat at the bodily extremities, and their face becomes black, and trembles. Their pulse is weak and strong, varied and agitated like the pulse in those with peripneumonia, the breathing slow, weak and broken up.

Si lithargia ex siccitate sit, habent vigilias, stuporem, somnum, vigilie que chuma vocantur. Stupor est aut de frigida complexione quam patitur cerebrum, aut de materia flegmatica aut de febri acuta, aut de percussione quam lacerti patiuntur corporis, aut ex compressione cerebri, aut ex confricatione (confractione) ossium capitis, aut ex frustulis que fractis ossibus capitis supponantur, cum medicari velit medicus.

> If the lethargy is from dryness, patients have wakefulness and stupor, a wakefulness called *chuma*. Stupor comes from a cold complexion affecting the brain, or from phlegm, or from acute fever, or from a beating of the muscles of the body, or from compression of the brain, or from a fracture of the bones of the head, or from fragments of broken bone of the head going down (into the brain), which the doctor should treat.

Vigilias ex complexione est sicca aut ex materia est melancolica sive colerica ... Si flegma plus habundat, stupor maior fit. Si siccitas maior vigilia. Infirmus se habet quasi vigil dormiens, occuli habent eius aperti, mens turbata et alienata. Significatio qua monstratur hec passio ex frenesi et lithargia est composita.

> Wakefulness comes from a dry complexion or from black bile without yellow bile ... if there is more abundance of phlegm the stupor will be greater. If more dryness, then wakefulness. The patient has a kind of wakeful sleeping, their eyes open, the mind disturbed and mad. This sign shows that this illness is a combination of frenzy and lethargy.

[7] From Cambridge, Trinity College MS. R.14.34.

... Aliquando ex nimia potatione aquae frigide et in ea balneatione et fructuum refrigerationis commestione. Significatio sua quia totum corpus est sine sensu et motu est et suspensus sicut mortuus. Differt autem a stupore, (quia in stupor) oculi sunt clausi in congelatione vero aperti.

> ... Sometimes it is a result of drinking too much cold water, of bathing in it, and eating cold fruit. The sign of this is that the whole body is without sense or movement and in a state of suspension as if dead. This differs from stupor, because (in stupor) the eyes are stuck open or closed.

Quando autem hec passio hominum incipit venire remanet prout hominem invenit se habentem, sive sedeat, autem stet, autem dormiat, aut oculos apertos seu clausos habeat, similiter si aliquid operetur eodem modo operatur ...

> When a man starts to have this disease, it stays as when he first found that he had it, whether sitting, standing, or sleeping, or with his eyes open or closed, as if something was controlling him in that way ...

Apoplexia et epilempsia (Apoplexy and epilepsy)
Ch. 6, fols 100v-101v[8]

Apoplexia et epilempsia nascuntur ex ventriculorum cerebri constipationibus. Est autem apoplexia cum tres ventriculi cerebri omnino oppilantur, et subito unde virtus sensibilis et mobilis transire prohibentur, ut menbra sensibilia et motus voluntarius aliquid non operetur.

> Apoplexy and epilepsy arise from blockages of the ventricles of the brain. Moreover, apoplexy is when the three ventricles of the brain are completely blocked and because of this the powers of sense and movement are suddenly prevented from going through, so that the organs of sense and voluntary movement do not work.

Cessant ergo virtus et motus et regitive virtutis actiones ... Oppilatio autem huius passionis ex humoribus est flegmaticis, crossis (grossis) et viscosis, aut de flegmate est cum melancolia se miscente seu crossissimo (grossissimo) sanguine. Aliquando ex vini plenitudine et ebrietate que apoplexie species est mortalis, sicut ypocras in aphorismo...

> Therefore, the power and movement and the actions of the powers which rule them cease ... The blockage in this illness comes from humours which are of phlegm, thick and sticky, or of phlegm with black bile mixed with the thickest blood. Sometimes from much wine and drunkenness, which kind of apoplexy is fatal, according to Hippocrates in his Aphorisms ...

Si hec passio fit de flegmate vel sanguine facies rubet. Si de colera nigra facies nigredini pertinent. Patientes oculos habent apertos, sive clausos et permanent sicut fuerunt .. Hec passio si sit fortis non sanatur. Si debilis ad sanandum dura fit, sed movetur in epilempsiam et paralisi, sicut ypocras dicit ...

> If this illness is from phlegm or blood, the face reddens. If from black bile the face tends to blackness. Patients have eyes open or closed and they stay like this ... If this illness is this strong it may not be cured, if it is mild it is hard to cure, but becomes epilepsy and paralysis, just as Hippocrates says ...

[8] From Cambridge, Trinity College MS. R.14.34.

Epilempsia est cum totum corpus spasmum patitur, ut in terram cadat infirmus. Aliquando temporibus constitutis, aliquando interpolatis diversis. Causa eius causa est apoplectica, sed tamen minor in fortitudine et virtute.

> Epilepsy is when the whole body suffers convulsions, such that the patient falls to the ground. Sometimes this is at particular times, sometimes at various intervals. The cause of this is apoplexy, but however lesser in strength and power.

Causa enim que epilepsiam facit, non est omnibus cerebri ventriculis, sed quidam oppilantur ventriculorum et vie neruorum menbra corporis moventium. Sua materia minor est quam apoplexia in quantitate et qualitate et substantia. Uunde fit ut infirmus in epilempsia sentiat, et se moveat, quod non fit in apoplexia, et inde dicunt epilempsie causam, apoplexie esse mediam.

> For the cause of epilepsy is that not all of the ventricles, but certain ventricles of the brain are blocked, and the way of the nerves governing the movement of the limbs of the body. The material involved is less in quantity, quality and substance. Because of this the patient can feel and move, which is not the case in apoplexy and because of this they say the cause of epilepsy is half apoplexy.

Quedam autem epilempsia est ex cerebro, quedam ex nervorum spasmo, que est ex cerebro, quedam ex ipso solo, quedam ex colligantia oris stomachi vel alterius menbri. Que est solius cerebri nascitur sicut dixi ex constipatis ipsius ventriculis, et quia spiritus atque virtus motiva prohibentur, ne ad menbra transeat, que voluntarie moventur.

> A certain type of epilepsy comes from the brain, and another from a spasm of the nerve which are coming from the brain, another comes from itself alone, another from the connection between the mouth of the stomach or other body part. That which is from the brain alone arises, as I said, from blocked ventricles themselves, and because of this the spirit and the power of movement is hindered and may not move to the limbs which have voluntary movement.

He oppilationes ex humoribus sunt flegmaticis, crossis (grossis) et viscosis, in hora passionis ad ventriculos descendentibus cerebri, aut ex crossis humoribus melancolicis, aut ex compressione cerebri cum franguntur ossa capitis. Aliquando hec passio nascitur cum rotando vel circumeundo homo se moveat ...

> These blockages come from humours which are phlegm, thick and gluey, coming down to the ventricles of the brain in this illness, or from thick humours of black bile, or from compression of the brain when the bones of the head are broken. Sometimes this illness arises when a man moves around by turning or whirling ...

Particularia singularia hominum in hac passione accidentia. Fortiter cadunt, clamant, linguam masticant, praeter voluntatem exeunt, digestio et urina in aliis sperma. Signa ut infirmus cum uino et mirra, et cornu caprino fumigetur, detur ad comedendum epar caprinum, assatum et odoret ipsum, cito enim propter hec incidunt terre, et apparent significationes dicte.

> In this illness there are particular and unique signs. Patients fall hard, shout, chew their tongues; their food, urine, and in others, semen, leaves them involuntarily. The patient with these symptoms is to be given wine and myrrh and treated with the smoke of goats' horn. Given the roast liver of a goat to eat and smell, patients quickly fall to the ground and the symptoms discussed are seen.

Alii dicunt si pellas caprinas vestiunt noviter excoriatas que infundantur aqua ilico cadunt. Multi hac passione moriuntur, qui accidentibus his molestantur, plurimum hec parvis pueris evenit, posteriori quoque etati et iuvenili, raro senium propter siccitatem menbrorum suorum patiuntur.

Pueri vero duobus habent ex causis, aut propter naturalem humectationem sui cerebri vel propter malam dietam.

> Others say that if they are clothed in newly skinned hides of goats which have had been dipped in water, immediately they fall. Many die from this illness, who suffer from these symptoms, and this often happens to small children and to young people in later stages of life. Rarely do the elderly suffer from it, because of the dryness of their organs. In children there are two causes, either because of the natural moisture of their brains or because of a poor diet.

Si causa huiusmodi ex complexione est naturali in initio nativitatis contingit. Si propter malam dietam sit post consequitur neque unquam sanatur. Si post has etates evenit in pueritia multi curantur, si secundum quod oportet medicentur. Sanitas eorum in etatis regionis et diete est comutatione. Sed si xx annos transeat, morietur cum ipsa ...

> If the cause of this illness arises from the natural complexion, it affects the person from birth. If it is due to poor diet the consequence is that it will never be cured. If it comes after this stage in childhood, many are cured if they are medically treated as they should be. Their health at this age depends on a change of diet and region. But if [the illness occurs] after twenty years, the patient will die with it ...

Melancolia (Melancholy)
Ch. 7, fols 101v-102v[9]

Melancolia est sine febre alienatio mentis. Contingit autem ex cerebro aut ex colligato sibi menbro. Si ex solo cerebro fit, ex humoribus est melancolicis in cerebro nascentibus aut in stomacho venientibus et paulatim ibi se coadunantibus. Unde animus conturbatur et rationabilitas mutatur, ex colligantia cerebri ad alia menbra fumei et melancolici sunt humores a stomacho ad cerebrum ascendentes ex materia, que est in stomacho aut sub ypocondria. Est et melancolia que ex tocius corporis humoribus est incensis.

> Melancholy is madness without fever. It either comes from the brain or from a connection with another organ. If it comes from the brain alone, it is from humours of black bile arising in the brain or coming into the stomach, gradually collecting there. From this the mind is disturbed, the power of reason is changed, from the connections of the brain to other organs, and smoky black bile humours rise to the brain from the stomach out of the matter which is in the stomach or abdomen. In melancholy the whole body is inflamed by humours.

Aliquando ex timore et ex tristicia. Signa melancolie universalia est timor et tristicia ... Alii enim timent mortem alii desiderant eandem, alii multum rident, alii multum flent, alii se necant, alii se esse putant vasa lutea, et cavent ne ea frangantur, alii sperant, quia sint bruta animalia, et sicut galli clamant, alii divinant, et se de divinis predicare putant (et se divina dicere putant) ...

> Sometimes because of fear and sadness. The universal signs of melancholy are fear and sadness ... Others fear death, others desire it, some laugh a lot, others weep a lot, some kill themselves, some think they are clay vessels, and take care not to get broken, others think they are brute animals, and cry out like roosters, some prophesy and think they preach about religion (and think they speak divine things) ...

[9] From Cambridge, Trinity College MS. R.14.34.

In humoribus ex colera R. habent alienationem, clamorem, instabilitatem, vigilias, non quiescunt multum irascantur calidum habent tactum, sine febri, maciditatem, et corporis siccitatem, oculorum instabilitatem, aspectum quasi leonis, citrinitatem coloris ...

> Where the humours are of red bile, there is loss of reason, shouting, instability, wakefulness, they cannot rest, become very angry, they are warm to the touch without fever, there is thinness and dryness of the body, shakiness of the eyes, an appearance like a lion, of a yellow colour ...

Unde in aphorismis ypocras. Timorem et tristiciam diu patiens melancolicam intelligitur habere passionem. Hec autem passio plurimum fit in autumpno. Est et alia species melancolia quam qui habent galli sibi videntur habere similitudinem, et cantant sicut galli, alii sicut canes latrant, immo se esse canes credunt exeunt noctu ad monumenta et ibi usque in diem morantur ...

> According to Hippocrates' aphorisms. Those suffering fear and sadness for a long time are understood to have an illness of melancholy. Moreover, this illness most often occurs in autumn. And in another kind of melancholy there are those who think they are roosters, and they sing like roosters, others bark like dogs, indeed they believe themselves to be dogs, and go out by night to the tombs and there they stay right up until the daytime....

Oportet autem intelligatur, quia hec passio a parentibus hereditetur. Amor est confidentia anime suspiciosa, in re amata et cogitacionis in eadem assiduitas. Cuis significatio oculorum est concavitas et eorum motio assidua, maxime palpebrarum, neque lacrimantur pulcritudinem habent in visu, menbra praeter oculos in maciem mutantur, pulsus eorum sicut tristium. Sed si res amata nominetur pulsus de sua natura mutatur turbatur et diversatur ...

> Moreover, it is necessary to understand that this illness is inherited from the parents. Love [lovesickness] is the firm belief of the suspicious mind repetitively thinking about the one that is loved. The sign is that the eyes are hollow and constantly moving, particularly the eyelids. Patients do not weep and are attractive in appearance, except for the [appearance of] the eyes. Their limbs become thin, the pulse like that seen in sadness. But if the beloved is named, the pulse changes in its nature and is disturbed and variable ...

***Viaticum*, Book 1[10]**

De Litargia (On lethargy)
Ch. 14, fols. 5v-6v

Perfectio memorie et facilitas recordationum animae substantialem cerebri puppis stabilitatem et eius innuunt perfectionem. Econtra hominem obliviosum et dure intelligentem necesse faciat. Quod fit cum in pupi cerebri humores nascuntur flegmatici qui fere nichil horum premittunt memorie.

> Perfection of the memory and facility of recollection in the mind indicate stable substance in the posterior part of the brain and its perfection. If it is the opposite, it necessarily makes a man forgetful and hard of intelligence. Which is how it is when phlegmatic humours arise in the rear of the brain, which allow almost nothing to be brought into memory.

Si ex vitio sit temporis cuibus multa oscitationem et oris apertio neque memerint claudere. Ex multa est flegmatis frigiditate et humiditate cum in puppi cerebri superat, et tantum spiritum

[10] Taken from Oxford, Bodleian Library MS. Laud 567.

suffocat. Hec infirmitas vocatur litargia. G(alen) tamen frigidam frenesi vocat: que sepius contingit senibus in frigidis et in humidis regionibus.

> If it is from this damage there may be much yawning and opening of the mouth and patients do not remember to close it. It is due to the coldness and moisture of much phlegm which predominates in the rear of the brain, to such a degree that it suffocates the spirit. This illness is called lethargy. Galen however called it cold frenzy, which frequently affects the elderly in cold and wet regions.

Si hanc curare velimus: potionem damus potionem caput mundificantem ex frigidis et grossis humoribus: sicut theodoriton, pillu cochias: stomachicon et similia ... Utatur piperion ... trifera magna … Hac quoque pillule sunt similiter iuuative … ad lithargiam. R. aloes. ʒ .x. agarici: sticados. ana. ʒ .iii. coloquintide: masticis: cassie: spice: cinamni: gariofili: squinanti: zinziberis: anisi. ana. ʒ .i. fac pillulas in modum piperis. Et da. ʒ .iii. cum aqua calida ...

> If we wish to cure this, we should give a potion which purges the head of cold and thick humours, such as the theodoricon or coccus pills, stomaticum and similar ... Use pepper ... trifira magna ... Likewise these pills are similarly helpful ... against lethargy: Recipe: aloes 10 drams, agaric, lavender 3 drams, colocynth, mastic gum, cassia, spikenard, cinnamon, cloves , squinancy wort, ginger, anise in the quantity of 1 dram, make the pills in the same way as those of pepper, give three with hot water ...

Sternutatio cum selithe fiat vel cum condisi vel castoreo. Gargarismum cum sinapi: origano; piretro; staphisagria; galanga et similiter, cum hiera pigra et oximelle scillatico et aqua calida ... Propria huis morbi medicina potio est anarchardia (anacardium) una quaque die .i.ʒ ieiunus bibat ... Accipiat oximel, mellicratum aromaticum. Abstineat a scarificatione; et in puppi capitis maxime, et a fructibus et cibus humidis et frigidis omnibus.

> A sneeze is brought on with selithe or with sneezewort or castoreum. Gargle with mustard, oregano, pellitory, stavesacre galangal and similar drugs, with hierapigra and oxymel with squill and warm water ... The particular medicine for this disorder is an anacardium drink, 1 dram every day drunk on an empty stomach ... The patient should take oxymel, aromatic melicrate and abstain from scarification, especially on the back of the head, and from all fruit or food which is cold and wet.

De stupore mentis (On stupor)
Ch. 16, fols. 5v-6r

Stupor mentis est quasi somnus oculis clausis; quod duobus fit modus; vel infirmus nimium est somniculosus; vel parum. Nimia enim sonmiculositas tribus modis exstat, vel de sola humiditate, sicut ebriosi patiuntur, vel de sola frigiditate, sicut in nive vel glacie cadentes sustinent; vel de utroque: sicut in apopleticis videmus et lithargicis. Secunda: parva scilicet somnuculositas non est somnus, sed quasi dormitantis pigritia. Quae non contingit, nisi ex defectione et dissoulutionem virtutis.

> Stupor of the mind is like sleep with closed eyes. It occurs in two kinds, either the patient is very drowsy or else not at all. Great sleepiness appears in three ways; either from moisture alone, such as alcoholics suffer, or from coldness alone, as in those who have fallen in snow or ice, or else from both just as we see in apoplectics and lethargics. Next it is evident that light drowsiness is not sleep but like a sluggish sleeping, but it does not happen except from a dissolution and failure of strength.

Hec infirmitatas vix umquam vel parum somni curatur ... ex humiditate sit ceribri prevideatur, pedes infirmi in aqua ponantur calida, et cum sale fricentur. Camomilla; melilota: rosa; in aqua

decocta infirmo apponantur; ut per nares fumus eorum ingrediatur. Prora capitis, illa aqua lavetur.

> This illness is hardly if ever cured with a little sleep ... if it is understood to come from moisture in the brain, the feet of the patient should be put in warm water and rubbed with salt. A decoction of water with camomile, melilot and rose is to be applied to the patient so that its fumes enter the nostrils. The front of the head should be washed with water.

... Medicatur hec infirmitas itidem ut lithargia. Sed tamen in lithargia puppis; et in hoc morbo prora curetur cerebri ... ante infirmum dulcis sonitus fiat de musicorum generibus sicut campanula. rota et similibus. His anima delectatur; et ex delectationem natura excitatur.

> ... This sickness is treated in the same way as lethargy. However, lethargy is in the rear of the brain, and in this disorder the front part of the brain is treated ... Play sweet sounds from different kinds of music before the patient, such as bells, the rota [a stringed instrument], and similar instruments. All of this will delight his soul and he will naturally be awakened by this delight.

De frenesi (On frenzy)
Ch. 18, fols. 6v-7r

Frenesis est ut absolute diffiniatur, calidum apostema ... Nascitur duobus modis: vel de incenscione colere R. cerebrum ascendente, vel de sanguinis ebullitione ex corde de cuis fumo. Cum ascenderit cerebrum fit apostema ... vigilie et alientationes comittantur et dolores. Cum autem morbus augmentatur: ut ad statim pertingat, terribilia infirmus accidentia pacitur sicut sitim nimiam: oris siccitatem: nigredinem lingue: asperitatem: molestationes: angustiam nimiam, defectionem: et sincopin, mutationem native cutis facei in non nativam sive ruborem: si sanguis cordis sit causa, vel in citrinitatem si colera .R.

> Frenzy may be completely explained, as a hot aposteme [abscess] ... It arises in two ways, either from the burning of red bile rising to the brain, or from vapours of blood boiling in the heart, which, when it has risen to the brain becomes an abscess ... then wakefulness, loss of reason and pain follow. Moreover the illness gets worse and happens suddenly. The patient suffers terrible symptoms such as great thirst, dryness of the mouth, blackness of the tongue, difficulties and troubles, distress, great exhaustion and faintness and changes in the normal skin of the face to an unusual appearance, reddening if due to blood from the heart, or yellowish if due to red bile.

Ex maxima vero parte hec infirmitas solet contingere his qui magno et subto (subito) labore exercitantur et quarum complexio calido et sicco, et maxime in tempore estivo. Frenesis que ex quolibet alia passione nascitur, vel est ex diaphragmatis apostemate vel ex stomachi passionem, sive ex matrice: ex quorum colligantia per nervos cerebrum patitur ...

> For the most part this sickness usually affects those who are engaged in excessive or sudden work, whose complexion is hot and dry, and especially in the season of summer. Frenzy arises from other illnesses, either from an abscess of the diaphragm or from an illness of the stomach, or from the womb, and the brain suffers through connections with them through the nerves ....

Oportet ergo ante dominium morbi flebotomari freneticos et sanguis extrabatur secundum virtutem patientis si non aliquid obstat contrarium. Post diminutionem com (cum) catartico est subveniendum. Rx oxifenicia pruna: viola: cassia fistula: manna et similia. Condie (quotidie) digestionem augmentando: incensio colere R extinguenda sicut hoc facit catarticam. Rx manne, violati mellis, cassie fistulae, ana ʒ v que colata da mane in aqua cucurbitina, vespere cum aqua

maligranati dulcis vel acidi, cum sciruppo zuccari. Nutriendus est cum ptisana zuccaro vel de pane levato cum amygdal' et zucarra ...

> Therefore, it is necessary to let the blood of the frenzied patient before the illness takes control, and to draw blood according to the patient's strength, and if there is nothing which contraindicates it. After bloodletting a cathartic is helpful. Recipe: tamarind, plums, violet, cassia, manna and similar. By daily increasing the digestion, the burning of the red bile is quenched, as with this cathartic Rx: manna, sweet violet, cassia fruit, 5 drams, strained, in pear water, in the evening with pomegranate water, sweet or tart, with sugar syrup. [The patient] is to be fed with tisanes of sugar, or light bread with almonds and sugar ...

Mutamus (mittamus) oleum rosarum super caput cum aceto vel portulace suco vel sempervive et cucurbite cum oleo violato vel rosato. Ponamus super caput frondes salicis vel portulaces. Si habent vigilias, ungamus frontem et timpora cum lactuce et papaveris suco et oleo violato. Sternutatio fiat cum lacte mulieris et oleo violato. Si siccitas oris crescit et lingue aperitas (asperitas), lavetur os cum psillii aqua et oleo violato et similiter lingua; in domo ubi iacet frondes herbarum mittamus virides sicut salicis, myrte, rosae ...

> We should pour rose oil over his head with vinegar or purslane juice, or houseleek and gourd, with violet or rose oil. Place over his head willow foliage or purslane. If the patients have wakefulness, we rub the forehead and the temples with lettuce, poppy juice and violet oil. Sneezing is induced with woman's milk and violet oil. If there is an increase in dryness of the mouth and roughness of the tongue, the mouth is to be washed with water of fleawort and oil of violet, and similarly the tongue. In the home where the patient is lying we should put foliage of fresh green herbs such as willow, myrtle and rose ...

De epilensia et apoplexia (On epilepsy and apoplexy)
Ch. 22, fol. 8r

Passionem qua subito homines cadunt. Antiqui habuerunt et pessimum morbum vocaverunt: vulgus dicitur accubatum et iram dei esse dicitur ... G(alen) hec inquit passio qua epilepsia vocatur: humor est humidus; quo ventriculi cerebri non perfecte oppilantur prohibens animam declarare actionem suam qua natura viam cerebri illo humore ex oppilaverit.

> This is an illness in which men suddenly fall. The ancients also had it and called it the worst disease. Indeed, the common people call it *accubatum* [lying down? Incubus?] and say that it is due to the anger of God ... Galen said that in this illness which is called epilepsy, the humour is moist, by which the ventricles of the brain are not completely blocked, preventing the mind from showing its actions because the normal passage through the brain have been blocked with that humour.

Est autem epilepsia apoplexie vicina. Locus enim idem ex materia unde nascitur frigida est et grossa. Sed tamen apoplexia totius virtutis per membra discurrentis est ablativa. Epilenpsia vero motivum est disturbatio. Unde medici epilenpsiam vocatur apoplexiam parvam ...

> Epilepsy is close to apoplexy. Its location is the same, and the material from which it arises is cold and thick. However, in apoplexy all the power passing through to the limbs is removed. Epilepsy is when the movements are disturbed. Because of this doctors call epilepsy little apoplexy ...

Unde G(alen) epilenpsia inquit que crescente luna venit; sui materiam sigertat (significat) humidissimam. Omne humidum luna habent crescente incrementum. Que vero venit deficiente luna frigidissima quidem est. Sed tamen parum humida ...

According to Galen, epilepsy which comes with a waxing moon means that the humour responsible is very moist. Every waxing moon [these patients] have an increase in moisture. However, that which comes with a waning moon is from very cold [humours], but not very moist ...

Incipiendum a calefactoriis dissolventibus et purgantibus humores cerebri; cum yera G(alen), theodoricon, yera logodion et similibus ... Gargarismum faciemus cum calidis potionibus vel yera, fit sternutatio cum calidis oleleribus, caput lavandum cum eisdem que in lithargia diximus.

It is necessary to begin with warming drugs which dissolve and purge the humours of the brain, with Galens hiera, theodoricon, hieralogodion and similar ... We make a gargle with warm potions or hieras, cause sneezing with warm oils, the head is to be bathed with the same [treatments] as we said for lethargy.

Cum purgatum esse caput perfectissime certificabitur; cum sulphurea vel salsa aqua balneetur ... Bibat vinum postquam exierit balneum (Turinus edition adds: dormiat post somnum vero in balneum delectetur cum aqua tepida et aere lucido; neque eis accedat; quod animus ab horreat).

When it is confirmed that the head is completely purged, it should be bathed with sulphurous or salty water ... The patient should drink wine after coming out of the bath. (Let him sleep and after sleeping let him take delight in a bath with warm water and clear air; he should not come near anything which he dislikes).

Si clisterizare oportuerit faciendum est cum camomilla, aneto, centaurea, melitoto, coloquintida et similibus. Intervallatim vero detur tyriaca maior; diathesseron et calida antidota; sicut anacardion diatrion pipereon et similia. D. dixit epilepticis si coagulum leporis biberit iuvatur. Similiter asininum epar si assetur et bibatur; aut eius ungulae incense da ʒ ii et cotidie.

If it is necessary to treat him with an enema, it is to be made with camomile, dill, centuary, melilot, colocynth and similar. After an interval greater theriac is given, diathessaron and warm remedies, such as anacardium, diatrion pipereon and similar. Dioscorides said that it helps if the epileptic drinks the rennet of a hare. Similarly, the liver of a donkey, roasted and drunk, or its burnt hoof, 2 drams given everyday.

Caprinum epar si detur epilenpticis, epilenpsia apparet. Prout idem dicit piretrum accipiat et cum melle temperet. Quod si naribus apponatur et collo suspendatur valere videtur. Cerebrum cervinum cum oleo roseo accipietur et frons epileptici ungatur valet. Pili quoque canis albi nigredinem nullam habentis collo si fuerint suspensi valent, fel ursinum similiter suspenditur ...

If the liver of a goat is given to an epileptic the epilepsy becomes apparent. Again, he says [the patient] should take pellitory blended with honey. If this is placed near the nostrils and hung at the neck it is seen to work well. The brain of a deer with rose oil is taken, and rubbed on the forehead of the epileptic, this is effective. Also, hairs of a white dog who has no black hair, hung at the neck, are a very effective. Similarly, the gall bladder of a bear, hung [at the neck] ...

De epilensia et apoplexia (On epilepsy and apoplexy)
Ch. 23, fols. 8r- 9r

Si omnes ventriculi cerebri impleantur humiditate solius sanginis seu flegmatis, seu mixtorum cum humoribus aliis et hac materia opulento (oppilentur) totius corporis sensus atque motus auferuntur; et non intelligens; non videns neque audiens quasi exanimatus.

If all the ventricles of the brain are filled up with moisture of blood or phlegm alone, or mixed with other humours, and blocked by this material, sense and movement are taken

away from the whole body, and there is no understanding, neither vision or hearing and it is as if the person is dead /suffocated.

Omnes enim diem (sensus) virtutes corrumpuntur nisi solus motus in anelitu quod si auferatur, molestior et peior infirmitas efficitur. Infirmitatem hanc philosophi vocatur ... apoplexiam magnam; cuis magnitude vel parvitas ex qualitate anelitus sit intelligenda ... Si autem humores veniant in quolibet partem dextram seu sinistram apoplexiam minorem vocatur ...

All of the patient's senses and powers are damaged except for the movement of the chest in breathing alone, which, if this is taken away, the worse and more painful the illness becomes. Philosophers call this illness severe apoplexy, whose severity or mildness is to be understood from the quality of the breathing ... If the humours come down from the head to one side, either the right or left, it is called minor apoplexy...

Si oppilatio in nervis spondilis est in initio aufert sensus et voluntarii motus a cerebro venientes et omnia spondili supposita sensu et motu sunt carentia, facies vero sana. Si faciei tortura vel mollicies in toto corpore vel aliqua parte fuerit; necesse est (intelligi) cerebrum oppilatum esse hec minor apoplexia; aliquando est lenis, aliquando dura.

If the blockage is in the spinal nerves, firstly it takes away sensation and voluntary movement coming from the brain and all of the spinal nerves are subjected to a loss of sense and movement. The appearance however is healthy. If the face looks distorted or there is weakness in the whole body or some part, it is necessary to understand that the brain is blocked, and this is minor apoplexy, sometimes it is soft, sometimes hard.

Dura sermonem aufert et virtutem et voluntarium motum totius lateribus (Turinus has: illius lateris) et maxime si in dextro sit. ... Lenis sermonem quidem sed parvam virtutem sensum quibusdam membris immo toti illi aufert lateri ...

Hard apoplexy takes away speech and strength and all voluntary movement on all sides (of that side), and it is worst if it is on the right side ... In soft apoplexy speech is little affected but it takes away strength and sensation in certain parts, indeed from all of that side ...

Cum hic morbus ex humoribus grossis seu viscosis nascitur preceperunt anteriores (antecessores) nostri ante omnia a purgationibus humorem incipi cum maioribus antidotis et catarticis, sicut theodoricon, yera G, yera logodion, yera pigra et similibus.... Sternutationes dande sunt similiter ut cerebrum moveatur ...

When this illness from thick or viscous humours arises, our predecessors instructed before all to begin with purging of the humours with the major remedies and cathartic drugs, such as theodoricon, Galen's hiera, hieralogodion, hierapigra and similar.... Similarly sneezing is given [provoked] in order to stimulate the brain ...

Yera johannis damascenus velet ad mundificandum caput de flegmate et apoplexie flegma generanti paralisi ... Rx turbith ʒ x camedreos, sticados, ellebori nigri ana ʒ iiii coloquintide ana ʒ ii piperis; piritri ʒ xx, squinanti, ana ʒ iiii cinamomi, spicii, polii, petrosilini, croci, euforbii, ana ʒ ii piperis albi et nigri et longi, cardomomi; macis ana ʒ iii agarici polipodii, epithimi, ana ʒ iiii absinthii ʒ xv penidii ʒ vi nigelle, castorei, ʒ iii aristologie rotunde ana ʒ iii, mellis quod sufficit ...

The hiera of John Damacene is effective in purging the head of phlegm, and the phlegm of apoplexy which causes paralysis ... Recipe: turpeth 10 drams, wall germander, lavender, black hellebore in the quantity of 4 drams, colocyth, 2 drams, pepper, pellitory, 20 drams, squinancy wort 4 drams, cinnamon, spikenard, polygermander, parsley, saffron, spurge 2 drams, white, black and long pepper, cardamom, mace 3 drams, agaric, polypody, thyme

dodder, 4 drams, wormwood 15 drams, penide 6 drams, black cumin, castoreum 3 drams, round aristolochia [birthwort] 3 drams, and sufficient honey ...

Pantegni Practica[11]

Much of the content of the *Practica* comes from the *Viaticum,* those sections of the *Practica* which are different are included here.

De frenesi et cura eius (On frenzy and its cure)
Fol. 140 r

Hanc passionis, si virtus et etas permiserint et tempus cum flebotomia de cephalica curabis. Capite raso hoc emplastrum apponitur Rx castoris, mandragorati, iusquiami se. lactuce singulorum pondus .i. opii tertia pars omnia tempera cum lacte mulieris, quia fetere fiat scarificentur crura.

> In this illness, if [the patient's] strength and age, and the season permit, you will heal him with blood letting from the cephalic vein. This plaster is applied to the shaved head. Recipe castoreum, mandrake, henbane seeds and lettuce one measure each, a third part of opium, all mixed with woman's milk, because it smells, and scarify the legs.

Si autem fiunt stipticus fiat ei clistere cum aqua in qua coquanter blete cum oleo viola aut accipiant apozima prunorum viola (Optimum est in omni dolore capitis clystere aut accipiant apozima prunorum tamarindorum viola casiesist). Oleum de edera valet dolorem capitis et frenesi.

> If he should be congested, make an enema with water in which peat moss has been cooked with oil of violet, or the patients should take a decoction of red plums. (Best of all for all problems of the head is this enema, alternatively the patients should be given a decoction of plums and tamarinds violet and cassia). Oil of ivy is powerful against pains of the head and frenzy.

Dandum est ... electuarium psiliticum ... Sed quia alienationem paciuntur ista adiungantur recens peccoris pulmo capiti alligatus valet. Si stipicus est cataplasmetur cum semen lini et farini ordei pone stupas per iiii loca capitis, fricentur in cruribus et coxis.

> An electuary of fleawort is to be given ... But because they suffer loss of reason, it is effective to fasten the fresh lung of a pig/cow/sheep, tied to the head. If there is congestion, poultice the head with flax seeds and barley flour and put pieces of cloth in four places on the head. The legs and hips are to be rubbed.

Nares et labia et oculi et aures odoferis unguentis ungantur sicut mirta, storace, opio, castoreo, iusquiamo in mulsa decoctis, statim ut mireris quiescunt. Vinum omnio non sumant, neque amygda comedant quia ut dicit G(alienus) cerebrum petunt ...

> The lips eyes and nostrils should be anointed with fragrant ointments such as myrtle, storax, opium, castoreum, opium and henbane, boiled in honeyed wine. You will be amazed how the patients are immediately calmed. They must not take any wine, neither should they eat almonds because Galen says that they go to the brain ...

Aliud Rx: opii ʒ ii fermenti ʒ iiii tritis misce est cum aceto, et omnes pulsus unge et quiescit. Item anacardum tritum cum vino bibat statim dormit.

[11] From Oxford, Bodleian Library, Oriel College MS. 55.

Another recipe: opium 2 drams, yeast 4 drams, ground and mixed with vinegar, and anoint all pulse points and [the patient] calms down. Likewise, he should drink anacardium ground up with wine, and he will sleep straight away.

De litargia et cura (On lethargy and its cure)
Fol. 140v (The chapter is Turinus edition is entited *De frigida frenesi*, on cold frenzy)

The *Practica* has this addition at the end:

Capre pili usti litargicos excitant; si cum aceto naribus apponantur. Fumus ferule incense; et in oleo extincte valet; rutam aut sisimbrium in aceto triti et naribus appositum aut illini frontem ex sanguine testudis. Pulmo peccoris circa caput ligatus valet, et fumus galbini et cornu cervi naribus applicatus super omnia valet.

The burnt hair of a goat arouses the lethargic patient if it is placed on the nostrils with vinegar. The fumes of an incense stick extinguished in oil is effective. Rue or hedge mustard ground in vinegar is applied to the nostrils, or the forehead is anointed with the blood of a tortoise. The lung of a cow/sheep/goat tied around the head works well, and the smoke of galbanum and deer horn applied to the nostrils works best of all.

De stupore et cura (On stupor and its cure)
Fol. 140r

The *Practica* has this addition at the end:

Si enim stupor sit ex lacerti (nervi) percussione vel ex opillationem cerebri, aut cum fractis ossibus capitis; sapiens medicus non extrinsecus sed intrinsecus pro posse laboret.

If the stupor has arisen from a blow to the muscles/ nerves or from a blockage of the brain, or from a fracture of the skull, the wise physician will work not on the external factors but on the internal ones that he can.

De epilepsia et cura (On epilepsy and its cure)
Fol 141v

Epilespsia cum catarticis humores capitis dissolventibus et purgantibus medicetur ... Interdum tyriaca maior et diatessaron vel selithe vel metridatum imperatorum; vel quoddam melius est antidotum; in quo aurum et argentum et stercus vulpini intrat, aut anacardium aut diatrionpipereon ...

Epilepsy is treated with cathartic drugs which dissolve and purge the humours of the head ... Sometimes greater theriac (*tyriaca magna*) or diathesseron or selithe; or mithridatum or a certain better antidote, in which gold and silver and the excrement of a fox has been put, or anacardium or an electuary of three peppers ...

Sunt enim quedam simplicia que si collo pacientis suspenditur valent, ut peonia, piretrum, pili canis albi nullam nigredinem habentis, et de lapidus ut kairibie (cacabre) et lapilli (lapides) in ventriculis yrundinis inventi. Qui si in collo suspenditur in perpetuum liberant.

There are certain simple things which may be hung around the neck of the patient which work well, such as peony, pellitory, the hair of white dog who has no black on it, and

stones such as amber, and the small stones found in the stomach of a swallow. If hung around the neck they free [the patient] forever.

Apprehende yrundines de nido earum et fissis earum ventriculis aufer lapides in medio die. Utiles enim sunt quia epilepticos et lunaticos sanant si in collo suspenditur. Gagantis lapis fumus repentinos casus epilepticorum liberat. Sunt etiam allie quedam que modo valint ut coagulum leporis; fel vulturis, ursi; testiculi apri, hec omnia multum vallit si in mane sumantur ...

Seize the swallows from the nest and split open their breasts, remove the stones at midday. They are useful because they cure epileptics and lunatics, if they are hung around their necks. The smoke of a jet stone frees epileptics from sudden falling. There are certain other remedies which work well to some extent, such as the rennet of a hare, the gall/gall bladder of a vulture or bear, the testicles of a wild boar; all of these are very effective if they are taken in the morning ...

Dicunt que si caprini cor vel cornu adinantur (aduratur) ex quo epilepticus si fumigetur, mox cadet. Similiter epar caprini si comedit. Alii dicunt quia si pelles caprinas induat statim cadet. Est aliud experimentum ([Turinus adds] - et est probatum) dic in aure pa(cienti). Recede demon ... Si lunaticus sit vel demoniacus statim efficitur quia mortuus per .i. horam; eo surgente interoga eum de quacumque re volueris et dicet tibi, si non ceciderit audito hoc nomine scias epilepticum esse.

Certain people say that if the heart or horn of a goat is burnt and if the epileptic is fumigated with it, he soon falls. Similarly, the liver of a goat if consumed. Others say that if the patient dresses in goatskins he falls immediately. And there is another test (which is proven) - say in the ear of the patient 'Go away demon' ... If he is a lunatic or demoniac he is immediately put into a state like death for an hour; when he arises ask him anything you want and he will tell you. If he did not fall hearing this name you know him to be epileptic.

Quicumque horum supradictorum paciatur; hoc medicamine scissimo (firmissimo) medicetur. Si pater et mater ducunt eum ad ecclesiam in die iiii temporum; et audiat missam in vi seria similiter in die sabbati faciat; die dominici veniente sacerdos vel vir religiosus scribat evangelium ubi oratur (dicitur) Hoc genus demonii non eicitur nisi in oratione et ieiunio; sive epilepticus sive lunaticus sive demoniacus curabitur, absque tamen notandum esse ex incestuosis coniugationibus natis.

Whoever suffers one of these aforesaid [conditions], this is treated with the most powerful medicine. If his father and mother take him to the church during the Ember Days and hear mass on Friday and Saturday, on the Sunday a priest or a religious man should write down the passage in the Gospel where it says 'this kind of demon cannot be cast out except by prayer and fasting', he will be cured, whether he be epileptic, lunatic or demoniac, except however for those born from incestuous unions.

Dicunt quidam si capre cerebrum per anulum aureum tractum fiunt et infanti antequam lac suggat ut tuisgluciat (transgluteri) datum nec caducus fieri nec fantastria (phantasticus) in currere posse ...

Certain people say that if the brain of a she-goat is drawn through a gold ring and given to a child to swallow before it sucks milk, he will not be able to become an epileptic [one with the falling sickness] nor a lunatic ...

De apoplexia et cura (On apoplexy and its cure)
Fol. 141v

An addition in the *Practica* about fever:

Si ex nostri medicina infirmus in febrem incidit, ipsa febre est sibi perfectam medicina; que cum corpus calefacit, dissolvitur humores. Si virtus custodiatur et plenitudo appareat flebotometur. Si virtus sit defecta caveatur phlebotomiam; sufficit enim alterativa medicina. Si non pervenerit fe(bre), ungatur pulsus cum unguento scorpionato fe(bre) enim provocat. Quia si fe(bris) artificialis ita modum excedat, ita ut defectat infirmum mittantur brachia eius in aqua calida et infirmus balneetur, humoribus ita digestis et excoctis.

> If the patient should fall into a fever from our medicine, the fever itself is a complete medicine for him, for as it warms the body, the humours are dissolved. If the strength is preserved and he appears plump, then blood is let. If the strength is weak blood letting is avoided, a change of medication is sufficient. If fever does not come, pulse points are to be rubbed with ointment of aconite [plant with poison root like a scorpion/ thelyphonon] which provokes fever. If this contrived fever gets out of hand and weakens the patient in this way, his arms should be put in hot water and the patient bathed, so that the humours are cooked and dispersed.

De paralisi et cura eius (On paralysis and its cure)
Fol. 142v

Diximus quia paralysis aliquando sit in toto corpore, de cuius cura sufficienter disputavimus, aliquando in aliqua corporis parte, ut in capite, lingua, et aliis membris quam pluribus, quedam sit in maiore corporis parte; unde multum fricentur, ut vaporationes fiant sicut sinacopis ...et ungantur odorifera ex spica refina, pipere; euforbio, adiate (adarche). Si appetitum non habiunt oxymel poterit.

> We said that paralysis sometimes affects the whole body, we have discussed the cure of this sufficiently, sometimes it is in some part of the body as in the head, tongue and many other members. In certain cases, it is in a major part of the body, which should be massaged vigorously and [the patient given] steam treatments such as with mustard ... and anointed with strong smelling treatments such as spikenard resin, pepper, spurge, adarca. If the patient has no appetite he should drink oxymel.

Si in aliqua parste fuerint contracta membra vel extensa cum mollioribus fricentur; in medullis cervorum et unguentis et adipibus compositis et cibis humidis dietentur. Sed si membra dormitationem vel contractionem paciantur, et sine dolore et fiunt ex sanguine, flebotometur ex brachio alterius partis. Si aliquid nobis obviaverit cum dropathe lavetur, et cum vomitu ex elleboro curabis ...

> If in some part a member is contracted or extended, it should be rubbed with mild treatments, with the marrow of a deer and ointments and a mixture of fats, and the diet should be of moist food. But if the members are asleep or suffering from contraction and are painless, and this comes from blood, blood should be let from the arm on the other side. If something prevents us from doing so, the patient should be washed, [and given] a pitch plaster. You will heal this by causing vomiting with hellebore ...

Si etas permiserit flebotometur et caput vaporetur ex sacello cum farina tritia cocta in vino. Deinde ungatur ex nardileon, anetileon, rutaceleon et de super lana carpinata loca cooperiantur. Postea ex acopis termanticis ungantur, et potus accipiant oximel cum castoreo.

If the age [of the patient] permits, blood should be let and the head warmed with a poultice of wheat flour cooked in wine. Then the patient is anointed with spikenard oil, dill oil and rue oil and the parts covered over with a woollen blanket. Afterwards they should be anointed with a soothing salve from Termantia and take a drink of oxymel with castoreum.

Gargarizare ex sinapi, pipere, piretro, staphisagria, agarico, origano, ysopo, thimo. Nitro, tusis (turis?) et mulsis ... cum oximelle. Gargarismus hic per triduum fiat ut omnis humorum eiiciatur per os.

Gargle with mustard, pepper, pellitory, stavesacre, agaric, oregano, hyssop, thyme. Natron, frankincense, and honeyed wine with oxymel. Use this gargle for three days so that all humours may be expelled through the mouth.

Si paralysis sit in labiis piretrum masticent et castoreum, sub lingua teneant nucem (muscatam) integram ... Si memoriam et sensum perdiderint vel sint alienati; stomachum curent et inter scapulas scarificentur; et caput ungatur ex acopis termanticis. Et purgetur cum elleboro et fabulis exerceantur ut sermones componant, et ad sensum pristinium veniant.

If the paralysis is in the lips [this word also implies speech] patients should chew pellitory and castoreum, keeping a whole nutmeg under the tongue ... If they have lost their memory or senses, or have lost their reason, then attend to the stomach, scarifying them between the shoulder blades and anointing the head with salve of Termantia. The patient is then purged with hellebore, and stimulated with stories so that they can engage in conversation and come to their former senses.

Si lingua paralisis sint ita quia nullum gustum senciat, vel sit impedita ad loquendum, uti os dumfiagia ? (diferigia?); idest collutione oris vel collavatione oris; pipere, sinapi, origano, ysopo, castoreum sub lingua teneant ...

If their tongue is paralysed so that it cannot taste anything, or if it is hindered from speaking, use [unknown drug]; that is a mouth rinse or cleanser. They should hold pepper, mustard, oregano, hyssop and castoreum under the tongue ...

De melancholia et cura (On melancholia and its cure)
Fol. 142r

Oriximus in theorica quia melancholie due species, una in ore stomachi que vocatur ypocundria, alia vero in cerebri essencia que si cum febre sit. Medicandi est cum cassia fistula, manna, mirobala citri et omnibus medicaminibus in causon et frenesi dictis. Catulus fissus capiti superponatur vel gallina crassa fissa quia multum valet.

We said in the *Theorica* that there are two kinds of melancholy, one in the mouth of the stomach, which is called hypochondria, the other in the substance of the brain which is with fever. It is to be treated with cassia fruit, manna, yellow myrobalan and all remedies assigned for burning fever and frenzy. A cleaved open puppy dog or a fat hen cut open should be placed on the head, this is very effective.

De mania et alienatione mentis (On mania and loss of reason)
Fol. 142r -v

In mania et alienacione mentis curam apprehendere debemus... Sacellus calida ex farina vino cocta cum absinthio capiti imponantur et stomachi, pectori et cordi.... Capiti infirmi usque ad

cutem raso emplastrum pone, hoc mirifice sanat ... Si necesse est clisterizetur, si vires et etas permiserint, flebotometur usque ad lippotomiam ...

> In mania and loss of reason we must reach a cure ... A warm poultice of flour cooked in wine with wormwood is placed upon the head, stomach, chest and heart ... Put a plaster on the patient's head, which has been shaved down to the skin, this cures marvellously ... If necessary treat the patient with an enema if their strength and age allow, blood should let until they faint ...

Sompniferis inunctionibus nares et timpora ut sompnum provocent ungantur. Vomitus provocetur interdum cum raphano; ut phlegma vel melancholia purgetur. Cibum accipient levem ... ova sorbilia vel succum spelte et dimissionis tempore accipiant fortiorem cibum et caput cooperiatur lana tincta cum oleo anetino calida, et silencium habeant. Post xxiiii dies purgetur cum yera pigra rufini ... Caput indatur (radatur) et arterie capitis incidantur; sinapismo utantur sternutamenta provocentur.

> The nostrils and temples are anointed with sleep inducing ointments to induce sleep. Vomiting is provoked from time to time with radishes, in order to purge the patient of phlegm or black bile. They should take light food ... soft eggs or the juice of spelt and when it is time for bloodletting they should take stronger food. The head is covered with wool dipped in warm oil of anise; and they should have silence. After 24 days the patient is to be purged with Rufus' hierapigra ... The head should be shaved and the artery of the head cut; mustard is used to provoke sneezing.

Si mentis alienacio vel insania fit vel fiat ex potacione vel comestione pessima ut est cicute, iusquiami, mandragore et cerebro cate, testudo tota iuiatur (igniatur) et pulverizetur et detur. Omnem enim alienacionem mentis et insaniam sine dubio sanat. Et sciendum quia si ex morsu rabidi canis hec passio alicui contingat et spumam per os emittat in vii dies morietur.

> If insanity of mind or loss of reason come from a potion or consuming something harmful such as hemlock, henbane, mandrake or the brain of an animal, a whole tortoise is burnt and made into powder and given. It cures all loss of reason and insanity without a doubt. Although it should be known that if this illness affects someone because of the bite of a rabid dog, and foam is coming out of his mouth, he will be dead in seven days.

Liber de Oblivione[12]

... antiqui consenserunt qo operatio mentis triplex est: prima fantasia, secunda ratio vel intellectus, tercia memoria. Et cerebri due partes sunt: una prora, altera puppis. Et prora dividitur in duas partes et unaqueque illarum duarum multo maior et tota puppi.

> ... the ancients were agreed that the operation of the mind is threefold: the first is imagination, the second is reasoning or understanding, and the third is memory. And the two parts of the brain are: one anterior [the prow] and the other posterior [the stern]. And the anterior part is divided into two parts each of which is much larger than the whole of the posterior.

Et quoniam prora cerebri fuerat divisa a puppi et necessarium erat esse iunctas, factum est ut ambo ventriculi prore venirent in unum locum et est spaciocitas communis utrisque. Et aliqui ex anatomicis nominant istrum locum ventriculum quartum.

> And since the anterior brain was separated from the posterior and it was necessary for them to be joined, the two anterior ventricles have been made to both come together in one large place common to both. And some anatomists call that place the fourth ventricle.

Et duo ventriculi prore mutant aerem et excoquunt dant inde cerebro spiritum animalem, ut faciat sensus vivendi, audiendi, odorandi gustandi et iterum fanstasiam. Deinde transit ad eum locum qui est in medio cerebro qui communis est.

> And the two anterior ventricles change and cook the air and produce from it the animal spirit for the brain in order to make the senses of sight, hearing, smell taste, and again the imagination. Then it passes to that common place that is in the middle of the brain.

Et transit spiritus animalis iam subtilis, mundificatus, atque clarior plus spiritu que fuit in prora cerebri, ut faciat rationem et intellectum. Et habeat in capite medii ventriculi qui est inter proram et puppem pars substantie cerebri similis vermi.

> And the animal spirit passes, now subtle, cleansed and clearer than it was in the anterior parts of the brain, in order to create reason and understanding. And at the top of the middle ventricle in the head, which is between the anterior and posterior parts, there is a part of the brain like a worm.

Et vocant eam anatomici pinaeam: ascendens et descendens, et ascensu eius aperitur foramen et descensu eius clauditur. Et cum aperitur, transit spiritus animalis a prora cerebri ad puppim. Et hoc non fit nisi quando necessarium est recordari oblivioni tradita aut tenere que nolunt oblivisci.

> And the anatomists call it the pineal [gland]: going up and down, and on its going up a hole is opened and on its descent, it is closed. And when it is opened, animal spirit moves from

[12] Transcript taken from Burnett, in Bos, G., 'Ibn al-Ǧazzār's *Risala Fin-Nisyan* and Constantine's *Liber de Oblivione*', Appendix, pp. 224-32, in Burnett and Jacquart, *Constantine the African*.

the front of the brain to the back. And this is done only when it is necessary to remember something forgotten or to keep that which they do not want to forget.

Et Proculus dixit: ventriculus puppis prestantior est omnibus ventriculis cerebri, quonian non venit spiritus animalis ad ipsum nisi subtilis, clarus mundificatus, quia opus est recordationi et retentioni, claritate et subtilitate ut recolligat res preteritas ex longo tempore. Et nisi aperiatur illa via ut transeat spiritus ad puppim cerebri, non reminiscitur homo rei et non respondet interrogationi.

And Proculus says that the posterior ventricle is the most pre-eminent of all the ventricles of the brain, since the animal spirit does not come to it unless it is subtle, clear and cleansed, because its work is remembrance and retention, and clarity and subtlety in order to remember past things from a long time ago. And if that way is not open so that the spirit may move to the back of the brain, a man cannot remember things or reply to a question.

Et quoniam fuit forma illa pinea facta in capite vie que fert spiritum animalem a medio ventriculo cerebri ad ventriculum puppis, inde est sicut custos et divisor quantitates que transit per illam viam spiritus. Et apertio istius vie variatur in omnibus et ex festinantia et pigritia. Nam sunt qui habent velocem qui sunt prudentes et velociter respondent et sunt qui habent pigram, qui sunt tardi ad respondendum et nimium cogitant.

And since the pineal form was made to be at the head of the way which carries the animal spirit from the middle ventricle of the brain to the posterior ventricle, from there it is like a guard and distributor of the amount of spirit which moves along that way. And the opening of that way varies among everyone, and in speed and sluggishness. There are those who are quick, who are wise and respond quickly, and there are those who are sluggish, who are slow to respond and have to think very much.

Et G(alenus) dixit mentem et intellectum et discretionem non facit nisi contemperantia spiritus animalis qui est in medio cerebro et retentionem et intentionem non facit nisis contemperantia spiritus animalis qui est in puppi cerebri ... Et Paulus dixit quia lithargia non nascitur nisi ex causa private, que est flegma frigidum et humidum. Et G(alenus) dixit: si est promta mens et intellectus, significat substantiam cerebri munditia subtilem. Et non promta mens et intellectus significat qui substantia cerebri immundicia grossa est. Et velociter discere significat quia substantia cerebri impigre recipit formationem rei in se.

And Galen says that understanding, intellect and discernment do not arise without the right balance of animal spirit in the middle of the brain, and retention and concentration do not arise without the right balance of animal spirit which is in the posterior part of the brain ... And Paul says that lethargy does not arise except for one cause, which is cold and wet phlegm. And Galen says if the mind and intellect are quick, it means that the substance of the brain is fine and clean. And if the mind and intellect are slow, it means that the substance of the brain is gross and unclean. And being quick to learn means that the substance of the brain actively receives the impression [shaping] of a thing in itself.

Et bene tenere significat quia substantia cerebri habet moderatam soliditatem. Et tarde discere significat quia substantia cerebri dura est ad recipiendum formationem rei in se. Lithargia igitur significat substantiam cerebri liquidam et non habentem stabilitatem ... Et Aristotiles dixit: pueri et

senes magis obliviscuntur et id est quod anime eorum sunt in mutatione et mutabilitate ex hoc in hoc - pueri ad adolescentiam et augmentationem, senes vero mutantur ad declinationem et diminutionem. Nam festinantia mobilitatis non stat in eodem ut recipiat formationem.

> And to retain things well means that the substance of the brain is moderately solid. And to be slow to learn means that it is hard for the substance of the brain to receive the impression of a thing in itself. Lethargy therefore means that the substance of the brain is fluid and lacking in firmness ... And Aristotle said that boys and old men forget to a greater extent and that is because their minds are in a state of instability and change from this into that – boys changing due to adolescence and growth, while old men decline and decrease. For quick movement does not remain stable enough to receive an impression.

None vides quoniam aqua currens cum nimio cursu et velociter movens et rursus aqua glaciate non stat in illis formation imagninis? Tercium genus qui sunt iuvenes et plus iuvenibus. Illi vero tenant et reminiscuntur propter serenitatem vel securitatem capitis et propter temperantiam humiditatis in illo ...

> Do you not see that in neither water flowing in a swift current nor in freezing water quickly moving around can the impression of a likeness stand firm? A third kind are young men and younger people. They retain [things] and remember because of the clearness and stability of their heads and because of the moderate level of moisture there ...

Oportet ut sanatio et medicina euis inveniatur in his que calfaciunt cerebrum et mundificant flegma in illo, sicut omne yera. Et melius est in illis et magis iuvativum Theodoriton maius quod fit cum nucibus muscatis, et logodion, et yera Ypocratis et yera G(aleni) et yera Eraclii et yera Archigenis et similia. Bibatur ex his secundum tempus et virtutem. Nam mundificant cerebrum ex illo chimo qui est fundamentum lithargie.

> It is necessary that treatment and healing be found in those [remedies] which warm the brain and cleanse the phlegm in it, such as all *hieras*. And better and more helpful in this, is greater Theodoricon made with nutmeg, and the Logodion, the hiera of Hippocrates, the hiera of Galen, of Heraclius, of Archigenes and similar. To be drunk according to the season and the patient's strength. For they cleanse the brain of that chyme which is the basis of lethargy.

Similiter faciunt genera pillularum laxitivarum ad istam complexionem frigidam ut stomachicon et cochia et similiter potus qui habet proprietatem mundificandi cerebrum et illa que extrahunt flegma de cerebro cum gargarismo aut cum masticatione aut cum sternutatione aut cum calido clistere.

> Different kinds of laxatives pill for this cold complexion work in a similar way, such as stomaticum or coccus pills and similarly draughts which have the property of purging the brain and those which draw out phlegm from the brain with gargling, chewing, with sneezing and with a warm enema.

Omnia que diximus iuvant lithargiam. Nam purgant habundantiam flegmatis que est in puppi cerebri. Et alie calide confectiones que non sunt laxative, ut tyriaca maior, trifera maior, selithe, emitritus, diatrion, pipereon, diaromata, diagalanga, penthethicum, emirosia, succuriana et

similia. Hec iuvant lithargiam flegma resolvendo et mutant naturam cerebri in calorem naturalem. Anacandus et confectiones recipientes anacardum iuvant lithargiam. Media autem tantum drachma anacandi iuvat cum sua proprietate. Dicit G(alenus) sanasse se lithargicum cum castoreo et pipere albo, et melle et castoreo cum oleo sicionio aut cum oleo sinapino si puppis ungatur. Idem piretrum facit.

> Everything which we have mentioned helps lethargy. For they purge the excessive phlegm which is in the posterior part of the brain. And other warm preparations which are not laxative, such as greater theriac, trifera magna, shiltha, musk, electuary of three peppers, electuary of aromatic spices, galangale, agaric, ambrosia and similar remedies. These help lethargy by dispersing the phlegm and changing the nature of the brain to its natural heat. Anacardium and preparations taken from anacardium help in lethargy. Only half a dram of anacardium helps with its special character. Galen says that he cured himself of lethargy with castoreum and white pepper, and if honey and castoreum with oil from Sicion or with mustard oil is rubbed on the back of the head. Pellitory does the same.

Abstineat ab omni fructo frigido et humido. Bibat autem medonem aromaticum aut sciroppum calamentis. Et moveat cerebrum cum sternutatione ex calidis, ut est sinapis, castoreum aut condisi aut piper. Et bibat oximel cum squilla. Et satur vomat. Et bibat libanum cum zuccero. Et masticet origanum cum stafisagria aut radicem capparis. Et ponat cufam in cervice et occipitio sine scarificatione. Abstineat a flebothomia colli et ungatur caput oleo temperate calefactorio, ut yrino et musceleo et costileo et camemilino et similibus optima. Tiberitis dixit: si ponas linguam upupe super oblivioscum, memoriam recipit. Quidam dixit: si tollas fel gruis et misceas cum oleo sambuceleo et provoces sternutamentum, sanatur lithargium ...

> The patient should refrain from [eating] all cold and juicy fruits, but drink spiced mead or syrup of calamint. Agitate the brain with sneezing from hot remedies, such as mustard, castoreum or sneeze-wort or pepper. The patient should drink oxymel with squill, vomit when he is full, and drink frankincense with sugar and chew oregano with stavesacre or the root of a caper plant. Place a cupping glass on the neck and the back part of the head without scarification. Refrain from blood letting from the neck. The head should be rubbed with a moderately warm oil, such as iris, oil scented with musk, costus oil and camomile or similar are best. Tiberitis said: if you place the tongue of a hoopoe on a person suffering from forgetfulness, his memory will recover. It is said: if you take the gall bladder of a crane and mix it with elder oil and provoke sneezing, lethargy is cured ...

Item ant(idotum) cum melle anacardi revocat mentem, lithargiam tollit, iuvat melancolicos et flegmaticos et emorroydas et arteticos. R(ecipe) kebuli, bellerice, emblicis, piperis nigri et longi, ana drachmas .xi.: z(in)z(ibri), mellis anacardi drachmas .vii.: castorei, storac(is), gariofili ana drachmas .v.: camomile, baccarum lauri, ciperi, ana drachmas .iii.: z(ucceri) drachmas .xx.: mel quod s(ufficit). Dicunt antique anacardum non ponendum in medicina nisi sic preparatum: accipe anacardos et tere et pone in aceto et sine diebus .vii. et coque cum lento igne et revoca ad duas partes. Cola cum lintheo. Fecem in medicina pone ubi petit anacardum. Cum aceto autem pone tantumdem mellis et coque usque at spissitudinem mellis. Hoc est mel anacardei.

> Another remedy with anacardium honey revives the mind, removes lethargy, helps melancholics and phlegmatics and haemorrhoids and arthritics. Recipe: chebulic, belleric and embolic myrobalan black and long pepper eleven drams, ginger, anacardium honey,

seven drams, castoreum, styrax, cloves, five drams, camomile, laurel berries, galangale three drams, sugar, twenty drams, sufficient honey. The ancients say that anacardium should not be served in medicine unless it has been prepared thus: take the anacardium, grind them and place in vinegar and leave them for seven days, and cook on a low heat until it separates in two parts. Strain with a linen cloth. Put the sediment in the medicine where anacardium is required. Put the same amount of honey with the vinegar and cook until the consistency of honey. This is anacardium honey.

Liber De Melancholia[13]

Etsi ego Constantinus Africanus, monasterii Cassinensis quidam monachus, in multis huis artis libris, in quibus Latinae linguae supplementum addidi de hac infirmitate melancolia non reticuerim, singulare tamen opus volui inire. Cum quam maxima est haec infirmitas tum atque maxime in his regionibus abundat ...

I, Constantine of Africa, a certain monk of the monastery of Cassino, have added a supplement in the Latin language to the many books on this art, as I did not want to keep silent on this illness of melancholia, and wanted to undertake this unique work. Since this is a major illness and especially common in these regions.

... Accidentia quae inde fiunt animae, timor et tristitia videntur esse, quae utraque sunt pessima et animam confundentia. Tristitiae enim diffinitio est rei multum amatae amissio. Timoris vero rei sibi nociturae suspicio.

... The emotions which result from it are seen to be fear and sadness, which are both terrible and confusing to the mind. For the definition of sadness is the loss of something much loved, of fear is the suspicion that something will harm him.

... Est ergo melancholia cuiuslibet rei malae (non existentis) ut superveniat credulitas. Ex timore enim et angustia suspicantur venire non ventura. Alii aliter diffiniunt melancholiam dicentes esse suspicionem animae dominantem, ex qua timor et tristitia generentur.

... Therefore, melancholy is when bad things which do not exist come to seem believable, for patients fear that there is no way out of fear and anguish. Others define melancholy otherwise, saying it to be a domination of the mind by suspicion, from which fear and sadness are generated.

... Fumus enim cholorae nigrae cum ad cerebrum saliat et ad locum mentis veniat, lumen eius obscurat, turbat et possundat, prohibens ne quod comprehendere solebat, secundum quod oportet comprehendat. Unde haec suspicio generatur pessima, ut imaginetur non imaginanda et cor timere faciat terribilia. Quibus passionibus totum corpus afficitur, cum corpus ex necessitate animam sequitur. Patitur ergo vigilias, (malitiam) macilentiam, corruptiones virtutum naturalium non secundum quod in sanitate solebant currentium.

... When the fumes of black bile jump up to the brain and come to the seat of the mind, they obscure its light, disturbing and destroying it, preventing a man from grasping mentally what he usually would be able to, as he ought to understand it. From this the worst kind of suspicion is generated, so that the unimaginable is imagined, and it makes the heart fear

[13] Transcript of the *Liber de melancholia* in Is'ḥāq ibn-'Imrān, *Ishaq ibn Imran Maqala fi l-malihuliya (Abhandlung uber die Melancholie) und Constantini 'Libri duo de melancholia',* Garbers, K. (ed.) (Hamburg, 1977), pp. 84-155 and 184-96.

terrible things. The whole body is affected by these sufferings, because of necessity the body follows the mind. Therefore (the patient) suffers wakefulness, (malice), emaciation, destruction of the natural strength unlike what they were accustomed to in normal health.

Causa huius morbi et principium originis suae est multiforme, vel enim de incipiente mala corporis complexione, id est spermatis corruptione, vel (ex) corruptis matricis menstruis, quae nutritiva sunt spermatis, vel de vulvae corruptionibus, ubi foetus concreatur.

The cause of this illness and its main origins are manifold, either from a bad original complexion, that is through damage to the sperm, or from spoiled menstrual flow of the womb, which nourishes the sperm, or from a damaged womb where the foetus is made.

... Postquam complexion prima corrumpitur, multiplex est et diversum melancholiae generativum et huic morbo faciens paratissimum. Primum et fortius multitudo cibi et potus, negligentia mundificari corpus, ordinatio sex necessariorum neglecta cum aequali mensura id est: motus et quietis, somni et vigiliarum, inanitionis et continentiae, cibi et potus, aeris, accidentium animae..
.

... after the initial complexion is corrupted, it is generative of many and varied kinds of black bile making it most prone to this disease. First and strongly [by] an excess of food and drink, neglecting to purify the body, neglecting to order the six necessary things in balance, which are: movement and rest, sleep and wakefulness, evacuation and continence, food and drink, air and the emotions.

... Item nocent et corrupti cibi et saepe mutati. Obsunt enim lentes edulorum vel leporum carnes utpote siccum sangninem generantes. Nocent et dactyli carnesque caprinae, vaccinae, camelinae, scrofine, verrinae quae turbidum et grossum sanguinem faciunt ... Nocent etiam mutabilem sanguinem facientes et in coleram nigram redigentes, sicut caules, carambiae, melongenia, mel, nuces, lentisci, ficus cum nucibus, fistici, pinea.

... Food which has gone off, and a frequent change of food is also harmful. Lentils and the meat of edible hares are harmful in that they generate dry blood. Grapes and the meat of goats, camels, sows and boars are harmful, as they create thick and disordered blood ... Things cause harm by making blood changeable and converting it to black bile, such as cabbage, crustaceans, aubergine, honey, nuts, lentils, figs with nuts, pistachios and pine nuts.

... Quia ergo melancholici accidentia sentient, animae vel corporis ... Cuis rei causa fumus est de colera nigra, mentis suae obscurans lumina et contrahens, ne rem sicuti est videat. Inde eorum rationalis anima rem fratrum et parentum horribilem videt quam amare debet, res familiaris fugitur, de qua videnda molestatur.

... Therefore, melancholics suffer symptoms of body or mind ... the cause of which is vapours of black bile obscuring and restricting the light of his mind so that he cannot see a thing as it is. Hence from the reasoning of his mind, he sees a thing which he should love, such as his brother or parent, as something horrible, he flees familiar things because he is troubled by seeing them.

... Item alia invenitur causa huius contraria, unde generatur melancholi. Sunt enim neque multum bibentes neque comedentes, sicut religiosi, ab hominibus reverendi, in die ieunantes et nocte vigilantes quibus sanguis dum minuitur, in coleram rubeam mutatur. Cuius post longa tempora ... in coleram nigram mutatur. Unde et melancholia concreatur. Item multa quantitas suavitatis, quietis atque somni chymos colligit, qui post multa tempora mutate in coleram nigram sunt convertendi et sunt causa istius morbi. Videtur autem incredibile quod exercitia multa atque spissa incendunt corpora, humectationes eorum consumentia et in coleram nigram velociter immutantia.

... Likewise, another different cause may be found for this, from which melancholy is generated. There are those who neither drink or eat too much, like religious people, respected by men, who spend their days in fasting and their nights watching, whose blood, as it is diminished, is changed into red bile. Which after a long time ... is changed into black bile. From this together melancholy is produced. Likewise, much comfort, rest and sleep bring together chyme, which after much time changes, converting into black bile which causes this illness. But it seems incredible that much hard exercise should inflame the body, consuming its moisture and quickly changing it into black bile.

... Videmus enim multos religiosos et in bona vita reverendos hanc passionem incidentes ex dei timore et futuri iudicii suspicione et summi boni vivendi cupiditate. Quae omnia superant eorum animas. Unde nec cogitant nec investigant, nisi ut solum deum ament et timeant ... Corpus enim animam sequitur in suis actionibus, anima vero corpus in suis accidentibus. Illo vero, qui semper sunt intenti studio, sicut philosophicis libris et aliis huiusmodi, passiones incurrunt.

... We have seen many religious people and those respected for living a good life falling into this illness from a fear of God and dread of future judgement, and out of the desire to live to the highest standards. All of these things overwhelm their minds. Because of this they neither think of nor aspire to anything other that they may love and fear God alone ... The body follows the mind in its actions, and indeed the mind follows the body in its symptoms. Those who are always engaged in intense study, such as books of philosophy and other things of this kind, fall into illness.

... Intentio Platonis fuit ut anima alligata corpori, autentice recordetur, quicquid scierit, antequam innecteretur corpori. Huiusmodi melancholiae sunt vicini propter investigationem scientiae et fatigationem suae memoriae et tristitiam de apodixis suae defectione et propter intentionis suae complementum ac sillogismorum firmamentum.

... Plato's premise was that the mind bound to the body originally remembered whatever it knew before it was tied to the body. In this way, melancholy is due to the search for knowledge and the fatigue of memory, and sadness at the lack of definite proof, and because his aspirations are added to the solidity of logical thought [the syllogisms].

... Quod autem dicendum est de eis, qui amata sua perdiderunt, sicut si filios et carissimos amices amiserunt vel rem preciosam, quam restaurare non possunt, sicut sapientes libros suos subito amittentes, vel si cupidi et avari perdiderunt rem, quam non se recuperare sperent; haec omnia his gemitum et tristitiam et angustiam faciunt. Quae et mentes percutiunt et ad melancholiam paratas reddunt.

... What therefore is to be said of those who have lost their loved ones, such as their sons and dearest friends or a precious thing which they cannot bring back, like wise men suddenly losing their books, or if greedy, miserly people lose something which they cannot hope to regain; all of these cause lamentation, sadness and grief. Which pierces the mind and renders it ready for melancholy.

... Melancholia igitur passio triplex est. Alia enim est in ore stomachi et in hypochondriis, alia in cerebro, in quo duae sunt considerandas; aut enim in essentia cerebri, aut in toto corpore, quae a pedibus ad cerebrum solet ascendere. In essentia cerebri vel est cum acuta febre, quod plurimum fit in phrenesi. Haec ex colera rubea contingit, cum ad incensionem devenit et nondum nigrescit nec melancolicae attinet passioni. Hanc sequitur facundia, excitatio atque ira, et vident multa ante se individua nigra, etsi non certa, aliaque similia. Vel sine febre, quae vel de melancolia est naturali, substantiae cerebri dominanti et complexionem eius mutanti.

... Therefore, melancholy is a threefold illness. One is in the mouth of the stomach, [one] in the abdomen, the other is in the brain. There are two things to be considered; it is either in

the substance of the brain or in the whole body, [when it] usually rises from the feet to the brain. In the substance of the brain it is with acute fever, which often happens in frenzy. This comes from red bile when it reaches the stage of burning and has not yet turned black nor reached the disease of melancholy. This is followed by talkativeness, excitement and anger, and patients see before them many black things, though not clearly, and other similar things. If there is no fever melancholy comes from natural black bile, dominating the substance of the brain and changing its complexion.

... Haec species ad sanandum molesta est et ad medicandum dura. Vel de colera est nigra putrefacta, quae sicut fex sanguinis videtur- quare niger chymus vocatur- et cumque in veram melancoliam mutat. Quae a toto corpore ad cerebrum ascendit, est huic similis. Item ex omnibus nascitur humoribus, qui incensi in coleram nigram mutantur, et ad medicandum facilis est, si non inveteraverit et vera colera nigra fuerit, dominans cerebro et suae naturali complexioni.

... This kind is difficult to cure and hard to treat. It comes from black and putrid bile which it looks like the sediment of blood –because of which it is called black chyme- and it always changes into true black bile. That which rises from the whole body to the brain is similar to this. This arises from all humours which when burnt, are changed into black bile and this is easy to treat, if it has not matured and become true black bile, dominating the brain and its natural complexion.

... Apparent autem sibi malum ingenium astutiam, audaciam et frontositatem, ut castigationem nullam audiant de his, quae peccant. Perdiderunt enim iustitiam propter colerae nigrae fumum operientem eorum cerebrum. Quia sicut sol, qui lumen est mundi, nebula vel fumo interveniente, lumen amittit, sic et eorum mens, cum fumus colerae nigrae ad ipsam ascendit, turbida fit et obviatur ei, ne splendor eius possit evagari, ut videat rem non secundum quod sit.

... This shows itself in an evil disposition, cunning, boldness and arrogance, and those who do wrong in this way will not listen to any criticism of this behaviour. For they have lost their sense of what is right because of the vapours of black bile covering their brain. Because just as the sun, which is the light of the world, loses its light when clouds or smoke come over it, so the mind, when the vapours of black bile rise to it, is clouded and obscured, and its brilliance cannot come forth, and so it cannot see a thing as it is.

... Si intelligamus aliquem naturaliter vanum, facundum, iracundum, et postea iram eius quievisse viderimus et diu taciturnum, intendimus mentis esse morbum et hac passione laborare ipsum. Similiter si tardu fuerit ad loquendum et mansuetus, timidus, et post in responsione festinus et verbis facundus et audax apparuerit, intelligimus, quod hanc infirmitatem incurrerit.

... if we understand someone is naturally boastful, chatty and short tempered, and afterwards we see that their anger has subsided, and they are quiet for long periods, we are concerned that their mind is suffering from this illness, and they are oppressed by this disorder. Similarly, if someone was gentle, timid and slow to speak, and afterwards appeared bold, quick to respond and eloquent with words, we understand that he is afflicted with this disease.

... Haec species melancholica, quae vocatur hypochondriaca, nascitur ex colera nigra, cum abundat et in stomachos descendit. Quae maxima nocumenta in corpore facit et anima, in anima propter vicinitatem oris stomachi et cordis; tristiciam, timorem et mortis suspicionem, ut et amicos et suos sibi putent esse horrendos et cogitent de re contra quod ratio videtur habere.

... This kind of melancholy which is called hypochondria, arises from black bile which becomes excessive and descends to the stomach which does great harm to the body and the mind; in the mind because of its proximity to the mouth of the stomach and heart; sadness,

fear, and expectation of death, so that they think that their friends and loved ones are horrible to them, and they hold opinions of things which seem to be against reason.

... Unde haec species hypochondriaca ad sanandum est dura. Secundum nocumentum est, qua mora corruptae digestionis in stomacho alia nocumenta generat duo. Unum quia plurimus est cibus, qui digestivae virtuti non concordatur, ventositem generans grossam et inflationem multam ad dissolvendum duram, quae semper lateraliter se extendit sub hypochondriam, descendens usque ad intestinum, colon vocatum, et contrahens stercus ad descendendum, quam patiuntur ex siccitate digestionis.

... Therefore, this kind of hypochondria is hard to cure. The second damage is that delayed corrupted digestion in the stomach leads to two other kinds of damage. One is that because there is a lot of food which the power of digestion cannot deal with, gross flatulence and much bloating is generated, which is hard to break up, which always extends sideways under the abdomen, descending down to the intestine, called the colon, and restraining the excrement from going down, from which they suffer dryness of the digestion.

... Accidentia universalia melancholicis, qualiacumque sint, sempiterna sunt eis, sicut tristicia, timor de re non timenda, cogitatio de re non cogitanda, certificatio rei terribilis et timorosae et tamen non timendae, et sensus rei quae non est. Vident enim ante oculos formas terribiles et timorosas nigras et similia. Sicut vidit quidam Diocles in passione sua. Videbat nigros homines eum interficere volentes, fistalatores quoque et cimbalatores per angulos domus suae canentes.

... The common symptoms of melancholics, of whatever kind, are long-lasting, such as sadness, fear of things which are not to be feared, thinking of things which should not be thought of, feeling sure that terrible and frightening things are not to be feared, and perceiving things which are not there. For they see before their eyes terrible and frightening black forms and similar things, just as a certain Diocles saw in his illness. He saw black men who wanted to kill him and also pipers and cymbal players making music from the corners of his house.

Sunt et alii, qui putant se non habere caput. Talem Rufus se vidisse testatur. Fecit ergo ei mitram plumbeam, ut sentiens gravitatem hanc, caput non dubitaret habere. Alii audiunt quasi aquas currentes, ventos tempestuose moventes, voces timorosas et terribles in auribus suis sonantes, sonitus neque die neque nocte desinentes. Quae tamen omnia sunt falsa. Alii foetentia odorant omnia, qui odoratum habent corruptum. Alii perdunt saporem, ut nullum cibum saporent propter saporis corruptionem. Alii sua corpora putant esse maiora quam sint. Alii putant se esse de creta sicut putavit figulus in passione ista. Alii corruptam habent imaginationem et rationem, sicut quaedam, quae passa est in ventre se habere serpentes autumans. Quam Galen se vidisse testatur. Sunt et alii qui coelum se fugere putant, timentes ne super se cadat.

There are others who think that they do not have a head. Rufus testifies that he saw such a case. He therefore made him a leaden hat, so that, feeling the weight of this, he would not doubt that he had a head. Others hear noises such as running water, tempestuous winds moving around, fearful and terrible voices ringing in their ears, sounds which do not cease neither day or night. However, all of these are false. Others smell everything as having a bad odour, because their sense of smell is corrupted. Other lose the sense of taste, so that no food tastes right, because of corruption to the sense of taste. Others think their bodies to be larger than they are. Others think that they are made of clay, just as the potter thought in his illness. Others have damaged imagination and reason, such as a certain woman who believed that she had snakes in his belly, as Galen testifies he saw. There are others who try to flee from the sky, fearing that it will fall upon them.

... Quidam multum comedunt et fortes sunt ad appetitum. Quod si uno momento ab appetitu retrahantur, vitae suae desperare videntur ... Alii autem adeo perdiderunt appetitum, ut videre horreant cibum et potum et manducare vel dimittere aestimant sibi nocere. Huiusmodi melancholici peiores sunt ceteris. Corpus consumitur et deficit, unde non diu in hac passione vivitur.

> ... Certain [sufferers] eat a great deal with a strong appetite, but are seen to despair of their lives if they are for a moment restrained from their desire for food ... Then there are others who have lost their appetite, so that they dread to see or consume food and drink or send it away, thinking it will harm them. This kind of melancholy is worse than the others. The body is exhausted and fails, and because of this he who has this illness does not survive for very long.

Book 2

Medicari volens omnem morbum, intendere debet in repugnanda et expellenda materia infirmitatem. Si tamen accidentia sint molesta, periculosa et timenda, oportet studeri in his mitigandis et post materiam expellere locumque suum mundificare.

> He who wants to treat every illness must aim to fight and expel the diseased matter. If, however, the symptoms are grievous, dangerous and to be feared, it is necessary to be diligent in soothing these, and after the matter has been driven out, to purge that part of the body.

Cum ergo passio melancholia animae habeat accidentia timenda et periculosa in primis auferenda sunt haec, suspitio scilicet falsa, imaginatio corrupta; adhibenda rationabilia et grata verba cum perfecto ingenio et sufficienti memoria; tollenda quae in anima sunt plantata, cum diversa musica et vino odorifero, claro et subtilissime.

> Therefore when the melancholy of the mind has symptoms which are risky and dangerous, the first things that should be relieved are these: false suspicion, a damaged imagination. Rational and pleasant words are to be employed with excellent judgement and sufficient memory; that which is fixed in the mind is to be lifted with a variety of music and the finest clear and fragrant wine

... Universalis autem medicina, qua purgari debet cholera nigra, erit pharmacia, et sex illa praedicta necessaria bene ordinata.

> ... Now in all cases the treatment will be medication, by which black bile must be purged, and the aforesaid six necessary things [the non naturals] be set in order.

... In ea, quae in essentis est cerebi, soli cerebro studium est adhibendum ut post rasum caput lac muliebre, maxime puellare, vel lac asinae craneo superponamus; sternutatio fiat cum lacte mulieris et similibus; oleo violato, oleo ninoferata, oleo curcubitino, capitis humectatione cum aqua tepida ubi camomilla, cortices paparveris, rosa, mellilotus, viola et similia sunt cocta. Melancholia ascendente a corpore inferiori, oportet toti corpori aequaliter studeri, sed tamen cerebrum non negligi. In hypochondriacis oportet chymos expelli.

> ... In cases where it is in the essence of the brain, just the brain is attended to; after shaving the head, we apply to the head a woman's milk, best of all from a young girl, or the milk of an ass; sneezing is induced with woman's milk and similar, violet oil, oil of water lily, oil of gourd, moistening the head with warm water in which camomile, poppy barks, rose, melilot, violets and similar have been cooked. Where black bile is rising from the body below, it is necessary that the whole body be equally attended to, without however neglecting the brain. In hypochondria the chyme must be expelled.

... in cibo tria considerentur; Primum, ut humidus sit ex utraque parte, sicut recentes pisces, fr. uctus maturi et humidi. Secundum, in eorum cibariis ponatur aliquantulum acida, unde adiuvetur virtus digestiva, ut sint qualitatis coleram nigram incidentis, sicut calamentum, menta, sed tamen non assidua, ne sanguinis corrumpatur substantia et augmentetur materia mala. Tertium ut omni die infundatur aqua tepida, in aestate frigida. Ex siccato corpore, unguentis tepidis et humidis eum unge quae dissolvant ventositam et hypochondriacam inflationem, digestionem confortent et corpus humectent.

> ... With regard to food there are three considerations; first that each portion should be moist throughout, such as fresh fish, ripe and moist fruit. Secondly, a small amount of something bitter should put in the patients' food to help the power of digestion by attacking the nature of black bile, such as calamint, mint, but however not continually, lest the substance of the blood be spoilt, and noxious material be increased. The third is that every day the patient should have tepid water poured over him, in summer cold water. Because of dryness of the body, anoint him with warm and moist ointments which get rid of flatulence and bloating in the abdomen, strengthen the digestion and moisten the body.

... Oportet antea ordinemus sex necessaria, id est, aerem, cibum potum somnum, vigilias, inanitionem et continentiam, motum et quietam, accidentia animae. Regio laudabilis, ubi infirmi huiusmodi habitent, sit orientalis propter temperamentum aeris et aequalitatem complexionis.

> ... It is necessary that we first regulate the six necessary things [the non-naturals], that is air, food, drink, sleep and wakefulness, emptiness and moderation, movement and rest, and the emotions. A healthy region where patients of this sort could live, would be in the east because of the balanced state of the air and the evenness of its complexion.

... cibi iuvativi, in primis sunt dicendi modo. Post potus balnea et unguenta. Cibus ergo melancholicus, prout diximus, ex utraque parte debit esse humidus ... sicut annuales agni ... et hoedulinae carnis lactentis est proprium, ut nigram coleram iuvent. Sanguinem enim subtilem et humidum generant.

> ... Firstly, it must be said how foods are helpful, after a drink a bath and ointments. Therefore, as regards the food of the melancholic patient, as we have said, each portion must be moist throughout. Year-old lamb ... and the meat of suckling kid are particularly helpful with black bile. They generate fine and moist blood.

Similiter gallinae iuvenes et feminae perdices, starni, phasiani et similia. Haec enim sanguinem subtilem generantia subtiliant et ad statum suum perducunt. Similiter pisces de mundis flumenibus, et marini parvi neque pingues de petrosis locis. Fructus iuvativi sunt; parum ficuum siccarum, quae ventrem humefaciunt, manducatae post cibum.

> Similarly young hens and female partridges, starlings, pheasants and similar. These produce fine blood and bring it to its [normal] condition. Similarly fish from clean rivers and small, not fat sea fish from rocky places. Fruits are helpful, a very little dried fig, which moistens the belly, chewed after food.

... ratio monstrat, ad laetificandum animam et auferendum timorem et tristitiam, vinum mixtum plus iuvare. Nec mirandum vinum mediocre plus iuvare. Orpheus enim dixit, qui tonos adinvenit: Imperatores me ad convivia invitant ut de me se delectent et gaudeant, sed ego de ipsis delector animos immutando, de ira in pacem, de tristitia in laetitiam, de gravitate in levitatem, de timore in audaciam.

> ... reason shows that mixed wine is more helpful in gladdening the soul and taking away fear and sadness. Nor is it strange that ordinary wine helps the most. For Orpheus, who

invented music said: emperors invite me to dinner parties to celebrate and delight in me, but I find delight in them by changing their minds, from anger to peace, from sadness to happiness, from seriousness to frivolity, from fear into boldness.

Si autem artificia composita et tonorum mensura, in vitandis animae vitiis, adeo sunt virtuosa, quanto magis vinum faciet in infirmitate sananda! ... sed tamen cum timor et tristitia melancholicorum sint propria et vinum proprie haec leniat, timidus ergo et tristibus perfecta vinum erit medicina.

If the art of composition and the rhythm of music are effective at preventing weaknesses of the soul, how much more will wine do in curing illness? ... but since fear and sadness are characteristic of melancholics and the properties of wine lighten these, therefore wine will be an excellent medicine for those who are anxious and sad.

... Somnum et vigilias, oportet considerare. Convenit enim multum dormire. .. Unde in fine nostri libri dicemus antidota inscripta. Inanitio et continentia in libro sunt dicenda, quae corpora purgent melancholia, et subtilient grossa ... Coitus etiam adiuvat, Rufo testante; coitus inquit, pacificat, anteriorem superbiam refrenat, melancholicos adiuvat.

... It is necessary to think about sleep and wakefulness. It is appropriate to sleep a lot ... As we say at the end of our book of antidotes, evacuation and fullness are spoken of in this book, which cleanse the body of black bile and refine thick [humours] ... Intercourse likewise helps as Rufus testifies; intercourse he said, calms, checks morose arrogance and helps melancholics.

... Exercitia multis fiant modis. Temperata multum iuvat melancholicos, et similiter homines sanos. Calor enim naturalis excitatur, et per totum corpus dilatatur, et de interiora in exteriori protenditur. Sensus clarificantur, actio animata confortatur, pulpae carneae indurantur.

... Exercise can be taken in many ways. A moderate amount [of exercise] helps melancholics very much, and similarly healthy men. For the natural heat is stirred up and spread through the whole body and is extended from the interior of the body to the exterior. The senses are cleared, the actions of the soul are strengthened, and the flesh of the body is made hard.

... Laudabiliora autem sunt exercitia accidentia pedum et temperata. Equestria in bonitate sunt minora, si inquam equus suaviter eat. Peiora in equis gradatiora et gravia. In pedibus cita, et fortia itinera. Item exercitia sanos et melancholicos iuvant, quia corpora humectant, digestionem et maxime hypochondriacos adiuvant.

... The most excellent is moderate, casual exercise on foot. Riding is less good, if the horse goes gently, worse on horses which are slow and heavy. Go quickly on foot with a vigorous march. Exercise helps the healthy and melancholics similarly, because it moistens the body, helps the digestion, and especially for hypochondriacs [those suffering in the abdomen].

... Melancholici ergo assuescant pedum exercitia aliquantulum apparente aurora, per loco spatiosa, atque plana, arenosa et sabulosa. Si nolint pedites, in mansuetis et quietis faciant animalibus, donec fatigentur, et sudore corpora infundantur.

... Therefore, melancholics should be in the habit of taking a small amount of exercise on foot, as the dawn appears, in spacious, flat places, sandy and gravelly. If they do not want to go on foot, they should do this on gentle, tame animals, until they are tired and their bodies are soaked in sweat.

... Unde balneum duplex corporis est medicamentum. Si infirmus sit fortis cum balneum exierit, extergatur cum mappa subtili atque molli. Deinde ungatur cum oleo frigida et humido. Post vestiantur et quiescant; et si sitim habuerint, bibant sirupum rosatum cum aqua frigida. Post paululum morentur. Deinde sibi parata comedant, carnem sive folia vel utrumque.

> ... Because of this a bath is a twofold treatment for the body. If the patient is strong, when he gets out of the bath, he is to be wiped dry with a fine and soft cloth, then he rubbed with cold moist oil. Afterwards patients are dressed and rest; if they are thirsty they should drink rose syrup with cold water. Afterwards they should stay for a little while, then eat what is prepared for them, meat or leafy vegetables, or both.

... Diversa musicorum genera introducantur. Ebrietas fugiatur. Cum tamen quosdam melancholicos ebrietas adiuverit, quia ab ipsis, tristiciam, timorem, et suspitionem fugavit, propter nimium somnum qui ebrietatem semper sequitur, factum est.

> ... Different kinds of music should be introduced. Avoid drunkenness. However, for certain melancholics drunkenness helps them, because from this sadness fear and suspicion flee, by means of the great sleep which often follows drunkenness.

Medicina melanchorum

I Apozima valens ad purgationem colerae nigrae, leprosis, melancholicis, impetiginosis, cancerosis, scabiosis, epilecticis de melancholia; Rec: epithymi, drachm cc, kebuli et nigri drach. L, aquae calidissimae lib.XL mitte XXIV horas in aquam calidissimam supradictam, et coque ad tertias. Deinde cola; colata mitte in calidariam, adiungens penith, sacchari, sapa de omnibus VII lib. coque et spuma, ut secundum quod oportet veniat; dans bibere, unc. V cum pauco oleo amygdalino. Si infirmus sit stipticus; appone scrupulum 1. Scammonae. Hanc medicinam ad minus da septies ad plurimum XIV intermissis tribus diebus.

> A decoction which works well in purging black bile in cases of leprosy, melancholy, impetigo, cancer, scabies and epilepsy which arises from black bile. Recipe: 200 drams of thyme dodder, chebulic and black myrobalan 50 drams, 40 lbs. of the hottest water, put the above into the very hot water for 24 hours, and cook until reduced to a third. Then strain it; when strained place it in a warm bath adding penide, sugar, must [new wine boiled thick], 7lbs of all. Cook until it foams, as necessary, giving 5 oz to drink with a little almond oil. If the patient is constipated, add one scruple of scammony. Give this medicine at least seven times, at most 14 times, at 3-day intervals.

... Alius valens naturali melancholie: Rec: ellebori nigri drach C mirobalani kebuli, vel epithymi L drach pruna CC masticis rosae drach XX aquae calidae lib XX coque ad tertias et colato, adde VII libras de oleoi rosata et coque ad sufficientiam. (Da bibere) IV unc cum pauco oleo rosato decies tribus diebus intermissis. Neque (haec non dabis) nisi grosso et naturaliter frigido et diu melancholico.

> ... Another is effective against natural melancholy. Recipe: black hellebore 100 drams, chebulic myrobalan or thyme dodder 50 drams, plums 200, mastic gum, rose 20 drams, hot water 20lbs, cook until reduced to a third and strain, add 7lbs of rose oil and cook sufficiently. Give 4 oz with a little rose oil, ten times, with a gap of 3 days. You do not give this unless they have been melancholic for a long time and are naturally cold and large.

... XIII Aliud ad inflationem hypochondriae; Recipe: succi calamenthis, marathri, aequale pondus. Fac coquere et colans, da bibere unc VI cum tribus drach amygdaleon. Similiter facit succus marathri cum III drach cassiae fistulae et drach I amygdaleon. Succus polii idem facit si cum sirupo violato bibatur.

> ... XIII Another for bloating of the abdomen. Recipe: calamint and fennel juice, in equal weights. Cook and strain it, giving 6oz to drink with 3 drams of almond oil. Similarly make fennel juice with 3 drams of cassia fruit and one dram of almond oil. The juice of mountain germander does the same if drunk with violet syrup.

... XIV Succus ameos valet ad coleram (nigram). Similiter succus calamenthis, et similiter succus hyperici.

> ... XIV cowbane juice is effective against (black) bile, Similarly the juice of calamint, and similarly the juice of St John's wort.

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