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THE VISUAL CULTURE OF ENGLISH MEDICINE, 1348 – 1500

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ABSTRACT

Medicine in England came into its own in the fourteenth and fifteenth centuries, melding the rich tradition of scholastic medical thought developed at continental universities in the preceding 200 years with the realities of decentralized medical practices and religious approaches to healing. Images in manuscripts related to medicine and healing made in England in the century-and-a-half between the first outbreaks of plague (in 1348) and the end of the fifteenth century bear witness to this changing medical sphere. They also indicate their own centrality as tools for picturing, understanding, and communicating about the human body. In "The Visual Culture of English Medicine, 1348 – 1500," I argue that these images could guide reader-viewers in understanding the connection between the image itself and the body it pictured. Medical images conditioned reader-viewers in the way images, bodies, and images of bodies ought to look and ought to be looked at.

Visual skill could take many forms in late medieval England: the negotiation of comparison and difference in abstract diagnostic diagrams; taking up the position of the surgeon by making or viewing carefully detailed depictions of patients; repeatedly looking at Christ's wounds, or making oneself look like Christ by applying images to the body. By considering the programs of illumination of surgical texts, diagrams in diagnostic and prognostic settings, efficacious and amuletic images, and images of bodies after death, this dissertation asks how the visual culture of medicine contributed to a broader medieval discourse around vision and visuality. Looking with care could yield health, protection, or knowledge; but looking, like medical theory and practice, had to be learned.

This dissertation examines the ways in which medicine and ideas about the body depended on visuality in late medieval England in order to argue that images in medical manuscripts trained their reader-viewers in the skills necessarily to look carefully. The repeated looking, visual differentiation and comparison, and oscillation between universal and particular at hand in late medieval medical images confront epistemological problems central to late medieval pictorial representation. By conditioning their reader-viewers' ability to observe and interpret the human body and its pictorial representation, late medieval English medical images served as hermeneutic tools for understanding the visible world.

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LIST OF ILLUSTRATIONS

(Note: Illustrations have been excluded from this version of the dissertation due to copyright limitations.)

INTRODUCTION

"Nothing is seen nakedly or naked."[1]

The bodies represented in a single medieval medical manuscript made in England look different. The manuscript, now Cambridge, Gonville and Caius College Library MS 190 / 223, is composed of two parts made roughly 200 years apart, and then bound together by their owner at a later date.[2] Each of the two parts presents information in text and images about the human body and how to identify its structures, processes, ailments, and injuries, but when juxtaposed to each other in the close confines of their shared binding, the two temporally-distant conceptualizations of the body reveal a fundamental shift in what, exactly, images of the body could show, and how reader-viewers could learn from those images. Turning the page from the brief fourteenth-century description of humors and temperaments that begins the book (and a diagram of the human eye made by the same hand on the page's reverse), images attempt to represent the body as a layered series of recognizable, distinct, and universal systems.[3] A late-thirteenth or perhaps early-fourteenth century artist has provided the following diagrams in vibrant reds, blues, and greens with a geometric precision: five frontal figures, each on their own page, showing the arteries, the veins, the nerves, the bones, and the muscles respectively (Fig. 0.1); a full-page rendering of the male reproductive system as a series of abstract curving lines (Fig. 0.2); a page

[1] Nelson Goodman, *Languages of Art* (Indianapolis: Hackett Publishing Company, 1976), 8.
[2] Kari Anne Rand Schmidt, *Manuscripts in the Library of Gonville and Caius College, Cambridge*, (Rochester, NY: D.S. Brewer, 2001), 47 -50.
[3] Gonville and Caius College Library, and John James Smith, *A Catalogue of the Manuscripts in the Library of Gonville and Caius College, Cambridge*, (Cambridge: J. Deighton, and Macmillan & Co, 1849), 218 - 219.

of various internal organs each labeled with a name (Fig. 0.3); a full-page rendering of the female reproductive system, just as difficult to decipher as its male counterpart (Fig. 0.4);[4] and a diagram of the connections between the eyes and brain, here shown as two bullseyes attached to a group of linear and triangular structures (Fig. 0.5).[5] These figures correspond to earlier medieval traditions of representing the body as a series of layered systems. The figures themselves and the text that borders them find their basis in Greek and Arabic sources, some of which had reached England by the end of the thirteenth century through a series of translations and copies.[6]

The second part of the manuscript contains a fifteenth-century copy of various writings by the English surgeon John Arderne (d. circa 1377). Along with a detailed text advising the reader in how to perform a variety of minor surgical procedures, striking red and black astrological tables, and the occasional hastily-drawn manicule, the second half of Gonville and Caius MS 190/223 features a group of marginal drawings integral to the reader's understanding of the text.[7]

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[4] Karl Whittington describes a related set of diagrams in Oxford, Bodleian Library Ashmole MS 399; see Karl Whittington "The Cruciform Womb: Salvation in Bodleian Ashmole MS. 399," *Different Visions* 1, (2008): 1 - 24.

[5] Camille analyzes the relationship between medieval images of the eye and medieval theories of vision. Michael Camille, "Before the Gaze: The Internal Senses and Late Medieval Practices of Seeing," *Visuality Before and Beyond the Renaissance: Seeing As Others Saw*, (Cambridge: Cambridge University Press, 2000), 197-223.

[6] On the Fünfbilderserie, see Karl Sudhoff, "Weitere Beiträge zur Geschichte der Anatomie im Mittelalter," Archiv für Geschichte der Medizin 7, (1914): 363 - 378; Loren C. MacKinney and Boyd Hill, "A New Fünfbilderserie Manuscript — Vatican Palat.Lat.1110," *Sudhoffs Archiv für Geschichte der Medizin und der Naturwissenschaften* 49 (1964): 323 -330; O'Neill describes the Fünfbilderserie in the context of the other diagrams of Gonville and Caius MS 190 / 223. See Ynez O'Neill, "The Fünfbilderserie — A Bridge to the Unknown," *Bulletin of the History of Medicine* 51, (1977): 538 - 549.

[7] Arderne's program of illumination will be discussed in detail in Chapter 2. On the marginal images, see Peter Murray Jones, "Staying with the Programme: Illustrated Manuscripts of John of Arderne, c. 1380 - 1550," in *Decoration and Illustration in Medieval English Manuscripts: English Manuscript Studies, 1100 - 1700* vol. 10, ed. A.S.G. Edwards, (London: The British Library, 2001).

Surgical tools of Arderne's own invention populate the bottom margin of one page (Fig. 0.6), while legs and rear ends drawn in a sketchy, impressionistic style lay just outside the rulings still-visible around the pages' central text blocks. Sometimes these overlap with the text itself. In one such image (Fig. 0.7), a manicule interacts not with the text, but with the contorted buttocks drawn to fit on the page's narrow outer margin.

In the strained perspective created by the image's placement on the page, one butt cheek balances gingerly on top of the other; the index finger of the manicule points to three wounds presumably located where the cheeks meet; two stocky legs extend down from the buttocks, with short marks denoting ankles, knees, and muscular calves; and where we might expect a belly to stretch upward from the figure's hips, instead there is a gaping hole. A cross-hatched circle disrupts the shape of this body, indicating the separation of this lower body figure from any torso, chest, or head. A perfectly straight line penetrates one of the wounds on the figure's rear and reemerges on the other side, just below the body's absent abdomen. Above the figure, in a hand and ink that appear to be the same as that used for the marginal image and the text itself, is the phrase "seq(ue)r(e) me."[8] One of the proprietary instruments described in Arderne's treatise, the *sequere me* was essential for performing operations as directed. The label atop this marginal image not only makes legible the connection between *this* body and *this* procedure, but it also forcefully asserts the relationship between the image and adjacent text.

The disjuncture between the orderly diagrams of bodily systems and the haphazard marginalia, both found between the same thick parchment cover, indicates a series of changes far

[8] Hartnell details the depictions of surgical instruments in Arderne's oeuvre, as well as in additional late medieval surgical sources. Jack Hartnell, "Tools of the Puncture: Skin, Knife, Bone, Hand," in *Flaying in the Premodern World,* (Woodbridge: Boydell & Brewer, 2017), 28 - 33.

beyond the scope of the incremental developments of iconographic conventions that could be expected in the two-hundred-year span during which MS 190 / 223 was produced. Each of the manuscript's two parts reveals a network of sources, both textual and pictorial, on which it was based. Whereas the thirteenth-or-fourteenth-century portion of the book builds on centuries of scholastic medical tradition, picturing the parts of the body in the geometric style of the *fünfbilderserie* to explain to readers and viewers how the body worked by depicting its infrastructure, the manuscript's fifteenth-century addition shows an opaque body that falls outside of generalized schemas.[9] Wounded, contorted, and bound to text, the lower body that illuminates Arderne's treatise diverges from the earlier bodies not only because of which parts of the body it represents, but also because of how it represents them and, significantly, how it anticipates its readers and viewers to understand what exactly is being represented.[10]

This dissertation begins at a moment between the two periods of production of MS 190 / 223. In 1348, the first major plague outbreaks in England fundamentally changed both approaches to health and the social construction of illness. This moment, when Arderne was actively practicing surgery in England's Midlands, and when the first medical faculties were gaining a foothold at the universities of Oxford and Cambridge, gave way to immense growth and change in the production of English medical discourse.[11] While this dissertation does not seek to characterize

[9] Foremost among the late medieval representations of the human body as bound to cosmological schemas is the zodiac man diagram. Harry Bober, "The Zodiacal Miniature of the Très Riches Heures of the Duke of Berry: Its Sources and Meaning," *Journal of the Warburg and Courtauld Institutes* 11 (1948): 1.

[10] Camille provides a wide-ranging exploration of the different ways in which the image of the body could produce meaning in the Middle Ages. Michael Camille, "The Image and the Self: Unwriting Late Medieval Bodies," in *Framing Medieval Bodies,* eds. Sarah Kay and Miri Rubin, (Manchester: Manchester University Press, 1992), 62.

[11] Vern L. Bullough, "Medical Study at Mediaeval Oxford," *Speculum* 36 (1961): 600 - 612; see also Vern L. Bullough, "Training of the Nonuniversity-Educated Medical Practitioners in the Later Middle Ages," *Journal of the History of Medicine and Allied Sciences* 14, (1959): 446-458.

the late medieval changes to artistic, economic, or social norms in England as direct effects of the plague, the decades that followed these first outbreaks nevertheless saw transformations indicative of a widespread English interest in medicine, both practical and theoretical.[12] Within the century-and-a-half between those first cases of plague and the turn of the sixteenth century, certain texts and images were widely reproduced, making it possible to identify trends specific to and consistent throughout this period. Beginning in the mid-fourteenth-century, an effort to translate scientific and medical texts into the vernacular emerged, enabling a wider English readership to immerse itself in learning about the body.[13] Texts in both Latin and English repackaged classical concepts for new audiences.[14] And manuscripts meant to aid in the devotional practices of private patrons catered to concerns for health and healing outside the spheres of practical and scholastic medicine.[15]

The images in these manuscripts range widely in form and content; from schematic humoral diagrams and strict grids of detailed calendrical data to carefully individuated portraits of

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[12] This dissertation will not survey the art of the plague, nor will it categorize images or image-making practices as the direct result of the societal impact of the plague in England. This contrasts sharply with the foundational work of Millard Meiss, whose study of the effects of plague in late medieval Florence and Siena focused on how the subsequent social, economic, and political changes brought about by plague fundamentally changed both practices of art making and the look of artworks. Millard Meiss, *Painting in Florence and Siena After the Black Death: The Arts, Religion, and Society in the Mid-fourteenth Century*, (Princeton, NJ: Princeton University Press, 1978).

[13] On the scientific translation movement in England, see Peter Murray Jones, "University Books and the Sciences, c.1250–1400," in *The Cambridge History of the Book in Britain*, vol. II (1100–1400), eds. N. Morgan and R.M. Thomson (Cambridge: Cambridge University Press, 2008), 453–462; see also Peter Murray Jones, "Medical Literacies and Medical Culture in Early Modern Vernacular Medicine," in *Medical Writing in Early Modern English*, eds. Irma Taavitsainen and Päivi Pahta (Cambridge: Cambridge University Press, 2011), 30–43.

[14] Linda Voigts, "Multitudes of Middle English Manuscripts, or the Englishing of Science and Medicine," in *Manuscript Sources of Medieval Medicine: A Book of Essays*, ed. Margaret R. Schleissner, (New York: Routledge, 1995), 183 - 195.

[15] Rossell H. Robbins, "Medical Manuscripts in Middle English," *Speculum* 45 (1970: 393 - 415.

patients, the variety of medical images produced throughout this period runs the gamut between the two distinct groups of images in MS 190 / 223. Whereas the two moments in time at which MS 190/223 was produced suggest some sort of progression (or perhaps digression) in the style of English image-making, medical images made between the mid-fourteenth and end of the fifteenth century display a remarkable unwillingness to conform to a straightforward narrative. Different copies of images made by different hands, frequently interpreting information from the same circumscribed group of texts, resist stylistic categorization, and resist direct stylistic comparison to contemporary images made outside the realm of medicine and healing. Instead, these images bear witness to a period in which images could betray implicit assumptions about the connections, not between the style of depiction and the skill of the artist, nor between the information conveyed in images and their ability to communicate that information, but between the image itself and the way it ought to be looked at.

Diagrams, depictions of patients, and other visual cues made in the contexts of medicine, health, and healing in Late medieval England theorize how both images themselves and the bodies they depict should look and should be looked at; the images function as training tools for conditioning how practitioners and casual readers alike could gain knowledge through concerted acts of looking. Sometimes this theorization is explicit and instructional, as in the combination of text and image in vein man diagrams that could help a reader understand and perform a bloodletting procedure. Sometimes it is implicit, as in the complex representations of metabolic and etiological states in the abstract images that populate diagnostic manuscripts. By examining images in medical manuscripts and in other settings pertinent to health and healing, this dissertation interrogates the work images of bodies could do, not only by conveying information about health and illness, but by making visual skills available to viewers and readers. These

images, produced just as naturalistic representation found its footing during England's "re-birth of portraiture," offer a parallel history not of portraiture, but of the visual, perceptual, and representational skills required to make images naturalistic.

Setting the Scene: Medicine in England and in Manuscripts

In contrast to the development of medical institutions in continental medieval Europe, medicine in England remained a largely decentralized, ad hoc affair well into the fifteenth century.[16] The wide variety of practitioners, lack of institutional oversight, and range of cures sought by patients substantiate the intertwining of medicine with non-medical approaches to health and healing described throughout this dissertation. While scholastic surgeons lecturing in French universities may have taken issue with the use of textual amulets or the work done by a local barber-surgeon, the reality of medicine in England in this period necessarily combined the theoretical, the practical, and the spiritual — classical and scholastic ideas, procedures determined through empirical encounters, and practices conditioned by modern devotional norms.[17] Collecting and communicating shifting ideals around the body and its treatment, manuscripts circulated to a varied readership of both expert and non-expert readers in this period.[18] As institutions lagged behind their continental counterparts, English authors nevertheless sought to compose and translate medical texts for a growing audience of eager

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[16] Carole Rawcliffe, *Medicine & Society in Later Medieval England*, (Stroud: Sutton Publishing, 1997), 105 - 125.
[17] Katharine Park, "Medicine and Society in Medieval Europe, 500 - 1500," in *Medicine and Society: Historical Essays,* (Cambridge: Cambridge University Press, 1992), 59 - 90.
[18] Peter Murray Jones, "Medicine and Science," in *The Cambridge History of the Book in Britain,* ed. Lotte Hellinga and J. B. Trapp (Cambridge: Cambridge University Press, 2008), 433 - 448.

readers, and surgeons and practitioners catered to patients with a variety of procedures, some of them with classical precedents and others developed by the practitioner himself. These conditions fostered the development of a unique milieu for the theorization and practice of medicine. This milieu — the theorization, practice, institutionalization, and communication of medical ideas by a growing group of varied actors — is what I refer to throughout this dissertation as late medieval medical discourse.

Practitioners in late medieval England varied greatly, both within English society and in contrast to medical professionals on the continent. In a somewhat simplified categorization of the work that different practitioners could do, most of the people who facilitated health and healing in England in the fourteenth and fifteenth centuries can be sorted into the following groups, with the caveat that the practices associated with any of these groups could overlap, and often a given practitioner could fall into more than one category.[19] Surgeons, physicians, midwives, barber-surgeons, medical authors, herbalists, apothecaries, and medical astrologers all worked firmly within the realm of medicine to enact or promulgate cures.[20] At the same time, the Church was also a source of healing, both physical and spiritual.[21] Patients would frequently seek aid from more than one type of practitioner for a given ailment, and would often turn to the Church in combination with these medical cures.[22] These conditions were particularly English, and help to

[19] Faye Getz, "Medical Practitioners in Medieval England," in *The Social History of Medicine* 3 (1990): 245 - 250.
[20] For an example of the sorts of practitioners patients would seek out, see an example from Arderne's *Experimenta* of a priest who travels to multiple practitioners before finding a cure. See Peter Murray Jones, "Surgical Narrative in Middle English," *ANQ* 18 (2005): 2 - 7.
[21] Ronald C. Finucane, *Miracles and Pilgrims: Popular Beliefs in Medieval England,* (New York: St. Martin's Press, 1995), 59 - 83.
[22] Joseph Ziegler, "Religion and Medicine in the Middle Ages," in *Religion and Medicine in the Middle Ages,* ed. Peter Biller and Joseph Ziegler, (York: York Medieval Press, 2001), 3 - 14.

explain the "Englishness" of manuscripts and other forms of visual culture produced in this period, a topic which will be further explored below.

Physicians held a special place within this spectrum of medical practitioners. Understood to have the clearest connection to the theorization of medicine that came from trusted classical sources by way of continental universities, physicians looked for the causes of illnesses and offered therapeutic, rather than surgical, treatment. Julie Orlemanski characterizes the emergent "freshly textualized, decentralized discourse of medicine" being produced and consumed in late medieval England as "physik," a term that conjures both "what might be called healing's *intellectualization* and its subsequent *popularization*."[23] Physik and the work performed by the physician differed from the manual labor done by surgeons, though, in the popular imagination of late medieval English readers there was more overlap between these categories than late medieval scholastic surgeons would have liked. By intellectualizing the practice of surgery and subsuming it under faculties of medicine, the surgeons of French and Italian universities asserted surgery, like the classical natural philosophical basis of physik, as a rational and learned field.[24] Physicians were distinct from leeches, the glorified barber-surgeons who offered cures without seeking a rational basis for the illness that needed curing.[25] Nevertheless, patients sought medical help from physicians, surgeons, and leeches, sometimes indiscriminately.

An illuminated copy of Guy de Chauliac's *Chirurgiae Magna* (now Bristol, Bristol Central Library Manuscript 10) depicts a surgeon operating on and caring for patients with various externally-visible ailments.[26] Presumed to have been made in France for John, Duke of Bedford

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[23] Julie Orlemanski, *Symptomatic Subjects: Bodies, Medicine, and Causation in the Literature of Late Medieval England,* (Philadelphia: University of Pennsylvania Press, 2019), 23.
[24] Rawcliffe, *Medicine & Society*, 105 - 125.
[25] Getz, "Medical Practitioners," 245 - 250.
[26] Charles Singer, "The Figures of the Bristol Guy de Chauliac MS (c. 1430)," *Journal of the*

around 1430, the manuscript contains a series of eight miniatures which range in content from a first presentation scene (Fig. 0.8) to an anatomical demonstration (Fig. 0.9) to a phlebotomy scene (Fig. 0.10).[27] Most scenes depict a single practitioner, often a surgeon, interacting with a single patient. In some scenes, instead of a patient, the practitioner interacts with a corpse. Bristol MS 10 depicts both a generalized view of a given type of practitioner — the surgeon — as well as some of the particularities of the procedures surgeons would perform. The facial features and dress of the subject of these images changes from one miniature to the next, suggesting that we are not looking at one single practitioner in multiple scenes, but rather multiple practitioners each standing in for the general concept of the practitioner and shifting focus instead to the procedure. The multiple surgeons in Bristol MS 10 wear sophisticated robes and, in several images in the series, headdresses indicative of their status.[28] The high status held by scholastic surgeons in continental medical faculties, however, was rarely if ever conveyed upon English surgeons; without institutions for training or centralization, English surgeons often came closer to performing the manual work of the local barber-surgeon than constructing their own surgical methodologies.[29] The well-dressed surgeons in Bristol MS 10 therefore indicate a level of sophistication befitting their high status patron. These are the types of practitioners who would only treat a patient as wealthy as the Duke of Bedford; perhaps, they are even representations of French scholastic surgeons like Guy de Chauliac himself.

Royal Medical Society 10 (1917): 71 - 90

[27] Norris Mathews, "Early Printed Books and Manuscripts in the City Reference Library, Bristol," Bristol, (1899); J. A. Nixon, "Guy de Chauliac, a new MS. including the 'Practica Astrolabii,'" *Janus* XII, 1907; J.A. Nixon, "A new Guy de Chauliac MS.," in the *Seventeenth International Congress of Medicine,* Section XXIII, History of Medicine, London, (1914).

[28] On the depiction of practitioners in medieval manuscripts, see Peter Murray Jones, *Medieval Medicine in Illuminated Manuscript*, (London: British Library, 1998), 26 - 27.

[29] Michael McVaugh, *The Rational Surgery of the Middle Ages*, Micrologus Library, no. 15. (Florence: Sismel-Edizioni del Galluzzo, 2006), 11.

Surgeons like those depicted in Bristol MS 10 contrast starkly to the practitioners who dominated the medical profession in late medieval England. Thomas Fayreford, a practitioner best known for authoring a list of medical cures performed on patients that survives in London, British Library Harley MS 2558, had the education, career, and practiced the sort of medicine more typical of his fifteenth-century English contemporaries.[30] There are no records attesting to Fayreford attending university, though the proximity of Fairford, Gloucestershire — Fayreford's likely namesake and place of origin — to Oxford supports him having undertaken at least some of his training there.[31] Fayreford provides a list of 103 treatments he performed throughout his career, giving names of patients, sometimes their occupations, and the locations where the treatment occurred.[32] Like John Arderne, who practiced surgery a few decades earlier (and whose work will be examined in depth in Chapter 2), Fayreford wrote in Latin and traveled to his patients' homes to treat them.[33] Fayreford's commonplace book offers insight not only to the sorts of procedures he performed, but also into the variety of patients he treated. He records the names of several clergymen, as well as multiple noblemen and women, and only a few tradesmen — one miller, one cellarer, and the daughter of a cook.[34] Another fifteenth-century practitioner, John Crophill, treated patients during his spare time while traveling around the estates of Essex

[30] Faye Getz, 'The Faculty of Medicine before 1500', in *The History of the University of Oxford,* vol. II, eds. J. Catto and R. Evans, (Oxford, 1992), 373–405.
[31] Linda Ehrsam Voigts, "Fifteenth-Century English Banns Advertising the Services of an Itinerant Doctor," in *Between Text and Patient: The Medical Enterprise in Medieval and Early Modern Europe,* ed. Florence Eliza Glaze and Brian K. Nance, (Florence: Sismel-Edizioni del Galluzzo, 2011), 263.
[32] Peter Murray Jones, "Thomas Fayreford: An English Fifteenth-Century Medical Practitioner," in *Medicine From the Black Death to the French Disease*, ed. Roger French, (Brookfield, VT: Ashgate Publishing, 1998), 157.
[33] Jones, "Thomas Fayreford," 164.
[34] Jones, "Thomas Fayreford," 162.

to perform his duties as the bailiff of a local priory.[35] While records left by Crophill include the names of lower status patients than Fayreford's and Arderne's, he offers little information about the types of treatments he offered. Somewhere between the itinerant barber-surgeons who lacked formal education and the physicians who relied on rigorous and conservative readings of humoral theory, these practitioners provide the clearest sense of what the business of medical treatment in late medieval England looked like.

Spiritual Healing

Often as a compliment, or perhaps an alternative, to the treatment offered by surgeons and itinerant practitioners, many patients turned to the Church to ensure their bodily and spiritual wellness. For an ill or injured person seeking a cure, pilgrimage was just as viable a source of treatment as surgery or consultation with a physician.[36] Vibrant pilgrimage destinations in regional hubs like Canterbury, Hereford, Exeter, York, and London attracted pilgrims from throughout England; often an association with a specific saint or martyr could make a shrine an especially efficacious destination for certain types of illnesses and injuries.[37] Without leaving home, the infirm, or even those in search of protection from future pain or injury, could still appeal to divine power for an efficacious cure. Part of a larger trend toward personal devotion, manuscripts containing devotional images alongside textual charms and amulets enabled readers and viewers to seek out their own health.[38]

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[35] Jones, "Medicine and Science," 441.
[36] Finucane, *Miracles and Pilgrims,* 130 - 152.
[37] Diana Webb, *Medieval European Pilgrimage*, (New York: Palgrave, 2002), 52 - 56.
[38] Peter Murray Jones, "Amulets and Charms," in *Medieval Christianity in Practice*, ed. Miri Rubin (Princeton: Princeton University Press, 2009): 194–199.

These "non-medical" modes of healing pose an historiographic dilemma precisely because modern scholars of the history of medicine have, by and large, excluded them from accounts of the economies of healing in the Middle Ages. Pilgrimage is rarely discussed in the context of medicine proper, with historians of medicine drawing a line between the "secular" realm of medicine and the religious motivations of pilgrims. Ronald Finucane, who writes of pilgrimage shrines in late medieval England as sites of healing, is a notable exception.[39] Finucane's work on the role devotional acts could play in physical healing in late medieval England provides a crucial corrective to histories of medicine that limit their scope to practitioners and practices with analogues in modern medical institutions.

Among the Church's contributions to the development of medicine in England in this period was the foundation of hospitals, typically set up as charitable institutions and administered by church officials. Hospitals and universities expanded significantly in England in the fourteenth and fifteenth centuries, and form the core of an otherwise absent institutional centralization of medicine.[40] Hospitals in York, Canterbury, and Norwich, for example, were built in the thirteenth century and continued to operate throughout the early modern period. Unlike modern hospitals, these were spaces for communal care but, by and large, not for medical intervention. An infirm person in York, for example, would likely find comfort and sustenance at St. Leonard's Hospital, but would be more likely to be cured of physical injury at St. William's shrine in the city's cathedral.[41] Carole Rawcliffe's work on hospitals in Norwich and elsewhere

[39] Finucane, *Miracles and Pilgrims.*
[40] On the case of the development and operation of one such hospital in medieval Norwich, see Carole Rawcliffe, *Medicine for the Soul: The Life, Death and Resurrection of an English Medieval Hospital: St. Giles's, Norwich, c.1249-1550,* (Stroud: Sutton, 1999).
[41] P. H. Cullum, *Cremetts and Corrodies: Care of the Poor and Sick at St Leonard's Hospital, York, in the Middle Ages*, (York: Borthwick Institute, 1991).

in England includes significant attention to the role of hospitals in accommodating pilgrims, solidifying the Church's role as an institutional superstructure that facilitated healing.[42] Katharine Park, Nancy Siraisi, Sara Ritchey, Peter Jones, and Lea Olsan have incorporated medieval spiritual healing into discussions of medicine more broadly, in effect negating the historiographic divide that kept apart amulets from anatomies.[43]

Universities throughout Europe had been hotbeds for the development of medical thought and the rediscovery of classical medical discourse since the eleventh-century. While texts and ideas from European physicians and surgeons made their way to England in writing, medicine did not thrive as a university faculty at Oxford or Cambridge until well into the fourteenth century.[44] There are scattered records of individual students studying medicine in some capacity, but the first recorded doctorate of medicine from Oxford was not awarded until the mid 1350s.[45] Again, the separation between these students, practitioners, and religious authorities could be ambiguous. Faye Getz has noted the blurring of lines between medicine and other realms of life in late medieval England, including the frequency with which physicians and barber-surgeons served the Church.[46] Until the fifteenth century there were no credentialing or professional organizations for English practitioners. By the end of the fifteenth century surgical guilds and

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[42] Rawcliffe, *Medicine & Society*, 205 - 213.
[43] Katharine Park, *The Secrets of Women: Gender, Generation, and the Origins of Human Dissection,* (New York: Zone Books, 2006), 39 - 47; Park, "Medicine and Society," 59 - 90; see also Nancy Siraisi, *Medieval & Early Renaissance Medicine: An Introduction to Knowledge and Practice*, (Chicago: University of Chicago Press, 1990), 18 - 20; Lea Olsan, "Charms and Prayers in Medieval Medical Theory and Practice," *The Social History of Medicine* 16 (2003): 346 - 347. In her most recent book, Sara Ritchey has admirably used the reincorporation of spiritual healing into the history of medieval medicine in order to reevaluate the role of women in medieval healing practice. Sara Ritchey, *Acts of Care: Recovering Women in Late Medieval Health,* (Ithaca: Cornell University Press, 2021).
[44] Bullough, "Medical Study," 601.
[45] Bullough, "Medical Study," 603.
[46] Getz, "Medical Practitioners," 245 - 250.

licensing organizations had developed as oversight mechanisms for English practitioners; these mechanisms had long been in place in continental Europe.[47]

Within European universities, dissection and observation held particularly fraught positions. Although a myth persists that dissections did not occur due to a church prohibition, the reality is much more banal. Dissections and autopsies were performed as forms of forensic investigation throughout the medieval period.[48] Dissection as an academic exercise, however, emerged only at the very end of the Middle Ages at the University of Bologna.[49] There is evidence that the classical authors on whom medieval physicians based their work performed dissections for educational purposes; Galen, for example, writes of dissecting pigs and sheep in order to understand their anatomical structures.[50] The lack of human dissection had less to do with any sort of active opposition than with a belief that it simply was not necessary. Images in Bristol MS 10 and an earlier medical miscellany, Oxford, Bodleian Library Ashmole MS 399, picture practitioners performing autopsies. In these contexts, the autopsy could provide crucial information about cause of death and, in a general sense, could picture anatomical structures for the images' viewers, but still offer little of the instructional value we might associate with

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[47] Roger French, "The Long Fifteenth Century of Medical History," in *Medicine From the Black Death to the French Disease*, ed. Roger French, (Brookfield, VT: Ashgate Publishing, 1998), 1 - 5.

[48] Katherine Park, "Observation in the Margins, 500 - 1500," in *Histories of Scientific Observation*, eds. Lorraine Daston and Elizabeth Lunbeck, (Chicago: The University of Chicago Press, 2011), 15 - 44.

[49] Danielle Jacquart, "Anatomy, Physiology, and Medical Theory," *The Cambridge History of Science, Volume 2: Medieval Science*, ed. David C. Lindberg and Michael H. Shank, (Cambridge: Cambridge University Press, 2013), 592 - 594; see also Jones, *Medieval Medicine,* 40 - 41.

[50] On earlier anatomical images and their connection to classical practices of dissection, see Emilie Savage-Smith, "Anatomical Illustration in Arabic Manuscripts," in *Arab Painting: Text and Image in Illustrated Arabic Manuscripts*, ed. Anna Contadini, (Boston: Brill, 2007), 147 - 159.

dissection.[51] Empiricism, while never explicitly connected to dissection, was frequently discussed by scholastic physicians and surgeons in derogatory terms.[52] Unlike treatment based on the foundations of humoral pathology and anatomical theory, empiricism was understood to be the purview of inexpert practitioners.[53] While encounters with individual patients could condition a practitioner's course of treatment in future cases, empiricism was often treated in scholastic medical discourse as a trap into which un-educated practitioners might unknowingly fall. Although this empirical approach is not explicitly characterized as observation in medieval accounts, the possibility that observation could give way to empiricism at the cost of theoretical proof lingers at the core of much of late medieval scholastic medical thought.[54]

Vision, Visuality, Bodies, and Medicine

The underdeveloped relationship between medieval medical institutions and the practice of dissection does not reflect an ambivalence toward what *vision* could do. As I explore at length in Chapters One and Two, seeing patients was integral to treatment. So important was vision to

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[51] Taylor McCall, "Disembodied: Additional MS. 8785 and the Tradition of Human Organ Depictions in Medieval Art and Medicine," *eBLJ,* (2018): 1 - 26.
[52] Henri de Mondeville, for example, differentiates his own skill as a surgeon by comparing himself to unlearned empirics. McVaugh, *Rational Surgery,* 41.
[53] Siraisi traces an attitude similar to that expressed by Henri de Mondeville in the writings of Guglielmo da Saliceto. The negative opinions on the works of empirics are especially apparent in Latin surgical texts, and serve to further differentiate the work of rational surgeons from these uneducated practitioners. Nancy Siraisi, "How to Write a Latin Book on Surgery: Organizing Principles and Authorial Devices in Guglielmo da Saliceto and Dino del Garbo," in in *Practical Medicine from Salerno to the Black Death,*" eds. Luis García-Ballester, Roger French, Jon Arrizabalaga, and Andrew Cunningham, (Cambridge: Cambridge University Press, 1994), 94.
[54] On earlier distinctions, see Luke Demaitre, "Theory and Practice in Medical Education at the University of Montpellier in the Thirteenth and Fourteenth Centuries" *Journal of the History of Medicine,* (1975): 103 -23.

medieval medicine that doctors and authors explicitly outline how reader-viewers ought to look at patients, what they ought to look for to make a diagnosis, and how looking with improper attention can yield negative results. From an art historical perspective, this aspect of medieval medicine has been overlooked.[55] One major exception is the recent work of Jean Givens, which has expanded discussions to include the importance of observation to instructional or scientific imagery.[56] Instead, other forms of vision and visuality have been central in the art historical scholarship of the past three decades. Scholars including Herbert Kessler, Cynthia Hahn, Jeffrey Hamburger, and many others have interrogated the role of vision and visuality in medieval art; these discussions, however, have focused primarily on sacred art.[57] A central motivation of this dissertation is to explore the ways in which an implicit and explicit medieval interest in vision and visuality guided daily life, reading habits, and medical practices. An active interest in how to see and how to represent what one has seen influenced medieval visual culture beyond mystical visions and Victorine theories.[58] Because medical manuscripts contain explicit invocations to

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[55] In the context of early modern medicine, there is a much more robust body of scholarship.
[56] Jean Givens, *Observation and Image-making in Gothic Art,* (Cambridge: Cambridge University Press, 2005).
[57] Herbert Kessler, *Spiritual Seeing: Picturing God's Invisibility in Medieval Art,* (Philadelphia: University of Pennsylvania Press, 2000); Herbert Kessler, "Corporeal Texts, Spiritual Paintings, and the Mind's Eye," in *Reading Images and Texts: Medieval Images and Texts as Forms of Communication*, eds. M. Hageman and M. Mostert, (Turnhout: Brepols, 2005); Cynthia Hahn, "Visio Dei. Changes in Medieval Visuality," in *Visuality Before and Beyond the Renaissance: Seeing as Others Saw*, ed. Robert S. Nelson, (Cambridge: Cambridge University Press, 2000), 169–196; Cynthia Hahn, "Visuality," in *A Companion to Medieval Art,* ed. Conrad Rudolph, (Hoboken, NJ: Blackwell, 2006); Jeffrey Hamburger, "Seeing and Believing: The Suspicion of Sight and the Authentication of Vision in Late Medieval Art and Devotion." In *Imagination Und Wirklichkeit: Zum Verhältnis Von Mentalen Und Realen Bildern in Der Kunst Der Frühen Neuzeit*, ed. Klaus Krüger and Alessandro Nova, (Mainz am Rhein: Philipp von Zabern, 2000),47-69; Jeffrey Hamburger, *The Visual and the Visionary: Art and Female Spirituality in Late Medieval Germany,* (New York: Zone Books, 1998).
[58] Madeleine Caviness, "Images of Divine Order and the Third Mode of Seeing." *Gesta* 22, no. 2, (1983): 99-120; Madeleine Caviness, "'The Simple Perception of Matter' in Representations ca. 1180–1280: Narrative Mode or Gothic Style?" *Gesta* 30 (1991): 48-64.

look a certain way — and because looking improperly could be fatal — these sources offer new insight into how vision and visuality were theorized in practical and utilitarian settings in the Middle Ages.[59]

Despite the heterogeneity of practitioners and inconsistencies of institutional development and credentialing systems in this period, the fourteenth and fifteenth centuries gave way to an explosive growth in medical texts in England.[60] Texts in Latin and English conveyed classical medical theory and innovative contemporary practices to a diverse readership, building upon older scholarship through translation efforts, and through additions and reworkings of older medical thought by modern authors.[61] Along with these texts emerged new types of images. The production, circulation, and readership of the manuscripts produced for contexts of health and healing in fourteenth and fifteenth century England defined how, when, where, and by whom medical ideas were taken up.

Both the sources analyzed and the proposed methodologies of this dissertation reflect scholarship that, since the 1990s, has addressed the "history of the body." Because histories of the body take into account the material realities of embodiedness and the political, social, and culture construction of the body, these approaches are especially valuable to art historical

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[59] While these medieval conceptions of vision and visuality are not commensurate with modern ideals and misconceptions around vision and observation, I nevertheless take contemporary discussions of observation and objectivity into account in my analysis. On both medieval and modern approaches and misconceptions around observation and objectivity, see Lorraine Daston and Peter Galison, *Objectivity*, (New York: Zone Books, 2007); See also Lorraine Daston, "On Scientific Observation," *Isis* 99 (2008); Park, "Observation in the Margins."

[60] Voigts, "Multitudes of Middle English," 183 - 195; Robbins "Medical Manuscripts," 393 - 415.

[61] Luke Demaitre, "Medical Writing in Transition: Between Ars and Vulgus," *Early Science and Medicine* 3, no. 2 (1998): 88 - 102; Faith Wallis, "Physica: The Advent and Impact of Academic Medicine (1100-1500)," *Medieval Medicine: A Reader*, ed. Faith Wallis, (Toronto: University of Toronto Press, 2010).

analyses of bodies and care. Such approaches also provide a useful critical lens with which to view medieval medical images in the absence of any robust concentration on this topic within the discipline of art history. Sarah Kay and Miri Rubin's 1992 edited volume *Framing Medieval Bodies* brought concepts of embodiment, somatic experience, and hapticity firmly into the realm of medieval studies.[62] Work by Paul Binski, Michael Camille, and Caroline Walker Bynum has firmly attached the idea of the medieval body to concerns about its representation in images and objects, especially after death.[63] Even in analyses by art historians, manuscripts seem to hold a special place for illuminating medieval ideas about bodies and medicine.[64] Manuscripts made in late medieval England were just one form of visual production explicitly concerned with how to view and how to represent bodies. Nevertheless, the significant corpus of literature making sense of medieval medical manuscripts will guide my own analysis of how medical ideas informed visual culture in late medieval England.

Medicine in Manuscripts

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[62] Sarah Kay and Miri Rubin (eds.), *Framing Medieval Bodies,* (Manchester: Manchester University Press, 1992).

[63] Paul Binski, *Medieval Death: Ritual and Representation* (Ithaca: Cornell University Press, 1996); Caroline Walker Bynum, *Christian Materiality: An Essay on Religion in Late Medieval Europe*, (New York: Zone Books, 2011); Caroline Walker Bynum, *Fragmentation and Redemption: Essays On Gender and the Human Body in Medieval Religion*, (New York: Zone Books, 2012); Erwin Panofsky, *Tomb Sculpture: Its Changing Aspects from Egypt to Bernini*, (New York: Harry N. Abrams, Inc., 1992); Michael Camille, "The Corpse in the Garden: Mumia in Medieval Herbal Illustrations," *Micrologus VII: Il Cadavre*, (1999).

[64] Camille provides many examples of this tendency to rely on manuscript evidence to uncover something salient about the meaning of the body to medieval viewers. In particular, this is the case in Camille's discussions of plague, death, and medicine. Michael Camille, *Master of Death: The Lifeless Art of Pierre Remiet Illuminator,* (New Haven: Yale University Press, 1996); Camille, "Image of the Self," 62 - 99.

The types of manuscripts that fit under the rather capacious umbrella of health and healing vary significantly. Not only were certain identifiable types of books produced for readers, but these books and the texts and images they contained changed significantly over the century-and-a-half surveyed here. A subgroup of medical manuscripts that Linda Voigts has labeled as the "Sloane Group" exemplifies the combinations of textual information, images, and format that structured many late medieval English manuscripts.[65] So named for the five manuscripts in the collection of Sir Hans Sloane, now held by the British Library, that fit the criteria Voigts identifies, the Sloane Group consists of a total of 13 quarto-sized manuscripts bearing a series of textual and codicological similarities. The texts included across the group are not identical from one manuscript to the next, but rather include overlapping subject matter; texts on astrology, alchemy, humoral medicine, and herbs are included in some combination in all the manuscripts within the group.[66] The Sloane Group manuscripts also contain tables, recipes, and charms. The intertwining of straightforwardly medical content and herbal, pharmaceutical, and magical or apotropaic information is typical of medicine in this period.[67] Tables of planetary movement and structured depictions of uroscopy flasks implicate the reader's visual attention in navigating the complex connections between body, cosmos, and health described within the Sloane Group manuscripts.[68] In comparison to other medical manuscripts produced in the later Middle Ages,

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[65] Linda Ehrsam Voigts, "The 'Sloane Group,' and Medical Manuscripts from the Fifteenth Century in the Sloane Collection," *The British Library Journal* 16 (1990): 26 - 57.
[66] On the inclusion of astrological and prognostic material alongside medical material see Roger French, "Astrology in Medical Practice," in *Practical Medicine from Salerno to the Black Death,*" eds. Luis García-Ballester, Roger French, Jon Arrizabalaga, and Andrew Cunningham, (Cambridge: Cambridge University Press, 1994), 30 - 59.
[67] Lynn Thorndike, *A History of Magic and Experimental Science*, 6 vols (London: Macmillan, 1923-1941), I, 723-24; see also Tony Hunt, *Popular Medicine in Thirteenth-Century England: Introduction and Texts* (Woodbridge: Brewer, 1990).
[68] Cornelius O'Boyle, "Astrology and Medicine in Later Medieval England The Calendars of John Somer and Nicholas of Lynn," *Sudhoffs Archiv* 89 (2005): 1 -22.

the Sloane Group manuscripts are decidedly simple. They lack any significant, skilled work by illuminators, and they present texts that together provide their reader with a clear program of medical and astrological knowledge. While in many ways these simple, easily-portable manuscripts were typical of English medical manuscript production in this period, they are far from the only manuscripts made.

Historians of medicine are often concerned with textual evidence for medical theory and practice. Manuscripts as material texts have garnered their own scholarly treatment within the context of medicine, and scholars including Peter Murray Jones and Linda Voigts, among many others, have traced the development of medicine in the medieval English context with specific reference to manuscript layout and image-making.[69] Building on this work, this dissertation asserts that manuscripts, texts, and images must be considered in combination. While my analysis will focus primarily on images, I do not mean to suggest that the textual and material production of medieval English medicine ought to be superseded by images, but rather I will attend to these images with the sort of attention previously only granted to texts.

Art history's long-standing investment in bodies and embodiment rarely extends to examining medical images and objects. Work done in the mid-twentieth-century by Harry Bober, Loren MacKinney, and Ynez O'Neill bridged the history of medicine and art history by focusing specifically on images and diagrams that accompany medieval medical and astrological texts.[70] These scholars have made significant contributions by translating and transcribing texts, tracing

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[69] Peter Murray Jones, "Staying with the Programme"; Jones, *Medieval Medicine*; Jones, "Word and Image in Medieval Medicine," *Visualizing Medieval Medicine and Natural History, 1200–1550*, eds. J. Givens, K. Reeds and A. Touwaide (Aldershot, VT: Ashgate, 2006): 1–24; Voigts, "Sloane Group."

[70] Harry Bober, "Zodiacal Miniatures," (1948); Loren MacKinney, *Medical Illustrations in Medieval Manuscripts*, (London: Wellcome Historical Medical Library, 1965); Ynez O'Neill,Ynez O'Neill, "The Fünfbilderserie" 538 - 549.

their sources and patterns of transmission, establishing important demographic information about patients and practitioners, and outlining the routes and results of outbreaks of illnesses in the medieval west. More recently, medieval art historians including Jennifer Borland, Jack Hartnell, Taylor McCall, and Karl Whittington have reframed medieval medical images in light of their intellectual genealogies and place within a broader medieval visual culture.[71]

Often, medical or para-medical material would be bound alongside more straightforwardly religious or literary texts within the same manuscript; the combinations of these genres of knowledge production co-existing in manuscripts made in fourteenth-and-fifteenth-century England demonstrates how thoroughly medicine was imbricated in daily life.[72] Oxford, Bodleian Library, MS Digby 88 offers an example of how these materials could be combined. In addition to medical material such as a text on temperaments and complexions, a charm meant to protect women in labor, and a vein man diagram, this small codex made at the end of the fifteenth century contains a variety of material that is less clearly connected to possible medical applications.[73] Texts on the differences between administering the sacrament in England and in the Eastern Church (f. 25), diagrams to aid in palm reading (ff. 44 – 46), and a list of prognostications for Christmas day (f. 75) intersperse astrological and calendrical data that could be used to diagnose the illness or settle upon the proper course of treatment for a given patient.

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[71] Jennifer Borland, "Freeze-framed: theorizing the historiated initials of the Régime du corp," *Word & Image* 32 (2016): 235 - 250; Jack Hartnell, "Tools of the Puncture," 28 - 33; Jack Hartnell, *Medieval Bodies: Life, Death and Art in the Middle Ages*, (London: Profile Books, 2018); Whittington, "The Cruciform Womb," 1-24; Karl Whittington, "Picturing Christ as Surgeon and Patient in British Library MS Sloane 1977," *Mediaevalia*, 35 (2014): 83 - 116; Taylor McCall, "Disembodied," 1 - 26.
[72] Peter Murray Jones, "Medical Literacies," 30–43.
[73] W. D. Macray, *Bodleian Library Quarto Catalogues IX: Digby Manuscripts*, with addenda by R. W. Hunt and A. G. Watson, (Reprint 1999), 98 - 99.

Like the manuscripts of the Sloane Group, MS Digby 88 suggests a moderately wealthy owner and reader: someone with the time and ability to take an interest in matters of physical and spiritual health, but also someone who might want a rather concise and sparsely illuminated introduction to those topics. While the professional standing of the readers of Sloane Group manuscripts is up for debate, the owner of Digby 88 seems likely not to have been a medical practitioner; the medical texts contained in this manuscript do not provide more than a cursory introduction to the topics they cover, and the mix of medical, devotional, and other texts largely devoted to agriculture suggest instead a reader with an amateur interest in medicine.[74] Medical material did find its way into luxurious manuscripts produced for high-status, noble, and royal patrons.[75] These manuscripts, while produced with better materials and a higher level of craftsmanship, still contained the same sorts of texts and images as lower status examples; the ubiquity of medical, astrological, and amuletic material across manuscripts of varying quality shows the pervasiveness of medicine and healing in textual culture more broadly.

Throughout this dissertation, I discuss medieval medical images in the context of naturalism, a term more typically applied to the art of the early modern period, and rarely used in the description of practical manuscripts or diagrams. The images in medical manuscripts produced in late medieval England are part of a longer genealogy of naturalism, but they did not directly participate in the "prehistory of portraiture" that Stephen Perkinson has described coming out of the tradition of courtly manuscripts made in late medieval France.[76] I use the term "naturalism"

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[74] Katharine Park, "Medicine and Society," 59 - 90.
[75] This is especially true of prayer rolls, which were often put to use for physical healing. See Kathleen L. Scott, *Later Gothic Manuscripts: 1390-1490 , Survey of Manuscripts Illuminated in the British Isles* (London: Harvey Miller, 1996), vol. II, pp. 296, 35; see also Sonja Drimmer "Beyond Private Matter: A Prayer Roll for Queen Margaret of Anjou," *Gesta* 53 (2015): 95 - 120.
[76] Stephen Perkinson, *The Likeness of the King: A Prehistory of Portraiture in Medieval France,*

to refer to the pictorial products of a group of techniques identified by art historians for their ability to mimic the appearance of the visible world. Typically, naturalism has been associated with the objectivity and visual accuracy with which an image represents its subject. To represent the sitter of a portrait with attention to their particular physical qualities, and to make those qualities recognizable in the finished painting, implied that the portrait is a naturalistic one.

Medical images instead inform my own prehistory of the perceptual skills and modes of representation associated with naturalism. Naturalism has a long and challenging historiography within the discipline of art history.[77] Often treated as the heralding of the rebirth of classicism and as a necessary prerequisite to portraiture, naturalism also provides a rubric for discussing how images could represent individuals. Art history's valuation of naturalism is a valuation of mimetic visual likeness, and brings with it a post-enlightenment bias toward modern ideals of objectivity as a precursor to naturalistic pictorial representation.[78] By challenging the foregone conclusion that naturalism begets more accurate images of the people represented, this dissertation asserts the value of the ways in which looking could be a cultivated practice, and how images themselves could cultivate that practice.

(Chicago: University of Chicago Press, 2009); David Freedberg, "Verisimilitude and Resemblance," in *The Power of Images: Studies in the History and Theory of Response*, (Chicago: University of Chicago Press, 1989), 192–245.

[77] Lorraine Daston, "The Nature of Nature in Early Modern Europe," *Configurations* 6, no. 2 (1998): 149–172; Robert Felfe and Maurice Saß, "Warum Naturalismen? Historisches Problem und methodische Herausforderung," in *Naturalismen: Kunst, Wissenschaft und Ästhetik*, ed. Robert Felfe and Maurice Saß, (Berlin: De Gruyter, 2019), vii–xxvii.

[78] Erwin Panofsky, "Artist, Scientist, Genius: Notes on the Renaissance Dämmerung," in *The Renaissance: Six Essays*, ed. Wallace K. Ferguson (New York: Harper & Row, 1962), 123–82; Max Dvořák, "The New Relationship to Art," in *Idealism and Naturalism in Gothic Art*, trans. Randolph J. Klawiter (South Bend, IN: University of Notre Dame Press, 1967), 105–150; Jean Givens, *Observation and Image-Making*, 5–36.

Chapter Organization and Stakes

The first three chapters of this dissertation each examine a representational or perceptual phenomenon that guided readers' visual interpretation the human body. Taking these phenomena into account, the fourth chapter offers a critical reflection on how the forms of looking fostered in late medieval medical discourse structured the meanings that the pictorial representation of bodies could generate.

The first chapter, "Abstraction," posits that diagnostic and astrological diagrams represented patients by means of abstract visual signs in order to bridge the divide between universal and particular. Colors, numerical values, and generalized humoral traits made information about states of health and illness abstract, and therefore made it possible for reader-viewers to apply generalized information to specific patients. Abstraction was a systematic approach to treating specific patients by conceptualizing them in generic terms. I argue that abstraction, like the abstraction taking place when a patient's state of health is reduced to a color painted on a manuscript page, was both indispensable and inherent in looking at and thinking about bodies and patients. Abstraction served as an expansive category for a way of looking, thinking, and judging in late medieval England. Visual tools like uroscopy diagrams made it possible for a reader-viewer to learn to navigate these systems of thought.

Chapter Two, "Individuation," tackles an inverse question: how could images of individual patients be used to establish a general method? I survey multiple manuscript copies of a single text, John Arderne's 1370 *Liber Medicinarum*, in which particular patients were represented in ways that draw attention to their unique identities. In these cases, I argue, the pictorial representation of specific individuals yields a visual experience for reader-viewers that mimics

the encounter with a patient previously only available to the surgeon. This visual process, which I call "surgical looking," foregrounds provisional identity in individuated images to grant the reader-viewer direct visual access to patients. The first half of this chapter analyzes the role visuality played in surgical theory, practice, and instruction to contend that the individuation of figures drawn in surgical manuscripts yielded visual knowledge for Arderne's readers. In an effort to rethink the attachment of individual historical identities to physiognomic likenesses in the burgeoning portraiture of the late Middle Ages, I shift gears in the second half of the chapter to consider the epistemological differences between particularity in Arderne's surgical illuminations and in early portraiture.

Chapter Three, "Repetition," asks how repeated looking could aid in healing. Unlike the previous two chapters, this chapter turns to the connections between physical and spiritual health that guided treatment outside of medicine proper. Textual charms in medical and devotional manuscripts promised their readers protection or health by reading them, and the efficacy of that promise increased with the frequency of speaking those texts aloud. This chapter examines how images with apotropaic properties may have become more efficacious through repeated viewing, reading, and handling, and argues that repeated looking conditioned forms of visual identification, comparison, and differentiation.

The ways of looking theorized and analyzed in the first three chapters coalesce as a critical lens in Chapter Four. This chapter, "Representation," takes up a group of images and objects associated with a canonical "macabre sensibility" in late medieval English art to ask: what happens when these figurations of bodies are viewed with the trained eye of the medieval practitioner, surgeon, or medical reader? How can the cosmological and physiological relationships at the heart of medieval medical discourse be rendered in images? A series of

objects, all of them deeply concerned with the look of the human body, comprise the analyses in this chapter. Zodiac and vein men, tomb effigies, images of the dead, wax ex-votos, and images of Christ the physician — all mainstays of modern analyses of late medieval devotion — picture complex relationships by giving them bodily form. Crucially, this chapter analyses images that reflect a late medieval valuation of visual likeness. The value placed on visual likeness operated in the medieval economies of medical discourse and spiritual health to offer a new approach to vision and visuality.

This project permeates both the history of art and the history of medicine, but its primary stakes come out of a different subfield. By analyzing historical medical images with art historical methodologies, this project offers a new perspective into the history of vision and visuality. From Vasari onward, naturalism has been attached to first-hand observation, to representing *au vif*; naturalism, in turn, has been the technique (or perhaps group of techniques) by which an artist could produce a lifelike portrait, a mimetic likeness, or a descriptive scientific image. Late medieval medical images demonstrate a deep concern with specificity, visual discernment, observation, and individuated figures; all of these are perceptual skills necessary in order to produce and recognize naturalistic images. In late medieval English medicine, these same skills are put to other ends. This dissertation asks how the cultivation of these skills in a practical context — that of health and healing — indicates implicit expectations that medieval readers and viewers had for being able to learn by looking. In doing so, this project asserts that vision and visuality were actively understood to have epistemological and hermeneutic functions in late medieval England.

This dissertation takes as its starting point a rather generalizing quotation from Nelson Goodman's *Languages of Art,* a foundational text for analyzing how images could picture the

world. In a description of imitation as a means of giving pictorial representation to "reality," Goodman writes "nothing is seen nakedly or naked."[79] Goodman argues that if the end goal in attempting to make a "faithful" picture of an object is to produce a faithful copy of the object itself, the artist will not produce a very "successful" *picture*. Goodman recognizes that what we see — and therefore what we are able to replicate in an image — is not the same as what is really there. This dissertation takes to heart that medieval image-makers and reader-viewers likewise understood that what they saw could be mediated, and they could make images to visually mediate the complex and sometimes invisible world of the body.

In images in which the human body is not only represented but also becomes the subject of inquiry, image-makers carefully negotiated the disjuncture between what was visible and what was actually there. Depictions of bodies produced in late medieval England show that image-makers understood the difficulty of showing the body as it really was, and that what the body was might not look exactly the same as the body's external appearance. The visual culture of late medieval English medicine bears witness to the deep investment image-makers and reader-viewers had in seeing and representing the body in ways that troubled the straightforward process of learning from external appearance alone. In the context of health and healing, medieval artists and viewers saw bodies (sometimes literally naked bodies) with an understanding of the pictorial conventions that structured seeing. Late medieval medical images betray an awareness that seeing images implicated viewers in an inescapable network of representational and perceptual conventions, thereby precluding seeing bodies "nakedly." These images, then, not only gave their viewers bodies to look at, but also helped their viewers understand what it meant to look at the body.

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[79] Nelson Goodman, *Languages of Art*, 8.

CHAPTER ONE: ABSTRACTION

Reading a Patient

Medieval images showing doctors at work almost invariably depict these figures in characteristic robes as they hold up a flask to the light to look at urine.[1] Physicians in the act of uroscopic diagnosis appear frequently in manuscript margins and miniatures; often these well-dressed doctors are emblematic of medicine writ large, with their trained gaze and upraised arm standing in for a slew of diagnostic, therapeutic, and surgical methods that could be represented. As the ubiquity of images of physicians performing uroscopic diagnosis indicates, uroscopy had a particularly vivid place in the popular medieval understanding of medicine, and the representation of medicine as a whole often amounted to this image of a physician in the process of observation.[2]

One such image, a miniature in a copy of Jean Corbechon's French translation of Bartholomaeus Anglicus's encyclopedic *De Proprietatibus Rerum,* the *Livre des Propriétés des Choses,* made around 1415 (now Cambridge, Fitzwilliam Museum MS 251 f. 53v), shows the physician looking intently and pointing at a flask of urine he holds in his left hand (Fig. 1.1). The

[1] For surveys of uroscopy images in general, including images of the iconic physician see Friedrich Zglinicki, *Die Uroskopie in der bildenden Kunst : eine kunst- und medizinhistorische Untersuchung über die Harnschau* (Darmstadt: G-I-T Verlag, Ernst Giebeler, 1982); Peter Murray Jones, *Medieval Medical Miniatures* (London: The British Library, 1984); Loren Mackinney, *Medical Illustrations in Medieval Manuscripts* (London: Wellcome Historical Medical Library, 1965).

[2] Keiser describes the physician holding a jordan, or urine flask, as "an icon for the medical practitioner at the time," citing Chaucer's physician in the prologue of the Pardoner's Tale as one example of the ubiquity of this figure as a representation of the practice of medicine. George R. Keiser, "Works of Science and Information," in *A Manual of the Writings in Middle English, 1050 - 1500*, vol. 10. (New Haven: Connecticut Academy of Arts and Sciences, 1998), 3661.

practitioner stands before five patients, each of whom presents an externally visible ailment.[3] Despite the possibility of diagnosis by other means, uroscopy, the theory and practice of diagnosing a patient based on the appearance of their urine, takes precedence, both within this particular scene of diagnosis and more generally in representations of the work physicians were understood to do.[4] I want to focus briefly on the doctor's careful and concentrated look, and what exactly, he is looking at.

Unlike traditional author portraits, the above image reverses the role of author and text from what we might expect, foregrounding the role of the "text" — in this case urine — that the author reads as the producer of medical knowledge.[5] Jean Givens points out that artists almost never represented these iconic doctors reading illustrated medical books, as would be the case in non-medical author portraits. Instead, doctors look attentively at urine.[6] While the patient

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[3] MacKinney identifies the patients' ailments as dropsy, an ailing leg, a head injury, a stomach illness, and a chest wound based on the illustration of injuries and of casts, slings, and bandages in the image. MacKinney, *Medical Illustrations*, 14.

[4] This, again, is in comparison to other scientific author portraits. More typical would be a representation of a specific doctor as medical author, writing or presenting a patron with a text they have written. Instead, the doctors shown performing uroscopic diagnosis, who appears frequently in encyclopedic contexts such as this one, does not represent a specific historical doctor. John Murdoch, *Album of Science: Antiquity and the Middle Ages* (New York: Charles Scribners Sons, 1984), 174.

[5] This differs markedly from the traditional seated author portrait iconography often used in the depiction of doctors. Eva Hoffman provides a useful study of the development of the author portrait in scientific contexts. See Eva Hoffman, "The Author Portrait in Thirteenth-Century Arabic Manuscripts: A New Islamic Context for a Late-Antique Tradition," *Muqarnas* 10 (1993), 6 - 20. For a longer history of the iconographies of classical and Arabic scientific sources from which the conventions of the author portrait developed, see Kurt Weitzmann, "The Greek Sources of Islamic Scientific Illustration," *Archaeologica Orientalia in Memoriam Ernst Herzfeld*, ed. George Miles (Locust Valley, 1952); On traditional interpretations of medieval Western European sources for the author portrait type, see A. M. Friend, Jr., "The Portraits of the Evangelists in Greek and Latin Manuscripts," *Art Studies* 5 (1927).

[6] Jean Givens, *Observation and Image Making in Gothic Art* (Cambridge: Cambridge University Press, 2005) 129; One exception to this rule occurs in London, British Library, Sloane MS 6, in which a sixteenth-century artist has included a page of doctor-author portraits in which the subjects gather medicinal plants and read texts to students.

produced the "text," it is the doctor who reads it, interprets it, makes its meaningful, and presents it to the viewer. As Julie Orlemanski has suggested of the author portrait of John Arderne in London, British Library Sloane MS 2002 (Fig. 1.2), in which a seated Arderne, dressed in distinguishing robes, probes a patient's fistula with his outstretched finger, images of uroscopy in action imply that the patient's body— or something that body produced — could be fodder for the practitioner's reading and interpretation.[7]

Looking at a sample of urine as a stand-in for a specific patient, and then interpreting something about the patient from that sample, however, requires a number of leaps in associations between bodily signs and their referents not necessitated by the fleshy lower body in the Arderne portrait. The suggestion in the above diagnostic scene, and a basic premise of uroscopy as a diagnostic method, is that a small, colorful sample of urine, a bit of fluid literally extracted from the patient's body and then interpreted abstractly as a color, could represent something specific about the humoral state of an individual patient.[8] What's more, the material remnants of uroscopy — manuscripts and elaborate, colorful diagrams — attest to another level of abstraction in teaching and learning the method of uroscopic diagnosis by making it legible in images.[9] The underlying theory of bodily health, I argue, could be represented by unchanging

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[7] Julie Orlemanski, "Jargon and the Matter of Medicine in Middle English," in *Journal of Medieval and Early Modern Studies* 42 (2012): 395 - 420.

[8] The appearance of urine indicates humoral states, but also can relate to or indicate other physical and humoral symptoms. Orlemanski describes the relatively infrequent use of "symptom" in medieval texts: "More often, medical writers and translators employed the terms accidens (in Middle English, accident) and significatio (signe or token) to name the indices of disease. "Accident" forms a neat etymological counterpart to the Greek sumptōmata: from ad and cadere, it also means a falling to, or something that befalls, which gives it its philosophical sense as a contingent attribute." See Julie Orlemanski, *Symptomatic Subjects,* (State College, PA: Penn State University Press, 2019), 17.

[9] Taavitsainen notes 22 extant manuscript copies of the *Liber Uricirisiarum* alone. Irma Taavitsainen, "Transferring Classical Discourse Conventions into the Vernacular," in *Medical and Scientific Writing in Late Medieval English*, ed. Irma Taavitsainen and Päivi Pahta

blots of color on a page and incisive textual description of those colors; in addition, these images could condition the skills needed to judge and differentiate colors. These generic, diagrammatic arrangements of depicted colors could help their reader-viewers understand how to look at color.[10]

This chapter posits that abstraction, like the abstraction taking place in depictions of medical judgment, was both indispensable and inherent in looking at and thinking about bodies and patients. More than just a formal strategy for image-making, abstraction served as a more expansive category for a way of looking, thinking, and judging in late medieval England. Abstraction, in both theory and images, enabled a systematic approach to treating specific patients by conceptualizing them in generic terms. This chapter is divided into two sections to fully investigate how abstraction operated: the first addresses humoralism and the ways in which thinking of patients in terms of their humors required abstraction in order to visualize a problem and treat it. The second section turns to astrology and prognostication, and attends to how the abstract cosmographical models underlying astro-medical thought — and specifically astronomically-induced humoral change — became visible and therefore available for intellectualization by representing abstract concepts as figures. Abstraction took place in the reduction of a patient from body to fluid to color explicit in uroscopy, but also more plainly in

(Cambridge: Cambridge University Press, 2004), 54; Tavormina provides an extensive taxonomy of extant Middle English uroscopy texts. M. Teresa Tavormina, "Uroscopy in Middle English: A Guide to Texts and Manuscripts," in *Studies in Medieval and Renaissance in History,* vol 11, ed. Roger Dahood and Peter Medine, (2014).

[10] "Diagram" is often used ambiguously in art historical contexts, but I mean it here as a term to describe images that picture relationships instead of figures. See Jeffrey Hamburger, *Diagramming Devotion: Berthold of Nuremberg's Transformation of Hrabanus Maurus's Poems in Praise of the Cross,"* (Chicago: University of Chicago Press, 2019). See also Christoph Lüthy and Alexis Smets, "Words, Lines, Diagrams, Images: Towards a History of Scientific Imagery," *Early Science and Medicine* 14, no. 1/3 (2009): 398 - 439.

the wealth of schematic diagrams made to represent various forms of medical knowledge in this period. By representing bodies and what was going on inside them abstractly, medieval diagram-makers could picture bodily processes, relationships between parts, and variable courses of treatment.[11] Furthermore, these images could teach their reader-viewers to think of the bodies of their patients (and bodies more generally) according to the systematic and structured processes of visual discernment modeled by these images.

Images could make things otherwise hidden inside of the body become visible, and could make the forces guiding humoral change, otherwise invisible to human sight, available for contemplation and practical use. When bodies were represented abstractly, they could be compared and judged; internal and external, material and cosmological, static and dynamic could be put on equal planes, and therefore became more readily interpreted and intellectualized. I look in particular to diagnosis in order to examine the ways in which bodies were abstracted, simplified, and reconstituted as generic groups of numbers, dates, and colors in order for doctors and readers to understand them and treat them. I also consider the converse process: transformations of abstract concepts into figures, human or otherwise. In prognostic and astrological manuscripts from this period, these figures, often marked by mimetic details, attest to the complicated but central roles abstraction and figuration played as visual tools for seeing and thinking about fate, fortune, and health.[12] Abstraction let practitioners "see" a general

[11] The manuscripts cited throughout this chapter attest to a wide range in the level of wealth of their readers and a significant variation in the cost of materials and skills of makers who produced them. While some of the images in these manuscripts were quite clearly made by skilled artists, others raise questions about the circumstances of their facture: were images made by a scribe? A reader? Someone commissioned to make the images? These questions, while interesting, are beyond the scope of this chapter, and, in order to avoid confusion, I will refer to the various individuals involved in the production of these manuscripts as "makers," except in several cases in which reliable records of production are available.

[12] For an account of the close connection between medicine and astrology in the late Middle

concept, moving between a given patient's body and the universal conditions that governed it. Figuration — and specifically the representation of astrological concepts and physiognomic categories as particularized human figures — enabled artists and readers to picture abstract concepts beyond the scope of human vision.

The place of abstraction and figuration in art history motivates much of the discussion that follows. Previously treated, alongside invisibility, as a means of representing un-representable sacred beings and events in medieval art, abstraction applies just as well as a theoretical strategy for the pictorial representation and more general conceptualization of medical phenomena.[13] Amy Knight Powell applies Worringer's definition of abstraction in *Abstraction and Empathy* to her extended discussion of Gothic drapery, noting that

> flatness is fundamental to the abstraction of Gothic drapery, including hard-style drapery, as Worringer describes it. In fact, for Worringer, flatness is an essential characteristic of all abstraction, which he associates with geometric and lifeless shapes. Abstraction tends toward flatness, he says, because it seeks to lift phenomena out of the spatial (and temporal) flux of experience into a condition of static permanence.[14]

Whereas Worringer and Powell theorize abstraction as a stylistic tendency that medieval artists deployed in painted or sculpted representations of physical objects, this chapter deals with processes that occasioned abstract modes of thinking.

Ages, see Roger French, "Astrology in Medical Practice." *Practical Medicine from Salerno to the Black Death*, ed. in *Practical Medicine from Salerno to the Black Death,*" eds. Luis García-Ballester, Roger French, Jon Arrizabalaga, and Andrew Cunningham, (Cambridge: Cambridge University Press, 1994), 30 - 59.

[13] Scholarship on the relationship between scientific or "non-art" images and the history of art is plentiful, though it often deemphasizes the specific problems posed by medieval science and medieval theories of image making. Lüthy and Smet's work outlines some of the difficulties of medieval scientific images. See Christopher Lüthy and Alexis Smets, "Words, Lines, Diagrams," 398 - 439. For approaches to this question not specific to the Middle Ages, see: James Elkins, "Images That Are Not Art," *Art Bulletin* 77, (1995): 553 - 571.

[14] Amy Knight Powell, "Late Gothic Abstractions," *Gesta* 51, (2012): 76.

Medical diagnosis required an attention to qualities such as color, thickness, rhythm, and frequency, and while these could be considered in concert with a patient's overall appearance and demeanor, they also took on meanings of their own. In creating images that reproduced these qualities and trained readers in how to analyze them, medieval manuscript makers offered novel, complex representations that signified these generic, universal qualities and, at the same time, could be used to scrutinize the workings of specific human bodies.[15]

Medicine in the second half of the fourteenth century was torn between the practical and theoretical, the particular and universal.[16] Representing diagnosis in images thus required the capacity to conceive of the patient at once as an individual and a more generic species or type. Thinking of a patient in terms of color, as uroscopers had to do, flattened the representation of that patient, to use Worringer's stylistic term; devoid of the "actuality" of the mimetic appearance of one patient, color could simultaneously point to a particular range of conditions that may affect an individual and could completely eliminate any and all visual details that might distract from diagnosis.[17] Furthermore, whereas Worringer's flat abstraction created static permanence, the abstract thought at hand in diagnosis did just the opposite, creating an infinite variety of correspondences from which a physician might make a fixed judgment. Abstraction made it possible for image-makers to handle the slippery, non-figural visual signs that made the human body's inner workings legible to practitioners.

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[15] In contrast to the generalizing done in making diagnostic theory applicable in general, practical medical texts, especially in the form of *Experimenta*, focused on individual patients. This emphasis on the individual will be addressed at length in Chapter Two.

[16] For an exploration of the tension between theory and practice in the context of fifteenth-century medicine, see Danielle Jacquart, "Theory, Practice, and Three Fifteenth-Century Physicians," *Osiris* 6, (1990): 140-160.

[17] Faith Wallis provide a thoughtful analysis of the semiotic nature of diagnostic signs in early medieval diagnostic texts, see Faith Wallis, "Signs and Senses: Diagnosis and Prognosis in Early Medieval Pulse and Urine Texts," *Social History of Medicine* 13, (2000): 268.

Line, color, geometry — all of the visual categories that Worringer describes as abstract — could, within the context of diagnosis, represent an actuality, or more precisely, a range of possibilities that included all actualities. Worringer contrasts non-sensuous abstraction with a new valuation of "actuality" in Northern Gothic art, and traces the eventual merging of these two styles by noting their simultaneous presence in the abstract drapery and naturalistic facial features of Northern painting.[18] The entire system of diagnosis in late medieval England defies the definition and opposition of Worringer's two poles of pictorial representation. A color of urine or a diagram of humoral states, "dead and expressionless" in Worringer's dualistic terms, was instead a direct expression of potential states of health. "Primitive," "geometric" lines, "absent of all life" — that is, the style of representation that Worringer calls abstract — were far from lifeless in late medieval medical contexts.[19] Abstract style, a form of pictorial representation that relied on line, color, and space outside of mimetic human figuration, need not yield lifeless, abstract subjects.[20] Abstraction offered a way of thinking and a correlative mode of pictorial representation that presented a diagnosable body free of circumstantial detail; it suggested that the physical signs the body produced could all be diagnosed, and, paradoxically, that these signs could be reduced to an essence divorced from the particular body that produced them.

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[18] Willhelm Worringer, *Abstraction and Empathy: A Contribution to the Psychology of Style*, trans. Michael Bullock, (London: Routledge and Kegan Paul Limited, 1953), 27-8; Worringer also uses a similar description of Northern Gothic art in another text, see Willhelm Worringer, *Form Problems of the Gothic,* (New York: G.E. Stechert and Co, 1920), 58.
[19] Worringer, *Form Problems*, 51.
[20] The just-published volume edited by Elina Gerstman, *Abstraction in Medieval Art: Beyond the Ornament*, contains new interpretations of the place of abstraction in medieval art in general, as well as new work by Taylor McCall addressing the use of abstraction in medical diagrams made in the twelfth and thirteenth centuries. See Taylor McCall, "Functional Abstraction in Medieval Anatomical Diagrams," *Abstraction in Medieval Art: Beyond the Ornament,* ed. Elina Gertsman, (Amsterdam: University of Amsterdam Press, 2021), 285 – 308.

In reference to modern abstract art, Meyer Schapiro provides a helpful distinction for thinking about the abstraction taking place in late medieval medicine.

> The word 'abstract' has connotations of the logical and scientific that are surely foreign to this art. 'Abstract' is an unfortunate name; but 'nonobjective,' 'nonfigurative,' or 'pure painting' – all negative terms – are hardly better. In the nineteenth century, when all painting was representation, the abstract in art meant different things: the simplified line, the decorative, or the flat… Abstract painting today has little to do with logical abstraction or mathematics. It is fully concrete, without simulating a world of objects or concepts beyond the frame.[21]

Stylistically, the images in this chapter exhibit characteristics that Schapiro would associate with these earlier forms of abstraction, but they do not inhabit the same relationship to objects in the world as modern abstract painting. Images related to medieval medicine combine abstract and figural elements — they are images that are at once flat and simplified, that reduce the ostensible subject of the image to color or to spatial relationships, and at the same time their entire purpose is to point to and simulate objects and concepts beyond the frame (or rather, the page). Whereas Schapiro's abstract paintings are "fully concrete," detached from the material reality of "objects beyond the frame," the referents of the images in this chapter are beyond the threshold of visibility, but tangibly present in the image. Abstraction in late medieval English medicine comprised more than the stylistic tendencies of abstract modern painting. In order to make sense of patients, their bodies, their treatment, and their fate, medieval medicine participated in a process of deducing the general from the specific and adducing the specific from the general, practices of abstraction that were expressed visually in manuscripts, and that practitioners, manuscript makers, and readers bridged by means of their own visual interpretation.

[21] Meyer Schapiro, "On the Humanity of Abstract Painting," in *Mondrian: On the Humanity of Abstract Painting*, (New York: George Brazillier, Ltd., 1995), 11.

I. *it schewiþ and makeþ inner partyes iknowe:* Humoralism as Abstraction

Humoral Diagnosis

Diagnosis in late medieval England relied on gathering information about the internal state of the patient's body from external or externalized signs that could be read and interpreted.[22] To understand the health of a given patient always involved abstraction, both in order to make sense of information that was hidden and to posit some stable meaning from a collection of slippery corporeal signs. According to medieval humoral theory, the overall state of the body was composed and controlled by the four humors. The balance of the qualities of heat and cold, dryness and moisture in a patient's body influenced the proportion of humors and therefore the efficacy of digestion; because urine was understood to be the by-product of digestion, its color indicated the state of the body that produced it. Practitioners valued uroscopy because, in theory, it granted direct visual access to the state of their patients' health, allowing them to see internal defects and imbalances by inspecting and analyzing the body's liquid waste.[23] Digestion could leave a visible trace by "cooking" the urine too much or too little in the stomach, producing urine of a particular color. This concept of the four humors (blood, phlegm, yellow bile, and black bile) holding sway over bodily health dates back at least as far as the

[22] On the variety of medical practitioners in late medieval England, see Faye Getz, *Medicine in the English Middle Ages*, (Princeton, NJ: Princeton University Press, 1997). On the role of observation in "practical" medicine and surgery, see Michael McVaugh, "Cataracts and Hernias: Aspects of Surgical Practice in the Fourteenth Century," in *Medical History* 45, (2001). For the narrowing divide between theory and practice in the late Middle Ages, see Michael McVaugh, *The Rational Surgery of the Middle Ages*, Micrologus' Library, no. 15. (Florence: Sismel-Edizioni del Galluzzo, 2006).
[23] Faith Wallis, "Signs and Senses," 268.

establishment of the Hippocratic corpus in the fifth century, BCE.[24] The efficacy of digestion, which stripped food of nutrients and then disposed of whatever was left over as bodily waste, depended on the balance of the humors. How this waste looked was understood to indicate the health, that is, the relative heat and moisture, of the digestive process (and therefore the patient) that created it.[25]

The *Liber Cosmographiae*, a cosmographical miscellany compiled by John de Foxton and completed in 1408, exists in a unique manuscript, Cambridge, Trinity College Library MS R.15.21, and contains a lengthy series of images that make the invisible workings of the physical world available for visual contemplation.[26] Replete with images diagramming cosmographical correspondences, the manuscript contains a diagram on f. 6v that shows cardinal directions, elements, humors, winds, and more in spatial relationship to each other (Fig. 1.3).[27] Heat, cold, moisture, and dryness, the qualities associated with the four humors, correspond to the four elements: fire, water, earth, and air. These qualities and elements are divided into discrete groups by spokes of the wheel, each one corresponding to a wind. Humors gave material status to the

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[24] Jacquart provides a succinct explanation of medieval humoralism, as well as the impact of humors on health and appearance. Danielle Jacquart, "Anatomy, Physiology, and Medical Theory," *The Cambridge History of Science, Volume 2: Medieval Science,* ed. David C. Lindberg and Michael H. Shank, (Cambridge: Cambridge University Press, 2013), 596 - 602.

[25] Wallis, "Signs and Senses," 268. As Faith Wallis succinctly puts it "in scholastic Galenism, urine is what the body discards when it digests food to make blood." *Medieval Medicine: A Reader,* ed. Faith Wallis, (Toronto: University of Toronto Press, 2010), 256.

[26] Medicine, astrology, natural history, and forms of prognostication modern scholars often think of as "magic" or "occult" often occur in the same manuscripts in the fourteenth and fifteenth centuries. For an account of the sciences shared by astrology in the fifteenth century, see Sophie Page, "Richard Trewythian and the Uses of Astrology in Late Medieval England," *Journal of the Warburg and Courtauld Institutes* 64 (2001): 193-228. For more on the contents of scientific books (and the connections revealed in these books between medicine, astrology, and other sciences), see Linda Ehrsam Voigts, "Scientific and Medical Books," in *Book Production and Publishing in Britain, 1375-1475,* ed. Jeremy Griffiths and Derek Pearsall (Cambridge: Cambridge University Press, 2007), 345-402.

[27] Trinity College, Cambridge MS R.14.52, f. 6v.

elementa to which they corresponded, but both humors and elements posed a conceptual difficulty in terms of visualization. The elements were understood to be material substrates, basic building blocks of other materials, and therefore elude figuration. While humors and *elementata* correspond to things in the real world, they were nevertheless difficult to picture in their own right.[28]

The diagram from the *Liber Cosmographiae* makes the relationships between elements, humors, and terrestrial matters visible by aligning corresponding strata spatially. Each element is aligned with a direction, each direction with a wind, and so on. Text fills sections of the circle divided up like spokes of a wheel, implying correspondences for entities described within a given section. Like the diagram in the *Liber Cosmographiae*, cosmographical diagrams, whether they were arranged as squares or *rotae*, often demonstrate the physical and conceptual relationships between humors and elements, as well as their relationships to winds, signs of the zodiac, the physical space of the earth, and more pointedly biblical and eschatological content through the careful formal arrangement of text.[29] Diagrams render legible commonalities and correspondences between forms of matter, cosmological change, and geographic phenomena.[30]

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[28] Ramirez-Weaver argues that details in a manuscript copy of William of Conches's work make these otherwise invisible building blocks visible. Eric Ramirez-Weaver, "William of Conches, Philosophical Continuous Narration, and the Limited Worlds of Medieval Diagrams," *Studies in Iconography* 30 (2009), 1-41.

[29] Caviness describes the exegetical value of formal organization, see Madeline Caviness, "Images of Divine Order and the Third Mode of Seeing," *Gesta* 22 (1983): 101.

[30] The term diagram is itself somewhat loaded in a medieval medical context. Lüthy and Smets note a lack of terminological precision in medieval sources, and gloss some of the terms used to describe such images: "'Figura', for example, frequently possessed the same catch all quality as our own term 'image'. Indeed, the phrase sicut hec figura docet ("as this figure shows") is found to refer to the entire spectrum of mathematical, diagrammatic or figurative 'images' that may accompany a text. Interestingly, this nondescript use of figura lives on in our modern references to visual text-inserts as 'figures' (as is testified by the present essay)." Lüthy and Smets, "Words, Lines," 423.

Cosmological diagrams such as these take invisible concepts and render the relationships between subsets of that conceptual information visible. The *rotae* in the twelfth-century Walters cosmography (now Baltimore, Walters Museum MS 73), which depict the workings of the cosmos as theorized by Isidore of Seville and recapitulated by Bede, depict lunar cycles and calendars of astrological changes (Fig. 1.4).[31] Harry Bober notes that *rotae* could be used to supplement, rather than literally illustrate a text, functioning as schematic keys to manipulating information within texts in addition to reiterating their content.[32] Diagrams such as these were valuable tools for comparing information from different registers — allowing a reader, for example, to compare how a given humor might correspond to a specific zodiac sign — and drawing conclusions from it — such as which humors might be most intense at the dates governed by those signs.[33] Rotae and other schematic diagrams represented these correspondences in ways that were formally abstract, but also suggest the abstractness of their contents through this very form; without mimetically representing largely invisible concepts like wind direction and seasonal change, the diagrams in Walters MS 73 can nevertheless depict the relationships between those concepts.

The difficulties of seeing and reading humoral balance, however, go deeper than the impossibility of seeing their elemental constituents; while blood and phlegm, coughed up or otherwise externalized by some patient, could be seen on their own, the balance of the humors

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[31] Harry Bober, "An Illustrated Medieval School Book of Bede's *De Natura Rerum," The Journal of the Walters Art Gallery* 19/20 (1956/1957), 74.
[32] Harry Bober, "In Principio: Creation before Time," *De Artibus Opuscula: Essays in Honor of Erwin Panofsky,* ed. Millard Meiss, (Mew York: New York University Press, 1961), 22.
[33] The connections being illustrated in such images draw on centuries-old traditions of picturing the functions of the cosmos using diagrams. See Benjamin Anderson, *Cosmos and Community in Early Medieval Art,* (New Haven: Yale University Press, 2017), 107 - 148.

was always necessarily internal, and therefore invisible.[34] And while the systems of humoral change that controlled patients' health were predictable, diagnosis depended upon applying these general concepts to a specific patient. In effect, abstract humoral diagrams and the abstract processes of humoral diagnosis bridge a gap between something largely non-visible and un-representable in and of itself — humoral change — and the readily visible, highly particular appearance of the individual patient. Diagrams made in the context of late medieval English medicine perform a sort of *suppositio* — they posit distinctions between a general conceptual category and a particular instance that falls within the definition of that category.[35] As Michael Camille notes, the diagram as a form evades difficulties of representing universals and particulars "because it is not locked into the particularity of representing 'like by like' in the normal iconic means of pictorial representation. In medieval scholasticism it was possible to differentiate between 'man at the formal, definitional level' and an example like 'Socrates is a man' using the notion of *suppositio*," that is, by having generic and specific forms stand in for each other within the pliable format of the diagram.[36] *Suppositio* worked as a form of abstraction, supplying a general category in place of a specific example, and therefore enabling a more expansive definition of a concept from which a particular instance could be singled out.

Because so much of diagnosis relied on interpreting things hidden within the body, physicians had to rely on theoretically complex methods in order to deduce crucial information the body's internal state. Often these methods aestheticized the body's basic metabolic

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[34] On the theorization and expansion of Galenic medical ideals in the thirteenth and fourteenth centuries, see Joel Kaye, *A History of Balance, 1250 - 1375*, (Cambridge: Cambridge University Press, 2016), 210 - 222.
[35] For a broad overview of the place of *suppositio* in medieval logic, see Desmond Paul Henry, "The Early History of Suppositio," *Franciscan Studies* 23 (1963): 205-212.
[36] Michael Camille, "The Book of Signs: Writing and Visual Difference in Gothic Manuscript Illumination," *Word & Image*, (1985): 137.

functions.[37] James Elkins says of the drive to represent and see invisible things that "the unrepresentable can only be experienced as something that resists presentation while also lending itself – partly, and with forms held in reserve – to actual pictures."[38] Many of the medical diagrams produced in this period exhibit this paradoxical resistance to and gravitation toward picturing, making generic information about bodies available in images, but rarely with anything close to a mimetic likeness. Whether through the schematic organization of textual elements or by figuring abstract concepts, medical diagrams simultaneously make the invisible workings of the body present for visual analysis and consist of a sparse, minimal schematic format befitting the invisible contents they explicate.

The sixth-century physician Alexander of Tralles, one of many early medieval authors whose theories laid the groundwork for later medieval medical texts, lists a variety of physical characteristics that might disclose something of a patient's internal health:

> the patient's colour, his eyes, face, voice, silence, the position in which he is lying, the attitude of his body and his bearing will point things out to you, and, as it were, will speak silently to you … One who exercises forethought ought to observe all these things with diligence, and he should administer therapy at the right time, in the light of circumstances foreknown and recognized.[39]

These indicators, while representative of illness writ large, lack direct correlations to specific ailments in medieval medical theory. Looking at the specific patient was necessary for diagnosis, but it was not sufficient for a comprehensive understanding of the patient's state of health. Diagnosis required an attention to things that were not externally visible. Physicians had to rely

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[37] Gilles of Corbeil, *De Urina* and *De Pulsibus,* in *Medieval Medicine: A Reader* ed. Faith Wallis, (Toronto: University of Toronto Press, 2010), 256 - 258.
[38] Elkins differentiates the "unrepresentable" from the "unpicturable" in James Elkins, *On Pictures and The Words That Fail Them*, (Cambridge: Cambridge University Press, 1998), 253.
[39] Wallis quotes Tralles, and describes the ways in which early physicians aestheticized diagnostic criteria, see Wallis, "Signs and Senses," 270; Wallis, "Medicine and the Senses," 139 - 140.

on additional information — namely pulse and urine — to make determinations about a patient's condition and how best to treat them. Alexander of Tralles's criteria for judgments suggest a means of making patients fit into categories, and at the same time, deducing something from these generic categories about the individual patient. Images, and the trained and conditioned reading of images and visual information, could mediate this process; that is to say, images could facilitate the practitioner's interpretation.

Seeing Balance

Whatever substance or visual sign practitioners judged when they analyzed a patient for clues about their health was always part of a proportional relationship: they did not see the presence or absence of a substance, they saw an indication of the relative balance of substances. Illness, according to humoral theorists, was not the result of a straightforward lack or excess of a certain humor, but rather came about from the imbalance of humors.[40] While an abundance of heat, cold, moisture, or dryness defined an individual's complexion as melancholic, phlegmatic, choleric, or sanguine, the proportional imbalance of these qualities (outside of the minor differences that determined temperament) were taken to be the cause of ill health.[41] Humors could regularly

[40] Orlemanski's discussion of the way *complexio* could be defined in terms of humoral equilibrium helps clarify the distinction between the presence of a humor and its overabundance, as well as the causality implied by that humoral disposition. See Julie Orlemanski, *Symptomatic Subjects*, 14-16.

[41] Groebner gives an interesting account of how complexio could both contribute to and thwart the notion of individual identity, see Valentin Groebner, *Who Are You: Identification, Deception, and Surveillance in Early Modern Europe*, (Cambridge: MIT Press, 2007) 121-5.

change in proportion to each other, so diagnosis required a practitioner to take stock of a disruption of humoral equilibrium, *dyscrasia.*[42]

As Joel Kaye demonstrates at length in his 2014 study *A History of Balance 1250-1375*, the second-century physician and philosopher Galen conceptualized the four humors as relative forces, each measurable and treatable by comparison with the other three. Kaye writes that

> perfect health, in Galenic theory, exists as a theoretical abstraction. Yes, the doctor must be able to consider (or 'think with') the notion of perfect health, but he does so primarily so that he can form relative judgments as to how particular approximative states relate to theoretical ideals.[43]

Without finite distinctions between states of health, any sort of diagnosis was, in effect, a relative judgment. Galenic medical theory, in Kaye's appraisal, linked the condition of an actual patient to an abstract idealization of good health. The practitioner necessarily mediated this process. By interpreting what they saw, the physician could connect Galen's theoretically abstract humoral system to empirical observations and judgments of the physical appearance of the patient, their symptoms, and their fluids. Diagnostic methods more generally, then, were attempts to understand the humors in relative proportion to each other.

The doctor in the image from Bartholomaeus Anglicus's *De Proprietatibus Rerum* (Fig. 1.1) complicates the easy distinction between external ailments, which could be diagnosed by looking at the patient, and internal ailments, which required more complicated methods of diagnosis. All but one of the five patients bear clear indications of exactly what injury has befallen them: at top left a man holds open his shirt to reveal a chest wound; next, clockwise, a man clasps his limp and bloody right hand in his left; then a woman in long blue robes stands distraught, with her

[42] Juhani Norri, "Premodification and Postmodification as a Means of Term-Formation in Middle English Medical Prose," *Neuphilologische Mitteilungen,* 90, (1989): 150.
[43] Kaye, *A History of Balance*, 152.

head and left arm fully bandaged; and below, a fourth patient hops on one leg with the help of a crutch, his other leg lifted up and bandaged. A fifth figure, a balding man, sits on the floor at the center of the scene, pulling his white robes open to display his distended belly. Because the practitioner looks at a flask of urine despite these patients' visible external injuries, the image suggests the centrality of humoral diagnoses even when a cure needed to be surgical, rather than therapeutic.

Practitioners sought clues to the state of their patient's health, that is, the relative balance of humors, by looking at patient's external appearance and specifically by examining the state of their fluids.[44] Sometimes, as in the case of swollen protuberances, the externally visible physical characteristics of the ailment could directly reveal the humoral disposition at its root.[45] Carole Rawcliffe writes that a practitioner might note a wide variety of criteria, some of which reflected the overabundance of specific humors, to make a diagnosis of an external swelling. Practitioners looked at

> the pigmentation and relative sensitivity of the affected area. It might appear red, throbbing, and sore (sanguine), yellowish and acutely painful (choleric), pale and soft (phlegmatic), or hard and dark (melancholic), depending upon the humor or combination of humors trapped beneath the skin.[46]

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[44] There are some uroscopy texts also attesting to the use of smell for diagnosis, but there is not a complex system of meanings established for smell in the way that is done for sight. See Faith Wallis, "Medicine and the Senses: Feeling the Pulse, Smelling the Plague, Listening for the Cure," *A Cultural History of the Senses in the Middle Ages*, ed. Richard Newhauser, (London: Bloomsbury, 2014), 140.

[45] Michael McVaugh, "Surface meanings: The Identification of Apostemes in Medieval Surgery" *Medical Latin from the late Middle Ages to the* Eighteenth Century: Proceedings of the *European Science Foundation Exploratory Workshop,* ed. W. Bracke and H. Deumens, (Brussels: Koninklije Academie voor Geneeskunde van België, 2000), 13 – 29.

[46] Carole Rawcliffe, *Sources for the History of Medicine in Medieval England*, (Kalamazoo: Medieval Institute Publications,1995), 14.

In these cases, the imbalance of humors caused the swelling to take on the qualities associated with whatever humor was in excess. Still, in order to posit a connection between these symptoms and their humoral causes, the physician had to recognize certain visible qualities shared between them: color, hardness, density, and painfulness. In the abstract, these qualities were aligned with specific humors, but never absolutely.[47]

A Fluid Signifier: Urine

Two semi-circles of color, one a golden yellow and the other a rusty brown, float outside of any formal structuring devices at the center of fol. 9r of Oxford, Bodleian Library, Ashmole MS 1413, a fifteenth-century English medical compendium (Fig. 1.5).[48] Several pages in the multi-page sequence of urine flask drawings, which depicts colors of urine contained within flasks and describes the conditions those colors indicate, contain only the colorful contents of the missing flasks, jarring pairs of colors that look more like paint swatches than diagnostic diagrams. Surmounted by textual inscriptions describing the colors and labelling them with names, these colorful swatches appear to be a limit case of medieval diagnostic abstraction; we only see colors, lacking the context provided by their missing flasks: colors that somehow represent a potential patient who, like the flasks, does not appear on the page.

The diagnostic methods espoused by medieval medical writers reflect an effort to quantify, analyze, and correct a patient's humors; to do this, a physician needed to be able to

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[47] Rawcliffe, *Sources*, 14.
[48] William Henry Black, *A descriptive, analytical, and critical catalogue of the manuscripts bequeathed unto the University of Oxford by Elias Ashmole Esq., M.D., F.R.S., Windsor Herald, also of some additional MSS. contributed by Kingsley, Lhuyd, Borlase, and others,* (Oxford: 1945), 1112-1113.

picture the interior state of the body. While practitioners during this period rarely concerned themselves with understanding the interior space of the patient's body, the processes that were hidden beneath the body's fleshy surface attested to the state of the patient's health, and seeing evidence of that state, often in the form of excretions, allowed practitioners to think of health in visual terms.[49] In this section, I briefly outline the ways in which uroscopy, in text and in practice, required practitioners to think of patients visually and abstractly; in the next section I will focus on the images themselves at greater length.

Digestion, an internal process, yielded an externally visible product: urine. The more efficacious digestion was, the more blood it involved, and because the amount of blood directly impacted the color of urine, there could be visible degrees of difference in colors of urine that attested to the state of the process that produced it.[50] Urine was properly an index of the patient's health: it bore visible signs of the state of the process that made it.[51] Henry Daniel's *Liber Uricrisiarum* (c. 1370), one of the earliest English vernacular uroscopy treatises, built upon Latin sources and was widely copied in late medieval England. In the *Liber,* Daniel put forth many of the same ideas about the origins, functions, and significatory capacities of urine found in the numerous, often anonymous, uroscopy treatises produced in England in the following decades.[52]

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[49] McVaugh explains the two-dimensional conception of the body's systems in the Middle Ages. Michael McVaugh, "Spaces of Anatomy: Fistulas, the Knee, and the 'Three-dimensional' Body," in *Medicine and Space: Body, Surroundings and Borders in Antiquity and the Middle Ages,* eds. Patricia A. Baker, Han Nijdam, and Karine van't Land (Leiden: Brill, 2012), 23 -24.

[50] This is a strong contrast to iconographic interpretations of medieval color, which will be explored at greater length in this chapter. For one account of such approaches, see Peter Dronke, "Tradition and Innovation in Medieval Western Colour Imagery," *Eranos Jahrbuch* 41, (1972): 61-62.

[51] Wallis "Signs and Senses," 269.

[52] Several manuscript copies of Daniel's *Liber* have been transcribed. These include Tom A. Johannessen, *The Liber Uricrisiarm in Gonville and Caius College, Cambridge, MS 336/725,* (Master's Thesis, University of Oslo, 2005). See also Joanne Jasin, *A Critical Edition of the Middle English Liber Uricrisiarum in Wellcome MS 225,* (PhD diss., Tulane University, 1983);

Daniel explains the source of the colors of urine as the result of the balance of heat and cold in the body:

> The coloure of vyrne is caused principaly of þise 2 qualities: calidite and frigidite, hete and colde, for þe more hete þat regneþ in þe body þe more depe is þe vryn, and þe lesse hete þe lesse depe… But take hede þat þogh I sai þat þe qualite of vryn is caused and genderede of 2 qualities, s. calidite and frigidite, as I saide right nowe noȝtforþan it is none of þe 4 qualities. For euery þing þat is bodily and erþely is made and componed of 4 elementz and of 4 humores and of 4 qualities….[53]

There is a direct relationship between heat and color, and because color can be analyzed visually, the heat it evidences so too becomes available to the practitioner's judgment. By looking at the color of urine, the physician could *see* the balance of heat and cold and that of dryness and moisture, but only in comparative terms.

Furthermore, making qualitative distinctions between similar colors, the "deepness" that Daniel describes, implies a means of differentiation premised on a continuity from one color to the next rather than the absolute identification of one particular hue. Additional qualities such as "sediments" and "circles" — textures and substances visible in the urine — provided the physician with even more nuanced information about the system that produced that evidence.[54] All of these qualities in combination offered the physician visual access to the state of the body.

For more on the surviving manuscripts in English, see Rossell Hope Robbins, "Medical Manuscripts in Middle English," *Speculum* 45, (1970): 393–415; The recent critical edition of Daniel's *Liber Uricrisiarum* has been essential in building on existing scholarship about uroscopy. Unless otherwise noted, all transcriptions of Daniel's text have been taken from this edition. Henry Daniel, *Liber Uricrisiarum: A Reading Edition*, ed. E. Ruth Harvey, M. Teresa Tavormina, and Sarah Star, (Toronto: University of Toronto Press, 2020).

[53] "The color of urine is caused principally of these 2 qualities: heat and cold, for the more heat reigns in the body the deeper is the [color of the] urine, and the less heat the less deep… But take heed that although I say that the quality of urine is caused by 2 qualities, that is heat and cold, as I just said, it is not consequently one of the 4 qualities. For everything that is bodily and earthly is made and composed of 4 elements, 4 humors, and 4 qualities…" Translation my own. Henry Daniel, *Liber Uricrisiarum*, Book 1.4, P. 51.

[54] Faith Wallis,"Inventing Diagnosis: Theophilus' De Urinis in the Classroom," *Dynamis* 20 (2000).

Given the complexity of explanations of these proliferating qualities offered in text, color took precedence.[55] Citing a common etymology employed consistently over centuries, John Trevisa writes in his fifteenth-century translation of Bartholomeaus Anglicus's *De Proprietatibus Rerum* that "Vryne haþ þat name of uriþ grew, þat is to meninge 'schewynge'. For it schewiþ and makeþ inner partyes iknowe, for we taken counseile of vryne to be certyfyed how it stondiþ wiþ þe inner partyes."[56] Together, color, texture, depth, and particulate matter could signify the state of a patient's internal health to an observer by "showing" the state of the body's "inner parts."

Practitioners of uroscopy looked at urine not only because it made a patient's internal state accessible externally, but also because it made that state legible *visibly.* Urine's indexical status meant that practitioners could devise a consistent and coherent system of analysis around color. Urine could attest to the full spectrum of human illnesses by linking visibly distinct colors to humoral imbalances. Often these correspondences were framed in terms of the effects of a patient's digestion: diagrams make literal the connection between color and digestive efficacy, either by formally grouping certain colors together, drawing direct lines between descriptions of digestion, colors that represent them, and the acts of interpretation that mediate them. In Cambridge, Gonville and Caius College Library MS 336/725 fols. 75v-76r, for example, the link between states of digestion and a brief text outlining the task of judgment has been illustrated with chain links (Fig. 1.6). Seven descriptions of states of digestion are grouped around the

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[55] Michael Stohlberg, "The Decline of Uroscopy in Early Modern Learned Medicine (1500 - 1650)," *Early Science and Medicine* 12, (2007): 315.

[56] "Urine has the name of the Greek *urith*, meaning 'showing' for it shows and makes inner parts known, for we take counsel of urine to certify the state of inter parts." John Trevisa, *On the Properties of Things: John Trevisa's Translation of Batholomaeus Anglicus' De Proprietatiub Rerum: Critical Text,* ed. M. C. Seymour, (Oxford: Clarendon Press, 1975), 257; Gilles of Corbeil even goes so far as to claim that the word "urine" comes "from the Greek *urith*, which means demonstration." From Gilles of Corbeil, "De Urina," in Wallis, *Medieval Medicine: A Reader*, 256.

circle's center, aligning with 20 descriptions of colors of urine in the outermost concentric circle. As such, adjacent colors always stem from the nearest — and therefore often the same — digestive state. A belief in the direct correlation between urine color and its digestive cause prompted the literal links in these diagrams. By arranging the tenets of humoral theory and possible states of digestion in a form that suggests that this is not merely a set of data but an operable visual system marking similarity and difference, the diagrams take theoretical abstractions and render them visible, arranging colors and the states of health they represent for the practitioner to make a judgment.[57]

When color was not represented pictorially in a uroscopy diagram (and even when it was), vivid descriptions and comparisons in uroscopy texts hint at the difficulty of precisely identifying and defining a given color, and of offering a precise diagnosis from this seemingly subjective, visual criteria. The text of Daniel's *Liber Uricrisiarum* circumvents the difficulty of naming and defining these endlessly variant colors by attaching the similarities of colors of urine to the color of familiar objects in the real world, a tactic Trevisa also uses in his English translation of *De Proprietatibus Rerum*. Using descriptive analogies at the beginning of each chapter, Daniel describes colors with implicit references to, and at times explicit descriptions of, other colors. In a section on the significance of black urine, Daniel distinguishes between two colors of black: "þere is on maner of Blak colour in vryn þat is caused of mortificacion, and þat maner of blachede is moste like a blake horne schynand or like a rauenes feþer or like a man of

[57] For more on discussions of practicality and use of medieval medical texts, see Linne R. Mooney, "Manuscript Evidence for the Use of Medieval English Scientific and Utilitarian Texts," in *Interstices: Studies in Middle English and Anglo- Latin Texts in Honor of A.G. Rigg*, (Toronto: University of Toronto Press, 2004), 185. Cornelius O'Boyle, "Astrology and Medicine in Later Medieval England The Calendars of John Somer and Nicholas of Lynn," *Sudhoffs Archiv* 89, (2005): 8.

þe londe of Ethiop."[58] The colors described in these analogies are by no means identical to each other. Mixing vague object descriptions and racial stereotypes, the color similes here hint at a range of possible colors, and a range that depends largely on a reader's memory and imagination. To navigate difference among colors, practitioners needed to actively participate by making visual comparisons and judgments. Textual color comparisons both offer a solution to the indeterminacy of represented colors and, paradoxically, suggest a range of colors associated with a color term rather than one exact, fixed referent.

In some cases, rather than providing comparanda from familiar colorful objects, Daniel describes a color in terms of its similarity to other colors; doing so highlights comparison as a key tenet of the process of diagnostic judgment. In the case of *lividus*, a blue-gray color, Daniel leaves out a description of a comparable object in favor of a lengthy explanation of what the color looks like. He says lividus, or "blo colour," "is moste between White colour and Blak colour, hauand vnneþes more Black þan of White vppon ymaginacioun. And þerefor alle auctored treten þerof next after Black, be resoun þat it acordiþ moste to Blak."[59] Daniel situates the color in terms of its relationship to black and white. In providing such a description, Daniel fixes in text his expectations of the appearance of the color, and also makes those expectations intelligible by describing the color relative to others. Color comparisons such as this provide the hermeneutic framework to analyze the information encoded in urine by ascribing humoral and chromatic value to colors, and making the interpretation of that value contingent on a viewer's

[58] "there is one type of black urine that is caused by mortification, and that type of blackness is most like a polished black horn, or like a raven's feather, or like a man from the land Ethiopia." Daniel, *Liber Uricrisiarum*, Book 2.1, p. 77.
[59] "lividus is in the middle between white color and black color, having just barely more black than white upon picturing it. And therefore all authors treat it next after black, with the reasoning that it accords most closely with black") Daniel, *Liber Uricrisiarum*, Book 2.3, p. 91.

assessment of colors in relation to each other. The practitioner bridges the gap between shifting possible diagnoses by identifying and interpreting the color seen.

Because the qualities of pulse and urine were the naturally occurring results of the process of digestion, their appearance had some inherent meaning. The color of urine could reveal something specific and material about the patient in question, even if it did so in abstract terms. The function of color in uroscopy complicates arguments art historians and medievalists, more generally, have made about the hermeneutics of color in the Middle Ages. Uroscopy particularly challenges iconographic interpretations of color as an independent property of a thing. Ohly, for example, writes that "since a color is not a thing per se that possesses any properties other than itself, it assumes significance only by means of some other thing that has the color — as one of its properties — and determines the direction of the color's signification on a given occasion."[60] The meaning of any given color in a non-humoral context comes about through a network of inherently meaningful objects that happen to share that color as one of their properties.[61] Urine, however, enabled a complex interpretation of the meaning of any given color, in addition to making possible more subtle color identifications in the first place. Minor differences in colors indicated something definite about the patient's humors.[62] Certain colors corresponded to certain

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[60] Friedrich Ohly, "Problems of Medieval Significs and Hugh of Folieto's 'Dove Miniature,'" *Sensus Spiritualis: Studies in Medieval Signifies and the Philology of Culture,* trans. by Kenneth Northcott, (Chicago: University of Chicago Press, 2005), 103-4; for one example of Pastoureau's work in English, see also Michel Pastoreau, *Black: The History of a Color* (Princeton: Princeton University Press, 2009); see also Andreas Petzold, "On the Significance of Colors: The Iconography of Color in Romanesque and Early Gothic Book Illumination," in *Image and Belief: Studies in Celebration of the Eightieth Anniversary of the Index of Christian Art* (Princeton: Princeton University Press, 1999): 125-134.

[61] Kumler and Lakey push Ohly's reading of the relationship between text an image in the dove miniature a step further, pointing to the importance of the specific material and visual qualities of the image in its use in exegesis. See Aden Kumler and Chris Lakey, "Res et significatio: The Material Sense of Things in the Middle Ages," *Gesta* 51, (2012): 8-10.

[62] In a certain sense, this chain of meaning reinforces the connections between given colors and

complexions and humoral dispositions; a given color of urine could indexically signify a diagnostic meaning in a way other colorful substances simply could not.[63]

Uroscopy diagrams modeled these relationships between colors, taking color (rather than substance or texture) as their subject, and representing it pictorially, such that manuscripts and the act of reading them modeled the very sorts of observation, comparison, and differentiation required for uroscopic diagnosis. That is to say, urine depicted and described in uroscopy diagrams relied on a direct, physical correlation between color and meaning, but in doing so enabled both a system of making judgments about patients based on physical evidence and a theory of color premised on relative similarity and difference. The process of abstraction in the sequential shifts from patient to urine to color, both in the flask and on the page, meant that making diagnostic judgments from urine also entailed making visual ones.

II. Tables of Judgment: Uroscopy Diagrams

One Ring Diagrams

"*Heer is þe tabele of dyscressyun of waterrys be dyuers colourys to knowe dyuers euelys in manys body be þe doctrine of maystyr galyon [and] ipocras þe worthy lechys*."[64] In bright red

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their significance, but also seems to suggest endless possible significances. Amy Knight Powell summarizes this tendency in Ohly's work concretely: "The medieval exegesis of things that Ohly describes turns out to be a materialist formalism, wherein the formal properties of things—their shapes, colors, and so on—bring to mind myriad other material things that also bear those properties." Powell, "Late Gothic Abstractions," 80

[63] John Gage, "A Locus Classicus for Colour Theory: The Fortunes of Apelles," *Journal of the Courtauld and Warburg Institutes* 44 (1981): 3-4.

[64] "Here is the table of judgment of waters by diverse colors to know diverse evils in man's body by the doctrine of master Galen and Hippocrates the worthy leches." All transcriptions and

ink on fol. 167r, the scribe of York, York Minster Library MS XVI.E.32, an English vernacular medical compendium made around the year 1500, describes the contents, function, and sources of the circular diagram it hovers over (Fig. 1.7).[65] The diagram consists of a wide, segmented outer ring filled with text, then a series of simply drawn flasks each filled with a different color ink, red lines connecting the flasks back to text, and an inner cluster of seven text-filled circles. As the scribe noted, the diagram shows the "*dyscressyun of watyrys*," that is, the judgment of urine. Diagrams such as this one explicitly link colors to their humoral causes, foregrounding the visibility of diagnostic evidence for both expert and non-medical readers. While sometimes uroscopy diagrams lack formal spokes and pie-chart-like divisions characteristic of *rotae*, as is the case here, they function similarly.

Rotae, wheel-like circular diagrams, such as the one in the *Liber Cosmographiae* mentioned above, often appear in medieval scientific and cosmographical manuscripts to aid in calculating astronomical, calendrical, and cosmological phenomena.[66] One-ring diagrams, like the one in the York MS, use the space of a single circular diagram to suggest continuity and change, and prompt differentiation through active reading.[67] This is certainly true in the case of the York MS diagram, in which colors, symptoms, and causes described in concentric circles of text indicate

translations my own unless otherwise noted. York, York Minster Library, MS XVI.E.32, f. 167r.

[65] Neil R. Ker, *Medieval Manuscripts in British Libraries* IV, (Oxford: Oxford University press, 1992): 702.

[66] John Murdoch, *Album of Science: Antiquity and the Middle Ages,* (New York: Scribner's Sons, 1984), 52; Cornelius O'Boyle, "Astrology and Medicine," 8. Charles H. Talbot, "A Mediaeval Physician's Vade Mecum*," Journal of the History of Medicine and Allied Sciences* XVI, (1961): 214.

[67] Tavormina uses the terms "one-ring" and "three-ring" to describe uroscopy diagrams. Tavormina, "Uroscopy in Middle English." For an in-depth study of rota as pedagogical tools, see Harry Bober, "An Illustrated Medieval School-Book," 64–97.

continuity and change through their relative positions, and through the explicit connection established by red lines.

Making a diagnosis required the practitioner's active judgment to answer a series of questions, all of them deeply concerned with the abstraction of bodily evidence implicit in the diagnostic process: what color is the urine? What does that color look like? How is that color similar or different from other colors?[68] Artists rendered the physician's process of judgment in a legible pictorial format in the many diagrams that occur in uroscopy manuscripts, images which took the types of information a physician might observe about a patient and made them workable diagnostic models by spatializing information about color and symptom within regular geometric forms.

Uroscopy diagrams exemplify how information used to diagnose patients could be made generic, and could be reduced to a few visible signs: the color, texture, and contents of urine, depicted by an artist within a manuscript, detached these qualities from any particular patient, framing them instead as generic possibilities. *Rotae* seem to have provided the perfect template for this sort of information, and they also demonstrate how abstraction and figuration could be combined to facilitate the translation of medical and diagnostic knowledge into a pictorial register. *Rotae* consolidate textual information and allow their readers to synthesize complex concepts. Murdoch writes of *rotae* that

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[68] These questions are valuable in relation to more traditional art historical questions around iconographies of color. "As a deobjectified property, this greenness demands interpre- tation in a way that the surrounding colors, which are more closely bound to objects, do not. It is easy to feel, for example, that we understand this miniature whether or not we have attrib- uted any particular meaning to the blues and reds in the back- ground, because they belong so clearly to the buildings whose properties they are. but I wonder if the greenness swirling between the Virgin and angel is really quite as deobjectified as Ohly says." Powell, "Late Gothic Abstractions," 79.

> their central purpose was to divide and classify, or to set in an easily grasped sequence, elements within these doctrines and ideas. Some *rotae*, however, were designed to do more than classify things and set them in order; they were meant to reveal contrariety between some of the elements they displayed, the opposing spokes of a wheel or the ends of a diameter furnishing a convenient means of representing that contrariety.[69]

Uroscopy *rotae* take these hermeneutic tasks, all of them constituent of diagnostic judgment, and express them diagrammatically by grouping together colors with similar causes.

Likeness and Difference

In the York MS, the viewer must navigate two distinct but interrelated sets of textual information: descriptions of humoral states and of the colors of urine they produce.[70] Flasks infilled with bright colors stand out in the York MS diagram. Bright red lines link the depicted colors to textual descriptions of states of digestion clustered at the center of diagram. Each flask sits beneath a textual description of what the color looks like, each inscription contained within a carefully demarcated outer ring. In the York MS diagram, the image of urine is directly linked to its causes: too much digestion, too little digestion, or sufficient digestion.[71] Urine came from the patient's body, and its changeable appearance depended on the intensity of a patient's digestion, thus it conveyed visual information that was the result of a natural, indexical process.[72] The diagram makes explicit this indexical connection and the possible conclusions it might lead to.

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[69] Murdoch, *Album of Science*, 52.
[70] Giles of Corbeil writes: "The color of urine often misleads the physician in his assessment of it; but there is an exact law, a definite rule for judgment, to be found in its contents. Hippocrates, an author knowledgeable about nature, deferred other considerations and drew the seeds of his true doctrine from these things." Wallis, *Medieval Medicine: A Reader*, 257.
[71] Peter Murray Jones, "Complexio and Experimentum: Tensions in Late Medieval Medical Practice," *The Body in Balance: Humoral Medicines in Practice,* ed. Elisabeth Hsu and Peregrine Horden, (New York: Berghahn Books, 2013), 109 - 110.
[72] Wallis, "Signs and Senses," 268.

One-ring uroscopy diagrams, like those contained in the York manuscript and another fifteenth century manuscript, Oxford, Bodleian Library MS Savile 39, provide valuable insight into the abstract and conceptually complex ways in which medieval thinkers negotiated information about humors and elements and represented their relation in manuscripts (Fig. 1.8).[73] Uroscopy diagrams set up comparisons and distinctions through proximity, distance, and isolation. Rather than exclusively textual information, uroscopy diagrams typically include small blots of color, making the system of comparison and contrast a visual one.[74] The makers of these images used space to suggest continuity from one color to the next, enabling their viewers to imagine states of health (and colors of urine) between and beyond those colors explicitly represented. Circular uroscopy diagrams, in particular, model the form of visual attention necessary to make judgments by indicating similarities through spatial proximity and explicitly separating colors based on etiological differences.

The capacity of *rotae* to guide readers in parsing similarity and difference is even clearer in an additional diagram, Oxford, Bodleian Library MS Digby 29 (Fig. 1.9).[75] This three-ring-diagram depicts 20 urine flasks, most of them filled with colorful ink or gold across three distinct circular diagrams. The rings take up the recto of one page and the following opening. On each page textual description of colors fills the outermost of three concentric rings, then, moving inward, are colorful flask figures, and at the center are textual descriptions of digestive causes.

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[73] For histories of the use of rotae and circular diagrams in the Middle Ages see Bruce Eastwood, *Ordering the Heavens: Roman Astrology and Cosmology in the Carolingian Renaissance*, (Leiden: Brill, 2007); See also Michael Evans, "The Geometry of the Mind," *Architectural Association Quarterly* 12 (1980): 32–55.

[74] While we often think of diagrams being entirely separate from figural images, sometimes diagrams include figural elements. Obrist has shown this to be the case in wind diagrams. See Barbara Obrist, "Wind Diagrams and Medieval Cosmology," *Speculum* 72 (1997): 33 - 84.

[75] I know of only two examples of this format: Oxford, Bodleian Library, Digby MS 29 and British Library, Royal MS 18.A.VI.

Lines tracing radii out from the center of the circles group the flasks together; colors that are related in cause and effect are grouped together closely in bounded sectors for the manuscript's readers. This also produces the effect of isolating colors with similar causes onto the same page, whereas colors with significantly different causes are separated by drawn borders and page breaks.[76] The page break emphasizes differences between otherwise-similar colors, effectively mimicking the work a practitioner would do in discriminating between colors.

In the MS Digby 29 diagram, the space of the manuscript has been used to stage the same sort of visual analysis the practitioner must perform in order to diagnose a patient: the diagram spatializes likeness through proximate groupings and forcibly separates certain colors and their humoral causes to stage contrast. Just as their counterparts in more pointedly cosmological imagery do, circular uroscopy diagrams allow the reader to scrutinize information about the nature and appearance of color by separating it into discrete categories, and to think through those categories of information in combination with each other. The rings address multiple questions about color: what does it look like? What does it look similar to? And why does it look that way?

The diagram sets comparable material in close physical proximity and implies dissimilarity by placement on opposite sides of a wheel, or on different pages.[77] Uroscopy images use clearly

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[76] Daniel Connolly discusses page breaks in Matthew Paris's *Chronica Majora:* "These disjunctures in continuous space thus marry the physical act of page turning with the map's representation of movements through its space. Hence then, in this lacuna of the route, in what is acted out but not depicted, lies a conjoining of the map and monk, making the monk's engagement with the map a blend of what he handles and what the routes become. Turning the page makes the map work." Daniel Connolly, "Imagined Pilgrimage in the Itinerary Maps of Matthew Paris," *The Art Bulletin* 81, (1999): 608.

[77] Caviness's description of the exegetical work done by geometric structure and diagrams informs this interpretation. Madeline Caviness. "Images of Divine Order," 99-120; Bert Hall, "The Didactic and the Elegant: Some Thoughts on Scientific and Technological Illustrations in the Middle Ages and Renaissance," *Picturing Knowledge: Historical and Philosophical*

recognizable and nameable colors to stand in for a diverse range of colors, a chromatic system defined by its continuity, from which one could pick out and demonstrate an individual color without necessarily suggesting the disunity of the system as a whole. Pinpointing colors, as diagrams do, involves a similar sort of work to the physician's judgment. Whereas the diagrams show a predetermined selection of colors, the real color a practitioner confronts could very well look different than the depicted colors. Whether the actual sample matches the represented colors or not, the practitioner can make determinations about that color relative to other known colors. While on the surface uroscopy diagrams seem to represent a finite variety of colors lying in wait to be matched with some actual urine sample, these diagrams in fact attest to the intellectual process of abstraction inherent in approximating, matching, and judging relative color as a means of accessing otherwise invisible bodily signs. The consecutive processes of observing, approximating, matching, and comparing that comprised uroscopy all involved the practitioner's interpretation in order to yield diagnostic judgments.

Judging by Seeing

Labels and inscriptions around uroscopy diagrams seem to self-describe their function. In the above-mentioned York manuscript, the inscription notes that the circular diagram is a "*tabele of dyscressyun of waterrys be dyuers colourys.*"[78] The diagrams in London, British Library Additional MS 15029 (fol. 38r), British Library Sloane MS 1313 (fol. 79r), Oxford, Bodleian Library MS Savile 39 (fol. 7v), Bodleian Library MS Ashmole 789 (fol. 364v), and Philadelphia,

Problems Concerning the Use of Art in Science, (Toronto: University of Toronto Press, 1996), 3 – 39.

[78] York Minster Library MS XVI.E.32, f. 167r.

Rosenbach Library MS 1009/24 all include the phrase (or a slight variation): "*Tabula de iudiciis urina(rum) p(er) colores*."[79] These are not simply tables of color, but tables of *judgments.* The diagrams explicitly state their function as mediators between the signs on the page and the active interpretation the viewer performs in judging. A practitioner could diagnose their patient by making distinctions between similar colors and linking colors to the digestive states they were thought to represent. Uroscopy diagrams, "tables of judgments," pictorially represented the criteria for judgment and at the same time taught the forms of visual attention needed to make such judgments.

In doing so, they could train practitioners in making diagnoses, but also guide non-medical readers in looking at and differentiating color. The attention needed to make judgments from samples of urine, however, depended on practitioners internalizing a complex and well-established medieval theory of color. Uroscopy diagrams model a hermeneutics of the very specific forms of learned judgment, enacted through vision, needed to draw conclusions about color — what it looks like, what it's called, what it looks similar to, and what it represents humorally — more generally.

Medical judgment required a doctor to identify what, specifically, they saw, but also anticipated a certain level of skill from the practitioner in order to make that identification correctly. Phrased either as "*dyscressyun*" or "*iudiciis*," the inscriptions invoke the broad semantic fields ascribed to "judgment" in late medieval England. The English translator of Lanfranc of Milan's thirteenth-century *Chirurgia* uses the term "discrecioun" in the context of

[79] "tables of the judgments of urines by means of colors." Such an inscription occurs in London, British Library Additional MS 15029; London, British Library, Sloane MS 1313; Oxford, Bodleian Library, MS Savile 39; Oxford, Bodleian Library, MS Ashmole 789; and Philadelphia, Rosenbach Library, MS 1009/24. All of these are one-ring diagrams.

diagnosis, noting that "sumtyme a man mai not ȝeue a discrecioun of blood… fro vrine, for a litil blood colourid miche vrine."[80] In Lanfranc's exposition, blood, the very substance that uroscopy sought to explicate, could in fact hinder diagnosis; blood could prevent a physician from giving a straightforward diagnosis of urine through its over-representation in the urine. Urine itself is not necessarily misleading, but rather the act of judgment could yield a false diagnosis if undertaken by an unreliable or unskilled observer. Correct judgment (and with it a correct diagnosis) depended on a practitioner's proper interpretation of sensible information; without a subtle, cultivated eye for color, and without the ability to distinguish between a sample with too much blood and an altogether different color of urine that appears the same, the practitioner would not be a good judge.

Often, uroscopy diagrams are not *rotae*, and in these cases, the trouble color poses to a direct and conclusive interpretation becomes even clearer.[81] Flasks sometimes appear in a grid format, as in London, British Library Harley MS 5311 (Fig. 1.10), or as a series of 20 flasks depicted individually and spread across multiple consecutive manuscript pages.[82] The spatial logic of continuity and difference so readily apparent in other diagrams falters here; the images seem less schematic, the structure of the relationships they frame is less fixed. Nevertheless, much of the conceptual relationship between colors and symptoms remains, as is clear on fol. CLXXIII B of Cambridge, Trinity College Library MS R.14.52 (Fig. 1.11): similar colors are

[80] "Sometimes a man may not make a discretion of blood from urine, for a little blood colors the urine overwhelmingly." *Lanfrank's 'Science of Cirurgie',* ed. R. V. Fleischhacker, *Early English Text Society, Original Series* 102 (1894; reprint 1988).
[81] The many forms these images take calls into question the utility of the term "diagram" to begin with. While formally some of these images seem more closely to resemble table or charts, they nevertheless indicate the same connections between colors distributed over the space of the image as the rotae; I will therefore refer to them as diagrams.
[82] Charles H. Talbot, "Vade Mecum," 213-233.

grouped on single pages, bright and pale variations occur in pairs, and breaks between pages reinforce differences in humoral causes.

The progression from one color to the next in these linear arrangements lacks an overbearing formal structure, but nevertheless expands upon established theories of the relationships between colors that were premised on similarity, difference, and change. On fol. CLXXIII A of the Trinity College, Cambridge manuscript, for example, only two colors are depicted, drawn in oversized flasks linked by giant bracket. *Rufus* and *subrufus* have been rendered here in gold leaf, the former slightly more lustrous than the latter. A text scroll drawn at the top of the page notes "these ii urns betokynneth parfait digestion."[83] The facing page contains an additional four flasks, arranged as two pairs matching the format of the rufus / subrufus grouping. The four colors, *rubeus, subrubius* [sic], *rubicundus* and *subrubicu(n)dus* "betokynneth excess of digestion & signyfieth the headache." The colors in this one opening progress from gold to pale gold to yellow to orange to red. Bright and pale pairs mediate the shift from one color to the next in stages, suggesting chromatic links between sequential colors, even as the pairs maintain specific humoral meanings as a group. Here, even without the clear causal relationships indicated by the rota structure, the pattern of colors progresses according to humoral similarities. M. Teresa Tavormina explains the connection between color order and digestive theory, noting that the colors of urine clearly bear the stamp of the metabolic stages that imbued them with their particular appearance: "the further concoction proceeds, the darker the urine becomes."[84] The diagrams, lacking the schematic scaffolding that suggests continuity, still

[83] Trinity College Cambridge MS R.14.52 f. CLXXIII A.
[84] Tavormina, "Uroscopy in Middle English," 28; See also Giles of Corbeil's explanation: "Gilles explained that urine exhibited twenty possible colors in a spectrum from alba to nigra, the palest denoting lack of digestion, and hence of heat, and the darkest betokening excessive burning or 'adjustion' of the humors." Wallis, "Medicine and the Senses," 141.

demonstrate a close attention to transitions between light and dark. A visual logic overtakes the directionality of the text, facilitating a closer, more subtle comparison of like colors, while still adhering to the digestive theory that governs color order.

Endles meny grees: How to see Color?

Urine posed interpretive difficulties for practitioners because it indexed relative balance, rather than absolute value, but the system of signs that enabled uroscopic judgment in the first place — color — could prove just as difficult to judge outside of a diagnostic context. Color in general, just like the color of urine, was thought to derive from a substance's humoral composition. Like urine, color could vary significantly, and depended upon a balance of humors, rather than existing as a discreet, independent entity. In John Trevisa's translation of *De Proprietatibus Rerum,* he describes the composition of the fourteen colors he identifies between white and black: "In þe strecchynge þe first seuene abateþ in whitnesse, and þe othere seuene abateþ in blaknesse, and meteþ in þe myddel. In eueriche mene colour beþ as it were endeles meny grees of deep colour and of light, as þey beþ ferre fro whyte oþer black, oþer nyh þerto."[85] Trevisa defines distinct colors in terms of their relation to white and black; the "*endeles meny grees*" of each distinct, nameable color between white and black account for innumerable similar hues, all defined in terms of their relation to the colors they fall between. Adding or subtracting

[85] "In the stretch (between them) the first seven colors diminish in whiteness and the other seven diminish in blackness, and they meet in the middle. In every common color there are as it were an endless number of steps of deep color and of light, and as far as they are from either white or black, they are nearer to the other." Trevisa, *On the Properties of Things*, 1277.

white or black to any given color between them results in a mixed color defined by the colors it falls between.

The one-ring diagram in the York manuscript indicates a similar humoral hermeneutics for colors; as stronger or weaker digestion works upon the blood, color changes in kind. Trevisa goes into greater detail in making distinctions between specific named colors, for example saffron and citrine. "Bytwene saffron colour… and citrine is litel dyuersite, as by abating of whitenesse and somdele medlyng of encresyng of blaknes, and by somewhat of strengþe of hete and febilnesse of colde."[86] According to Trevisa there is "little diversity" between these two colors, the only difference in appearance being slightly less white and slightly more black. This difference requires careful attention or a trained eye to see, but there is a corresponding humoral difference, such that even this minor distinction would be valuable in the practitioner's analysis.

Color, however, was not the only criteria for a practitioner's judgment; it was merely the criteria most thoroughly described in uroscopies. Wallis explains

> color was the key to the hot-cold dyad, but thick or thin consistency indicated relative moisture or dryness. What floated in or settled out of the urine was for Gilles of crucial significance… The doctor's eye, in short, had to master a lexicon of shapes and textures as well as a spectrum of colors.[87]

Late medieval uroscopy diagrams rarely provide images that could instruct in how to visually distinguish between textures in uroscopic diagnosis, although some images show differences in texture, like the gold used in the Trinity College, Cambridge MS, or small dots and flecks indicated in MS Savile 39.

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[86] "Between saffron color and citrine there is little difference, the same (difference) as a decrease of white and a small amount of mixing and increasing of black, and by a small amount of strength of heat and of deficiency of cold." Trevisa, *On the Properties of Things,*1287.
[87] Wallis, "Medicine and the Senses," 143.

Color required explication in text and image, but the names of textural elements and substances were sufficient to convey their import to practitioners. These elements sometimes appear in depicted flasks, as in London, Wellcome Library MS 8004 (Fig.1.12), but without the lengthy textual exposition reserved for colors. Gilles of Corbeil notes an exhaustive list of possible sediments: "the circle; bubbles; grit; cloudiness; spume; pus; grease; chyme; blood; sand; hair; bran; lumps; scales; specks; sperm; ash; sediment; and rising vapor."[88] The circle, Gilles's first qualification, is the uppermost layer of urine at the very top of the flask, and is mentioned in almost all uroscopy texts as a means of making distinctions between urines of the same color. While he does distinguish between variations in these contents (a thick, watery circle versus a thin one, for example), Gilles does not describe what archetypes of these contents look like. Unlike the lengthy textual metaphors used for color, a single word ("grease") was sufficiently descriptive here, and illustrations of contents occur in relatively few uroscopy manuscripts. Perhaps this is because these terms already refer to fixed material qualities of objects encountered in daily life. Whereas textural signs seem to have been self evident, color required a network of text and depicted color paired together in order to work around the combination of the indeterminacy of color description and the interpretive limitations created by fixing single colors in images.

In a rather unusual large image of a single flask, the maker of the late fourteenth-century Latin copy of Bernard de Gordon's treatise on urines found in Oxford, Bodleian Library MS Rawlinson C. 609 depicted urine divided into clearly distinct regions (Fig. 1.13).[89] Drawing on

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[88] Wallis, *Medieval Medicine: A Reader,* 258.
[89] W. D. Macray, *Catalogi codicum manuscriptorum Bibliothecæ Bodleianæ...viri munificentissimi Ricardi Rawlinson, J.C.D., codicum...complectens,* Quarto Catalogues V (Oxford: Bodleian Library, 1862-1900), col. 321; Jonathan J. G. Alexander and Otto Pächt, *Illuminated Manuscripts in the Bodleian Library, Oxford*, *Volume 3*, (Oxford: Clarendon Press,

earlier precedents, late medieval authors often described urine as having four regions: the circle (the uppermost layer of urine at the very top of the flask), the region between the circle and the middle, the middle, and the bottom.[90] At least as described in text, these regions are only coherent, discrete spaces in relation to each other. In the Rawlinson C. 609 image, the circle, at the top of the flask, is marked by a darker wash, as is the middle, depicted here as a triangle at the center of the flask. Surrounding the middle, two flanks mirror each other, speckled with brown sediment. Finally, the bottom, at the base of the flask, contains the same color urine spotted with large opaque gray solids. All four of these regions are made distinct by bands of unpainted parchment that separate them from each other; the color and texture of each region also has a particular appearance. Variations in the brightness of color, thickness of wash, types and colors of sediments, and clarity of color have been rendered as particular to each region in the sample, indicating visually the ways in which particular contents in a given region could vary in appearance, even within a given sample, and thereby convey information about the particular patient's well-being. These are differences a practitioner looking at urine would have to spot without the aid of bold outlines or contrasting washes. Even though a limited theoretical apparatus explains regions and substances in medieval uroscopies, the Rawlinson MS diagram demonstrates how images of abstract uroscopic concepts could provide fixed images in order to train a practitioner in what to look for. They therefore served as important hermeneutic tools.

Medieval theorists also emphasized how the shortcomings of vision, rather than interpretation, could yield imperfect judgments, and specifically focused on how color — as

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1973), 65.

[90] On sediments in early uroscopic theory, see Wallis, "Inventing Diagnosis," 58 - 61; On the reception of Bernard's work, see Ynez Violé O'Neill, "The History of Publication of Bernard de Gordon's Liber de Conservatione Vitae Humanae," *Sudhoff's Archiv für Geschichte der Medizin und der Naturwissenschaften*, Bd. 49 (1965): 269 – 279.

opposed to other qualities like texture — could be incorrectly seen. According to Aristotelian theory, colors could be especially difficult to identify, specifically because of their relational composition.

> We do not see any of the colours pure as they really are, but all are mixed with others; or if not mixed with any other colour they are mixed with rays of light and with shadows, and so they appear different and not as they are. Consequently things appear different according to whether they are seen in shadow or in sunlight, in a hard or a soft light, and according to the angle at which they are seen and in accordance with other differences as well.[91]

While uroscopy encouraged its practitioners to think about the appearance of urine and its corresponding (and correspondingly relative) humoral causes, the practice relied on seeing and thinking critically about sight at an even more fundamental level.

In many medieval medical texts, authors begin by advising their readers on certain types of dress, interactions with patients, and behaviors more generally.[92] Henry Daniel's *Liber Uricrisiarum* goes a step further, and explicitly outlines the physical, material, and visual operation of uroscopy by emphasizing the conditions and physical actions the physician must perform to look. Medieval medical practitioners understood how the general circumstances of looking could impact the diagnosis uroscopy ultimately yielded; while the pages of a manuscript presented color in a controlled and static situation, actual observation introduced new, changing

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[91] Aristotle, "On Colors," in *Minor Works,* translated by W. S. Hett. Loeb Classical Library 307*,* (Cambridge: Harvard University Press, 1936), 17; Trevisa notes something similar: "And þerfore *secondo de anima* Aristotil seiþ þat colour chaungeþ sight and ȝeueþ þerto a likenesse by worchynge the light. For light is þe perfeccioun of cleere þing and bright. For it bryngeþ the kynde of colour þat is ymedled in a body kyndeliche by maysterie of some element to chaungynge and dede of perfeccioun of þe sight. For þough colour be essencialliche and kyndeliche a medled body, ȝit haþ colour no might to schewe himself but by light þat schyneþ in dede þervpon." Trevisa, *On the Properties of Things*, 1268.

[92] This sort of guidance to the reader is not unusual in medieval medical texts, which often feature deontological prologues in which the author advises on proper interactions with patients, manners, equipment, and more. See Michael McVaugh, "Bedside Manners in the Middle Ages," *Bulletin of the History of Medicine* 72, 1997.

factors to the equation. Daniel understood the effect light and shadow could have on uroscopy, and devoted part of his treatise to the ideal environment in which uroscopic diagnosis should occur. He elaborated that

> The place þere vryn schal be lokede oweþ for to be in place clere & bright, noȝtforþan noȝt ouerdone bright, for ouerdone briȝtnes make þe vryn to seme of the same coloure & brightnes and þere þow mayste be deceyued. And þerfor in þis wise schal þou done: holde þe vrynal in þi ryȝt hand, & if þe liȝt be bryȝt & radiouse aboute þe, as be cause of glas or of bryghtnes of wyndowez or of oþer þinges þat gefen agayneward liȝt and reflecciouη of lyȝt, putt þyn hande between þi face & the liȝt, þat the spiritz of þe siȝt not be diuisede ne disperplede thorgh radyouse light or reflecciouη or ayre, or elles what it be, and also þat þe droblyhode or elles þe clerehode may þe better be seyn or aparceyuede and dempte, And if þe aire be mykyl bright aȝeynes þe, haue þyn honed byhynde þe vrynal and the bryght eyre, diuisand and schedant þe stroke of þe ayre.[93]

Here Daniel focuses on how environmental conditions — light, dark, brightness, and contrast — can change the appearance of urine and thereby the physician's ability to read it. But Daniel also considers how the physician himself might improve or hinder a reading.

In situations in which the brightness of a room is not ideal for discerning the color of a patient's urine, Daniel advises the physician to use their hand as a backdrop, as a familiar comparison, or perhaps as a screen to block out light. The hand between the flask and light source shields it from excessive brightness. Daniel's advice for what to do in dark conditions — place one's hand in front of the flask — is less straightforward. Like a color swatch in a modern archival photo, the physician's hand might serve as a neutral and familiar color, contrasting with

[93] "The place the urine should be looked at ought to be in a clear and bright place, and not overly bright, for too much brightness makes the urine seem to be the same color and brightness of the place, in that you may be deceived. And therefore in this way shall you do it: hold the urinal in the right hand, and if the light is bright and radiant around you, whether caused by the glass or by brightness of windows or other things that give off facing light and the reflection of light, put your hand between your face and the light, that the substance of the sight will not be deceived, nor dispersed through radiant light or reflection or air, or whatever else it is, and also that the murkiness or else the clearness may be better seen or perceived and judged. And if the air is too bright against you, hold your hand behind the urinal and the bright air, dividing and scattering the visual impact of the air." Daniel, *Liber Uricrisiarum*, 1.4, pg. 57.

the color of the urine. This would allow the physician to adjust to effects that the light in a given space would have on his perception of the color, brightness, and depth of the urine sample. In cases where darkness occluded the ideal conditions for interpretation, a hand could serve the role played by neighboring colors in a uroscopy diagram, or perhaps even the role of unpainted parchment against a depicted colorful flask, offering a relative color against which to make comparisons, and suggesting how environmental conditions may have altered the "true" color of the sample by calling attention to the way a well-known object appeared in the space.

Henry Daniel signals a sort of medical training that not only teaches humoral theory, but also instructs in how to look. Looking in this account is not limited to understanding the physical characteristics of the substance being analyzed. It also requires a good deal attention to how and why one sees what one sees. Urine can seem to change in appearance depending on its surroundings, but the substance itself remains constant; the physician's interpretation is at risk of changing even with no change of state of the substance being interpreted. In the wrong conditions, "the urine seems brighter and whiter than it should in another place." The true color of the urine becomes indecipherable, and with it, diagnosis becomes unreliable.

Daniel's suggestion that a physician use their hand to control lighting conditions or to create a consistent comparison demonstrates that even in substandard conditions, a well-trained judge can employ strategies of careful observation and differentiation with familiar objects to analyze the urine in question more accurately. Attending to the idea that changes in lighting conditions would necessitate different expectations of color appearance would benefit a non-medical reader as well, indicating to them a practical example of the visual link between light and color. Observation, comparison, differentiation, and interpretation, all evoked in Daniel's advice, are the same modes of looking taught in and conditioned by uroscopy diagrams. That is to say, the

abstraction of patient to urine to color implicit in uroscopy enabled simplified and codified forms of thinking about patients; by representing supra-personal states of health as a continuum of generic possible colors, uroscopy diagrams fostered widespread ideas about visualizing patients that practitioners could learn and practice by studying diagrams.

Through their combination of text and image, uroscopy diagrams facilitate subtle distinctions between colors and nuanced judgments of what those colors might mean for a patient. Rather than rendering specific information about any given patient, or the external appearance of patients in general, the artists of these manuscripts used flasks filled with colors to visually represent the system by which a practitioner could make distinctions about bodily substance. These diagrams abstracted patients by picturing possible conditions as colors, suggesting both a range of conditions and a range of appearances that the related symptoms could take. Uroscopy diagrams present a contained visual system in which bodily semiotics and textual descriptions of the visible world could be productively read against each other. In negotiating the color produced by the body, depicted on the page, and described through textual similes, these diagrams helped their viewers think about color in a comparative, systematic fashion. Uroscopy diagrams attest to how bodies were thought of abstractly, and how abstraction made patients fit into the categories required for diagnostic interpretation; by rendering generic categories of colors as images with clear relationships to each other, uroscopy diagrams made possible to mode of thought necessary to see a color, identify and interpret it, and therefore to conclude something specific from the abstract.

III. *figuris diversis*: Astrological Medicine and Figuring the Abstract

Astrological Medicine

The pages of London, British Library, Harley MS 5311 (Fig. 1.10, 1.14), discussed in the above section, model modes of abstraction, both visual and conceptual, by reconfiguring diagnostic thought in a way that resonates visually. A folded almanac containing John Somer's *Kalendarium* and made around 1406, the Harley manuscript contains multiple gridded tables, their cells populated by different types of information. On folio I, twenty colorful flasks of urine fill the spaces of the grid. Two folios contain human figures: a zodiac man on folio F, and a vein man on folio A.[94] But in the surrounding pages, the gridded cells contain text; either short descriptions (such as the names of zodiac signs), abbreviated dates (as in the calendar pages), or letters and numbers standing in for other data.

Above the zodiac man, the top half of the page contains a chart for understanding the signs for each day of the lunar cycle. In alternating red and black ink, the names of zodiac signs have been arranged diagonally in neat numbered rows and columns, creating the effect of a zig zag that stretches most of the width of the page. [95] In combination, these components enable a practitioner to understand the humoral conditions brought about by astrological movements, to offer a compelling diagnosis based on this visual evidence, and to decide when would be best to treat certain body parts based on these humoral correspondences mapped in the table. Each

[94] Harry Bober, "The Zodiacal Miniature of the Très Riches Heures of the Duke of Berry: Its Sources and Meaning," *Journal of the Courtauld and Warburg Institutes* 11 (1948): 8-15; Murdoch, *Album of Science*, 315 - 317. Orlemanski's discussion of the Wound Man is also helpful in thinking about the heuristic work vein and zodiac figures do, see Julie Orlemanski, *Sympromatic Subjects*, 11-12.
[95] Walter Pagel, "Prognosis and Diagnosis: A Comparison of Ancient and Modern Medicine," *Journal of the Warburg Institute* 2, (1939): 382 - 398; Laurel Means, "Electionary, Lunary, Destinary, and Questionary: Toward Defining Categories of Middle English Prognostic Material," *Studies in Philology* 89 (1992): 367-403.

component of this folded almanac – a small, easily manipulated gathering of parchment pages strategically folded to group calendrical information – offers insight into the workings of the patient's body with a different visual mechanism. The physical form of the depicted bodies, like zodiac men and vein men, maps humoral correspondence for treatment; and the numerical data of the calendar lets the physician predict changes relevant to both the patient's current state and potential treatment.

Calendars like those in Harley MS 5311 were made up of information-rich images.[96] Almost all of these images are tables (eclipse tables, tables of feast days, etc.), which use a linear or grid-like arrangement to present information in a logical temporal or causal sequence. Some of these tables are also diagrams (the uroscopy chart discussed above, eclipse tables), which allow information to be combined in multiple ways and therefore enable multiple patterns of reading through their format. Occasionally there are diagrams that are not tables, such as the vein man and zodiac man.[97] With few exceptions, tables in medieval calendars are grids. Ruled, incised lines have been drawn over with red or black ink to create page after page of regular, symmetrical cells. Numbers populate these grids: dates of solar, lunar and planetary conjunctions, dates of moveable feasts, times of sunrises and sunsets, and other numerical data fill the myriad cells of each chart, composing page after page of a network of abstract

[96] Modern scholars analyzing medieval diagrams have noted a number of terminological problems in medieval sources that make it difficult to make distinctions between types of images. The use of both "ymago" and "figura" in the *Liber Cosmographiae*, discussed later in this chapter and in Chapter Four, is characteristic of this terminological confusion. For more on the variety of terms used for medieval diagrams see Lüthy and Smets, "Words, Lines, Diagrams, Images," 432-437; For more on the types of diagrams produced in the Middle Ages, see Evans, "The Geometry of the Mind," 32–55. For more on the use of diagrams as exegetical tools, see Anna Esmeijer, *Divina Quaternitas: Een onderzoek naar methode en toepassing der visuele exegese,* (Utrecht: Rijksuniversiteit te Utrecht, 1973).

[97] Nicholas of Lynn, *The Kalendarium of Nicholas of Lynn*, ed. Sigmund Eisner (Athens: University of Georgia Press, 1980), 2-3.

information about time and the cosmos.[98] The spatial arrangement of this information yields manuscripts replete with detailed and operational planetary and cosmographical information rendered schematically, like the eclipse tables in London, British Library, Additional MS 15209 (Fig. 1.15). I include this material here both because of its important place in English medicine during this period — both in its content and context, these calendars overlap significantly with already-discussed medical manuscripts — but also because of its form. Like diagnostic diagrams, calendars use geometric and spatial forms in order to make humoral information accessible, reconfigurable, and useable. The numbered cells of calendar grids provide visually striking, schematic data about when to treat patients with certain ailments, or how to treat patients on a specific date. Examining and interpreting the patient's body in the context of the astrological calendar points to the role of a patient's body as a microcosm of the humoral equilibrium of the actual cosmos.[99] Bodies were never static, and the processes that determined patients' states of health were in constant flux; calendars made a system of information about potential humoral change available so that practitioners could make determinations about specific patients. Tables included in English calendars from this period facilitated an intense attention to the individual patient's body in abstract terms, and here these abstract qualities and quantities are rendered graphically. Because calendars present abstract numerical, quantitative, and qualitative information about patients generally, they require visual mediation in order for their reader to

[98] These tables and diagrams include the data for computus calculations, but often also include additional astro-humoral information. Faith Wallis, "Medicine in Medieval Calendar Sources," *Manuscript Sources of Medieval Medicine: A Book of Essays*, (1995), 101-121. For more general computus background, see Laurel Means, "'Ffor as moche as yche man may not haue Þe astrolabe:' Popular Middle English Variations on the Computus," *Speculum* 67 (1992): 1-41; Lynn Thorndike, "Computus" *Speculum* 29 (1954): 223-238.

[99] For an account of the relationship between mimetic detail and depictions of the cosmos in a diagram, see Harry Bober, "The Zodiacal Miniature," 1-34.

learn about and treat their patient (or perhaps themself) as an individual. Practitioners could mediate the gap between supra-personal temporal systems and diagnoses on an individual level by finding information relevant to singular patients among the calendar's generic astrological data and making judgments.

In the last quarter of the fourteenth century, two English friars — the Franciscan John Somer (c.1340 - 1409) and the Carmelite Nicholas of Lynn (d. after 1380) — wrote calendars, which in the following decades were widely reproduced as means of communicating astrological and calendrical knowledge.[100] These two calendars, which included dates from the 1380s through the fifteenth century (Somer's 1380 - 1507, Lynn's 1387-1462), enabled readers to use and manipulate calendrical and astrological information for prognostication, diagnosis, and medical treatment.[101] In their broadest usage, the "new calendars," as these compendia were known, guided readers in locating feast days, predicting daylight hours, forecasting lunar movements, and discerning the time of the day on any day of the year based on the length of shadows.[102] They also connected predictable cosmic changes to their specific effect on parts of the body, and often included explicit discussions of how and when to undertake certain medical procedures in order to limit the harmful effects certain reigning planets might have on a patient's well-being.[103]

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[100] Faith Wallis, "What a Medieval Diagram Shows: A Case Study of Computus," *Studies in Iconography* 36 (2015): 1 – 40; See also Means, "Computus," 588; O'Boyle, "Astrology and Medicine," 1-22.

[101] Lynn, *Kalendarium,* 2-10.

[102] Lynn's Kalendarium includes the following method for calculating time: "For each day of the year, he promises, he will show for his latitude the position of the sun in the zodiac, the extent of daylight hours with their twilights, new and full moons as they occur, and the following times in clock hours: midnight until sunrise, sunset until midnight, noon until sunset, sunrise until noon and the same times to and. From the dark edge of twilight. Next he says he will offer tables so that by measuring the shadow of a six-foot man or any other six-foot perpendicular object, one may tell the clock time for every daylight hour of the year." Lynn, *Kalendarium,* 10.

[103] Hilary Carey, "Astrological Medicine and the Medieval English Folded Almanac," *Social History of Medicine* 17 (2004): 345 - 363; Roger French, "Astrology in Medical Practice," 30 -

John Somer and Nicholas of Lynn's calendars, which survive in more than 60 manuscript copies, attest to a practical approach to the body as microcosm, and serve as material evidence of the connections made between cosmological operations and the specific humoral and material state of a patient's body. Because they contain lengthy tables recounting planetary and temporal changes — natural forces with significant effects on human bodies — they also project and record potential bodily states of patients.[104] Each table enables a reader to locate astrological and calendrical changes with clear, corresponding humoral effects; each data point indicates a potential treatment.

These calendars present the information necessary to treat a patient, but do so in abstract terms: they operate on a supra-personal level, prioritizing the universal over the particular. Thus information about the patient and advice for their treatment is conveyed to the reader through a combination of numerical tables, prognosticatory diagrams, and astrological figures. Calendars make up a significant proportion of surviving astro-medical sources from late medieval England; furthermore, calendars are often bound together with other non-astrological medical texts, and frequently contain diagnostic materials such as uroscopy charts.[105] Full page grids of numbers and letters take up the bulk of space in these calendars, charting out temporal information like

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[104] Eisner and O'Boyle list existing manuscript copies of these calendars, and Carey notes when folded almanacs contain one of the two calendars. See Hilary Carey, "What is the Folded Almanac? The Form and Function of a Key Manuscript Source for Astro-medical Practice in Later Medieval England," *Social History of Medicine* 16 (2003): 481 - 509.

[105] These materials overlap frequently in medical contexts, and especially in the folded almanacs that scholars have proposed physicians wore in order to conduct quick diagnostic consultations. Overbey and Borland compellingly describe the kinetics of such matching in their recent work. Karen Eileen Overbey and Jennifer Borland, "Diagnostic Performance and Diagrammatic Manipulation in the Physician's Folding Almanacs," in *The Agency of Things in Medieval and Early Modern Art: Materials, Power and Manipulation*, ed. Grażyna Jurkowlaniec, Ika Matyjaszkiewicz, Zuzanna Sarnecka (New York: Routledge, 2017).

the changing dates of feast days across multi-year spans, composite data for eclipses and planetary movements over time, or the periods during which certain planets reign. The numerical data these calendars offer is highly specific, noting dates and hours of solar and lunar phases, for example, but it's not applied to anything in particular, leaving open-ended the actual application of data to the treatment of a patient.

I want to consider these calendars, if only briefly, because they suggest another way in which patients could be not only thought of, but also pictured in the abstract. Because calendars generalize both patients and temporal and planetary phenomena, offering literal decades of projections, they suggest that patients could be assessed, provisionally diagnosed, and perhaps even represented visually in the form of numerical data. The diagrammatic organization of this abstract, numerical data helps to legibly communicate about the body.

A second folded almanac, London, British Library, Additional MS 28725, was made in England c. 1463. It makes available the tools a practitioner would need to make a diagnosis, and does so in a series of visually striking grids. Like Harley MS 5311, the folding pages of Add. MS 28725 include monthly calendar tables (here three months to a sheet), eclipse tables (unfinished), and zodiac and vein men (Fig. 1.16).[106] Each flap of the almanac folds out horizontally four times to reveal one of three pages; once this page is unfolded once more vertically, the surface area of the parchment doubles. The calendar for February, contained on the upper half within the flap for January, February, and March, conveys relevant information in three distinct groups. At the left of the page, a jumbled group of numbers provide data for each day of the month. At the far left a column of numbers from 1 - 28 accounts for each day, while further columns align

[106] For a description of medieval folded almanacs and their calendrical content, see Pamela Robinson, "A 'Very Curious Almanack': The Gift of Sir Robert Moray FRS, 1668," in *Notes and Records of the Royal Society of London* 62 (2008): 301-305.

important data such as the time of midday and midnight for each day. At the center is a relatively sparse list of feast days paired with a column of dominical days. To the right, subgroups designated by alternating black and red supertitles at the top of the page indicate projections for data for ranges of dates in February during future years: until 1481, until 1500, until 1519, and until 1538.[107] This format is the same for each month in the calendar, with dates, times, venerated saints, and zodiac signs changed to match the month in question. In effect, the calendar makes available times and dates necessary to predict humoral change for any date in the subsequent 75 years; in doing so, Add. MS 28725 facilitates medical treatment that would be applicable during any point in the lifespans of people alive at the time the calendar was produced.

Calendar tables, filled with textual and numerical information relevant to human bodies but lacking any of the formal qualities of mimetic figuration, pose a question through their form: as tables, and more specifically as grids, what can these images do to give form to the people whose treatment they enable? Historiographically, the form of the grid sequesters these images firmly in the realm of abstraction.[108] As Rosalind Krauss puts it in the formative modernist art historical approach to the topic,

> the grid is a way of abrogating the claims of natural objects to have an order particular to themselves; the relationships in the aesthetic field are shown by the grid to be in a world apart and, with respect to natural objects, to be both prior and final. The grid declares the space of art to be at once autonomous and autotelic.[109]

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[107] Eisner provides a description of the typical categories (and columns) of calendars, see Lynn, *Kalendarium*, 17-18.
[108] Higgins takes up the modernist theorization of the grid as a starting point for understanding the structure of the grid in other aspects of image-making. See Hannah Higgins, *The Grid Book* (Cambridge, MA: MIT Press, 2009), 9.
[109] Rosalind Krauss, "Grids," *October* 9 (1971): 50-52.

The grid as an aesthetic mechanism in Krauss's account comes out of its function as modernist art object, therefore it works toward fundamentally different ends than the grid of the medieval calendar. Nevertheless, both comprise forms of abstraction; in Krauss's case the grid makes evident an aesthetic order set apart from the order of the natural world, yielding an autonomous and infinite art without a material or natural source. In its separation from any natural aesthetic reference, the grid comprises a form of abstract representation.

In contrast to Krauss's modernist account, the medieval calendar grid forms a structure into which abstract information about the conceptual and cosmographical can come into a coherent visual relationship. Whereas the modernist grid reveals the abstraction implicit in image-making, the medieval calendar grid serves as an abstract visual mode for conveying information that otherwise cannot be figured. Krauss continues,

> Logically speaking, the grid extends, in all directions, to infinity. Any boundaries imposed upon it by a given painting or sculpture can only be seen- according to this logic-as arbitrary. By virtue of the grid, the given work of art is presented as a mere fragment, a tiny piece arbitrarily cropped from an infinitely larger fabric. Thus the grid operates from the work of art outward, compelling our acknowledgement of a world beyond the frame.[110]

Much as the formal structure of the grid extends out in all directions — rows and columns in sequence suggest the possibility of more rows and columns — the content of the medieval calendar table extends infinitely, and conversely, the content included in the calendar table serves as a fragment, "arbitrarily cropped from an infinitely larger fabric." The formal fabric of the modernist grid yields, in the medieval grid, to cycles of time and planetary movements.[111] The grid in calendrical tables, like the practitioner looking at a uroscopy diagram, picks out

[110] Krauss, "Grids," 60.
[111] Higgins describes medieval systems of notation as grids and as a way of excerpting infinite, cyclical concepts like time and humoral change. Higgins, *Grid Book*, 111.

relevant information for the sake of visual comparison and interpretation. The medieval calendar grid assembled generic mathematical information that could be purposefully applied to any patient; the practitioner or reader-viewer, taking this information into account, selecting the relevant columns and cells, and matching data on subsequent pages to draw conclusions, could effectively mediate between impersonal and supra-personal by discerning which details of this generic quantitative and qualitative system ought to be applied to a given patient.

Astrological Medicine and Supra-personal Healing

Astrology played a significant role in medical treatment throughout the Middle Ages, and manuscripts made in fourteenth-and-fifteenth-century England demonstrate the intertwining of astrological thought and medical treatment. "Astrological medicine," the term often used to designate the conscious treatment of ailments with attention to the influence of reigning planets and stars, dates back to Galenic medical theory, though Galen (and the medieval medical thinkers that would proceed him several hundred years later) worried that the inclusion of astrology in medical treatments might enable medical treatment to fall into the hands of charlatan horoscope readers.[112] The influence of astrology on the human body relies on a belief in humoral correspondences between planetary movements, hours of the day, zodiac signs, and specific body parts. Nicholas of Lynn's *Kalendarium,* for example, divides the hours of the day into four categories, with each subset of hours paired to the humoral complexions they govern.[113] The first through third and twenty-second through twenty-fourth hours of the day indicate that "Calidus et

[112] Carey, "Astrological Medicine," 345.
[113] Lynn, *Kalendarium*, 17-18.

humidus sanguis movetur."[114] In the fourth through ninth hours, "Calida et sicca colera dominator."[115] In the tenth through fifteenth hours, "Frigida et sicca melencolia regnat."[116] And in the sixteenth through twenty-first hours, "Frigida et humida fleuma habundat."[117] Just as the health of a patient's body depends upon the balance of humors, time — at hourly, daily, and monthly scales — operates through the continued fluctuation of the humors in relation to each other, therefore correctly calculating time was centrally important in treating patients with success.

Nicholas of Lynn signals the important effect the astrological knowledge included in his calendar might have for medical treatment:

> If anyone however has an almanac and wants to get closer to the truth, he ought to calculate all the planets for the hour at which the illness began, and to place their calculated longitudes in the houses which he has calculated, and having done this he should considerate least seven issues: namely, in the first place, the location of the moon in the figure; secondly, the ascension and its lord; thirdly, the mid heaven, which is the tenth house; fourth the angle of the earth, which is the fourth house and its lord; fifth the sixth house and its lord; sixth the eighth house and its lord; seventh the birthday of the patient and his lord.[118]

These criteria both contrast starkly with and, paradoxically, expand upon the types of patient information outlined in deontological prologues (introductions in which the author addresses the qualities a successful physician ought to exhibit) from medical treatises written around the same time.[119] Whereas Lynn offers a variety of cosmological specifications that ought to be taken into account before treatment, the typical deontological prologue encourages the practitioner to assess

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[114] "Sanguinis is moved by heat and moisture"
[115] "Choler is dominated by heat and dryness"
[116] "Melancholy rules by cold and dryness"
[117] "Phlegm is plentiful with cold and moisture." See Lynn, *Kalendarium,* 17-18.
[118] Carey, "Astrological Medicine," 350 – 1.
[119] This sort of guidance to the reader is not unusual in medieval medical texts, which often feature deontological prologues in which the author advises on proper interactions with patients, manners, equipment, and more. See McVaugh, "Bedside Manners," 209 - 210.

the patient in physical terms.[120] Age, gender, food consumed, and the material conditions of their home all come into play, but so too do the time of day, the time of month, and the time of year: a knowledge of astrology proves necessary in order to check all the boxes outlined in the prologue, though astrological knowledge alone is insufficient for proper treatment.

The numerical tables in Nicholas of Lynn and John Somer's calendars enabled a variety of prognosticatory and diagnostic operations; the specific dates, times, and conjunctions of planets and signs included in calendars let reader map out, compare, and interpret data. The prognosticatory component of this work, often dismissed as pseudo-scientific by modern scholars, was relatively common in late medieval astro-medical writings, and likewise relied upon finding and manipulating numerical values in order to reach a conclusion about a specific person. The Sphere of Apuleius, a prognosticatory device that appears on the same folio as the uroscopy chart in Harley MS 5311 (Fig. 1.17), works when a practitioner inputs numbers and letters drawn from the name of a specific patient into a formulaic device in order to predict whether a patient will live or die. Wallis describes the Sphere of Apuleius as

> a circle bisected horizontally, with numbers inscribed in the upper and lower halves. One takes the numerical value of the patient name, and divides by the day of the lunar month on which he fell ill; if the remainder is in the upper half of the sphere, he will live; if in the lower, he will die. Some spheres have four or six segments, to accommodate predictions of the speed of his recovery or demise. Such devices are, of course, purely arbitrary…[121]

But the principles behind the sphere — that dates could be auspicious or inauspicious for a given patient — reflect the prominent place of calendrical data in making astrological prognostications.

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[120] Loren Mackinney, "Medical Ethics and Etiquette in the Early Middle Ages," *Bulletin of the History of Medicine,* XXXVI (1952): 1 - 31; Arnau of Villanova "The Doctor at the Bedside: Precept According to Arnau of Villanova," *Medieval Medicine: A Reader,* ed. Faith Wallis, (Toronto: University of Toronto Press, 2010).
[121] Wallis, "Signs and Senses," 274.

The sphere, like the gridded calendar tables, makes this method of analyzing the patient graphic; these images visually organize the information necessary for a practitioner to draw conclusions about a patient, but do so by providing numerical data that apply to all patients. The calendar is not individualized. Rather its impersonal catalogue of future astrological movements and changing dates could be equally applied to anyone. A practitioner could select the relevant information for the patient, a task made especially easy by the grid. The format of this data — exhaustive tables, formally similar from one to the next but with significant differences in content — facilitates a practitioner's judgments because of its geometric clarity.

In effect, English calendars offered a range of information about patients in impersonal, numerical terms; a reader could find information that lays out the workings of the entire astro-humoral system, could focus on details pertaining to a specific patient by locating it in the calendar, and could use that information to pick apart how and when to treat specific body parts. Similar to uroscopy diagrams, but lacking any clear attempt at figuration, the data on the calendar was organized to make the information workable for the practitioner. When layered upon other images of generic patients' bodies — as is the case in Harley MS 5311, in which the sequential flaps of the folded almanac cause these forms to literally fold into and open out of each other — the conflation between bodies represented abstractly as numbers and bodies represented abstractly through other means becomes clearer. In folding and unfolding pages, the readers of folded almanacs layer uroscopy diagrams over and in place of vein men, zodiac men, prognosticatory devices, and gridded numerical data sets. Within a single folded almanac, medical text and figural representation overlap in a semi-mnemonic device linking the space of the body with the physical evidence that enables its treatment.[122]

[122] For more on the use of space and diagrams in medieval mnemonic devices, see Mary

IV. Figuring the Abstract

Celestial Bodies: Seeing Stars

A lushly illuminated astrological compendium compiled in England for King Henry VII near the end of the fifteenth century, London, British Library, Arundel MS 66 takes something abstract – astronomical change – and represents it figurally. Following a long tradition of maps of stars and images of constellations, the stars in Arundel MS 66 compose figures from Ptolmey's *Almagest*, representing stars as nodes in the perceived shape of the animal or mythological for which they are named.[123] One image in Arundel MS 66 further complicates the straightforward designation of star maps as either abstract or figural: on fol. 38v, an image of the constellation Triangulus has been rendered as a confusing combination of overlapping diagonal stripes (Fig. 1.18). [124] Against a red, green, and white diagonal background, typical of many of the illuminations in Arundel MS 66, three points of the triangle are bridged by royal blue and bright pink lines. The image is figural: the artist has represented Triangulus — a triangle — as a

Carruthers, *The Book of Memory: A Study of Memory in Medieval Culture.* (Cambridge: Cambridge University Press, 1990).

[123] On early cosmological illumination in manuscripts, see Carl Nordenfalk, *Book Illumination: Early Middle Ages* (Geneva: Editions d'art Albert Skira, 1995), 9; Murdoch, *Album of Science*, no. 226; Bernhard Bischoff, *Manuscripts and Libraries in the Age of Charlemagne*, ed. Michael Gorman, Cambridge Studies in Palaeography and Codicology, 1 (Cambridge: Cambridge University Press, 1994), 87; Peter Whitfield, *The Mapping of the Heavens* (London: British Library, 1995);

[124] See British Library, London, Harley MS 647 and British Library, London, Arundel MS 66 for two different approaches to rendering constellations in the Middle Ages; For additional manuscript examples contemporary with these discussed above, see Hilary M. Carey, "Henry VII's Book of Astrology and the Tudor Renaissance," *Renaissance Quarterly*, 65 (2012), 661-710.

triangle.[125] But compared to the other figures that populate this same manuscript, Triangulus is unexpectedly schematic, and, at the same time, frenetically overwhelming in its overlapping colors and pattern. Between the bright, disorderly background of the figure and the very need to depict a simple figure like a triangle as such, this image makes clear that observation was central to its readers' understanding of astronomy, both in the ocular practice of observing stars and in the fixing and rendering of those stars in elaborately decorated images.

The surrounding figures in Arundel MS 66 indicate a far greater interest in figuration through lifelike detail than the necessarily geometric Triangulus does. Two figures that precede Triangulus on fol. 34r, "Cephus" (the constellation Cepheus) (Fig. 1.19) and "Boetes" (the constellation Boötes) (Fig. 1.20), emphasize how figuration could serve as an aid to memory, and, perhaps more importantly, recognition.[126] Both Cepheus and Boötes are shown standing in fields, with a patterned background behind them, fully clothed and speckled with gold stars.[127]

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[125] Debates around the figuration of stars and constellations in the medieval Islamic world attest to the ways in which astrological images could utilize and problematize figuration for clarity and also for cosmological argument. See Persis Berlekamp, "Visible Art, Invisible Knowledge," *International Journal of Middle East Studies* 40:3 (2013); Moya Carey, "Mapping the Mnemonic: A Late-Thirteenth-Century Copy of al-Ṣūfī's Book of the Constellations," in *Arab Painting: Text and Image in Illustrated Arabic Manuscripts*, ed. Anna Contadini (Leiden: Brill, 2007): 65-72; Moya Carey, "Al-Sufi and Son: Ibn al-Sufi's Poem on the Stars and Its Prose Parent," *Muqarnas* 26 (2009): 181-204; Emilie Savage-Smith, "The Most Authoritative Copy of ʿAbd al-Rahman al-Sufi's Tenth-century Guide to the Constellations," in *God is Beautiful and Loves Beauty: The Object in Islamic Art and Culture*, eds. Sheila Blair and Jonathan M Bloom (New Haven: Yale University Press, 2013).

[126] As mnemonic aids for relative location, these images bear a striking resemblance to cautery images produced in medieval England. For more on cautery in the Middle Ages see: Lynn Thorndike, *A History of Magic and Experimental Science*, 6 vols (London: Macmillan, 1923-1941), I, 723-24; Tony Hunt, *Popular Medicine in Thirteenth-Century England: Introduction and Texts* (Woodbridge: Brewer, 1990); C. M. Kauffmann, *Romanesque Manuscripts 1066-1190 Survey of Manuscripts Illuminated in the British Isles*, vol. 3 (London: Harvey Miller, 1975), no. 12; *Catalogue of Additional Manuscripts: Sloane 2720-2906* (London: British Museum unpublished manuscript of unedited descriptions, no date), no. 2839.

[127] London, British Library Arundel MS 66 f. 34r.

Cepheus, the mythical Ethiopian king and husband of Cassiopeia, stretches his arms wide, his knobby knees visible below the hem of his red cape, which is dotted with golden stars. Boötes, an anonymous plowman, is depicted on the same folio, and holds up a scythe and spear, his blue cloak and black helmet and socks covered in stars. Both figures inhabit similar spaces within their respective scenes; they stand atop carefully shaded grassy ground, the texture of ground covering intimated by thin golden strokes of paint. Directly behind each of them is a diaper-patterned background, again speckled with gold, but the top quarter of the frame gives way to sky, depicted here as a fading blue stripe populated by stars.[128]

In both cases, the stars depicted on the figures seem to bear little indication of the actual arrangement of the constellation, a problem further confused by the star pattern backgrounds. Although these would not be functional star maps, they nevertheless mimic the conventions of traditional star maps, and provide a relative sense of how stars compose the mnemonic figures.[129] Around each of these frames, in keeping with the *mis en page* of the Triangulus figure, detailed calendrical information communicates the movements specific to each constellation. Unlike the other figures in the series, Cepheus and Boötes both hold scrolls labeling them with names. The combination of text, star map, and depicted figure strengthen the images' power as tools for memorization and star identification: each component reinforces the look and the identity of the figure.[130] But these elements in combination also make each constellation recognizable in the

[128] *Catalogue of Manuscripts in The British Museum, New Series, 1 vol. in 2 parts*, Volume I, part I: The Arundel Manuscripts, (London: British Museum, 1834-1840), 14.
[129] The images in Arundel 66 do not seem to function as star maps. Nevertheless, they do present figures inhabited by stars, in much the same way that images in the star map tradition do.
[130] Ohly discusses in his analysis of Hugh de Folieto's dove miniature that the images of the dove support the exegesis of the textual descriptions they accompany. The textual labels on Cepheus and Boötes offer a reversal of the roles of text to image in Ohly's analysis, and seem to function more as mnemonic or identificatory aids for the images than as fodder for interpretation in and of themselves. As does a humoral understanding of color, astrological images complicate Ohly's

first place. The images of Cepheus and Boötes in Arundel 66 present the two figures as specific and differentiable in their individual features, qualities that constellations, despite their particular composition when depicted as schematic figures, could not have.

The figures of Cepheus and Boötes in Arundel MS 66 indicate how figuration could be employed as a representational strategy to make abstract concepts and unseeable entities become visible, just as abstraction could be used to make patients' bodies legible in manuscripts. Astrological images are plentiful in fourteenth-and-fifteenth-century English manuscripts, and astrological material frequently occurs in the same books as texts more singularly focused on medical treatment: astrology was, after all, intimately connected to the fluctuations of humors and elements in both the heavens and the human body.[131] Arundel MS 66, an astrological and geomantic collection made for a royal patron, differs from the medical books discussed so far in this chapter in its quality, contents, and patronage.[132] Even so, astrological material such as the constellation images and corresponding calendars included in Arundel MS 66 could be used diagnostically and prognostically. Additionally, these images, which trouble any clear distinction between diagrammatic and figural, seem formally similar to diagnostic images.

While calendars replete with information about planetary movements made treatment possible through regular tables, the accompanying images, like those in Arundel MS 66, did just the opposite, taking information about correspondences between stars, planets, and humors and

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theory of significs, but still point to the centrality of images in understanding complicated texts. See Ohly, "Problems of Medieval Significs," 99-101.

[131] Wallis, "Medicine in Medieval Calendar Sources," 109 - 111

[132] Kathleen L. Scott, *Later Gothic Manuscripts 1390-1490, A Survey of Manuscripts Illuminated in the British Isles* 6, 2 vols (London: Harvey Miller, 1996), II, 364-67; For more on the royal patronage of this manuscript, see Carey, 'Henry VII's Book of Astrology," 661-710; see also Joanna Fronska, "The Royal Image and Diplomacy: Henry VII's Book of Astrology (British Library, Arundel 66)," *eBLJ* (2013).

expressing it visually in human or human-like form. Like the process of abstraction necessary for diagnosis, these efforts at figuration emphasize the importance of seeing. Whereas the previous diagnostic examples make use of color, number, and schematic forms to transmit information about patients' internal well-being, the images discussed in this section — astrological, humoral, and geomantic figures made into human figures — employ the opposite approach to the image but nevertheless rely on the same assumption: that some understanding of a particular body could be gained by seeing.[133] More specifically, I suggest that figuration, as exemplified by these images, did not necessarily work in opposition to abstraction, despite the apparent contradiction of those two concepts, but rather created many of the same forms of visual knowledge by supplying a network of physical details which a reader, judge, practitioner, or prognosticator could use mnemonically and comparatively. These are images that could train their viewers to recognize abstract patterns, gleaming stars, or internalized etiological systems by virtue of their ability to be figured. In these images, abstract concepts are rendered not only as figures, but as *human* figures. Seeing and making sense of things seen, in these cases, becomes possible through figuration.

Humoral Figures

[133] Saxl and Meier's volume on astrological illustrations has been invaluable in identifying and understanding different types of astrological images produced in the Middle Ages. For their description of Arundel 66, see Fritz Saxl and Hans Meier, *Verzeichnis astrologischer und mythologischer illustrierter Handschriften des lateinischen Mittelalters*, ed. by Harry Bober, 4 vols (London: Warburg Institute, 1916-1966), III: Handschriften in englischen Bibliotheken (1953), 89-93.

This impulse to figure abstract concepts extends beyond the astrological: humoral figures in late Medieval England render abstract concepts as materially human in order to give these ideas visible forms that could fall under the same rubrics of judgment and visual analysis used in other diagnostic and prognosticatory methods. The Guild-Book of the Barber-Surgeons of the City of York, now London, British Library, Egerton MS 2572, includes several late fifteenth-century drawings ranging from typical zodiac and vein men to a rather unusual drawing of personifications of the four humors (Fig. 1.21).[134] Standing upright around a central haloed Christ figure, the four men each hold scrolls that together read: "Ther ar the iiii (h)umors. (Th)a(t) ar od(er)wysse calde (th)e iiii co(m)pleccons. Hafyng (th)e kind of hus. (Th)a(t) ar reservid un to the iiii element(is)."[135] The syntax of the phrases contained in the four text scrolls makes clear that only one order of reading — Malencolius, Sanguinus, Colericus, Fleumaticus — is possible. The four figures represent the humoral complexions to which they correspond. Malencolius, at the top left corner of the page stands up straight with a prominent yellow collar, red cap, striped stockings, and long blonde hair. [136] At the top right of the page, Sanguinus has a red collar, hat, and sleeves, and rosy cheeks. Colericus, at bottom left, has orange hair and beard, with a red cap, red stockings, and yellow shoes. Fleumaticus stands at right, grasping a cane with his mitten-covered hands to support his hunched body, with a slight yellow wash on his hat, but

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[134] Loren MacKinney, *Medical Illustrations in Medieval Manuscripts, Part II, Medical Miniatures in Extant Manuscripts: A Checklist*, with Thomas Herndon, (London: Wellcome Historical Medical Library, 1965), no. 39; Scott, Later Gothic Manuscripts, no.139; Peter Murray Jones, *Medieval Medicine in Illuminated Manuscripts* (London: British Library, 1998), pp. 55-57, fig. 48.

[135] "Hus," taken here to mean "use" seems to be the most likely transcription for the otherwise inscrutable series of minims at the end of the third sentence.

[136] Groebner explains the connection between humoral dispositions and external appearance as it applies to categorization: "The term had been effectively physiognomized, transformed from a changeable and flexible disposition into a congenital category that could be inspected, identified, and classified." Groebner, *Who Are You*, 129 -131.

otherwise colorless.[137] Christ, at the center, has been represented as unblemished by any of the physical indications of humoral complexion, and unmarked by age.[138] Following the same pattern of the text, the figures appear to age moving clockwise — from youth, through middle age, to old age. The figures also seem to be grouped into two pairs, with two blonde men at the top in jaunty poses, and two more subdued bearded men at the bottom. What's more, the two figures on the left of the page have more colorful clothing and facial features than those at right. In effect, the figures form a quadrant, much like the quadrant diagrams used to map humoral correspondences. Here, the four men present qualities such as age, posture, color, and hair in human form across two axes, with each corner of the page epitomizing a given complexion, and each combination or permutation of figures demonstrating things shared between humoral dispositions.

The four figures in the Guild-Book of the Barber-Surgeons of York exemplify a tendency to concretize abstract concepts by means of figural representation; this tendency is especially striking in depictions of the humors. The drive to figure abstract states of health is particularly interesting in the context of the other images in British Library, Egerton MS 2572. On the recto of this same folio is an elaborate volvelle showing correspondences between signs of the zodiac, planetary movements, and solar and lunar eclipses on particular dates (Fig. 1.22).[139] Surrounding

[137] Giving these concepts form recalls the efforts to express formless primordial matter in the eleventh-century metalwork described by Ittai Weinryb. Whereas, in Weinryb's account, artists used vegetal ornament to represent matter at the moment of creation (due, in part, to some linguistic acrobatics in Calcidius's translation of the *Timaeus*), the formless humors held in equilibrium within the body presented challenges that often resulted in diagrammatic representation. Here, instead of theorizing the humors themselves, the illuminator has given the humors human form by depicting the characteristics associated with each complexion. See Ittai Weinryb, "Living Matter: Materiality, Maker, and Ornament in the Middle Ages," *Gesta* 52 (2013): 113 - 132.

[138] A longer analysis of this depiction of Christ will follow in Chapter Four.

[139] Richard Wragg, "A Civic Relationship: The Guild Book of the Barber Surgeons of York as

this are an additional four human figures, arranged in the same configuration as the four humors: these, however, represent John the Baptist, John the Evangelist, and the twin saints Cosmas and Damian.[140] The previous folio (fol. 50r) features a vein man surrounded by a large text block and a zodiac man with carefully detailed figures of the zodiac. Whereas the surrounding images seem more clearly to be tools for diagnosis or statements about the place of holy figures in finding medical cures, the four complexion figures appear instead to be an attempt to visualize how certain invisible qualities might manifest externally.

I want to circle back to the relationship between humors and elements discussed earlier in this chapter in order to flesh out the reasons the makers of this manuscript may have had for giving abstract concepts — and especially internal, invisible humors — embodied form. Elements posed an immense problem for figuration on an ontological level, as Eric Ramirez-Weaver notes in his analysis of diagrams of elemental syzygy in a late medieval manuscript copy of William of Conches' *Dragmaticon*.

> The four elements of fire, earth, water, and air are pure atomic substrates, whereas their counterparts visible to the naked eye are called *elementata*, composite bodies of the intellectually discernible smaller base units, or *elementa*… The image of the planar syzygy represented the physical corollaries of the invisible, indivisible first principles of matter as a harmonious, balanced distribution of the properties shared in common by those first principles, according to the Dragmaticon.[141]

Elements were by definition invisible, and therefore figuring them required the artist instead to figure their visible corollaries, the most basic natural building blocks of the earth and heavenly spheres.[142]

Expression of Professional Status and City Authority," *Occupying Space in Early Modern Britain and Ireland* (Bern: Peter Lang AG, 2016), 236-237.

[140] Carole Rawcliffe, *Medicine & Society in Later Medieval England* (Stroud: Sutton Publishing, 1995), 66, 131 - 132.

[141] Ramirez-Weaver, "William of Conches," 11

[142] Theodore Silverstein, "Elementatum: Its Appearance Among the Twelfth Century

Humors, built from combinations of elements, were likewise difficult to picture. Silverstein summarizes William of Conches's position, noting that

> organs (i.e. hands and feet) and similar parts (i.e. bone and flesh) may be divided in fact; the further division of these, however, into humors and of humors into elements, can be accomplished only by an intellectual act. The intellect thus recognizes that what can makes earth earth, water water, air air, and fire fire, is the combination of *qualities* peculiar to each, i.e. cold and dry, cold and moist, warm and moist, warm and dry, respectively. And that the minute particles of each of these characteristic *commistiones* of qualities, being as they are, simple and minimal parts, are *elements* in the absolute sense… But such bodies as we actually see in nature, though each may be dominated by the qualities of a single element, are not in themselves *elements,* but *elementata*.[143]

Elements and humors, even more problematically, could not be *seen* in any straightforward way. While blood, phlegm, and bile sometimes found their way outside of the body, "seeing" the constituent parts of the body in balance had to be done intellectually.[144] This work was done by picturing how elements and humors composed certain types of bodies, that is, certain complexions and temperaments. Rather than doing this only through the *divisio* William of Conches describes, artists achieved a similar intellectualizing of humoral composition through figuration, as is the case in the Guild Book. If the disposition of a given body's condition was the result of certain humors, then depicting the appearance of that body could likewise attest to those same humoral proportions; the four figures idealizing and figuring complexions in the Guild-Book of the Barber-Surgeons of York do just this. The figures of Malencolicus, Sanguinus, Colericus, and Fleumaticus epitomize the physical characteristics associated with each of their

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Cosmogonists," *Medieval Studies* 16 (1954): 156 - 162.

[143] Silverstein, "Elementatum," 157-8.

[144] Carruthers' work on the intellectual practice of constructing the ark of Hugh of Saint Victor seems like an extreme version of the sort of intellectualization being considered here. Rather than merely picturing and isolating elements, the work Carruthers describes requires the imagination of exegetically-loaded physical components being fabricated and put in place. See Carruthers, *The Craft of Thought*, (Cambridge: Cambridge University Press, 1998), 7-24.

respective complexions; in doing so they present those qualities to the viewer to look at, study, and make sense of in other contexts.

Representing Humoral Qualities

A series of 12 '*figuris diversis*' in Cambridge, Trinity College Library, MS R.15.21, the cosmographical and natural philosophical miscellany known as the *Liber Cosmographiae*, deploy forms of figuration similar to those at hand in the York Surgeon's Guild Book in order to picture not only humors, but also humoral and complexional correspondences with the planets.[145] Described in the text of the *Liber Cosmographiae*, a unique compendium of scientific, diagnostic, astrological, and cosmological texts, as both "*figurae*" and "*imagines,*" these twelve, full-page human figures embody qualities associated with the abstract concepts they represent.[146] Dressed in lavish clothing and colored with great attention, they make visible the immaterial characteristics of humors, complexions, and planets. The first four of these figures, which represent complexions, include extensive textual inventories of physical characteristics alongside each figure. Because of their embodiment of humoral characteristics, these figures seem similar to the personifications of humors in the York Surgeon's Guild-Book; unlike the York Guild-Book, however, the complexion images in the *Liber Cosmographiae* make these characteristics legible not only in name, but in both descriptive text and image. The *Liber Cosmographiae* images give humoral ideals human forms, just as the York images do, but the former also

[145] John Block Friedman, *John de Foxton's Liber Cosmographiae (1408): An Edition and Codicological Study*, (Leiden: Brill, 1988), LIII.
[146] Lüthy and Smets note that one of the difficulties of comprehensively defining diagrams made in the Middle Ages is the wealth of terms medieval people used to refer to these images, see Lüthy and Smets, "Words, Lines, Diagrams" 423.

provide the criteria necessary to compare these ideal forms to each other, and judge their images against the qualities described in text.

Just as the artists responsible for William of Conches's diagrams relied on the physical manifestations of *elementa* to represent the composition of the planetary spheres to their viewers, here, the artist turns to the conventions of physiognomy to make visible the internal characteristics of the body's four humors. On fol. 12v, a pink-skinned and red-haired man stands naked, holding a silver sword and golden chalice in his outstretched arms (Fig. 1.23). He represents "Colericus," the humorally warm and moist temperament associated with activity and amiability. A dove perches on his right arm, and he holds a flower to his chest. Above him text reads: "largus. amans. hilaris. ridens. rubiiq(ue) coloris. cantans. carnosus. satis audax atq(ue) benignus."[147] To the left, the same height as the man, is a second exhaustive series of descriptors:

Color rube(us).

Color rube(us).

Color acut(us).

Pili moll(is).

Pili duri.

Capill(us) ruf(us).

Capill(us) ruf(us).

Capill(us) ruf(us).

Capill(us) rufus.

Cap(ut) rotu(n)du(s).

Cu(m) ruff(is) capi

[147] "Bountiful, loving, lively, joyful, and of red color. Singing, succulent, plenty bold and kind."

ll(is).

Cu(m) rufis.

Cum rufis.

Caro dura.

Vox acuta.

Vox grossa.

Vox tarda.

Vox acuta (et)

mollis.

Ffrons p(ar)ua

Ffrons mag(na)

Ffro(n)s rotu(n)da

Sup(er)silia g(ro)s(sa)

Oc(u)li lippi.

Oc(u)li magni.

Oc(u)li rotu(n)di.

Oc(u)li oblo(n)gi.

Oc(u)li P(ar)ui.

Oc(u)li rubii.

Oc(u)li flaui.

Nas(us) grossus

Nasus gibbo(sus).

Nasus Direct(us).

Nas(us) gibbos(us)[148]

[148] "Red complexion

Here the text includes both physiological and physiognomic traits and descriptions of physical details not readily visible in the image: all of the physical characteristics and markers of identity related to the figure's temperament are described, and, when the trait is something that can be seen, depicted in the figure's form.[149] The artist shows how the humors influence the appearance of an individual's body — both physically and in terms of disposition — not merely

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Red complexion
Pointed complexion
Soft hair
Rough hair
Red hair
Red hair
Red hair
Red hair
Round head
With red hair
With redness
With redness
Rough flesh
Sharp voice
Unrefined voice
Slow voice
Sharp and delicate voice
Small forehead
Large forehead
Round forehead
Large brow
Inflamed eyes
Large eyes
Round eyes
Oblong eyes
Red eyes
Golden yellow eyes
Thick nose
Notched nose
Straight nose
Notched nose."

[149] On the translation and circulation of physiognomic tracts in the Latin west, see Irven Resnick, *Marks of Distinction: Christian Perceptions of Jews in the High Middle Ages,* (Washington, D.C.: Catholic University of America Press, 2012), 14 - 17.

through opposition, as is the case in diagrammatic renderings of humoral correspondences, but rather by giving definition to these qualities through figuration. Each figure simultaneously depicts the physical qualities associated with a humor in the abstract and, conversely, fixes that quality to the particular appearance of a distinct human figure.

Three additional full-page human figures follow the "primer ymago," each of them similarly labelled in terms of numerical sequence. They represent the three additional temperaments. The first four images of the 12, then, constitute the physiognomical characteristics associated with the four humors, and are surrounded by text enumerating physical characteristics like that listed above.[150] The first man is coleric, the next phlegmatic, the third melancholic, and the fourth sanguine. Significantly, these labels do not occur on the pages where these figures are depicted: rather, the number given to the image corresponds with a list of descriptions of figures at the beginning of the manuscript. In these drawings, the artist has linked specific physical characteristics to humoral qualities, and has attempted to depict those characteristics so that one figure is easily differentiable from the next.

While in the York Guild-Book colorful clothing and a few physical markers define the four complexions, in the *Liber Cosmographiae* minute physical detail differentiates each figure from the next.[151] The correspondence between humoral characteristics and their figuration is quite

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[150] This particular strategy of figuration seems to fall in line with physiognomy as a diagnostic strategy. Joseph Ziegler, "Text and Context: On the Rise of Physiognomic Thought in the Later Middle Ages" *De Sion exibit lex et verbum domini de Hierusalem: Essays on Medieval Law, Liturgy, and Literature in Honour of Amnon Linder*, ed. Yitzhak Hen (Turnhout, Belgium: Brepols, 2001), 159-182.

[151] This includes differentiating skin tones among the figures. Groebner argues that "Medieval colors were body colors, rather than skin colors. The exterior and interior of a person were held to be identical: colors not only denoted skin pigmentation, but were categories of the medieval doctrine of signatures. These categories operated through correspondences and pairs of opposites to describe the large variety of physical phenomena in appropriate terms." Groebner, *Who Are You*, 119.

literal: these four figures embody the physical traits associated with fluctuating humoral dispositions. The vast majority of these traits are visible, though some, like voice, indicate that physical characteristics have bearing even when they could not be seen. The text makes it possible to learn what these characteristics look like in the first place. What constitutes oblong eyes? What does a thick nose look like? Often these terms implicitly seem to suggest their opposites (round eyes, a thin nose…), enabling understanding through comparison. The combination of text and image depict but also name these very particular traits, and thereby make them legible on actual people.

The abstract qualities associated with humors are still present in these figures, and they are much more readily visible and identifiable here than they are in the York Surgeon's Guild Book figures. In the *Liber,* the artist has conveyed the redness, warmth, brightness, and activeness of choler in the Colericus figure, but has done so by inscribing these features as visible, embodied qualities: we can read these qualities, whether they are physical markers or marks of personality, by looking at the way the Colericus figure stands, smiles, and holds his emblems. The "Sec(un)da Ymago," Fleumaticus, represents a phlegmatic complexion; this figure is visibly pale, salivating, and sleepy (Fig. 1.24). The coldness and moistness inherent in these characteristics come through in the rendering of the figure's body. The posture, color, and situational detail expressed in order to personify the temperaments convey otherwise abstract humoral information in these figures' form.[152]

[152] Posture and gesture clearly play into the artists' ideas of what these personifications ought to look like; these visible criteria also affected practitioners' judgments about patients, their health, and their morality. See Jean-Claude Schmitt, "The Ethics of Gesture," *Fragments for a History of the Human Body,* eds. Michael Feher, Ramona Naddaff, and Nadia Tazi, (Cambridge, MA: MIT Press, 1989), 128 - 147; On the ways in which these judgments could fuel discrimination, see Resnick, *Marks of Distinction*, 46 - 48.

The remaining eight images include one hybrid zodiac-vein man (which I will discuss at greater length in Chapter Four), and seven human-like figures personifying the planets.[153] Here, John de Foxton, the *Liber*'s compiler, sets the planets in medieval astronomical order, beginning with Luna, then Sol, and so on. The artist, however, depicts the planets in lithe human postures, with attributes and in costumes consistent with contemporary English clothing and armor, even as symbols of the zodiac float on and around their bodies.[154] Like the temperaments, the planetary figures make visible otherwise abstract concepts; both humors and planetary information were more typically represented in schematic diagrams like those included in calendars. In both cases, the artist has made these qualities both more immediate and more readily visible through figuration. While the *Liber Cosmographiae*, like the calendars already discussed, does not provide specific medical instruction, it does build upon the diagnostic / prognostic calendar (which it also contains) by representing figurally the types of knowledge central to understanding and treating the body. The *Liber Cosmographiae* pictures humors and the planets that control them as bodies in and of themselves, and the effects they have on people are visible — and therefore available for interpretation, analysis, comparison, or exegesis — as characteristics inherent in these figures.

V. Conclusion: Two Volvelles

[153] Friedman, *Liber Cosmographiae,* LIII - LV. Friedman has suggested that the artist of these images was John Siferwas, though there remains some debate on this point. See John Block Friedman, "John Siferwas and the Mythological Illustrations in the Liber Cosmographiae of John de Foxton," *Speculum* 58, (1983): 391 - 418.
[154] Friedman, *Liber Cosmographiae*, LVIII.

Two volvelles in two manuscripts made in in the second half of the fifteenth century bear witness to this habit of figuring generic qualities, dynamic processes, and invisible subjects in late medieval England.[155] As a means of concluding this chapter, I would like to look at these two figures. In both cases, artists have placed a human figure at the center of a volvelle, a moveable diagram, within a scientific miscellany, and both diagrams are constituent of a group concerned explicitly with finding the dates of major liturgical events and planetary movements. Both volvelles, which are found in London, British Library, Harley MS 941 (Fig. 1.25) and British Library, Sloane MS 702 (Fig. 1.26), work as *computus* diagrams, machines for finding the date of Easter.[156] In Harley MS 941, an outer circle, divided into cells with spokes radiating from the circle, lists dates on which Easter corresponds with the golden number or moveable feasts, all fixed in relation to each other on the static page, while an interior rotating disc at the diagram's center allows the reader to point to multiple data points at once, and see the links between these points.[157] Unusually, in both of these volvelles, the artist has rendered the central disc as a human figure, and the needles that point to data have been pictured as their hands and feet.

The volvelle in Sloane MS 702 depicts a man suspended within the central disc. He wears a fashionable tunic and stockings, and has been carefully cut out of thick parchment, so that the

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[155] Lynn Thorndike, "Notes on Some Less Familiar British Astronomical and Astrological Manuscripts," *Journal of the Warburg and Courtauld Institutes*, 22 (1959), 157-71; Cyril Ernest Wright, *Fontes Harleiani: A Study of the Sources of the Harleian Collection of Manuscripts in the British Museum* (London: British Museum, 1972), 143, 316, 388; C*atalogus Librorum Manuscriptorum Bibliothecae Sloanianae* (Manuscripts 1-1091), (London: British Museum, no date), no. 702.

[156] Wallis, "What a Medieval Diagram Shows," 5-8.

[157] Laurel Braswell-Means, "The Vulnerability of Volvelles in Manuscript Codices," *Manuscripta*, 35 (1991), 43-54 (p. 44, fig. 1); Suzanne Karr, "Constructions Both Sacred and Profane: Serpents, Angels, and Pointing Fingers in Renaissance Books with Moving Parts," in *The Yale University Library Gazette* 78 (2004): 101-127.

outlines of his body give way to the blank page below. Unfurled text scrolls label his limbs: "pasca p(ri)us" at his left hand, "pasca p(re)teritu(m)" at his right, and "pasca futu(rum)" at his feet.[158] By grabbing this central figure at his waist and carefully twisting, the reader can locate the dates of Easter past, present, and future in relation to each other. Like an embodied manicule, the central figure points to the important dates with two oversized hands. In Harley MS 941, meanwhile, a woman has been hastily drawn onto the central disc, possibly as a later addition. Two needles point to perpendicular cells, but the artist has used this preexisting structure to properly orient the figure at the diagram's center. With her right arm sharply bent, she reaches her hand to cover one needle, while a single foot peeks out of the hem of her dress just above the other needle. A text on the outer edge of this central circle reads "digito noto pascha futurum que numor(um) aureu(m) do."[159]

In both of these volvelles, the anonymous human figure at the center does not stand in for the given system of knowledge being represented (in this case, time), but rather becomes the mechanism for interpreting that system. Whereas the personifications of humors in the Guild-Book of the Barber-Surgeons of York and the *Liber Cosmographiae* make these abstract concepts seem interpretable by the same standards — visual identification and comparison — applied to actual human patients, the human figures in these two volvelles imply a different relationship between figured body and abstract concept. The volvelles mediate the reader's process of knowledge acquisition, duplicating with their depicted hands a method of pointing out and isolating specific dates. In the process the volvelles link the mechanical function of determining dates to the embodied experience of the reader as judge and interpreter. Like the

[158] "Previous Easter," "past Easter," and "future Easter."

[159] "With the future (date of) Easter noted by my finger, I give the golden number."

practitioner carefully observing colors of urine, these two figures literally insert a human presence into the process of making determinations from abstract information. They make a claim for the necessity of a reader to interpret abstract information: even calendrical data requires a reader to judge, analyze, and interpret dates, and make determinations about appropriate treatment based on those judgments.

CHAPTER TWO: INDIVIDUATION

A Surgeon's Consultation

John Arderne (d. in or after 1377), the surgeon from Newark depicted in the seated author portrait I described at the start of Chapter One (Fig. 1.2), practiced surgery in the East Midlands before moving to London in 1370 and authoring a series of texts on surgery shortly thereafter.[1] Although he lacked any documented university education, Arderne composed Latin texts that employed many of the conventions of the scholastic surgical treatises produced in France and Italy in the preceding century.[2] Arderne regularly cited classical authorities, for example, before offering his own advice.[3] Arderne's texts also reflect his background as a manual, potentially itinerant surgeon; this is especially true of his *Practica Chirugiae* and *Experimenta*, which recount specific cases and describe particular patients Arderne treated throughout his career.[4] In these texts, Arderne precisely described the wounds of his patients as a way of introducing the

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[1] D'Arcy Power, *Treatises of fistula in ano, haemorrhoids, and clysters* (Oxford: Reprinted by Oxford University Press for the Early English Text Society, 1968), x – xii.

[2] Jones provides the most authoritative biography of Arderne. Peter Murray Jones, "John Arderne and the Mediterranean Tradition of Scholastic Surgery," *Practical Medicine from Salerno to the Black Death*, ed. Luis García- Ballester, Roger French, Jon Arrizabalaga, and Andrew Cunningham (Cambridge: Cambridge University Press, 1994): 294 - 297.

[3] Robbins traces the medical authorities listed in Chaucer's writing to their sources in medical texts in the thirteenth and fourteenth centuries; in doing so, he confirms a list of 20 names that appear in Arderne's work. Rossell Hope Robbins, "The Physicians Authorities," *Studies in Language and Literature in Honor of Margaret Schlauch* (Warsaw: Polish Scientific Publishers, 1966), 339.

[4] These two texts are often compiled along with shorter texts by Arderne in a single edition modern scholars cite as the *Liber Medicinalium*. What we know of Arderne's biography comes out his own writings. Much of this information, specifically dates pointing to the years of his birth and death, comes out of his *De Cura Oculorum,* which exists only in British Library Sloane MS 75. Arderne dates the composition of this text to 1377, at which point he would have been 70 years old, hence establishing a likely date of death in the last quarter of the 1370s or early 1380s.

reader to the generalities of his method. Both the *Practica* and the *Experimenta* contain rich programs of illumination: a wealth of marginal images of plants and tools, grisly figures showing only the lower bodies of patients dotted with wounds, and portrait-like pictures of patients in differentiated clothing. These texts often appear collected with other writings by Arderne under the title *Liber Medicinarum*.

The images produced by Arderne's illuminators make patients, materials, and procedures visible, ostensibly showing the particularities of illness and treatment.[5] While idiosyncratic when considered as part of a neat history of medical illustration, these images reflect the changing character of the pictorial representations of individuals in a context in which particularity mattered greatly in the fourteenth and fifteenth centuries.[6] In this chapter, I analyze

[5] We know very little about Arderne's scribes and illuminators, the production of his manuscripts, or who owned these books, beyond the material evidence that the books themselves provide. It is beyond the scope of this dissertation to trace or clarify the production of Arderne's manuscripts, but bearing in mind the formal and qualitative differences within this 40 + manuscript corpus helps to clarify both the complexities and consistencies his readers would have confronted. One area in which at least some of the pattern of production can be assessed is the process of translating Arderne's text from Latin to Middle English. Jones has identified eight medieval English translations of Arderne's text, which account for the work of four separate translators. See Peter Murray Jones, "Four Middle English Translations of John of Arderne," in *Latin and Vernacular Studies in Late Medieval Texts and Manuscripts,* ed. A.J. Minnis (Cambridge: D.S. Brewer, 1989), 70; There is a single manuscript out of the extant 40 medieval copies of Arderne's text that contains specific information about its illuminator. British Library, Sloane MS 776, an English translation of Arderne's work from the Mid-Sixteenth Century contains a colophon that reads: "here Endythe a Noble boke of Cirurgerye truly prouvyd, Compylyd by me Charles Whytte Cittezen and Barboure Cirurgyon of london And Writtyn by the hands of Nycholas Browne the vj daye of Januarij in the yeare of our lorde for M.v.c.xxxij ti and in the xxxiiij th yere of the Reygne of Kynge Henrye the viii th… " Transcription given in Peter Murray Jones, "Staying with the Programme: Illustrated Manuscripts of John of Arderne, c. 1380 - 1550," in *English Manuscript Studies, 1100 - 1700* vol. 10, ed. A.S.G. Edwards, (London: The British Library), 211.

[6] Individuality as a concept is particularly fraught in the Middle Ages, so I am being very specific with the terms I have chosen to use throughout this chapter. I describe images of Arderne's patients as "individuated" to mean that they have been depicted with a level of physiognomic detail that makes them recognizable as distinct, specific people, even when they cannot be named. I use the term "individual" to refer to a person who can be recognized non-

images of Arderne's patients to argue that these images rely on the representation of distinct and identifiable corporeal features for the sake of surgical instruction, and in doing so allow the reader to perform the same sort of skillful looking a surgeon would. This contrasts with longstanding traditions of anatomical drawing, and is clear in Arderne's illuminators valuation embodied, particular, and descriptive representations of the surgeon's patients.

In the portrait that prefaces his text in London, British Library, Sloane MS 2002, Arderne and the body he operates on demonstrate a complex tension between generic and specific inherent in the portrayal of historical individuals. While the practitioner is marked by traditional non-mimetic signs of identity and status, the illuminator has differentiated the patient though an attention to corporeal detail.[7] Arderne occupies a space reserved for the author of a text, wears robes that indicate his standing, and sits atop a *cathedra*. He holds a surgical instrument of his own invention, a "sequere me," which he provides instructions for making later in the text.[8] These signs indicate not only his status as a provisionally identifiable person, but also as a surgeon, and as *the* surgeon John Arderne.[9] The procedure he performs is his proprietary method

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provisionally — that is any patient who can be positively identified with a specific, nameable historical person. I do not use this term in the way scholars of the twelfth-century "birth of the individual" use it. That is to say, my use of the term "individual" comes out of modern usage and does not imply anything about the level of self-consciousness of the figures I discuss throughout this chapter. For more on medieval individuality in this latter sense, see Brigitte Miriam Bedos-Rezak, "Medieval Identity: A Sign and a Concept," in *The American Historical Review* 105, no. 5 (2000): 1489-1533; On the concept of the medieval individual, see Caroline Walker Bynum, "Did the Twelfth Century Discover the Individual?," in *Journal of Ecclesiastical History,* 31, no. 1 (1980): 1-17.

[7] On the iconography of medieval doctors' clothing, see Carole Rawcliffe, *Medicine & Society in Later Medieval England,* (Stroud, Gloucestershire: A. Sutton, 1995), 46.

[8] For more on the iconographic tradition of author portraits in both scientific and non-scientific contexts, see the discussion in the previous chapter. On the description and representation of surgical tools in the late Middle Ages, see Jack Hartnell, "Tools of the Puncture: Skin, Knife, Bone, Hand," *Flaying in the Premodern World,* (Woodbridge: Boydell & Brewer, 2017), 28 - 33.

[9] Michael Leahy, "*To Speke of Physik: Medical Discourse in Late Medieval English Culture,"* (PhD Thesis, Birkbeck, University of London, 2015), 18 - 20. On Arderne as both surgeon and

for healing anal fistulas, wounds that develop when abscesses rupture between layers of tissue. Arderne takes the posture of the iconic physicians discussed in Chapter One, his attention occupied by the patient he holds in a space typically reserved for a book or even a urine flask.[10]

In contrast, the body he operates on lacks these sorts of signs, with almost no traditional identifying features. The illuminator has depicted his patient as faceless and therefore anonymous, but also as incapable of being identified by facial features. The single red dot on the figure's buttock, however, marks a wound that is visibly different from others that appear later in the book.[11] Even though he is anonymous, this patient is distinct because of the way his fistula has been represented.

Arderne describes patients with varying degrees of detail, perhaps because of the different roles these figures play in asserting the author's social and professional status, but also because they anchor his surgical method in particulars.[12] Arderne begins his prologue by identifying himself as "Ego Johannes…" or, in some copies, as "Ego Johannes Arderne de

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author, see Marion Turner, "Illness Narratives in the Later Middle Ages: Arderne, Chaucer, and Hoccleve," *Journal of Medieval and Early Modern Studies* 46, No. 1 (January 2016): 76.

[10] My thanks to Mark Lambert for pointing out the unexpected similarity between Arderne looking up at his patient and the prototypical physician performing uroscopy. For the book / patient comparison described in Chapter One, see Julie Orlemanski, "Jargon and the Matter of Medicine in Middle English," *Journal of Medieval and Early Modern Studies* 42 (2012): 395 - 420.

[11] This chapter will use images of patients from Arderne's *Experimenta,* a series of medical case histories, to argue that recognizing particular details in patients could help readers form the basis of a mode of looking based in pattern recognition. The next chapter, in which I will return to the *Practica's* anonymous lower bodies, will examine how patterns could enable the reader to interpolate something about an individual.

[12] Names could be powerful identifiers in the late medieval and early modern period. As Valentin Groebner contends, "Many of the personal descriptions transmitted in writing during the fifteenth and sixteenth centuries assumed that a name was in itself sufficient to ensure identification." Valentin Groebner, *Who Are You? Identification, Deception, and Surveillance in Early Modern Europe*, trans. Mark Kyburz and John Peck (Cambridge MA: Zone Books, 2007), 78.

Newark…" and then succinctly listing the names, occupations, places of origin, and particular ailments of twenty patients he treated throughout his career.[13] These names and their epithets vary greatly, all of them composed in Arderne's stilted Latin. Some are readily identifiable, like "Hugone(m) Denny piscenar(um) Londo(n)is i(n) brigstrete."[14] Others are medically significant, though somewhat inscrutable, like, "Thom(a[s]) Brou(n) qui h(ab)uit qui(n)decim forma(m)i(n)a p(er) que ventosi[t]as cu(m) egestionib(us) exieru(n)t."[15] The patients Arderne lists in his prologue include a combination of London guild members, East Midlands clergymen and local officials, and one Sir Adam of Everyngham. The list of names and occupations would likely prompt a reader to recognize John Arderne as a doctor who catered to clients of a certain social standing.[16]

The images and references to individual patients in the main text of the *Practica* and *Experimenta*, in contrast, conform to Emily Steiner's discussion of naming in fourteenth-century English literature. Here, naming individuals "portrays distinctiveness as a provisional, rather than absolute quality: it gives a sense of particularity without necessarily insisting upon an individual

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[13] Power, *Treatise of fistula in ano*.
[14] "… Hugh Denny, fishmonger of London, on Brigstreet." Translation and transcription my own. London, British Library, Sloane MS 3844, f. 2r.
[15] "Thomas Brown, who had 15 holes through which wind and discharged (odor) went out." Transcription and translation my own. London, British Library, Sloane MS 3844, f. 2r. For the Middle English translation, see Power, *Treatise of fistula*, 2.
[16] Marion Turner has written on the names of patients Arderne lists in his prologue, noting the many of these named individuals were in fact wealthy and socially or politically-notable Londoners, whose names may have been familiar to readers, and who seem to have worked and fraternized in the same circles. Turner notes that "Arderne's list of patients is a window onto the small world of wealthy fourteenth-century Londoners. Arderne refers to John Colyn, mayor of Northampton, and then mentions Hugh Denny, William Polle, Ralph Double, and Thomas Broune. These men moved within the same commercial and social network in London: examining contemporary records reveals a dense web of alliances between them." I am less concerned with the connections the list suggests between Arderne's patients, but find Turner's contentions about the notability of these people relevant to my own argument. See Marion Turner, "Thomas Usk and John Arderne," *The Chaucer Review* 47 (2012): 99.

historical identity."[17] While some patients would have been recognized by readers — at least some readers — because of a familiarity with their names, other patients who are pictured and described would have been understood as provisionally distinctive. These figures were individuated, that is, made distinct from others, without being individuals.[18]

The fraught identities and identifying details in Arderne's images show that these were not straightforward aids for identifying wounds and instructing in proper treatment, but rather approximations of the sort of looking a surgeon would have to do in practice.[19] Whereas the images discussed in the previous chapter posited a diagnostic hermeneutics that made particular bodies legible to practitioners by picturing generic and supra-personal processes and correspondences, Arderne's images did just the opposite. Arderne and his illuminators used individuated images of patients, instruments, herbs, and body parts in order to construct and communicate a universally applicable surgical method built up from specific examples. The content of his *Practica* and *Experimenta* make clear that individuation helped readers comprehend his instructions, observe patients and procedures in images and in person, and, perhaps, perform Arderne's method on their own. The images and text in combination make it

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[17] Emily Steiner, "Naming and Allegory in Late Medieval England," *The Journal of English and Germanic Philology,* Vol. 106, No. 2 (April 2007): 257.

[18] Here, again, I want to distance this project from the lively scholarly debate around the development of subjectivity and notions of individuality in the later Middle Ages. This dissertation takes up the term "individuation" to describe a phenomenon that affects both artists' depictions of specific people and readers' recognition of that specificity, but is not invested in establishing whether the people depicted held well-defined ideas of selfhood.

[19] Even the author portrait, certainly meant to be understood as an image of Arderne, does not (and cannot) indicate mimetic likeness of the specific, historical Arderne beyond his robes and facial hair, which differ significantly in the Sloane 2002 image and a second portrait in University of Glasgow, Hunter MS 112. Often these emblems are used to indicate the doctor's status, both professionally and personally. See Carole Rawcliffe, "The Profits of Practice: The Wealth and Status of Medical Men in Later Medieval England" *Social History of Medicine* 1, 1 (April 1988): 61-78.

possible for a reader-viewer to embody the visual experience of the surgeon. By looking at images in Arderne's books, they could experience the one-on-one, first-hand encounter with a patient typically reserved for the surgeon. Images that showed patients' externally visible wounds in grisly detail added to the authenticity of this simulated experience.

In the *Metaphysics,* perhaps the source best known to medieval readers looking for an articulation of the relationship between universal and particular, Aristotle uses a hypothetical medical situation in order to demonstrate the differences and convergences between skill and experience. This distinction was at the heart of criticisms of barber-surgeons and empirics by thirteenth- and-fourteenth-century university surgeons. Aristotle proposes

> to have the assumption that when Callias is ill with such and such a disease and such a medicine is appropriate and similarly for Socrates and many others individually is a matter of experience. But the knowledge that for all such people, defined by species, when ill with such and such a disease, such and such a medicine is beneficial belongs to skill. However, in regard to practice, experience is not thought to be different at all from skill. In fact, we rather observe those with experience as being practically more successful than those who, without experience, have a theoretical understanding. This is because experience is the knowledge of particulars and skill is that of universals, and practical actions, like all occurrences, are concerned with particulars.[20]

Medical practice consolidates skill and experience, and practitioners find success by applying their knowledge of particulars in particular situations.

Arderne's own methodological approach to the anal fistula depends on skill, but to convince his readers of his authority and communicate his method, he foregrounds his experience. As Orlemanski notes, "the imperatives of clinical treatment appear to upend the hierarchy" that Arderne's predecessors would have taken stock in; the intersection of skill and experience, meanwhile, is especially clear in Arderne's manuscripts, in which particular and

[20] Aristotle, *Metaphysics,* Book Alpha, 981 a, translated by Hugh Lawrence-Tancred (London: Penguin Books, 2004) 5.

universal sources of knowledge combine to yield practical instructions based in theory.[21] Arderne's manuscripts use images to present particulars — the basis of Arderne's own authority — through which his readers could come to understand universals. Arderne communicated both skill and experience by modeling a specialized form of knowledge acquisition: the trained looking surgery demands.[22] By providing images of individuated bodies that use techniques of pictorial differentiation akin to portraiture, Arderne translated his practical experience for his readers.[23]

In the *Practica,* Arderne repeatedly introduces ailments and cures with the formula "I saw a certain man," or "I healed a certain man," foregrounding observation through his repeated insistence on his own role in treatment. Firsthand encounters, which Arderne evokes in his account of "seeing" patients, structure and particularize his approach to treating each ailment.[24] His illuminators made this same observational practice available to readers through individuated images. The individuation of patients, especially in the *Experimenta*, mimics the focus on observation and personal interaction implicit in surgery itself, a visual hermeneutics central to medicine in the fourteenth and fifteenth centuries that I will call "surgical looking."[25] The first half of this chapter will scrutinize the role visuality played in surgical theory, practice, and instruction to contend that the individuation of figures drawn and painted in surgical manuscripts modeled surgical looking for Arderne's readers. In an effort to rethink the attachment of

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[21] Julie Orlemanski, *Symptomatic Subjects: Bodies, Medicine, and Causation in the Literature of Late Medieval England* (Philadelphia: University of Pennsylvania Press, 2019): 36 - 37.
[22] We might compare Arderne's implicit expectations for his readers to the guidance explicitly laid out for readers in deontological prologues. In particular, see Michael McVaugh, "Bedside Manner in the Middle Ages," *Bulletin of the History of Medicine* 71, (1997): 201 - 223.
[23] Lorraine Daston, "On Scientific Observation," *Isis* 99 (2008): 107.
[24] Michael R McVaugh, "The Nature and Limits of Medical Certitude at Early Fourteenth-Century Montpellier," *Osiris* 6 (1990): 62-84.
[25] I am grateful to Julie Orlemanski for helping me formulate this term.

individual historical identities to physiognomic likenesses in the burgeoning portraiture of the late Middle Ages, I will move in the second half of the chapter to consider the epistemological differences between particularity in Arderne's surgical illuminations and in early portraiture. In using illuminated manuscripts of Arderne's treatises as tools for thinking about what a surgeon needed to see and how to communicate what one has already seen to someone else, this chapter seeks to destabilize the divide between universal and particular reified by the historiography of medieval medicine. The unique, intimate encounter between surgeon and patient gives us an indication of why surgery was necessarily individual. Images could help to assert the place of individual patients in the increasingly rational and institutionalized teaching and practice of surgery.

The many images in copies of Arderne's manuscripts (images of bodies of patients, marginal plants and herbs, and surgical instruments) model an investment in observing and interpreting the particular appearance of objects and people for the sake of surgical instruction. Lorraine Daston argues that the trained looking that comprises modern scientific observation is

> probably not qualitatively different from that undergone by the fledgling musician, cook, or weaver—as Aristotle noted, the paths to skill, on the one hand, and to understanding, on the other, pass through the same stations of perception, memory, and experience. But the scientific path is greatly straitened by the demands of collective empiricism, which require a degree of coordination seldom achieved (or desired) in the traditional arts and crafts. Just because it is an ontology, not only a standard of connoisseurship that scientific training must impart, convergence is indispensable. Novices must be taught to see things and to see the same things, a world held in common.[26]

This chapter analyzes a text made to teach a convergent mode of observation to a disparate readership, and begins with the assumption that recognizing and representing particular physical and physiological signs made that mode of observation possible. Even without the modern

[26] Daston, "On Scientific Observation," 107.

"demands of collective empiricism," Arderne's manuscripts posited and made widely available a theory of surgery dependent on observation, and modeled the sorts of looking constitutive of surgery through their combination of text and images. These manuscripts gave regular appearances to ailments and injuries, such that reader-viewers could understand those phenomena as convergent. Introducing and reproducing images of particular patients and individuated wounds, the illustrators of Arderne's books provided material objects for readers' observation; in doing so they made patients distinct through individuation so that readers, like the surgeon himself, could learn through first hand observation.

I. Surgical Looking

Rational Surgery and Observation

John Arderne positioned himself at the crux of two converging approaches to medicine: on the one hand, the longstanding practical and empirical work performed by surgeons literally operating on patients outside of an overarching institutional structure, and, on the other, the a increasingly theoretical approach to surgery that was developed in universities in the previous century.[27] In his unusual position as a surgeon without university training who nevertheless composed a text based in classical medical theory, Arderne exemplified a tension between and ultimately a reconciliation of the Aristotelian poles of experience and skill. Arderne reassures his reader in his prologue

> to remoue false opinions of ignorant men, for witnes I putte experience. Auicen, forsoþ, seiþ, 'experience ouercomeþ reson'; and galien in pantegni seiþ, 'No man ow for to trust

[27] Jones, "John of Arderne and the Mediterranean Tradition," 289 - 321.

> in reson al-oon but ȝit it be proued of experience.' And he seith in anoþer place, 'Experience without reson is feble, & so is reson withoute experience fest vnto hym'[28].

In Arderne's quick gloss of the place of experience and skill — or as his Middle English translator puts it experience and reason — experience could outweigh skill, but at the same time, either was insufficient without the other. Observation played an important role in mediating experience and skill, both in records of university instruction and in manuscript sources themselves meant to instruct.[29] Observation, in contrast to the empiricism that scholastic surgeons cautioned against, could bridge the conceptual gap between general and specific that enabled surgical theory to be put into practice.

Katharine Park differentiates between two terms that occur frequently in scientific texts produced in the Middle Ages to designate acquiring knowledge by sensory perception: *observatio* and *experientia*.[30] Park argues that practical medicine as a discipline was experiential, not observational, because of its emphasis on singular cases. Arderne's work, however, relies on a critical mass of these instances to create a comprehensive, almost systematic survey of cases and conditions; in this way, Arderne's work fits into Park's rubric for medieval observational practices.[31] Arderne's illuminators, who attended to the particular physical appearance of the figures they depicted, made a form of instruction central to university surgery and based in

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[28] "To remove the false opinions of ignorant men, I put up experience as a witness. Avicenna, truthfully, says 'experience overcomes reason'; and Galen says in the Pantegni 'no man ought to trust in reason alone, but rather have it proven by experience.' And he says in another place, 'Experience without reason is feeble, and so is reason without experience fixed into it.'" Translation my own. Transcription from the Middle English translation of Arderne's work in Power, *Treatises of fistula,* 3.
[29] Michael McVaugh, "Surgical Education in the Middle Ages," *Dynamis* 20, 2000: 284 - 304.
[30] Katharine Park, "Observation in the Margins, 500 - 1500" in *Histories of Scientific Observation,* ed. Lorraine Daston and Elizabeth Lunbeck (Chicago: University of Chicago Press, 2011): 16 – 17.
[31] Park, "Observation in the Margins," 36.

observation available to readers. This is clear in comparing illustrated copies of Arderne's texts to thirteenth-and-fourtheenth-century anatomical and surgical images. [32]

By the mid-thirteenth century, surgeons in universities in France and Italy struggled to define their field in terms of an "intellectual commitment simultaneously to a surgery of abstract principles and to the need to relate those principles to *operatio manualis* on each individual patient."[33] Educated medical writers including Lanfranc de Milan, Henri de Mondeville, and Guy de Chauliac — three university surgeons Arderne cites — attempted to distinguish themselves from the barber surgeons and local healers who dominated medical care.[34] These "rational surgeons," to use Michael McVaugh's phrase, built and defined their field by emphasizing its theoretical basis, even though there was little difference in technical skill between them and uneducated practitioners.[35]

Surgery, more so than other contemporary medical fields, necessitated firsthand encounters with patients, a task often associated with the empirics these academic surgeons derided.[36] Requiring dexterity and precision, medieval surgery relied on practice-based approaches. In a description of a procedure for treating cataracts, Guglielmo da Saliceto, a

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[32] Peter Murray Jones, "Arderne and the Mediterranean Tradition," 289 - 293 .
[33] Michael McVaugh, *The Rational Surgery of the Middle Ages*, Micrologus' Library, no. 15. (Florence: Sismel-Edizioni del Galluzzo, 2006), 11.
[34] On the variety of medical practitioners in late medieval England, see Faye Getz, *Medicine in the English Middle Ages,* (Princeton, NJ: Princeton University Press, 1997); see also Charles H. Talbot and E.A. Hammond, *The Medical Practitioners in Medieval England,* (London, 1965).
[35] Michael McVaugh, "Cataracts and Hernias: Aspects of Surgical Practice in the Fourteenth Century," *Medical History* 45, (2001): 320.
[36] The rise of medical theory at Salerno and other academic centers in the twelfth century provides a helpful comparison to McVaugh's analysis of the beginnings of scholastic surgery as a field to incorporate into the already-respected medical field. See G. W. Corner "The Rise of Medicine at Salerno" *Annals of Medical History* 3, (1931): 2-3; Luke Demaitre, "Theory and Practice in Medical Education at the University of Montpellier in the Thirteenth and Fourteenth Centuries" *Journal of the History of Medicine* (1975): 103 -23.

surgeon who taught at the University of Bologna in the late thirteenth century, warned that a student could not learn the procedure for curing cataracts unless "he observes the operation with his own eyes; because the eye is so noble an organ, he must not dare to try it himself unless he has first seen someone else do it."[37] In universities, observation played an important role in instruction, allowing students to learn about anatomical structures and procedures as they trained to treat their own patients.[38] Arderne's drawings, which convey the appearance of specific patients and wounds, made a form of instruction central to university surgery available to readers in a static form.

The sound, academic approach to surgery that these thirteenth-and-fourteenth-century scholar-surgeons sought to develop explicitly included observation, not only of patients but also of their visual surrogates. Henri de Mondeville, who famously accompanied his lectures at the Universities of Paris and Montpellier with images, provides a clear example of the ways rational surgeons relied on images to enable observation in the scholastic sphere. [39] McVaugh writes that in Henri's earlier lectures at Montpellier, he showed images of individual organs, but in his later

[37] Nancy Siraisi, *Taddeo Alderotti and his Pupils: Two Generations of Italian Medical Learning,* (Princeton, NJ: Princeton University Press, 1981), 28; McVaugh provides a transcription of the Latin as well as the above translation: "Hec autem cura in veritate non potest disci nisi discipulus videat oculis propriam operationem super hoc; propter nobilitatem membri non est presumendum ab aliquo facere hanc operationem nisi prius videat aliquam coram eo eam fecisse." See McVaugh, "Cataracts and Hernias," 338.
[38] Michael McVaugh, *The Rational Surgery of the Middle Ages*, Micrologus' Library, no. 15. (Florence: Sismel-Edizioni del Galluzzo, 2006), 11.
[39] There is a widely quoted belief that the images in manuscripts of Henri de Mondeville's *Chirugia* date back to his lectures, and sometimes these are taken as recordings of the visual aids used in these lectures: this seems questionable to me. I believe this can be traced back to Mortimer Frank, *History and Bibliography of Anatomic Illustration In Its Relation to Anatomic Science and the Graphic Arts,* (Chicago: University of Chicago Press,1920), via MacKinney, "The Beginnings," 234. See also Robert Feibel, "Mortimer Frank, Johann Ludwig Choulant, and the History of Anatomical Illustration," *Journal of Medical Biography* (January 2018).

lecture at the University of Paris he used models of the whole body.[40] The three-dimensional model described here put component parts of organs and anatomical structures into spatial relationships. In his *Chirurgia,* Mondeville instructs

> anyone who wants to demonstrate the anatomy of the head inside and out, perfectly and in detail, should — if he cannot obtain a real human head — employ an artificial skull that can be opened, serrated to show the commissures and separable into four parts, so that after he has demonstrated its external anatomy he can open it and let the anatomy of the pannicles and the brain be seen in detail. Such a skull ought to be furnished on the outside with things to represent the hair, the skin, the muscles, and the pericraneum inside it there should be something to represent in detail the form of the pannicles and the brain.[41]

Mondeville describes a three-dimensional, movable sculpture that models both the external form and the relationships of the parts of the skull. He also emphasizes that the model ought to look lifelike, with skin and hair. [42] In specifying the need for these details, Mondeville signals the importance of corporeal naturalism in teaching from an artificial model; not only do features like skin and hair make the model more lifelike, but they also more realistically simulate a patient,

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[40] According to MacVaugh, "when Henri repeated his anatomy lectures at Paris two years later, he used more illustrations, often of the whole body, 'by which alone', as he boasted, 'the entire anatomy and inquiry into the human body… and each of its members, internal and external, in whole and in part… can be demonstrated with great precision." McVaugh, *Rational surgery*, 176.

[41] Translation by McVaugh, see McVaugh, Rational Surgery, 72; McCall also corroborates this: "According to Chauliac, Mondeville lectured from three-dimensional models of organs in Montpellier in 1304, and subsequently with full-length figures in Paris in 1306.30 These images can be found in two different types of manuscripts: as simple line drawings, likely copied by students, and as finished, illuminated scenes incorporated into a version of Chauliac's work by a professional illuminator." See McCall, "Disembodied," 23.

[42] Loren MacKinney, "The Beginnings of Western Scientific Anatomy," *Medical history* 62, No.3 (1962): 233 - 9. Taylor McCall, "Disembodied: Additional MS. 8785 and the Tradition of Human Organ Depictions in Medieval Art and Medicine," *eBLJ,* (2018): 23; Guy de Chauliac also claims that Henri used images in his lectures: "Et per istos modos Galenus in corporibus hominum et symearum ad noticiam prevenit et non per picturas — sicut fecit Henricus predictus, qui cum 13 picturis visus et anathomiam demonstrare." Guy de Chauliac, *Inventarium sive Chirurgia Magn*a, ed. Michael McVaugh (Leiden: 1997), Book I, p. 25.

and more accurately demonstrate the layers of a bodily system.[43] These details do not represent something intrinsic to the personality or moral character of an individual, but rather provide an exacting synthetic representation of a generalized anatomical structure.[44]

Surviving images in manuscripts made in France, said to have been copied from Mondeville's demonstrations, reveal a more complex relationship between the particularity of the model and that of its pictorial representation. Two surviving copies of his *Chirurgia*, one in Paris, Bibliothèque Nationale, MS Français 2030 and the other in Cambridge, Trinity College Library MS O.2.44 contain series of anatomical figures in place of allegorical or historical miniatures.[45] In translating the three dimensional models from Mondeville's lectures into two-dimensional drawings (as some scholars have suggested), illuminators have left out surface detail and deconstructed the depicted bodies in sequence.[46] These images also flatten the spatial relationships of Mondeville's cranial model into a series of sequential steps. First in the series is

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[43] In a sense, these lifelike details work as "reality effects," creating the impression that the sculptural model or drawing of the patient not only bears resemblance to but also might stand in for a real person. While Barthes uses this term in reference to markers of the real situation or appearance of a fictional literary space, it also fits the images described by Mondeville. The "superfluous" detail both lends credence to the past facture of the models, and also posits a closer connection between the models and the patients they represent. Roland Barthes, "The Reality Effect," in *The Rustle of Language* (Berkeley: University of California Press, 1989): 141 - 148.

[44] This differs from the appearance of "corporeal likeness" that Perkinson describes as constitutive of the development of early portraiture. Stephen Perkinson, *The Likeness of The King: A Prehistory of Portraiture in Late Medieval France,* (Chicago: University of Chicago Press, 2009), 23 - 26, 47; See also Stephen Perkinson, "Rethinking the Origins of Portraiture," *Gesta* 46 (2007): 135 - 157.

[45] On BnF MS Fr. 2030, see Alison Stones, *Gothic manuscripts, c. 1260-1320* , (Turnhout : Brepols, 2013), 57; On Trinity College MS O.2.44 see Montague Rhodes James, *The Western Manuscripts in the Library of Trinity College, Cambridge: A Descriptive Catalogue.* Vol. 3. Cambridge Library Collection - History of Printing, Publishing and Libraries. (Cambridge: Cambridge University Press, 2009), Entry 1148; For the images in both, see Loren C. MacKinney, "The Beginnings," 233–39.

[46] McVaugh describes how this process is rendered in text. McVaugh, *Rational Surgery*, 176 - 178.

a smiling skeleton, then a man whose opened abdomen reveals schematic organs (Fig. 2.1 – 2.2), and, most famously, a "flayed man" carrying his own skin behind him (Fig. 2.3 - 2.4).[47] Next is a man shown from behind composed only of bones and muscles, and then a sagittal section depicting the body bisected and opened from a hinge at the spine as though it were a book (Fig. 2.5). With the exception of one consultation image in BnF MS fr. 2030, none of the patient figures have clothing to differentiate them from each other.[48] These images show something otherwise invisible — the inner body — as the focus of the surgeon's attention, but they gloss over the particularity of each patient in the process. They do not grant the reader-viewer access to the patient's body in its full anatomical detail, nor with any attention to visual likeness. In doing so the images make a claim for the elevated status of theoretical knowledge — the knowledge of universals on which practice can then be based — over an empiricism grounded in particulars.

Henri de Mondeville and John Arderne's manuscripts are both illustrated with images of the procedures they describe, but the two programs of illumination show two divergent conceptions of how exactly images could work as instructional tools. Images in copies of Henri's *Chirurgia* have been understood as records of the images the surgeon showed during his lectures.[49] Arderne, in contrast, did not lecture in any capacity, and he likely did not compose his

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[47] Jack Hartnell, "Tools of the Puncture," 20 - 23.
[48] Alison Stones, "Nipples, Entrails, Severed Heads, and Skin: Devotional Images for Madame Marie," *Images and Belief: Studies in Celebration of the Eightieth Anniversary of the Index of Christian Art,* ed. Colum Hourihane, (Princeton: Princeton University Press, 1999), 57.
[49] "The three manuscripts that allegedly reproduce the organ models used by Mondeville in Montpellier in 1304 are London, Royal College of Physicians (RCP), MS. 227; Erfurt, Universitätsbibliothek Erfurt, Bibliotheca Amploniana, MS. Quart 21032; and Berlin, Staatsbibliothek, MS. Lat. 219.33 The incipits of all three of the manuscripts proclaim them to be copies of Mondeville's 1304 anatomical lectures: 'Having been composed in Montpellier by Magister Henry of Mundavilla [Mondeville], surgeon to the most distinguished king of France, at the request of some venerable scholars of medicine, taking account of what was demonstrated and made accessible to the senses in their presence in the year of our Lord 1304." McCall, "Disembodied," 23-4.

images himself despite having a heavy hand in their appearance. Arderne's images made the visual components of instruction more widely available, illustrating conditions and procedures alongside a text for non-academic readers. Henri de Mondeville and other scholastic surgeons sought to ground cures for these ailments in a rational theory of surgery that accounted for the body's internal operation as well as its external appearance, but Arderne was more concerned with communicating his proprietary method clearly and effectively in text and image. As McVaugh puts it, Arderne's writings "provide vastly more descriptive detail about the instruments to be used and the procedures to be carried out in treating fistulas and hemorrhoids, and much less information about their pathological character."[50] Mondeville's images theorize the structure of an ideal body from which a surgeon might encounter a particular instance, while Arderne's drawings record (or perhaps create the impression of recording) how the bodies of particular patients looked to let a reader extrapolate a more general method.

Sicut hic depingitur: As it is pictured here

Copies of Arderne's manuscripts include some of the most extensive programs of illumination of any late medieval medical book, with as many as 250 discrete images in a given manuscript copy. Arderne is explicit in his text about the instructional utility of these images.[51] I contend that these images not only make clearer the references to specific objects and procedures in Arderne's text, but also make those subjects visible to readers in a way that mimics the experiential observation that was crucial to late medieval surgery. Margins teeming with plants,

[50] Mcvaugh, *Rational Surgery*, 251.
[51] Peter Murray Jones, "Staying with the Programme," 209.

instruments, and body parts in Arderne's manuscripts indicate that Arderne's conceptualized images as central to the *Practica's* instructive function, and also reveal the extent to which the specific appearance of things depicted in Arderne's manuscripts impacted the instructional value of the text (Fig. 2.6). Often these marginalia illustrate something integral to a recipe or procedure, lending descriptive accuracy to Arderne's text by emphasizing the appearance of the body part or medicinal herb in question. Color, shape, morphology, scale: these characteristics, sometimes elusive in text, become clear through Arderne's illuminators' images.

Images in Arderne's margins do not always illustrate the content of the adjacent text straightforwardly, but sometimes serve as mnemonic references or puns to guide the reader through the text. Peter Murray Jones has argued that some of Arderne's marginalia add levity and therefore memorability through word play, functioning similarly to the mnemonic stylistic ornament Mary Carruthers has described in other contexts.[52] The passage on *buboes*, which describes the appearance and cause of swollen abscesses, is illustrated throughout Arderne's manuscripts with an owl, or, in latin, *bubo* (Fig. 2.7).[53] D'Arcy Power gives Arderne's etymology of a bubo as an "owle," that "is a best dwellyng in hideles so (th)is sikenes lurke(th) wi(th)in (th)e lure in (th)e bikynnyng, but after processe of tyme it vlcerate, & fretyng (th)e lure go(th)e out."[54] Jeremy Citrome notes an added level of innuendo and a reflection on the morbidity of surgical practice in this pun: iconographically, owls connoted death, sin, and abjection, thus an

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[52] Mary Carruthers, *The Craft of Thought: Meditation, Rhetoric, and the Making of Images, 400 - 1200,* (Cambridge: Cambridge University Press, 1998), 117 – 130.
[53] Jones, "Sicut hic depingitur: John of Arderne and English Medical Illustration in the 14th and 15th Centuries," *Die Kunst und das Stiudium der Natur vom 14. Zum 16. Jahrhundert*, eds. Wolfram Prinz and Andreas Beyer, (Cologne: Acta humaniora, 1987), 211; Here Arderne gives us some of the parody and playfulness Camille associates with the margins. Still this is far from the subversive margin Camille theorizes: Michael Camille, "Glossing the Flesh," in *The Margins of the Text,* ed. D.C. Greetham, (Ann Arbor, MI: University of Michigan Press, 1997), 254.
[54] Power, *Treatise of Fistula,* 37.

owl as the symbol of a rectal abscess brought with it both the lightheartedness of a punny joke and an eschatologically loaded statement about this particular bodily ailment.[55] Such details rely on the reader's ability to understand puns and textual references that are executed visually.[56] Like a textual gloss, these marginal illustrations direct the reader's attention, offer supplemental information, and often duplicate what is conveyed in Arderne's text.[57] In a certain sense, Arderne's marginalia function more like illustrations than illuminations. Whereas illuminations can operate separately from text, providing artistic or graphic statements all their own, illustrations give pictorial representation to what is described in text, clarifying or specifying potentially slippery physical description.[58]

As Peter Murray Jones has demonstrated, Arderne had a firm hand in the images that populate his manuscripts, and indicated when something described in text was to be pictured in

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[55] Jeremy Citrome, *The Surgeon in Medieval English Literature* (New York: Palgrave MacMillan, 2006) 121-122.
[56] Jones, "Staying with the Programme, 204-27; Jones, "Sicut hic depingitur," 112.
[57] While many of the contents of Arderne's margins are similar to the parodic and subversive glosses Camille discusses, Arderne's marginalia are closely connected to the text, and therefore perform a more straightforwardly indexical function. Michael Camille, *Image on the Edge: The Margins of Medieval Art*, (Cambridge, MA: Harvard University Press: 1992), 11; Michael Camille, "Image of the Self," *Framing Medieval Bodies,* ed. Sarah Kay and Miri Rubin, (Manchester: Manchester University Press, 1994), 73-74.
[58] The distinction between illustration and image is especially fraught in the context of manuscript illumination, precisely because of the close connection to text. Images have the capacity to make knowledge known without text, or in a way that is supplemental to what it conveyed in text. Illustrations have a meaning contingent on text. In the case of Arderne's manuscripts, these images seem to illustrate certain concepts from the text, but they also offer their own ways of looking not described in text. In post-medieval histories, "medical illustration" becomes the normative term for describing didactic medical images. On the use of illustrations in scientific contexts, see James Elkins, "Art History and Images that Are Not Art," *Art Bulletin* 77, (1995): 553 - 571; Elkins also provides a more casual overview of the use of images in scientific pursuits in James Elkins, "Who Owns Images?: Art or Science," *Circa* 97 (2001): 96 - 97; on distinctions between types of images and the information they communicate in earlier medieval visual culture, see Ildar Garipzanov, "The Rise of Graphicy in Late Antiquity and the Early Middle Ages," *Viator* 46 (2015): 1 - 21.

the margins with the phrase "*sicut hic depingitur*," redoubling the textual information by signaling its figuration *as it is pictured here*.[59] Arderne rarely describes the appearance of plants, the dimensions of instruments, or the exact placement of wounds in text in objective terms; instead, he notes that the thing in question looked "sicut hic depingitur," relying on the image to convey the specifics that lend practical value to the text.[60] Arderne's application of this formula to many types of images within his text and his illustrators' remarkable consistency in copying the program of illumination over a hundred and fifty years demonstrate the centrality of these images to any given reader's understanding of the text.[61]

Unlike individuated patients, illustrated plants, which occur throughout the margins of Arderne's manuscripts, always stood in as examples of their broader species. Plants thus required easily identifiable features that could apply to the larger species, rather than distinctive ones that marked each token as different within its type.[62] Jones provides an example of two plants that occur in close proximity in the text that posed a difficulty for their illustrators because of that

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[59] Jones, "Sicut hic depingitur," 112.

[60] Jones provides a detailed analysis of Arderne's language regarding prospective images he expects to be filled in by an artist. See Jones, "Sicut hic depingitur," 108 - 114. For a more general discussion of spaces and instructions left in manuscripts for artists, see Jonathan Alexander, *Medieval Illuminators and their Methods of Work*, (New Haven, CT: Yale University Press, 1992), 52 - 71. For more on the difficulty of surmising how an image ought to look from instructions in the text in the context of fourteenth-and-fifteenth-century English manuscripts, see Sonja Drimmer, "Disorder of Operations: Illuminators, Scribes, and John Gower's *Confessio Amantis,*" *Lias* 44, No.1 (2007): 5 – 28.

[61] Jones estimates that roughly 20% of the images in copies of Arderne's work correspond to an instance of this phrase, and, in the series of images showing anonymous lower bodies in surgical procedures, I would estimate the proportion to be even higher. Jones, "Sicut hic depingitur," 106.

[62] The type / token distinction, taken out of the philosophy of linguistics, is helpful in defining one instance of an overarching category, though the limited application of this theory to images and the rather confusing distinction between a token and an occurrence as it would apply to images has caused me to use this distinction only for clarity in several instances. See Nelson Goodman, "Seven Strictures on Similarity," in *Problems and Projects,* (Indianapolis: Bobbs Merrill, 1972) 438 - 444.

textual proximity. *Edera* and *dragancia*, two plants with distinct leaves and stems, have been conflated in two copies of the *Liber*. In London, British Library, Sloane MS 56 f. 81r and Glasgow, University of Glasgow Special Collections, Hunter MS 251 f. 84v, braided tendrils and pointed green leaves of ivy wrap around the tall spathe of a dracunculus plant (Fig 2.8 – 2.9).[63] While *dragancia,* native to the Eastern Mediterranean, may have been a relatively unfamiliar sight for an English reader, ivy was extremely common in Britain, and many of the plants listed and illustrated throughout the *Liber* were likewise indigenous species. Thus the hybrid ivy-dracunculus plants shown in Sloane MS 56 and Hunter MS 251 might have performed the indexical function Jones describes of the marginalia more generally, allowing the reader to navigate the text by recognizing the plant's leaves, but would also present a taxonomical dilemma for a reader interested in either species. Sachiko Kusukawa notes that in the introduction to *De Materia Medica,* Dioscorides, "famously advocated the importance of 'autopsia', or 'seeing for oneself' – it was important, Dioscorides had declared, to see plants not just once or twice, but frequently, so that one grasped the whole course of the life of a plant."[64] Seeing for oneself by looking at the images in Arderne's manuscripts is essential, to the point that it is thematized. The fact that plants had long necessitated observation underscores how Arderne could have conceptualized the same to be true about bodies, and how traditions of

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[63] Jones, Staying with the Programme, 219; On Sloane 56, see Kathleen L. Scott, *Later Gothic Manuscripts 1390-1490, A Survey of Manuscripts Illuminated in the British Isles, 6*, 2 vols (London: Harvey Miller, 1996), Vol. I, 72, 75, Vol. II, 199, 201; A. I. Doyle, "Book Production by the Monastic Orders in England (c. 1375-1530)," in *Medieval Book Production: Assessing the Evidence*, ed. by Linda l. Brownrigg, Proceedings of the Second Conference of The Seminar in the History of the Book to 1500, Oxford, July 1998 (Los Altos Hills, California: Anderson-Lovelace, 1990), 1-21; Loren MacKinney, *Medical Illustrations in Medieval Manuscripts*, Wellcome Historical Medical Library, 5, 2 parts bound together (London: Wellcome Historical Medical Library, 1965), Part I,cno. 87B, fig. 87B, Part II, no. 70.

[64] Sachiko Kusukawa, "The role of images in the development of Renaissance natural history," *Archives of Natural History* 38 (2011): 190.

particularization in botanical illustration that come out of this observational impulse could have migrated to Arderne's illustrated bodies.[65]

One of the best-known sets of images from Arderne's *Practica* is a full page of drawings of surgical instruments that occurs in nearly every illustrated copy of the work. In London, British Library, Sloane MS 3844, these have been depicted with very pale yellow and red washes (Fig. 2.10), and in Glasgow, University of Glasgow Special Collections, Hunter MS 339, they spread across a full opening and textual inscriptions label the instruments (Fig. 2.11). These drawings provide their viewer with insight into the construction, scale, comparative function, and even differences in materials used in each instrument.[66] Arderne describes his "syringa" or "siringa" as "an holow instrument by þe middeȝ and it ow to be made of the shappe as it is peynted here. nouþer gretter ne lenger. but even aftir the shappe as it is peynted here ne have it

[65] Jones cautions that "If we assume… that most readers of a manuscript knew the plants concerned very well by personal experience … then we will not fall into the error of assuming that the function of plant illustration is to enable the used to find the plant." Jones's explanation of the reader's familiarity with plant species helps to explain some of the idiosyncrasies of Arderne's plant illustrations." See Jones, "Sicut hic depingitur," 115 – 6.

[66] A similar issue occurs with technical drawing in Arabic manuscripts. Rogers discusses the illustrations of the Banu Musa's mechanical treatises, noting that these illustrations did not include information about proportions because they were intended for skilled audiences: "That the illustrations did not lead up blind alleys must be because those who read the text were already highly familiar with it and skilled in practical engineering. This makes it unimportant that the illustrations were not to scale: what was essential was the placing of the components, the size then being determined by trial and error." Something similar happens in the Syrian court engineer al-Jazari's diagrams for the construction of figural water clocks in thirteenth and fourteenth century copies of his Book of Ingenious Mechanical Devices, where small symbols around the image seem to denote the description of specific mechanical parts in the accompanying text. "Trial and error" may be another potential understanding of al-Jazari's opaque instruction — the process of building a component multiple times would fulfill a replicate the process of drawing out the experience of the device, though here it would be the experience of building rather than that of viewing. see Michael Rogers, "Text and Illustrations: Dioscorides and the Illustrated Herbal in the Arab Tradition," in *Arab Painting: Text and Image in Illustrated Arabic Manuscripts,* ed. Anna Contadini (Boston: Brill, 2007), 46.

noȝt but oon hole in þe neþer ende or smaller ende as it is peynted here."[67] A surgeon's understanding of what the syringa looks like, and their ability to make and properly use one, depends on seeing the image Arderne refers to in his text.[68] Arderne's description is only meaningful in reference to the provided image. This differs from similar illustrations of instruments in Arderne's source texts, including the Latin translation of Albucasis's *Chirurgia.*[69] Albucasis's text benefits from the inclusion of images that help the reader differentiate one tool from the next, but the text is far more descriptive than Arderne's, and could allow the reader to build these tools without reference to images. Arderne's text explicitly requires images to communicate anything meaningful about the instruments.[70]

Often facing the full-page illustration of Arderne's instruments, or, in the case of Sloane MS 3844, in the following opening, a group of images of lower bodies demonstrates an even more complex use of illustrations to clarify text (Fig. 2.12).[71] Seemingly incongruous symbols float around the blank parchment surrounding four lower bodies in the process of being treated. The four bodies show four different presentations of fistula in ano and four phases in Arderne's

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[67] British Library, London, Sloane MS 6, f. 144v., Transcription and translation my own. Power gives another transcription: "an instrument that is hollow in the middle, and it ought to be made in this shape, as it is painted here. [It ought to be] Neither greater nor longer, but even, [made] after the shape that is painted here, and it should have but one hole in the "nether end" or smaller end as it is painted here."; Power also includes a similar description of Arderne's "acus rostrata" in his edition: Arderne calls it "a snowted nedle, for it hath þe tone heued like a snowte, and in þe toþer an yȝe like a nedel by whiche þredes ow to be drawen agayn by middeȝ of þe fistule, as it shal be seid within in his place. And it ow to be of siluer, as it is paynted; and it ow to be no gretter ne lenger in þe snowte þan as it is paynted, but it ow to be longer atte þe left, þat it contene in al 8 ynches in lenghþe." Power, *Treatise of Fistula,* 9

[68] The phrase "as it is peynted here" occurs in the 1588 printed edition of Arderne's *Practica,* despite the lack of illustrations throughout. San Marino, California, Huntingon Library C 723.

[69] Jones, "Arderne and the Mediterranean Tradition," 315.

[70] This is in contrast to the "abstracted" surgical instruments depicted in copies of Albucasis's work. See Jack Hartnell, "Tools of the Puncture," 31.

[71] Catalogue of Additional Manuscripts: Sloane 3833-4014 (London: British Museum unpublished manuscript of unedited descriptions, no date), no. 6.

procedure for treating them.[72] Depicted fingers point to and probe the wounds of these patients, and a small spoke with beaded ends, a circle bisected by a line, and a black five-pointed star link the individual figures to text on the following pages. Each *signum* refers to a specific procedure detailed in text, but text and image build upon each other in order to fully describe the procedure. As Jones notes, the order of images does not necessarily match the sequence of the text — rather, the reader must use the signa to find the portions of text to which each body corresponds.[73] The signa sometimes occur in multiple portions of text, allowing the reader to connect a single image to multiple types of textual information. Because a single image often elucidates two categories of textual information — both the generic type of fistula and the specific approach to treating *this* fistula — the images make seeing a given patient's wound integral to treatment more generally.

In describing the potential instructional value of Arderne's marginal illustrations, Jones stops short of claiming that these images are mnemonic in function, focusing instead on their utility as indexes that let the reader navigate the text. Jones cautions

> I am not going to make the further claim that these indexical images are also mnemonic in purpose because, as Lucy Sandler has pointed out… mnemonic systems were supposed to work on the basis of the reader assigning his or her own invented image to a particular section of text, not relying on the artist to provide a ready-made mnemonic.[74]

Invention, though, seems to be one of several crucial interpretive exercises the reader would have to perform in order to make Arderne's static text match the actual experience of surgery.[75] The

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[72] Jones, "Sicut hic depingitur," 110.
[73] Lüthy and Smets discuss the use of symbols standing in for textual description or specific alchemical elements. See Christoph Lüthy and Alexis Smets, "Words, Lines, Diagrams, Images: Towards a History of Scientific Imagery," *Early Science and Medicine* 14 (2009): 418 - 420.
[74] Jones, "Staying with the Programme," 215; see also Lucy Freeman Sandler, "The Word in the Text and the Image in the Margin: The Case of the Luttrell Psalter" *Journal of the Walters Art Gallery* 54, (1996): 87 - 99.
[75] Invention was a key component of memory and the composition of thought in the pre-modern rhetoric. Carruthers details how invention could serve as a way of building an inventory for the locational memory model and as a way of composing new ideas from remembered images. See

marginalia in Arderne's work insist on the importance of seeing something — whether a condition, ingredient, or instrument — in order to address it or implement it successfully in a surgical procedure. The images in the margins make the visual experiences of consulting patients, fashioning instruments, and identifying herbs available to readers, but they also imply an additional step necessary to use images in practice: imagining the link between pictured object or procedure and its real-world counterpart.

Arderne's Surgical Figures

Arderne also uses phrase "sicut hic depingitur" to describe each figure in a series of images from the *Practica* that show fragmentary lower bodies of patients. These truncated figures have wounds that illuminators have depicted in graphic detail across manuscript copies, with each spurt of blood and irregularly-shaped wound easily discernible from the others in the series. These images of anonymous patients provide a case study for how Arderne's artists emphasized the particularity of the bodies and bodily substances they depicted. They also hint at the instructive value of images in surgical training. Seeing patients, whether in person or depicted in images, was a necessary part of surgery.

In the text of his *Practica*, Arderne narrates treating and curing his patients through the lens of his own experience, beginning each account with a version of the phrase "I saw a certain man," then recounts the problem, and provides a timeline of different attempts at treatment.[76] Arderne's patient identifications here are both vague enough to make a given patient seem

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Carruthers, *The Craft of Thought*, 7 - 23.

[76] See, for example, Power, *Treatise of Fistula*, 32.

generic, and specific enough to fix the described wounds and treatments to each particular case. The wounds depicted by Arderne's illuminators have a similar effect, capturing the specific appearance of a given condition but depicting it on a literally faceless body.

An image of truncated lower body found on f. 151v of Hunter MS 339 (Fig. 2.13) depicts the grizzly wounds of a patient who has come to Newark from Bordeaux.[77] Arderne writes that this man "had ane horrible sore, þat is to sey peces or gobettis of rede flesshe and rawe in parties hyngyng dovne to þe lengþe of ane ynch."[78] In this copy, Arderne's illuminator has drawn an anonymous body, cut off just above the navel, with bent knees and feet dangling into the center margin. Curving black marks layered with thick red strokes create the impression of dripping blood and dissevered flesh. The depicted blood flows without clear boundaries, and the chaotic layering of red and black conveys the rawness of the hanging flesh Arderne describes.[79] This image provides detailed information about the appearance of the wound in question, deemphasizing the identity of the patient in the process.[80]

Arderne introduces a different patient by stating "Quide(m) h(ab)uit sup(er) natem fficu(m) sang(ui)ne(m) emittente(m) & alu(um) sanie(m) & sitis erat inorecessi [?] mulberie…"[81]

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[77] "he had a horrible sore, that is to say, pieces or bits of red flesh, raw in parts, hung an inch long. And they were both on his buttocks and on other parts of the anus, three fingers wide." Power's transcription continues: "And þai occupied boþe his buttokes on aiþer party of þe lure to þe *brede of þre fyngers; and þer went out þer-of riȝt mich watrinesse and some-tyme blode wiþ gret hete and stynk," Power, *Treatise of Fistula,* 41.

[78] Power, *Treatise of Fistula*, 41.

[79] For a discussion of the changing approaches to rendering blood in the late Middle Ages, see Beate Fricke, "A Liquid History: Blood and Animation in Late Medieval Art," *Res* 63/64, (2013): 53 – 69.

[80] I will return to a discussion of how the sequence of Arderne's lower body figures control the way their viewers see the depicted patients in Chapter Three.

[81] "a certain man had above his rectum a hemorrhoid excreting blood and pus from his abdomen, and it was positioned standing upright (like) a mulberry." Transcription and translation my own. I take Arderne's "inoressci" as "inhorressci." London, British Library, Sloane MS 3844, f. 16r. Power provides a transcription of this portion of text from the Middle English Sloane MS 6: "A

The "mulberry" is represented differently across manuscripts, but usually looks like either a broad, shallow wound indicated by an indistinct patch of reddish wash (Fig. 2.14), or a tight, circular outline with attenuated red ink radiating or sputtering out from it (Fig. 2.15).[82] The easily recognizable mulberry-shaped wound makes otherwise indistinguishable bodies legible.[83] The textual description of the mulberry wound offers a fixed ekphrastic reference for the reader, and provides an easy mental comparison for both artist and reader, evoking color, size, and texture all at once. In describing the man with a "horrible sore" discussed above, Arderne uses a similarly vivid analogy. He writes that the patient's bits of hanging flesh, once cauterized, "grew to be like the womb of a fish called the crawfish or lobster when he spawns."[84] This unfortunate man has been shown in Sloane MS 2002 from behind, bent over at the hips (Fig. 2.16). In contrast to the other patients in the series, who are more typically shown in profile, this figure's posture gives an uninterrupted view of the man's "gobettis of rede flesshe," shown here as curving black lines with feathered daubs of red paint. Compared to those of the other figures in the series, these wounds appear to be inflamed, and, as Arderne's earlier description indicates, blur the boundary between being surface wounds and permeating deep into the body.

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man had vpon his buttok a blody fyk puttyng out blode and somtyme quitour, and it was like to a Mulbery; to þe whiche I putte aboue puluer grek by oon niȝt, and in þe mornyng I pulled out riȝt liȝtly wiþ my fyngers þe fike half mortified." See Power, *Treatise of Fistula*, 41.

[82] The former tends to be employed by artists who have depicted bodies with illusionistic color washes, while the latter occurs on lower bodies rendered as unfilled outlines. Compare, for example, the rendering of the mulberry figure in Sloane 56 and that in Sloane 2002. Compare, for example, the rendering of the mulberry figure in Sloane 56 and that in Sloane 2002.

[83] See Power, *Treatise of Fistula*, 41.

[84] "so þat his buttokkes war cauteriȝid; and þei grew to þe liknes of þe womb of a fissh þat is seid creuyse or lopster when he spermeþ or frieþ. And þose superfluites partyngly grew in þe hole skynne; and when þei war mortified euen to þe rotes, þer appered holes fro whens þai went out." Power, *Treatise of Fistula,* 41

The particular appearance of wounds makes these anonymous patients legible to the reader; the wealth of corporeal detail provided in both text and image means readers can recognize the man from Bordeaux not merely as different from the others in the series, but as distinct in his own right. Ultimately, a reader could recognize the man from Bordeaux as generic and specific, both type and token; he exemplifies this category of wound as it might occur on other patients, and he also attests to this specific instance of the wound occurring. [85] The complicated web of textual description, corporeal naturalism, and lack of physiognomic detail at hand in these pairs of text and image yields an experience akin to the surgeon's own practice. The *Practica* reproduces the process of observation constitutive of late medieval surgery with a static visual surrogate.

In describing gothic tomb sculpture in England, Paul Binski characterizes macabre images as particular:

> Where symbol may be aesthetically vacuous, macabre things possess aesthetic specificity directing response by means of surface. Macabre image are as they are because they have complex specificity, an eloquence of particularity. The processes of decay revert us to Everyman, the particularity and continuity of identity being annihilated in the generality of death. Its point is conveyed by specifics, by the particular, not the typical: and yet typicality is its aim. This is a central paradox of the loss of self in realism: that personhood itself is challenged as we revert to type.[86]

[85] The multiplication of types of wounds mirrors Henri de Mondeville's complaints about the difficulty of discerning the meaning of a given aposteme from the wide variety of names a surgeon might attribute to it: "There is no surgeon who can resist labeling the aposteme he is treating with one of these names. He has to label illnesses with fearsome names in order to get his clients to pay. But the variety of names doesn't mean that there's the same variety in the things he is talking about or in the way he treats theme: any aposteme is either troublesome, serious, or deadly, and the experienced surgeon can tell which it is by touch and sight, by its symptoms and by the patient's comments, and with this information he can give the aposteme its proper treatment." McVaugh, "Surface meanings," 23.
[86] Paul Binski, *Gothic Sculpture*, (New Haven: Yale University Press, 2018), 223.

Arderne's anonymous patient figures, like these macabre funerary monuments, communicate something general by means of particularity. Through corporeal specificity, they clearly define the conditions they depict, showing them in a way that would be instructive for both identification and treatment. Without names or faces, the lower body figures insist on the general applicability of conditions to patients other than Arderne's. In parallel to Binski's assertion that the particularity of the macabre evinces the universality of human life and death, the individuated corporeal detail on anonymous, truncated bodies in Arderne's patient portraits — figures that call to mind the blood and gore of Binski's macabre tombs — establishes the universality of conditions they picture, and with it the possibility of applying Arderne's method to one's own patient.

Seeing Like a Surgeon: Anatomical Drawing

At once viscerally off-putting and attention grabbing, the fragmentary bodies throughout the *Practica* seem at odds with the tradition of anatomical drawing, despite a shared attention to parts of the body and the close conceptual connection between the two types of illumination. Anatomical drawings often depict the inner body, eschewing the representation of a particular patient in favor of a more generalizing approach to disembodied organs and limbs.[87] Earlier anatomical drawings offer a useful comparison in thinking about the different rhetorical work images of body parts could do in practical, medical contexts to impose visual order over an

[87] As Groebner puts it,"once opened up, the human body transformed itself immediately into an indecipherable and viscous mass of blood and upwelling ooze. The visual triumph of anatomy as a scientific discipline resided in its capacity to make the blood, mucus, and other fluids disappear." Groebner, *Who Are You*, 95.

unseen, unseeable inner body. While the images in Arderne's manuscripts attend to the particular appearance of wounds and patients, earlier anatomical drawings organize the inner body into parts by picturing organs and systems schematically and generically. Unlike Arderne's depicted patients in the *Practica* and *Experimenta*, anatomical drawings show no interest in depicting anything beyond the organs of patients, let alone individuating patients.

A group of images of different systems within the body, the so-called *Fünfbilderserie*, depicts the internal composition of the body in a series of five (or, in some versions, nine) images.[88] With earlier medieval Arabic and German precedents, the earliest copy of the series made in England dates from the early thirteenth century, and was rebound with a copy of Arderne's work in the fifteenth century, in what is now in Cambridge, Gonville and Caius College, MS 190/223, the manuscript I described in the Introduction to this dissertation.[89] The typical Fünfbilderserie consists of a group of five sequential images of bodily systems shown frontally — a man's nervous system, his veins (Fig. 0.1), arteries, skeleton, and muscles — contained within a thin outline denoting flesh.[90] In MS 190 / 223, an additional four systems — the male and female genitals, stomach, and eye-brain system (Fig. 0.5) — have been rendered in an even more simplified, diagrammatic style.[91] Taylor McCall describes these latter four images

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[88] Ynez O'Neil, "The Fünfbilderserie — A Bridge to the Unknown," *Bulletin of the History of Medicine* 51, (1977): 538-549; Karl Sudhoff, "Die Oxforder anatomische Fünfbilderserie des Cod. Ashmol. 399," *Archiv für Geschichte der Medizin* 7, (1914): 363 - 378; Loren MacKinney and Boyd Hill, "A New Fünfbilderserie Manuscript — Vatican Palat.Lat.1110," *Sudhoffs Archiv für Geschichte der Medizin und der Naturwissenschaften* 48, (1964): 323 - 330.
[89] Kari Anne Rand Schmidt, *Manuscripts in the Library of Gonville and Caius College Cambridge*, (Woodbridge: Boydell & Brewer, 2001), 218.
[90] Taylor McCall, "Disembodied," 18; For comparison to other initials in medical manuscripts, see Jennifer Borland, "Freeze-framed: theorizing the historiated initials of the Régime du corps," in *Word & Image* 32, no. 2 (2016) 235 - 250.
[91] On what precisely constitutes the Fünfbilderserie, see Karl Sudhoff, "Abermals eine neue Handschrift der anatomischen Fünfbilderserie. Versuch einer Wiederherstellung des lateinischen Textes dieses illustrierten Leitfadens der Anatomie" *Archiv für Geschichte der Medizin*, Bd. 3,

(the "complex systems") as "schematic abstractions: either impossible interior perspectives of the organ systems, or a depiction of the organ from the exterior."[92] Whereas the first five systems use the space of a generic human frame, the remaining four images bear no indication of the material realities of their corporeal situation.[93] For example, the eye-brain diagram shows connections within the system, but not its relation to the rest of the body.[94] All of these images show organs with minimal corporeal context; neither the particular bodies in which they were found nor the links between systems have been depicted.

Organs shown completely isolated from the body, floating on the pages of manuscripts, though rare, are sometimes illustrated in anatomical treatises. While these images have been taken as evidence of or perhaps alternatives to human dissection, they also indicate an anatomical interest in the physical appearance of the inner body.[95] In the images in MS 190 / 223, the schematic presentation of the heart, liver, eye-brain system, and reproductive systems

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H. 6 (1910): 353-368; Ynez Oneill, The Fünfbilderserie Reconsidered," in *Bulletin of the History of Medicine,* Vol. 43, No. 3 (1964) 236 - 245; Taylor McCall in *Transactions of the Cambridge Bibliographic Society* 16 (2016), 1-22.

[92] McCall, "Disembodied," 18.

[93] Karl Sudhoff, "Weitere Beiträge zur Geschichte der Anatomie im Mittelalter," in *Archiv für Geschichte der Medizin, 8,* (1914).

[94] The disembodied appearance of eye-brain diagrams in particular facilitates a more complex understanding of the interrelation of cranial parts. As Savage-Smith notes of an arabic eye-brain diagram: "The diagram illustrates simultaneously two, if not three, different views and cross-sections: (1) an external view of the top of the skull, showing the cranial sutures; (2) a horizontal cross-section with the top of the skull removed, showing the ventricles of the brain, the optic nerves, the optic chiasma, and the eyes in cross-section; and (3) the pericranium, the connective tissue covering the inside of the skull, shown and labelled (*simhaq*) along the outside of what appears to be the cranium." See Emilie Savage-Smith, "Anatomical Illustration in Arabic Manuscripts," in Arab Painting: Text and Image in Illustrated Arabic Manuscripts, ed. Anna Contadini, (Boston: Brill, 2007), 152.

[95] Katherine Park, "The Life of the Corpse: Division and Dissection in Late Medieval Europe," *The Journal of the History of Medicine* 50 (1995): 111 - 132; Allen Shotwell, "The Illustrated Dissection: Drawings in the Extant Student Notes from Vesalius's Dissctions," in *Towards the Authority of Vesalius: Representations of the human Body in Antiquity, the Middle Ages and the Renaissance* (Turnhout: Brepols, 2018): 383 - 402.

communicate to their viewer the relationship between parts in each system.[96] Karl Whittington has argued that the full-page images of male and female reproductive systems in a later copy of this same set of images in Oxford, Bodleian Library MS Ashmole 399, mimic the physical orientation of practices of seeing and reading, falling into the gendered limitations of fourteenth-century scholastic medicine. A male reader, looking down at the image of male genitalia (Fig. 0.2), would find the diagram perfectly situated in his own lap to read the schematic labels onto his own body, while the opposite orientation of the female genitalia (Fig. 0.4) could approximate the position of a patient standing or sitting in front of this same reader.[97] Even when pictured in combination with a real body, these images present schematic, universalizing renderings of body parts, and function as theoretical tools because of their generality. A reader could graft the schematic system onto an imagined or real patient because the organs have been depicted without a physiognomically or physically particular frame.[98] Arderne's images, in contrast, make

[96] Whittington, "The Cruciform Womb: Process, Symbol and Salvation in Bodlieian Library MS. Ashmole 399," *Different Visions* 1, (2006): 1-5.
[97] Whittington, "Cruciform Womb," 6; Whittington's argument calls to mind Bynum's description of Aristotelian conceptualizations of male and female anatomy. "Ancient biology, especially in its Aristotelian form, made the male body paradigmatic. The male was the form or quiddity of what we are as humans; what was particularly womanly was the unformedness, the stuff-ness or physicality, of our humanness. Such a notion identified woman with breaches in boundaries, with lack of shape or definition, with openings and exudings and spillings forth. But this conception also, we should note, put men and women on a continuum. All human beings were form and matter. Women were merely less of what men were more." Caroline Walker Bynum, "The Body of Christ in the Later Middle Ages: A Reply to Leo Steinberg," *Renaissance Quarterly*39, (1986): 436.
[98] Historiographically, anatomical drawings of organs in isolation have been tied to questions about the earliest autopsies and dissections in universities beginning in the fourteenth century. McCall describes images of organs in initials in BL Add. MS 8785, an Italian *De Proprietatibus Rerum* manuscript made around 1300. The making of these images of organs corresponds to some of the earliest public autopsies in Italy. McCall, "Disembodied," 16; On actual practices of dissection, see Katherine Park, *The Secrets of Women: Gender, Generation, and the Origins of Human Dissection,* (Brooklyn: Zone Books, 2006), 13-38.

specific patients visible because illuminators have individuated both the wounds and the patients themselves.

Historiographically, anatomical drawings of organs in isolation have been tied to questions about the earliest autopsies and dissections in universities in the fourteenth century.[99] McCall notes that the drawings of organs decorating the initials of London, British Library Additional MS 8785, made in Italy around the year 1300, were produced at the same time of "the earliest evidence of the shift from traditional reliance upon text-based descriptions by the ancient authorities to first-hand, empirical investigations of the body through human dissection for the first time in millennia."[100] The manuscript McCall describes is an early fourteenth-century Italian translation of Bartholomaeus Anglicus's *De Proprietatibus Rerum*, with each paragraph preceded by an initial depicting the organ about to be described (Fig. 2.17).[101] These organs, isolated from the rest of the body, suggest the universality of their origin. Unlike Arderne's wounds, which are clearly connected in text to patients he himself saw, these organs do not belong to a patient.

A rather unusual autopsy image in Oxford, Bodleian Library, MS Ashmole 399 shows the organs of a deceased patient floating outside the patient's body (Fig. 2.18); here, the patient's organs complicate the binary of isolated / universal organ and particular / embodied patient.[102] The series of six framed images that culminate in the autopsy have provided the basis for a

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[99] Katherine Park, *The Secrets of Women: Gender, Generation, and the Origins of Human Dissection,* (Brooklyn: Zone Books, 2006), 13-38.
[100] McCall, "Disembodied," 16.
[101] *Catalogue of Additions to the British Museum*, vol. 6 (London: British Museum, 1831-1835), 22; Fritz Saxl and Hans Meier, *Catalogue of Astrological and Mythological Illuminated Manuscripts of the Latin Middle Ages in Manuscripts in English Libraries*, 1, ed. by Harry Bober (London: The Warburg Institute, University of London, 1953) 3; Heinz Meyer, "Die illustrierten lateinischen Handschriften im Rahmen der Gesamtüberlieferung der Enzyklopädie des Bartholomäus Anglicus," *Frühmittelalterliche Studien*, 30 (Berlin: de Gruyter, 1996), 368-95.
[102] Loren MacKinney, A Thirteenth-Century Medical Case History in Miniatures," *Speculum* 35, no. 2 (1960): 251-59.

spirited debate about what, precisely, they represent.[103] Rather than engage in the debate around the MS Ashmole 399 images, I want to briefly think of these images — especially the autopsy image — as emblematic of the problem of representing illness and treatment. Here the illuminator worked around the problem of representing an illness as simultaneously generic and specific by showing the patient (or, perhaps, several patients) at multiple moments in time.[104] Like Arderne's portraits of patients, the MS Ashmole 399 images suggest a narrative of illness and healing, and present a single patient on whose organs the practitioner and dissector focus their study. The patient's organs, floating out of scale and out of her body, lend the image the same universalizing quality as the disembodied organs depicted within this same manuscript. Just as in the contemporary initials containing disembodied organs, the interior of the body in the autopsy scene has been made visible externally for the viewer. Arderne's manuscripts, meanwhile, challenge the possibility of depicting a universal body by rendering the wounds of specific patients. Rather than concern themselves with the particularities of patients and wounds as Arderne's artists have done, the makers of MS Ashmole 399 have presented a series of images that avoid any further particularization of the patient or her organs, even as they focus on a single patient.

The Surgeon at Work

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[103] A. G. Watson, *Catalogue of Dated and Datable Manuscripts c.435-1600 in Oxford Libraries* (Oxford, 1984), no. 35; Otto Pächt and Jonatham J. G. Alexander, *Illuminated Manuscripts in the Bodleian Library Oxford*, Volume III (Oxford: Clarendon Press, 1973), nos. 442, 472.
[104] On the tradition of representing narrative as discrete moments in time in English manuscript illumination, see Otto Pächt, *The Rise of Pictorial Narrative in Twelfth-Century England,* (Oxford: Clarendon Press, 1962).

Explicit references to the role of the surgeon in Arderne's images are few and far between. Instead, Arderne's images of lower bodies, lacking any pictured surgeon, place the reader in the implied surgeon's place. This means both that the images give the reader the visual experience of surgical consultation by depicting specific patients and that the reader controls the narrative of treatment in seeing and reading about these patients. The only images (aside from two author portraits) in which we can see the presence of the surgeon, rather than infer it through Arderne's text, occur in the full-page drawings of four lower bodies that often share an opening with Arderne's surgical instruments. Here, small hands, abruptly cut off from any whole body, point at and probe into the represented patients. Like manicules, the hands gesture at information on the page without doing diegetical work within the image. In Oxford, St John's College MS 86, the illustrator has rendered the four figures in the image in black ink (Fig. 2.19).[105] Two hands operate on the body in the upper left corner of the image. Bent over and sometimes with butt cheeks spread apart, these images present the patient's body to the viewer at the moment of the surgeon's intervention. The surgeon, meanwhile, has been made anonymous; any viewer could ostensibly take the place of the disembodied hands.

In a French manuscript made in the century before Arderne composed his *Practica,* a sequence of images shows interactions between a surgeon and patient as consultations, rather than concentrating on the appearance of specific surgical complaints. London, British Library Sloane MS 1977, a copy of Roger Frugardi's *Chirugia* made around the year 1300 (Fig. 2.20), contains 96 discrete surgical scenes over eight folios.[106] On each page, above the six surgical

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[105] Ralph Hannah, *A Descriptive Catalogue of the Western Medieval Manuscripts of St John's College, Oxford*. (Oxford: Oxford University Press, 2002).
[106] Karl Sudhoff, *Beiträge zur Geschichte der Chirurgie im Mittelalter: Graphische und textliche Untersuchungen in mittelalterlichen Handschriften,* 2 vols (Leipzig: Barth, 1914-1918), Volume I, Studien zur Geschichte der Medizin, 19-33; Loren MacKinney, *Medical Illustrations*, Part I,

images, are three images from the life of Christ, a total of 48 throughout the series.[107] In each scene a doctor emphatically gestures and a patient sheepishly reveals their wounds.[108] Patients' ailments are shown externally, without clear links to textual descriptions of other symptoms or of internal causes. The images verify that a doctor must see a patient in order to offer treatment, but they prevent readers from gaining practical experience through the mediated observation individuated images could enable. Beyond visualizing the basic organization of medical compendia from head to toe, the Sloane MS 1977 images tell their reader little about the patients depicted or their ailments.

Another image of a practitioner at work, this time in an early fifteenth-century French translation of Bartholomaeus Anglicus's text, the *Livre des Propriétés des Choses,* now Paris, Bibliotheque Nationale MS 9141 f. 55r, shows two men gazing not at a patient, but at a framed picture (Fig. 2.21).[109] In the posture of a zodiac man, with arms and legs at shoulder width, an

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nos 65, 76, 94; Tony Hunt, "Roger Frugard's Chirurgia, The Practica Brevis of Platearius," *Anglo-Norman Medicine* (Woodbridge: D. S. Brewer, 1994-), 11-13; Nigel Morgan, *Early Gothic Manuscripts, 1190-1250*, A Survey of Manuscripts Illuminated in the British Isles, (London Harvey Miller, 1982-1988), Volume 1, 127.

[107] Whittington contends that the christological scenes and their surgical counterparts lack any direct typological connection, but rather that the pairing of seemingly discrete surgical scenes with well-known christological ones lends a narrative quality to the manuscript's medical content. Whittington notes that by making Roger Frugardi's text consonant with a sort of plot, the theoretically dense surgical text becomes exciting for the reader; Karl Whittington, "Picturing Christ as Surgeon and Patient in British Library MS Sloane 1977," *Mediaevalia,* 35 (2014): 88; In Turner's account, narrative enables Arderne to construct and present his expertise as a doctor around the patient's expectations of the processes of becoming ill and healing. I think that the very presence of patients in Arderne's account, just as much as the narratives of their treatment, not only establishes the work as significantly autobiographical but also conveys the same sorts of authoritativeness as the longer narrative passages. Marion Turner, "Illness Narratives," 65-67.

[108] Jones describes this pattern as "Surgical narrative," and grants Arderne for a significant expansion of narrative in medical texts beyond what was common in the scholastic tradition. Peter Murray Jones, "Surgical Narrative in Middle English," *ANQ* 18, (2005): 3.

[109] This in contrast to the traditional iconography for the beginning of this book, the physician surrounded by patients, see Donald Byrne, "The Boucicaut Master and the Iconographical

unclothed man with few identifying features fills the frame, occupying the attention of the practitioner and another man. [110] The physician points to the framed image, but he looks at and talks to his companion, referencing the image as he consults with a real patient, or perhaps opts to look to a living patient while forsaking the painted example. [111] Neither the framed image nor the living patient bears any information that would allow a reader to identify an ailment, or to learn anything about the theory or practice of medicine beyond the necessity of seeing a patient first hand.

The BnF MS 9141 image and Sloane MS 1977 sequence show patients and practitioners at different degrees of specificity, and indicate the complexity of medical representation in the fourteenth and fifteenth centuries. With no real physiognomic or corporeal detail whatsoever, the painted zodiac man in BnF 9141 tells the doctor little about the particular situation at hand, and deemphasizes the identity of the patient, instead generalizing the fundamental astro-medical principles behind scholastic medical theory. The surgical consultations in Sloane MS 1977 convey a sense of the particularity of patients, if only because of the multiplicity of figures included. These patients have visibly distinct ailments, but they lack the sophistication of instructional surgical images like those of Arderne or Mondeville.[112] Whereas a great deal of

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Tradition of the 'Livre Des Propriétés Des Choses,'" *Gazette des beaux-arts* 92, (1978): 154-156.

[110] Harry Bober, "The Zodiacal Miniature of the Très Riches Heures of the Duke of Berry:Its Sources and Meaning," *Journal of the Courtauld and Warburg Institutes* 11 (1948): 8-15; John Murdoch, *Album of Science: Antiquity and the Middle Ages,* (New York: Scribner's Sons, 1984), 315 - 317. Orlemanski's discussion of the Wound Man is also helpful in thinking about the heuristic work Vein and Zodiac figures do, see Julie Orlemanski, *Symptomatic Subjects*, 11-12.

[111] Michael Camille, "The Image and the Self: Unwriting Late Medieval Bodies," in *Framing Medieval Bodies,* ed. Sarah Kay and Miri Rubin, (Manchester: Manchester University Press, 1994), 56.

[112] Kusukawa notes the value placed on time in observing a patient or specimen: "pictures could thus be useful for bringing together fragmentary pieces of information in order to obtain a more complete understanding of a plant or animal. Observation of a natural object thus entailed

attention has gone into depicting the clothing of the second man in BnF MS 9141, we do not see much of his face, nor do we see any external signs of ill health. There are traditional non-mimetic markers of identity and status, and there are highly nuanced physiognomic details, but this rendering of a particular person includes little information relevant to his medical treatment. In both manuscripts, artists have generalized the interaction between doctor and patient, either at the level of the ailment, the treatment, or the patient. In contrast, Arderne's illuminators represent wounds in a way that implies the specificity of the patient on whom they occurred. Both the lower body figures and the differentiated and distinctly clothed patients in the *Experimenta* seem to indicate an investment in individuation as an instructive tool and as a way of modeling the very act of observation.

Perhaps the high level of corporeal naturalism given to patients' bodies in Arderne's manuscripts had as much to do the author's pedagogical mission as it did with the nature of the wounds themselves. McVaugh argues that fistulas, unlike battle wounds and other traumatic injuries, offered surgeons an unprecedented opportunity to inspect the interrelation of the body's parts.[113] In earlier surgical anatomies, McVaugh argues,

> we can see that they all share the presupposition that anatomy should consider the bodily members from the standpoint of the function they serve, so that organs in the digestive or vascular or urinary systems were often treated together, and physiological linkage mattered more to the author than spatial proximity.[114]

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patience, ingenuity and time… and pictures became an important medium with which to conduct sustained study." Kusukawa, "The Role of Images," 195; As McVaugh notes, the lack of immediate attention required by fistulas meant a slower pace of observation and with it a better understanding of the relation of the body's internal systems. Michael McVaugh, "Spaces of Anatomy: Fistulas, the Knee, and the 'Three-dimensional' Body," in *Medicine and Space: Body, Surroundings and Borders in Antiquity and the Middle Ages,* eds. Patricia A. Baker, Han Nijdam, and Karine van't Land (Leiden: Brill, 2012), 23.

[113] As McVaugh notes, the lack of immediate attention required by fistulas meant a slower pace of observation and with it a better understanding of the relation of the body's internal systems.

[114] McVaugh, "Spaces of Anatomy," 23.

The lack of awareness of spatial links between systems is clear in the Fünfbilderserie images, where each system is entirely autonomous. Fistulas, because they rarely needed immediate treatment, allowed the surgeon to examine the interior of the body to better understand the physical and spatial relationships of its parts. Arderne's depicted lower bodies keep open the possibility of observing the body, inside and out, and therefore suggest the continuity of the body's systems, and the need to picture the body to fully comprehend its condition. The difference between Arderne's images of body parts and earlier images of surgeons consulting and operating on bodies suggests the instructive quality and observational impetus in these images; Arderne's fragments of bodies, and the accumulations of different sorts of images throughout his manuscripts, come together to provide the reader with the tools necessary for sustained observation.

II. Arderne's Patients

Patients as Individuals / Patients as Individuated

> Ther was also a gardiner whyle þt he wrowghte in þe vynes kytte his own hande wt an hook uppon a ffryday aft(ir) the ffeste of Seynt Thomas of Cannt(ir)beri in som(er)e so þt þe þoombe was altogyd(er)e departyd fro(m) þe hande saff only in þe iuncte(n) þt þ(ere) was pyned to þe hande & he myghte boowe bakward þe þoombe to his arm & þer stremyd out þer of moche blood. And as touchynge to þe cur(e) The þoombe was furst reduced in to his furste ordr(er) & it sowyd & þe blood was restreyned wt þe reed pouder of Lannfrank & wt þe heerys of an hare and it was not remeuyd unto þe iiide day and in þe iiide day whan it was remeuyd þer apperyd no blood…[115]

[115] "There was also a gardener who, while working in the vines, cut his own hand with a hook on a Friday after the feast of Saint Thomas of Canterbury in Summer, so that the thumb was totally detached from the hand, save only at the junction, where it was pinned to the hand, and he could bend the thumb backward to his arm, and there streamed out of it much blood. And concerning the cure, the thumb was first reduced in to his first order and it was stiched up and the blood was restraied with Lanfranc's reed powder and with the hairs of a har, and it was not removed until

Both the textual description and the accompanying image of the gardener in Cambridge, Emmanuel College MS 69 provide a wealth of detail about this specific case, a narrative of a gardener's injury and treatment.[116] This is one of eighteen case histories that occur in at least four Latin copies of Arderne's work, and in additional Middle English translations including Emmanuel 69.[117] Only twelve of the patients described in the series were definitively treated by Arderne, according to his own account.[118] Even so, all of the images of patients in the *Experimenta* are carefully individuated, and their treatments described in great detail. The gardener was not among Arderne's patients, but nevertheless he is pictured in both Latin and Middle English copies with great attention to his dress, his face, his surroundings, and his injury (Fig. 2.22).[119] The high level of physiognomic and situational detail with which Arderne's illuminators and copyists have depicted and described the gardener and other patients in the *Experimenta* put the reader in the position of the surgeon. These images allowed the reader to see the patient for themself, and to understand the particular appearance and condition of distinct patients precisely because of the close attention paid to physical features. Rather than making

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the third day, and on the third day when it was removed there was no blood." Transcription and translation my own, from Cambridge, Emmanuel College, MS 69 f. 184v.

[116] Emmanuel College MS 69 also contains a series of short remedies and the *Speculum Phlebotomiae,* a blood letting text by Arderne. See Linda E. Voigts and Michael McVaugh, "A Latin Technical Phlebotomy and its Middle English Translation*,"* in *Transactions of the American Philosophical Society* 74, no. 2, (1984): 26 - 27.

[117] Emmanuel MS 69 is the earliest English translations of Arderne's work, and Jones dates it to the first quarter of the 15th c. on paleographic grounds. The images certainly seem to have been made later than this, and may have been the work of a later artist. The program of illumination is nevertheless remarkably consistent with that of Sloane MS 56. Jones details the process of translation and some of the illustrations particular to this manuscript in Jones, "Four Middle English," 70 - 73; Jones focuses on the text of the case histories in greater detail and provides a translation of the first case, the bishop, in Peter Murray Jones, "Surgical Narrative in Middle English," 3 - 7.

[118] Jones, "Arderne and The Mediterranean," 298.

[119] Jones, "Arderne and The Mediterranean," 300.

patients distinct using physiological and anatomical signs — as in the examples in the first half of this chapter — the portraits of patients in the *Experimenta* emphasize circumstantial details that reproduce the experience of one-on-one encounter for the reader-viewer.

Dressed in a golden tunic and blue stockings, the gardener oversteps the lines of his light yellow frame. His features provide the reader with meaningful information, both about his injury and his status as a particular person. The gardener is marked at once as a patient and as a worker, still clinging to a sign of his trade.[120] His oversized left hand, dripping in blood, makes his wound the focus of the image: blood drips down to his feet and coats the curved blade he holds in his right hand. The Emmanuel 69 artist depicted the wound at the "junction" of the gardener's hand with a dark ink line and overlapping red ink, creating the impression of a clear and painful "kytte." An earlier, Latin copy of the *Experimenta* in Glasgow, University of Glasgow Special Collections, Hunter MS 112, likewise depicts the gardener at work (Fig. 2.23); in this respect, he differs from every other figure in the series. While sometimes an occupation is mentioned in text, only the gardener is pictured while working, perhaps because he sustains his injury while, quite literally, in the field. In Hunter MS 112, the gardener drags his blade through his hand instead of the sparsely flowering vine next to him. At the base of the vine is a bunch of grapes, verifying, as we learn from the text, that the gardener injures himself in a vineyard. These pictorial details not only illustrate but also authenticate the text.

Emmanuel MS 69 contains the fullest series of illustrations of case histories of any copy of Arderne's work, with fourteen images of patients, all of them rendered in lively colors.[121] Like

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[120] On iconographies of agricultural labor in the late Middle Ages, see Michael Camille, "Labouring for the Lord: The Ploughman and the Social Order in the Luttrell Psalter" *Art History* 10, no.4 (1987): 423 - 454; Jonathan Alexander, "Labeur and Paresse: Ideological Representations of Medieval Peasant Labor," *Art Bulletin* 72, no. 3 (1990): 436 - 452.
[121] Jones, "Four Middle English translations," 70 – 73.

Arderne's illuminators' marginal botanical drawings, these images correspond to explicit references in the adjacent text that guide the reader in how to read text and image in conjunction. On fol. 183 v, the text notes that "The head of (th)is childe as it is fygured in (th)e next leeff folowynge was dep(re)ssed in bir(th)e for (that) (th)e muder (ther) of was on longe in t(ra)ueylynge and whanne it schulde be born it was dep(re)used as it is aforseyd w(with) (th)e fyng(er) on w(ith) (th)e (th)bombe and whan (th)e childe was born … (Th)e heed began hugely to swelle…"[122] In the framed image of a swaddled newborn baby and a disembodied hand with an outstretched thumb on fol. 184r, there is no visible indication of swelling (Fig. 2.24). In fact, many of the patient portraits in both Emmanuel MS 69 and other copies of the *Experimenta* deemphasize the particular appearance of wounds. Instead, illuminators have rendered wounds as small red or infilled dots.

In one case, Arderne identifies a patient as "a certain priest from Colston near Bingham."[123] The priest is depicted in the first illustration of a case history (f. 84r) in London, British Library, Sloane MS 56. He is tonsured, with his robes pulled down his chest to reveal a wound on his right breast (Fig. 2.25).[124] The patient's skin and hair have been shaded for lifelike effect, and his facial features and posture distinguish him from the other characters that populate

[122] Cambridge, Emmanuel College MS 69 f.183 v; excerpted from this transcription is the year of the child's birth.
[123] Jones provides a transcription of the Middle English version of this case: "To a preest of Colston faste by Byngham [th]er felle a sore in [th]e ryght papper with Inne [th]e skyn upon the heed of [th]e pappe as were alitill knotte…" Jones, "Surgical Narrative," 4; See also Jones, "Arderne and The Mediterranean," 297 - 299.
[124] *Catalogus Librorum Manuscriptorum Bibliothecae Sloanianae* (Manuscripts 1-1091), (London: British Museum), no. 56; Scott, *Later Gothic Manuscripts,* I, 72, 75; II, 199, 201; Peter Murray Jones, "British Library MS Sloane 76: A Translator's Holograph," in *Medieval Book Production: Assessing the Evidence,* ed. by Linda l. Brownrigg, Proceedings of the Second Conference of The Seminar in the History of the Book to 1500, Oxford, July 1998 (Los Altos Hills, California: Anderson-Lovelace, 1990), pp. 21-39.

the case history section. Jones comments on the image of the priest's tumor in Emanuel 69 f.166r (Fig. 2.26), writing that

> Arderne describes this as starting as the size of a pea, and growing to that of a hen's egg, dark red in colour, and coming to a head. None of the manuscripts show more than a round red mark on the breast… The use of a full length figure seems to have been a visual distraction from the start. Instead of concentrating on the tumour, the illustrators all vied to present us with a picture of the chaplain, his tonsure and clerical clothing. The temptation offered by the opportunity of portraiture outweighed any considerations of medical utility. Here we have the triumph of the anecdotal over the clinical.[125]

In Emmanuel MS 69, as in Sloane MS 56, the priest's wound is shown as a bright red circular mark, lacking the specificity of the gardener's dripping cut. Only the placement of the tumor on the priest's body makes it particular — the wound itself looks identical to all other wounds depicted on all the patients in the series. While Jones sees the focus on the patient rather than his wound as detracting from the utility of the image, we might just as well think of the illuminator's eager embrace of the techniques offered by "the opportunity of portraiture" as crucial to the work these images do in their medical context. The patients represented in the *Experimenta* exemplify the utility of picturing provisional, particular individuals, made visually distinct from each other through anecdotal detail. Bearing social markers and signs of age, status, and even personality, the patient portraits present visual information that would be granted to a practicing surgeon, but get lost in the reduction of patients to anatomical structures in earlier medical manuscripts. Having such patients depicted in the *Experimenta* enabled readers to engage in the types of surgical looking encouraged by Henri de Mondeville and others.

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[125] Jones, "Sicut his depingitur," 115; It is likely that Emmanuel 69 and a second related Middle English translation, British Library Sloane MS 776, were translated from Sloane 56. Jones contends that a number of Latin textual components preserved only in Sloane 56 occur in Emmanuel 69, and that the only significant change made to Emmanuel 69 is the addition of a plague treatise by John of Bordeaux after Arderne's text. See Jones, "Four Middle English Translations," 71.

While the depicted priest in Emmanuel MS 69 merely gestures at a small red dot on his chest, the same priest rendered in Sloane MS 56 clutches his chest, but the only sign of illness we see is another filled red circle. In Oxford, St John's College MS 86, the priest's body is drawn in delicate black linework, dominated by details like the fullness of his lips, the curls of his hair, and the way his weight hangs on his frame, but with little consideration of his tumor (Fig. 2.27). The priest's body makes makes the wound particular; the wound itself looks identical to all other wounds depicted in this copy of the *Experimenta*, but because it occurs on a specific figure, the figure lends specificity to the wound.

Unlike images traditionally analyzed as early portraits, the images in the *Experimenta* are significant because the depicted patients are *not* notable beyond their function in Arderne's text and professional career. Not only would most of these people not be recognizable to readers, but (with one exception) these patients are not even named.[126] To return to Steiner's language, the depicted patients in the case history series and their injuries are indeed particular.[127] They communicate information about the location of a wound, the social standing of the patient, and the general condition of the body for each of the figures. By particularizing wounds and injuries on these visibly distinct individuals, the illustrators of Arderne's *Practica* and *Experimenta* work through two competing impulses; on the one hand, they present corporeal details other than the appearance of the face as constitutive of identity, and, at the same time, they make anecdotal and physiognomic details about patients visible at the expense of medical information. These details diffuse focus from patients' wounds but, paradoxically, reinforce Arderne's authority as a surgeon by providing visual evidence of his successes. Individuated physiognomic and corporeal

[126] Jones, "Surgical Narrative," 3 – 7.
[127] Steiner, "Naming and Allegory," 257.

details distinguish each figure in both sets of images, and the presence of individuated figures allows the viewer to inhabit the mode of looking — the careful firsthand observation of a particular patient — typically reserved for the surgeon.

The Problem of Likeness

The portrait of Arderne in British Library Sloane MS 2002 (Fig. 1.2) and a second portrait of the author in Hunter MS 112 (Fig. 2.28) show two visibly different men.[128] In the Glasgow manuscript, a young, round-faced Arderne with a pointy nose and arched eyebrows mixes medicines in a garden. In contrast, the Sloane MS 2002 Arderne is much older, with a long face and forked beard, his brow furrowed in concentration. While both portraits show a doctor, the Sloane MS 2002 Arderne sits in a cathedra wearing the robes of a university physician. Both Ardernes have been depicted with a high level of physiognomic specificity. In his discussion of early portrait painting in France, Stephen Perkinson uses the phrase "physiognomic likeness" to describe the process through which "images could represent particular people through the mimetic representation of facial features."[129] The two Arderne portraits, however, preclude

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[128] On University of Glasgow MS Hunter 112, see Julie Gardham, *The world of Chaucer: Medieval Books and Manuscripts*, (Glasgow, 2004), 36; Nigel Thorp, *The Glory of the Page* (London, 1987), no. 30; John Young & P.H. Aitken, *A Catalogue of the Manuscripts in the Library of the Hunterian Museum in the University of Glasgow* (Glasgow, 1908), 113-114.

[129] Perkinson, *The Likeness of the King*, 34; This chapter builds upon a proliferation of language used to describe both the tendency toward naturalism beginning in the fourteenth century as well as the informative character of scientific images. Givens often prioritizes the descriptive power of an image (over its naturalism or illusionism) in discussions of scientific imagery, focusing on the image's power to instruct rather than its mimetic imitation of life. I will deal with some of these terms at greater length in the first section of this chapter. See Jean Givens, *Observation and Image-Making in Gothic Art* (Cambridge: Cambridge University Press, 2005); see also Steven Perkinson, "Likeness," *Studies in Iconography* 33, (2012): 15 - 28. The phrase "physiognomic likeness" is taken from Gombrich, see Ernst Gombrich, "The Mask and the Face: The Perception

likeness in the way Perkinson defines it. We cannot know if the Arderne that is represented in either of these images bears any physical likeness to a real, historical John Arderne. Instead, we can see these two portraits as two attempts at "corporeal naturalism," the term Perkinson uses for "the various modes of representing the visual appearance of the bodies of specific individuals."[130] The discrepancy between the two Ardernes leads to a simple conclusion: these cannot both be what Arderne looked like. Both Ardernes have been rendered with great attention to specific facial features, even if those features ultimately establish these as two specific provisional figures rather than claiming to mimetically represent one identifiable individual.

The other images that populate Arderne's manuscripts forsake physiognomic likeness as the ultimate signifier of identity. While Arderne's illuminators and copyists attend to the corporeal specificity of unnamed, provisional patients throughout the *Practica* and *Experimenta*, the physical signs of identity they present often focus on areas of the body other than the face. This is especially true of the detailed, fragmented lower bodies, which Arderne contends in text belonged to "certain" patients, even when he does not name those patients. The corporeal naturalism of these images makes them useful for medical instruction, but part of their instructional utility depends on a reader's ability to recognize one patient as distinct from others. Rather than make the patient an absolute historical individual recognizable to the reader, the images picture provisional individuals in a way that mimics the visual experience of looking at an actual patient.

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of Physiognomic Likeness in Life and Art," in *Art, Perception, Reality,* ed. Ernst Gombrich, Julian Hochberg, and Max Black, (Baltimore: Johns Hopkins University Press, 1972).

[130] Perkinson, *The Likeness of the King*, 38.

By the fourteenth-century, medieval artists had long-established conventions of representing particular people with heraldic symbols and other non-mimetic signs.[131] Increasingly common in Northern European painting in the fourteenth century was a technology of representing the physical likeness of a subject; this occurs in luxurious royal commissions, though, and rarely in practical instructional manuscripts.[132] Perkinson discusses two images of royal figures from the same manuscript, Paris, Bibliotheque Nationale MS Français 2813, a copy of the *Grande chroniques de France* made for Charles V in the late 1370s, that exemplify inconsistencies in depicting individuals even in the high-stakes context of a royal commission. In one scene, Edward II and Philip VI appear nearly identical in all but their heraldic emblems, even as the former pays homage to the later. A few pages later Charles V leads Emperor Charles IV and King Wenceslaus into Paris; here, all three figures have particularized facial features in addition to other traditional non-mimetic markers of identity.[133] Perkinson takes these two images (Fig. 2.29

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[131] Traditionally, signs of a depicted individual's identity depended on a codified iconography of personal emblems, dress, and context. As Bedos-Rezak notes, in twelfth century images of kings, "realistic physiognomy was not privileged; emblems of function and symbols of kinship were. Kings were shown in royal garb and posture, nobles as warriors, and bishops in episcopal array. Heraldry, from the mid-twelfth century onward, served as an iconographic rhetoric that expressed the identity of a kindred in relation to other groups, to its own land, and to its separate sub-branches." Bedos-Rezak, "Medieval Identity," 1529; Perkinson also cites non mimetic markers of identity in early portraiture. See Perkinson, *Likeness of the King*, 90; In Holladay's discussion of tomb sculpture, she notes a change in the level of particularity of both mimetic and non-mimetic markers, see Joan Holladay, "Portrait Elements in Tomb Sculpture: Identification and Iconography," in *Akten des XXV. Internationalen Kongresses für Kunstgeschichte Wien,* (Vienna: Hermann Böllhaus, 1986) 217 - 221.

[132] For a canonical account of the place of naturalism in gothic panel painting, see Max Dvorak, *Idealism and Naturalism in Gothic Art,* trans. Randolph Klawitter, (South Bend: University of Notre Dame Press, 1967); For a modern review of concepts related to naturalism in the history of medieval art, see Sarah Guerin, "The Nature of Naturalism: A Trans-Historical Examination," in *Canadian Art Review* 41, (2016): 5-16; For more on the connection between observation and naturalism, see Jean Givens, *Observation*, 12 - 35.

[133] Perkinson, "Rethinking the Origin of Portraiture," 146. On BnF MS fr. 2813, see H. Omont, *Anciens inventaires et catalogues de la Bibliothèque nationale*, t. IV, (Paris, 1913), 83; Claire Richter Sherman, *The Portraits of Charles V of France*, (New York: College Art

– 2.30) as an example of how "physiognomization" could be selective, and how physiognomic likeness and more traditional, non-mimetic signs could exist side by side. In contrast, Arderne's illustrators used physiognomic and other corporeal details to distinguish each patient from the others even while ascribing these patients provisional identities. There are no visible links to real, recognizable, historical individuals outside of the personas Arderne constructs for them with contextual details in the text.

Perkinson describes an historiographical binary posited in relation to the depiction of human subjects in the late medieval period:

> 'portraits,' which use physiognomic likeness to refer to specific individuals, and 'types,' which use conventional, non-mimetic representational systems to refer to group, rather than individual, identities. This binary categorization has encouraged us to view the introduction of physiognomic likeness as a visual symptom marking the triumph of the self-conscious individual in the Renaissance over the anonymity and corporate identities of the Middle Ages.[134]

Arderne's illuminators and copyists produced images which break down the clear distinction Perkinson lays out. Lower body figures with detailed wounds but no faces offer an instance of non-physiognomic portraits, while the carefully individuated patients in the *Experimenta* — patients Arderne never saw who nevertheless have individuated faces and clothing — subvert the relationship between mimetic representation and portraiture. While some images certainly show specific individuals, these are often provisional subjects; they are distinct from others but lack clear identities.

Association,1969) 41-44; Anne D. Hedeman, "Valois Legitimacy," *Art Bulletin*, 66, (1984): 97-117; Anne D. Hedeman, "Copies in Context : The Coronation of Charles V in his Grandes Chroniques de France," in *Coronations: Medieval and Early Modern Monarchic Ritual*, ed. J. Bak, (Berkeley, CA: University of California Press, 1990) 72-87.

[134] Perkinson, *Likeness of the King*, 6.

Only in one instance do a name, pictorial representation, and textual description all match up, creating a clear link between an historical identity and its image: a patient in the *Practica* named "John Colyn." I will discuss John Colyn at length in the next section. This labelled figure only occurs in four manuscripts. Otherwise, there is no correlation between the mimetic appearance of these images and a particular historical individual referent beyond the text.[135] Arderne's illuminators' drawings, both of plants and of patients, provide a unique opportunity to reconsider some of the basic principles of early portraiture in a context in which physiognomic detail and particularity were essential to effective instruction. Richard Brilliant says of portraits that their "success in effectively and reliably expressing something of, and something about, the person depends largely on the quality of the artist's perceptions and on his ability to manifest the peculiarities of appearance and character in a manner that is both accessible and satisfactory to other viewers."[136] In Arderne's manuscripts, we have multiple artists reinterpreting the same material as they transmit it from one copy of the *Practica* to the next.[137] The subjects they depict are primarily plants, in which the look of the overarching type takes precedence over the appearance of the individual specimen, or unnamed patients, whom readers would not be able to identify definitively no matter the "quality of the artist's perceptions."[138]

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[135] Otto Pächt, "Early Italian Nature Studies and the Early Calendar Landscape," *Journal of the Warburg and Courtauld Institutes* 13, No. 1/2, (1950): 13- 47.
[136] Richard Brilliant, *Portraiture,* (London: Reaktion Books, 2004), 14.
[137] On the process of creating and copying programs of illustration between manuscripts and the consistency of programs of illustration throughout copies, see Jones, "Staying with the Programme." 204 – 215.
[138] Plants challenge notions of the objectivity or empirical validity of observational drawing and descriptive naturalism because of their complicated morphology and the belief in the overarching unity of a given species despite significant changes over seasons and lifecycles. Givens details some of the difficulties of representing plants, especially in diagnostic contexts. See Givens, *Observation and Image-Making,* 82 - 90.

Arderne's images attest to an existing interest in surgical observation through their detail, but they do not evidence the direct observation and mimetic representation of their sitters. By representing patients in vivid enough detail to convey the experiences of observation and consultation performed by the surgeon, these images make those processes available to their readers. They communicate the appearance of particulars and, in doing so, project the authority established by observation. The particularity that comes with corporeal naturalism lets readers engage in surgical looking, offering a pictorial solution to an epistemological problem — the need for first-hand observation in surgical instruction — by applying an interest in likeness characteristic of contemporary portraiture to the representation of patients' bodies.

John Colyn

One image that occurs in Arderne's *Practica* does indeed attach a name to the appearance of a particular body, and verifies that identity in text. In at least four manuscript copies, an illuminator or a later reader has indicated that the depicted lower body of a seemingly anonymous patient is in fact the same as a patient Arderne names in his prologue (Fig. 2.31 – 2.34). In these four manuscripts, the illuminators have labeled a lower body figure perforated by six fistulous wounds with a name: "JOHANES COLYN."[139] John Colyn will serve as a limit case for examining Arderne's illuminators' deployment of individuating features to construct something like likeness. The universal quality suggested by the facelessness of other lower body

[139] Shelfmarks: Harley 5401 f. 44v ("Johanes Colyn"), St. John's 86 f. 25v ("Johanes Colyn de Northampton"), St. John's 132 f. 12v ("Johanes Colyn"), Sloane 795 f. 129v ("Johanes Colyn de Northampton"). I leave open the possibility that "John Colyn" is a pun given the nature of this figure's wounds and the use of "colon" in English surgical texts by the beginning of the fifteenth century.

figures is tested here; despite its facelessness, this named body is necessarily attached to an identity.

Arderne lists patients he successfully treated throughout his career in the opening pages of the *Practica* and begins a passage on men he healed upon moving to London in 1370 with "John Colyn, Mayor of Northampton."[140] Later in the *Practica,* when Arderne describes specific presentations of fistulas and his method for treating them, he begins a passage on one patient with an unusual detail. Unlike most other descriptions of fistulas in the *Practica,* which begin with phrases like "I saw another man" or "I healed a certain man," this passage, accompanied by a lower-body figure begins "I saw a man from Northampton that had three holes in the left buttock and three at the base of the testicles…"[141] Because the place of origin has been given twice in text — in the prologue and in the text adjacent to the figure — readers have been able to supplement the image with this crucial detail, naming the patient in question.

The four figures labeled with the name "John Colyn," occur in four Latin manuscripts (Oxford, St John's College MS 86; St John's College MS 132; London, British Library, Sloane MS 795; and British Library, Harley MS 5401) and they reveal how readers made connections between text and patients, and as a consequence, how readers could make already-detailed images even more particular. Only one detail from the text of prologue reappears in the *Practica*

[140] Power, *Treatise of Fistula,* 2; Turner accounts for many of the names mentioned at the beginning of Arderne's text, but John Colyn is not among them. See Turner, "Thomas Usk and John Arderne," 95- 105.

[141] "I sawe a man of Northamptoun*. [Vidi et alium hominem sc. Iohan: Colyn de Northampton.] þat had þre holes in þe lefte buttok, and þre in þe testicleȝ codde, and al persed fro oon to anoþer by þe middeȝ of longaon; whom I cured wiþ cuttyng of al þe holes at oon tyme, of longaon as wele as of oþer. Of þe kuttyng, forsoþe, of longaon, blode went strongly out, for þe fistule was riȝt depe; wherefore þe pacient swowned; perfore I putte to a sponge wette in cold watir and receyued þe blode." Power, "Treatise on Fistula," 32; See also Jones, "Arderne Mediterranean Tradition," 299 – 300.

entry on Colyn: that the patient came from Northampton. In Sloane 3488, an early Latin copy of Arderne's work, the prologue includes an explicit reference to Colyn: "Postea anno d(o)m(ine) M.CCC.LXX veni London & ibide(m) c(ur)am Joh(an)em Colyn maiore(m) Norhampton q(ui) multos medicos co(n)suluit."[142] This description —name, occupation, and place of origin — is standard in Arderne's descriptions in the prologue. The following entry names Hew Denny, Fishmonger of Brigstrete, London.[143] Later in the *Practica,* Arderne introduces a case with the phrase "Vidi unu(m) ho(m)i(n)em de northampton qui h(ab)uit t(ri)a fora(m)i(n)a in nate sinist(r)a & t(ri)a in follict(us) testic(ulorum.)"[144] Power writes that in London, British Library, Sloane MS 277, a later manuscript, this phrase reads "Vidi et alium hominem sc. Iohan: Colyn de Northampton."[145] Here, the scribe has explicitly made a connection between the two mentions of Northampton, or perhaps even taking into account the labeled figure in his exemplar, repeats the patient's name in the text. In the four cases where the images are labelled, the makers of these images (or perhaps later readers) have connected the first text to the second, then the second text to the image, understanding both text and image to be crucial descriptors of the man in question. John Colyn is made particular, both in the information readers are given about his condition, status, and place of origin, and in the way Arderne's illuminators have depicted him.

The prologue, where information about John Colyn is most concretely linked to his name, contains a wealth of other names of Arderne's other patients.[146] The contextual knowledge to

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[142] "After the year 1370 I came to London and there I cured John Colyn, mayor of Northampton, who had consulted many doctors." Transcription and translation my own. London, British Library, Sloane MS 3844, f. 2r.
[143] Turner, "Thomas Usk and John Arderne," 99.
[144] London, British Library, Sloane MS 3844 f. 12v.
[145] Power, "Treatise on Fistula," 32; On British Library, Sloane MS 277, see *Catalogus Librorum Manuscriptorum Bibliothecae Sloanianae* (Manuscripts 1-1091), (London: British Museum), no. 277; Jones, "British Library MS Sloane 76," 21-39.
[146] Turner, "Thomas Usk and John Arderne," 99.

recognize these patients as absolute figures by name reverses the sort of recognition made possible by images. Whereas the images point to individuated but provisional patients who certify Arderne's experience by sheer volume, the names are significant because they reference the specific occupation and place of origin, and with it the status of each individual. In the case of one patient, Sir Adam of Everyngham, Arderne narrates how Everyngham sought treatment from doctors throughout England and France after he served in the retinue of Duke Henry of Lancaster (then Earl of Derby) in Gascony.[147] Arderne's description of Everyngham stretches on much longer than any of his other descriptions; we get a full sense both of Everyngham's military exploits and of the difficulty of finding a capable surgeon in Arderne's list of the different cities where Adam sought a cure.[148] In text, Arderne provides great deal of information about Everyngham, but none of it goes into detail about his ailment, how it was treated, or what it looked like. Text individuates Everyngham here, but it still comes short of letting the reader see — or even mentally picture — the case. The four drawings of Colyn, meanwhile, link textual description to the physical appearance of a particular person, even though that person lacks conventional signs of identity.

In the labelled images of John Colyn, there is a paradox; we see an extreme attention to the particular condition of this patent's body in the ostensible subject of the image (his fistulas), and absolutely no attempt to make visible the historical individual John Colyn outside of the

[147] Power, "Treatise on Fistula," 1

[148] A number of sources starting with Power's account in the early twentieth century claim that Arderne was likely a battlefield surgeon because of his mention of Duke Henry and of the patient injured in his retinue. A pedigree as a battlefield surgeon seems to these authors to justify Arderne's success despite his lack of training. Power speculates about this in *Lesser Known Writings.* See also Robert Gottfried, *Doctors and Medicine in Medieval England,* (Princeton: Princeton University Press, 1986); Jones attempt to disprove (or at least recount the complete lack of evidence for) this speculation. See Jones, "Arderne and scholastic surgery," 294 - 295

context of his surgery. Rather, anecdotal details of corporeal naturalism help the reader see and recognize Colyn, even without seeing his face.

Physiognomy and The Face

John Colyn's severed lower body, depicted by Arderne's illuminators in multiple copies of the *Practica* challenges an implicit assumption in art historical accounts of the birth of portraiture in the late fourteenth century: that images of individuals necessarily depicted facial features to ensure proper identification. Arderne's illuminators have made each patient particular, whether through the visceral detailing of wounds, through the inclusion of clothing and distinct facial features and posture, or through the direct links between images and textual inscriptions. Arderne's illuminators clearly draw on the conventions of portraiture in their depictions of patients, particularizing physical detail to make each patient distinct; the result is a corporeal portraiture rather than a physiognomic one. Physiognomy, though, offers an instance of codifying appearances through visual judgement. Arderne's patient portraits, if we can call them that, resituate the place of physiognomy in the development of portraiture, offering up other forms of physical and corporeal detail for readers to interpret as integral to individual appearance.

Physiognomy, often discussed as an accelerating force in the "birth of portraiture" in the fourteenth century, posited that external physical features could be read as signs of a person's innate character and of their moral disposition.[149] In the early thirteenth century, Arabic

[149] This, of course, had a long-lasting impact on the ways in which facial features were used to mark and discriminate against minority populations in the medieval world. See Irven Resnick, "Introduction to Medieval Physiognomy," in *Marks of Distinction: Christian Perceptions of Jews*

physiognomic texts translated into Latin reintroduced ideas about physiognomy to Western Europe, and spread rapidly through continental courts.[150] Without affording too much credit to the role physiognomy played in the "birth of portraiture," Perkinson notes that "bodily attributes," specifically facial features, began to be linked to personal identity beginning in the thirteenth century because of physiognomy.[151] By the fourteenth century, physiognomy had secured a widespread circulation in popular, vernacular manuscripts.[152] Texts in manuscripts produced in fourteenth-and-fifteenth-century England attest to the long lifespan and geographical breadth of the medieval interest in physiognomy. Frequently copied treatises by Roger Bacon and Michael Scot built upon earlier physiognomic theory, tying it to thirteenth-century theology, and, in effect, ascribing to the physiognomer the skills needed to look at and thereby interpret the state of an individual's soul.[153] This basic premise — that the look of the body could yield information about its internal, moral condition — warrants additional consideration in light of the physiological observations made by medieval surgeons in the same period.

Physiognomy, however, proposed an unfixed relationship between internal state and external appearance. Just as a person's emotions and health might change continually, the

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in the Middle Ages, (Washington, D.C.: Catholic University of America Press, 2012), 13-52. Heng describes the ways in which physical signs, from facial features to gestures, could be used in the identification of minorities and especially of Jews in medieval England; she argues that the racialization of Jews enabled by "sensory detection" — a process that involves the same sort of labelling and categorizing body parts as physiognomy — contributed to ideological and political ostracization and oppression as a function of the state. See Geraldine Heng, *The Invention of Race in the European Middle Ages,* (Cambridge: Cambridge University Press, 2018): 80 - 81.

[150] Stephen Perkinson, "Rethinking the Origins of Portraiture," 137.

[151] Groebner also writes about the turn to using facial features for identification, specifically in legal criminal suits. See Valentin Groebner, *Who Are You?,* 69 – 75.

[152] Perkinson, *Likeness of the King*, 148.

[153] Willibald Sauerländer, "The Fate of the Face in Medieval Art," in *Set in Stone: The Face in Medieval Sculpture,* ed. Charles T. Little, (New York: Metropolitan Museum of Art, 2006), 9.

appearance of the body could change in kind. Paul Binski notes that the patrons of early Gothic sculptural portraits in the twelfth and thirteenth centuries were deeply concerned with the

> disciplinary reconciliation of inner and outer 'form.' This worked by *imitatio*. The outer self in ancient and medieval doctrine was the mirror, the imitation, of the inner self; but the inner too could be regulated through the apprehension of properly formed ideas, practices or things of which it in turn became the likeness.[154]

As the self changed, so too did the way it looked, continually reflecting what was happening inside.[155] But change was difficult to represent. In his influential discussion of the smiling figures on the portals of Magdeburg cathedral and in Lincoln cathedral's angel choir, Binski claims that representing a figure's internal character externally entailed a new level of specificity in the emotion or trait being expressed (Fig. 2.35).[156] Binski argues that

> where Romanesque images have a form of expressivity which is intransitive (i.e., they are 'expressive', but lack a predicate), the attendance of some Gothic images to unambiguous facial expression suggests a transitive expressivity, one expressive of something in particular. Expressivity in this sense denotes or develops a thought about something that could be expressed in other ways.[157]

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[154] Binski, *Gothic Sculpture*, 51.

[155] Imitatio, a concept that will be discussed in greater detail in Chapter 4, is especially useful in analyzing instances of similarity and even lifelikeness in images and sculpture. See Helen Conrad-O'Brien, "Imitatio," in *The Oxford Dictionary of the Middle Ages,* ed. Robert E. Bjork, (2010); Often discussed as a form of mimesis, imitatio has stylistic and moral connotations, and the goal of the imitation of Christ underlies many depictions of doctors and medical treatment. See Roger Lovatt, "The Imitation of Christ in Late Medieval England," *Transactions of the Royal Historical Society* 18 (1968): 97 - 121; Although imitatio implies an effort to improve oneself or make oneself more like someone else, it does not preclude individuality. On the false distinction between imitatio and individuality in the late Middle Ages, see Jan Ziolkowski, "The Highest Form of Compliment: Imitatio in Medieval Latin Culture," in *Poetry and Philosophy in the Middle Ages: A Festschrift for Peter Dronke,* (Leiden: Brill, 2001): 293 - 307.

[156] Binski specifies that expressivity in the plastic arts indicates a changing emphasis on the metaphysical power of the body around the thirteenth century. This change coincides with the so called "birth of the individual." Paul Binski, "The Angel Choir at Lincoln and the Politics of the Gothic Smile,"*Art History* 20, (1997): 354.

[157] Binski, "Angel Choir, 353.

Citing Wollheim, Binski concludes not only that these images are expressive, but that they are also "expressive of something in particular." Through facial features, Gothic images could convey something interior or individual about the person being pictured. Elina Gertsman voices concerns about the transitivity of these expressions in her analysis of the Wise and Foolish Virgins at Magdeburg, questioning the reliability of medieval facial expressions and gestures to communicate internal emotions with universal meanings.[158] The very possibility of transitivity, however, suggests the presence of a nuanced observational practice, in which looking at faces — pictured or real — also required interpretation and analysis, such that the observer could learn about subject they viewed by looking at them.

Whereas physiognomists relied on generalizable facial traits to classify something inherent to individuals fitting into a given type, Arderne's illuminators represented specific corporeal details as characteristic of individual patients, leaving open the possibility of those traits recurring universally. Ernst Gombrich takes up the question of how facial features could be depicted and recognized in images, arguing that "perception always stands in need of universals. We could not pick out the essential and separate it from the accidental."[159] Arderne's illuminators' figures of patients rely on both the universal and the accidental to communicate the form of perception required of surgery to the *Practica's* readers. Physiognomy, considered as a possible influence on portrait painting, encouraged the differentiation of individuals from each other and the classification and recognition of specific people.

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[158] Elina Gerstman, "The Facial Gesture: (Mis)reading Emotion in Gothic Art," in *Journal of Medieval Religious Cultures* 36, no. 1 (2010): 28 – 46.
[159] Ernst Gombrich, "The Mask and the Face: The Perception of Physiognomic Likeness in Life and Art," in *Art, Perception, Reality,* ed. Ernst Gombrich, Julian Hochberg, and Max Black, (Baltimore: Johns Hopkins University Press, 1972): 3.

Arderne's illuminators, in contrast, put the excessive corporeal detail of patient figures to a different use. Rather than reinforcing the physiognomic or corresponding physiological link between appearance and codified types, Arderne's patient figures suggest just the opposite: the prevalence of difference among patients, and the possibility of treatment despite differences in age, gender, status, or physical appearance. Arderne's illuminators depicted bodily attributes — and specifically wounds — as individualized, using the expectation of individuation in portraiture to represent other parts of the body as distinct and identifiable. In doing so, they signaled the particularity of wounds on a given patient even without attaching those wounds to an historical individual, making the visual experience of identification and interpretation constitutive of surgical looking available to readers.

III. Conclusion: Drawing Patients

Only one of Arderne's full-body patient portraits depicts a patient whose name is given, this time toward the end of the *Experimenta*. Arderne describes his treatment of the son of Sir Thomas Newmark or Newmache.[160] Curiously, this is the only case described in English across all copies, including all of the Latin case-histories.[161] The Sloane MS 56 copy of the text begins:

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[160] In Hunter 112 this is "Newmarche." An antiquarian history of Nottinghamshire tests to a Sir Thomas Newmarch and his son, also Sir Thomas Newmarch, being granted free-warren and other privileges during the reign of King Edward III. These dates would line up with the early or middle years of Arderne's practice in Newark (depending on which Sir Thomas's son he describes). It is therefore possible that the son of Sir Thomas depicted in the *Experimenta* is in fact a full-body portrait of a real person, even though it's a person Arderne never met and the illustrator never saw. See Thoroton, *The Antiquities of Nottinghamshire,: Extracted Out of Records, Original Evidences, Leiger-books Other Manuscripts, and Authentic Authorities. Beautified with Maps, Prospects, and Portraitures*, Volume 1, (Oxford: Burbage,1790), 266 - 267.

[161] Jones, "Four Middle English Translations," 68 - 69.

"Sir Thomas Newmache had a sone th[at] hadde a wene right opon the opyn of the hede by for as it is her[e] portrayd…"[162] As is the case with the majority of the images in the Sloane MS 56 case history series, an empty space has been left blank by the illuminator where we would expect Sir Thomas's son. In this space, a reader has provided their own image of Sir Thomas's son, a line drawing showing the boy's head in profile with a large welt along his hairline (Fig. 2.36). In the Glasgow Hunter MS 112 image of Sir Thomas Newmark's son, the manuscript's illuminator has depicted him in a blue-gray coat with his skin and stockings clearly outlined and left unfilled (Fig. 2.37). Newmark faces forward pointing to a red dot on the crown of his head, well above his hairline. His clothes are drawn with clear lines demarcating wrinkles and folds, and his shaggy hair and smile distinguish him from the other figures in the series. The Sloane MS 56 drawing of Sir Thomas's son differs significantly from the illuminator's recognizable style, but nevertheless indicates an interest in observing a patient firsthand. In these interventions by later readers, surgical looking happens not via a premeditated, designated image meant for the reader to see, but through the reader's act of drawing the patient. The Sloane 56 drawing of Sir Thomas's son and other sketches made by readers in multiple copies of Arderne's manuscripts reveal readers' active interest in seeing a real, present patient.

The cases where spaces for images have been left blank and filled in by later readers highlight how Arderne's descriptive text could provide sufficient information to learn about a particular patient's condition, but they also indicate the insufficiency of textual description alone. In the Sloane MS 56 *Experimenta,* another space left empty by the manuscript's original illuminator has been filled in with a crude drawing; a reader has included a drawing of a penis

[162] My transcription and translation: "Sir Thomas Newmark has a son that had a wen right upon the top of his head as is portrayed here." Sloane 56 f. 94r

marked with a filled circle, not unlike the signs used to indicate fistulas in the *Practica* (Fig. 2.38).[163] The image corresponds to one of three cases in the series specifically focused on genital wounds, and falls in sequence after the case of a virgin afflicted with an immense pain after sex.[164] In Hunter MS 112, the patient is represented standing up, partly disrobed, with a red dot at the tip of his penis marking the injury (Fig. 2.39); he is notably younger than the priest from Colston at the beginning of the series, but lacks any significant identifying features beyond his clothing and posture. Arderne describes the patient's ailment in both manuscripts, again using the "*sicut hic depingitur*" formula to refer his reader to the image. The reader of Sloane MS 56 took it upon themself to fill in the image that should have been there; provided with enough information by Arderne's text, they have rendered the patient's injury informatively, but without any of the superfluous, personal details that characterize other pictures of patients in the case history series.

These interventions demonstrate readers' efforts to perform their own surgical looking on the pages of Arderne's manuscripts. The Sloane 56 penis, like the image of Newmark's son, replicates information already provided in text, using Arderne's textual prompt as an impetus to fill in the missing visual information. Even these simple line drawings indicate an interest in the particularity of the patients described in the *Experimenta,* Like Arderne's illuminators, these artist-readers individuated the patients in the case histories by representing them pictorially. The placement of the wound on the Sloane MS 56 penis and its total separation from any other body parts distinguish it from the other complaints in the series, and from the other two patients with genital afflictions. In these instances, readers perform the interpretation constitutive of surgical

[163] I will not discount the possibility that this was done with a hearty sense of humor, as a number of drawings in Arderne's books seem to have been.
[164] Power, *Lesser Writings*, 127-128.

looking by producing images of their own. They represent patients and wounds as distinct, but in order to do so they must necessarily represent them visually. Just as Arderne and his illuminators make particular patients present in images in order to train readers in surgical skill and communicate the author's own practical experience, Arderne's readers acknowledge the necessity of seeing patients firsthand by filling in the missing figures. In the process, they embody Arderne's position as surgeon, both observing patients in order to treat them and presenting patients in images for other readers to see.

CHAPTER 3: REPETITION

The Stockholm Roll

An 18-foot-long parchment roll, made in the 1420s or 1430s, contains textual fragments of John Arderne's *Practica de fistula in ano* and a comprehensive set of illustrations, only a few figures from which correspond to images in the rest of the extant Arderne manuscripts (Fig. 3.1).[1] The so-called "Stockholm Roll" (Stockholm, Kungliga Biblioteket MS X 188) sits in storage at the National Library of Sweden, where it is only unfurled under exceptional circumstances. Because of its fragility, the Stockholm Roll eludes the mode of viewing that its unique format allows: unlike every other extant Arderne manuscript, all of which include the contents described in Chapter Two bound as codices, the Stockholm Roll would have facilitated a different — and distinctly physical — mode of engagement for its viewer-reader.[2] The makers of the roll excerpted Arderne's text, illuminated it with an unusual set of figures, and supplemented it with an unrelated obstetrical treatise, negating the carefully-staged instructions and florid descriptions characteristic of other Arderne manuscripts. On the Stockholm Roll's six long parchment membranes, Arderne's *Practica* trades in its didactic simplicity for the sparkle of opulent, and at times parodic, decoration.[3]

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[1] Eva LQ Sandgren, "Reflexions by an Art Historian," *De Art Physical et de Cirurgia by John Arderne*, ed. Torgny Svenberg and Peter Murray Jones (Stockholm: Hagströmerbiblioteket, 2014), 149 – 159.

[2] Raymond Clemens and Timothy Graham, "Rolls and Scrolls," in *Introduction to Manuscript Studies,* (Ithaca: Cornell University Press, 2007), 250 – 258.

[3] The patients depicted in the margins of the Stockholm Roll seem almost to parody the usual patients that appear in codices of Arderne's work. See Chapter Two. For more on the divergence of the Stockholm Roll from Arderne's typical illustrations, see Peter Murray Jones, "Staying with the Programme: Illustrated Manuscripts of John of Arderne, c. 1380 - 1550," in *English*

Meanwhile, the material support used for this combination of text and image is unique in a late Medieval English medical context. Unlike Arderne's other manuscripts, the massive Stockholm Roll required constant rolling and unrolling, opening and closing, and scrolling through to be read.[4] A reader would have to continually adjust the visible portion of the roll to read the scribe's narrow columns of text in linear sequence, and to follow the order of the illuminations at the center and margins of the roll.[5] Surviving medieval English medical texts, all bound in codices (with the exception of folded almanacs and extant recipes on unbound leaves) are physically distinct from the many parchment rolls produced in late medieval England that contain texts, charms, and healing images. Only the Stockholm Roll bridges this divide.

Whereas the previous chapter examined images that made it possible for a viewer to embody the position of the surgeon — visually, intellectually, and practically — this chapter argues that the type of looking required of para-medical objects and images enabled reader-viewers to take up concerted practices of looking in service of their own health. University-trained doctors and high-status surgeons like Arderne contrasted themselves with local healers and spiritual authorities to whom patients often turned for physical cures. Like medical practitioners, these para-medical experts (by which I mean healers who lacked medical training but still provided

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Manuscript Studies, 1100 - 1700 vol. 10, ed. A.S.G. Edwards, (London: The British Library): 209 - 210.

[4] On early instances of haptic encounters with manuscripts, see Jennifer Borland, "Unruly Reading: The Consuming Role of Touch in the Experience of a Medieval Manuscript," in Scraped, Stroked, and Bound" *Materially Engaged Readings of Medieval Manuscripts*, ed. Jonathan Wilcox, (Turnhout: Brepols, 2013), 97 - 114. On the specific tactile engagement rolls demand, see Katherine Rudy, "Kissing Images, Unfurling Rolls, Measuring Wounds, Sewing Badges and Carrying Talismans: Considering Some Harley Manuscripts through the Physical Rituals they Reveal," *eBLJ* (2011): 1 – 56.

[5] Hartnell uses the introduction to the recent digital book on the history of the scroll to explore mechanics of the medieval manuscript roll. See Jack Hartnell, "The Continuous Page," in *Continuous Page: Scrolls and Scrolling from Papyrus to Hypertext*, ed. Jack Hartnell, (London: Courtauld Online Book Series, 2020).

treatments and cures) relied upon images in manuscripts for their practice.[6] And in both a preventative capacity and as a healing measure, tools like charms and amulets let reader-viewers take their health *literally* into their own hands.[7] The rolls, rings, birth girdles, and healing images produced in large numbers in late medieval England prompted their viewers, readers, and owners to look repeatedly and look carefully. These objects functioned as healing and protective tools, but their efficacy depended on a viewer's repeated visual and physical engagement.[8] Just as copies of Arderne's *Practica* enabled their readers to undertake the role of the surgeon by positioning them to conduct their own "surgical looking," the images that populated late medieval English rolls and the rolls themselves constructed their reader-viewers' forays into healing as specifically visual experiences. Seeing these images and objects with the specific forms of attention they ask for in text facilitated their healing powers.

Like other manuscript copies of Arderne's text, the Stockholm Roll contains several textual charms among its recipes for ointments and descriptions of surgical procedures. One of these charms, meant to prevent epilepsy, requires its user to read, write, and speak efficacious phrases repeatedly. The charm commands its reader:

> scribe hec
> Tria no(m)i(n)a cu(m) sang(ui)ne ext(ra)c
> To de digito auricular(e) pacientis
> + Jasper + Melchior +
> Balthezar. Et pone in cedula
> Aurum. Thus & Mirram. Et

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[6] Carole Rawcliffe, *Medicine & Society in Later Medieval England,* (Somerset: Sutton Publishing, 1997), 94 - 99; see also Faye Getz, "Medical Practitioners in Medieval England," *The Journal of the Social History of Medicine* (1990): 245 - 251.
[7] On the differences between shrine-cures and home-cures, see Ronald C. Finucane, *Miracles and Pilgrims: Popular Beliefs in Medieval England,* (London: St. Martin's Press, 1995), 83 - 99.
[8] Jennifer Borland and Karen Overbey, "Diagnostic Performance and Diagrammatic Manipulation in the Physician's Folding Almanacs," in *The Agency of Things in Medieval and Early Modern Art: Materials, Power, and Manipulation,* eds. Grażyna Jurkowlaniec, Ika Matyjaszkiewicz, Zuzanna Sarnecka, (Abingdon-on-Thames: Routledge, 2018), 146 – 148.

Dicat paciens. III. Pater n(oste)r
& III. Ave Maria. Quotidie p(ro)
A(n)i(ma)b(us) patru(m) & matru(m)
P(rae)dictor(um). & Bibat paciens p(er) me(n)se(m)
De succo pionie cu(m) serucia ut.
Vino….[9]

Textual charms like this one occur throughout Arderne's work and follow the same general format as recipes. These charms could be used to cure a patient (of epilepsy or spasm), or to prevent future physical hardship (to ensure a painless childbirth, for example).[10] Unlike a one-off surgical procedure, charms required an ongoing, diachronic engagement from their readers and from their patients.

In further contrast to surgery, the person handling or looking at a prayer roll could be both the healer and the patient.[11] The charm does not draw a clear distinction between patient and practitioner. The steps indicated in textual charms like this are sequential and repetitive; treatment by apotropaic means was thus an ongoing process, one that demanded the patient say the prescribed phrase and drink the prescribed liquid daily. The component parts of charms often required a patient to repeat certain prayers, phrases, words, or actions.[12] In the above example

[9] "Write these three names with blood taken from the little finger of the patient. + Jasper + Melchior + Balthezar. And put into a box gold, frankincense, and myrrh. And the patient should say 3 pater nosters and 3 ave marias each day for the souls of the fathers and mothers of the said (three kings) and let the patient drink for one month the juice of the peony with beer or wine…" Peter Murray Jones provides this translation in *De Art Physical et de Cirurgia* by John Arderne, ed. Torgny Svenberg and Peter Murray Jones (Stockholm: Hagströmerbiblioteket, 2014), 45. Transcription my own.
[10] Lea Olsan, "Charms and Prayers in Medieval Medical Theory and Practice," *Social History of Medicine* 16 (2003): 346 - 347.
[11] Women, perhaps because of their exclusion from medical institutions or because of the particular dangers of childbirth, are frequently associated with this personal and supplicative approach to healing. Rawcliffe, *Medicine and Society*, 179 - 180.
[12] Textual formulas often involved common prayers, holy names, or other sacred words in sequence. Don Skemer, *Binding Words: Textual Amulets in the Middle Ages,* (University Park, PA: Pennsylvania State University Press, 2006), 89 – 96.

from the Stockholm Roll, the reader – perhaps the patient – must first rewrite the names that already appear on the roll, then the patient must repeat three pater nosters and three ave marias each subsequent day and drink a concoction of peony and wine daily for a month. The longer process of treating the patient was based on a series of repeated phrases spoken out loud and the repeated consumption of a relevant herb. Repeated visual cues embedded in these same objects and the repeated looking they called for held the potential to make healing more efficacious.

This chapter examines the repeated viewings that images demanded in medical and para-medical contexts in order to analyze how concerted forms of visual engagement could heal. The material tools needed to affect efficacious healing prompted repeated looking. Not only did they include details that benefitted from second (or third) looks, but they also explicitly called upon their viewers to look again in text. This chapter considers how the images and objects used for healing in late medieval England prompted repeated engagements from their users. Charms had to be spoken, rolls had to be held, and images had to be seen in order to work.

These objects, texts, and images became more powerful through repeated engagement. The demand for repeated visual engagement explicit in the use of medical and para-medical objects indicates that the more one looked, the surer one's health and good fortune would be. I argue that the repeated looking that made charms, amulets, and images work also helped to construct their medieval users' approach to vision writ large. Repeated looking reinforced ideas around the similarity of images and their referents, the ability of images to heal, and the efficacy of looking as physical and spiritual medicine.

Manuscript rolls in particular indicate the slipperiness with which repetition could move between modalities. While some rolls asked their users to read their text or speak it aloud repeatedly, others commanded their reader-viewers to carry an object daily. The personal

protection these objects afforded became available through repetitive, daily acts of private devotion.[13] Other rolls include images with texts explicitly entreating their users to look at them again and again.[14] Looking could be just as powerful as touching or speaking when done repeatedly.[15] The objects that prompted repeated engagement suggest that it mattered both what was seen and how often it was seen. Because repeated viewing afforded the possibility of looking more closely, observing new details, and seeing things differently over time, looking at a healing image over and over again not only led to an efficacious result, but also yielded a more experienced and therefore more skilled form of looking. Just as Arderne's illustrated *Practica* could provide a visual confrontation with a patient, and therefore acclimate its reader-viewer to the skill required of the surgeon (whether they intended to practice this skill or not), repeated handling, viewing, and speaking changed the bodies of the patients who engaged with efficacious manuscripts. Throughout this chapter, I argue that the repetitive patterns of looking required by manuscript rolls, birth girdles, textual amulets, and other healing images could condition patients' visual acumen in parallel to the role of first-hand encounter in the surgeon's practice. In both scenarios, visual access to a subject — either through proximity or repeated exposure — begat a trained eye.

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[13] In some charms, this act becomes even more personal through the insertion of the patient's name directly into the charm, often indicated in text with an "N." for "nomen," which could be substituted out for each patient. Winston Black, *Medicine and Healing in the Premodern West,* (Peterborough, ON: Broadview Press, 2020), 258 - 259.

[14] Richard Marks, *Image and Devotion in Late Medieval England,* (Stroud: Sutton Publishing, 2004), 11 - 37.

[15] In light of high and late medieval theories of vision, the repeated seeing of an object and repeated contact with an object could be equally efficacious. Beyond the categorization of vision as intromissive or extromissive, vision itself was conceived of as an active process, wherein the perceived object came into contact with the viewer's brain. Katherine Tachau, "Seeing as Action and Passion in the Thirteenth and Fourteenth Centuries," in *The Mind's Eye: Art and Theological Argument in the Middle Ages,* eds. Jeffrey Hamburger and Anne-Marie Bouché, (Princeton: Princeton University Press, 2006), 336 - 359.

In some cases, prompting a viewer to look repeatedly required an artist to have previously provided repeated figures. Here, rather than looking at a single image multiple times, a viewer could see multiple, near-identical images. The Stockholm roll bears a sequence of images in which repeated outlines of body parts allow a reader-viewer to understand minute, visible distinctions being made in a patient's physical well-being. In contrast to the typical program of illumination in Arderne's manuscripts, the Stockholm Roll contains a group of 12 obstetrical images of different presentations of fetuses in the womb (Fig. 3.2).[16] The maker of the Stockholm Roll has repeated outlines of uteruses to establish the baseline similarity of the structure depicted. The 12 figures of fetuses in utero highlight how repeating the general profile of a body part could focus attention on signs of visible difference.[17] Here, each uterus is almost identical, deemphasizing the anonymous, literally disembodied mothers being represented in

[16] The Stockholm Roll includes a brief obstetric text that is not related to any of Arderne's writings. The text has more in common with the tradition of obstetrical and gynecological scholarship developed continental medical schools in the 12th and 13th centuries, though the images, which include the pregnant woman being visited by midwives, seem to gesture toward more practical aims. Alin outlines the content of this text in Edvard Alin, "Der Obstetrische Theil der Practica Johannis Arderni," in *Nordiskt Medicinskt Arkiv* 2 (1899): 1 -23. On women's health in the Middle Ages, see Monica Green, "Women's Practical Medicine and Healthcare in Medieval Europe," *Signs* 14, (1989), 434 - 473; For a more strictly diagrammatic representation of the female reproductive system including the fetus in the womb, see Karl Whittington, "The Cruciform Womb: Salvation in Bodleian Ashmole MS. 399," *Different Visions* 1, (2008): 1 - 24.
[17] For an overview on medieval gynecological texts, see Monica H. Green, "From 'Diseases of Women' to 'Secrets of Women': The Transformation of Gynecological Literature in the Later Middle Ages," *Journal of Medieval and Early Modern Studies* 30 (2000): 5–39; For a related text in a contemporary English medical manuscript, see Monica H. Green and Linne Mooney, "The Sickness of Women," in *Sex, Aging, and Death in a Medieval Medical Compendium: Trinity College Cambridge MS R.14.52, Its Texts, Language, and Scribe*, Medieval & Renaissance Texts and Studies 292, 2 vols., ed. M. Teresa Tavormina (Tempe: Arizona Center for Medieval and Renaissance Studies, 2006), Vol. 2, 455–568; On the place of medical care for women in medical institutions largely populated by men, see Monica H. Green, *Making Women's Medicine Masculine: The Rise of Male Authority in Pre-modern Gynaecology* (Oxford: Oxford University Press, 2008).

order to draw attention to the postures of the carefully-differentiated fetuses they hold. Minor differences in posture, position, and the placement of limbs become apparent when set against the repeated outlines, giving the reader-viewer a visual understanding of non-normative appearances of anatomical structures.[18] Repeating the almost-identical form of a uterus works almost like a template, calling attention to those features that are singular on any given figure; it also approximates looking at a single image (or a single patient) repeatedly over times. Minor changes in appearance from one figure to the next indicate a temporal change of a single subject, or an entirely new subject.[19].

On the Stockholm Roll, the 12 fetal presentation images construct a body of knowledge around pregnancy and gestation premised on recognizing minor differences among figures. The Stockholm Roll's capacity to heal depends, on the one hand, on a reader-viewer learning about anatomical structures through the sequence of repeated images and, on the other hand, a form of para-medical practice distinct from the established medical literature its texts purport to represent. Just as the charm against epilepsy contained on the Stockholm Roll (and in Arderne's other manuscript) intones, saying a prayer or a phrase or a name repeatedly could enact a cure.

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[18] This method contributes to the didacticism and legibility of anatomical structures that Martin Kemp identifies in later images produced for Andreas Vesalius's *De Corporis Humani Fabrica.* See Martin Kemp, "Temples of the Body and Temples of the Cosmos: Vision and Visualization in the Vesalian and Copernican Revolutions," in *Picturing Knowledge: Historical and Philosophical Problems Concerning the Use of Art in Science,* ed. Brian S. Baigrie (Toronto: University of Toronto Press, 1996), 40 - 85.

[19] Pächt identifies the depiction of two figures in the same frame as an innovative technique of representing change over time in earlier medieval English manuscript illumination. Although the Stockholm Roll's images are not narrative in the sense that Pächt describes, they do nevertheless use a similar technique to emphasize change and difference between figures. Otto Pächt, *The Rise of Pictorial Narrative in Twelfth-Century England*, (Oxford: Clarendon Press, 1962), 15 - 16.

Handling, looking at, and speaking the text of the Stockholm Roll constituted its own repetitive healing act.

While little is known about the production and early provenance of the Stockholm Roll, scholars' hypotheses about the Roll's journey from England to Sweden in the fifteenth century indicate its divergence from the medical traditions it ostensibly represented. The prevailing assumption among scholars is that the Stockholm Roll was produced for Phillippa, daughter of King Henry IV, after her betrothal to Eric of Pomerania, the King of the Kalmar Union; scholars have suggested that perhaps the roll, distinct in its "Englishness," could have been a souvenir commissioned by or given to Phillippa to commemorate her homeland.[20]

Here, multiple overlapping assumptions about the Stockholm Roll, rolls in general, and Phillippa's patronage come into play. First is the assumption that Phillippa would have been interested in owning a medical manuscript (albeit a luxuriously illuminated one), but would not have wanted or needed the original, largely practical text.[21] This claim is buttressed by the obstetrical material depicted toward the bottom half of the role; while there certainly are medieval examples of images related to childbirth being gifted to queens in hopes they might give birth to an heir, the images on the Stockholm Roll conform more obviously to a scholarly medical discourse around gestation.[22] That these obstetrical images should accompany such over-the-top renderings of Arderne's patients in moments of pain, often writhing and grabbing bloody, exposed body parts (Fig. 3.3) has been taken as yet another sign that images on the

[20] Alin, "Der Obstetrische ," 1; See also Jones and Svelberg, *De Arte Phisicali,* 7 - 8
[21] D'Arcy Power, *De Arte Physicali et de Chirurgia of Master John Arderne, Surgeon of Newark,* (New York: William Wood & CO, 1922), vii.
[22] Sonja Drimmer, "Beyond Private Matter: A Prayer Roll for Queen Margaret of Anjou," in *Gesta* 53 (2014): 95 - 120; See also Madeline Caviness, "Patron or Matron? A Capetian Bride and a Vade Mecum for Her Marriage Bed, In *Speculum* 68 (1993): 333 - 362.

Stockholm Roll facilitated a wealthy patron's amateur interest in medicine, rather than supporting a professional medical practice. The attachment of the Roll to Phillippa in particular, rather than any other female royal of the time, finds further basis in the fact that Arderne served in some capacity as a doctor to Henry Plantagenet, Duke of Lancaster, and afterwards to his son, John of Gaunt, Phillipa's paternal grandfather.[23] Regardless of the Roll's provenance, its contents indicate a concerted use of template-like images to enable its reader-viewer to learn about the body through repeated observation. Repeated looking did not merely yield the knowledge to heal, but through repeatedly seeing, touching, and speaking the text on a roll — including the very charms written on the Stockholm Roll — a reader-viewer could enact healing.

This chapter addresses a constellation of images at the fringes of medicine, pushed to the edges because of their seemingly superstitious conflation of healing practices and "popular religion."[24] In juxtaposition to the series of fetal presentation figures on the Stockholm Roll, other images of bodies relied on repeated viewing, rather than repeated figuration, to heal. Unlike the previous two chapters, this chapter is not bifurcated into distinct thematic or conceptual sections; instead, like a roll, it will move from image to image, unfurling small bits of a larger picture in sequence. In sum, the six subsections that follow will attempt to produce a fuller sense of the landscape of healing in late medieval England by challenging the longstanding historiographic divide between medicine and, as modern scholars have often derisively characterized extra-medical practices, "folk-healing."[25] I will begin by analyzing a group of devotional rolls, and will argue that the roll as a format helped to enable healing through its

[23] Power, *De Arte Phisicali,* vii; Jones and Svenberg, *De Arte Phisicali,* 7 – 8.
[24] Ronald C. Finucane, *Miracles and Pilgrims: Popular Beliefs in Medieval England,* (New York: Saint Martin's Press, 1995): 59 - 82.
[25] Finucane, *Miracles and Pilgrims*, 83 – 99.

propensity for repeated engagement. From there, I will examine how textual amulets and charms became efficacious through repetition and repeated viewing. This will be followed by an analysis of representations of Christ's side wound and how seeing these wounds repeatedly on a subset of late medieval narrow rolls – birthing girdles – could heal. Finally, I will consider the function of healing text and images in devices other than rolls: manufactured amulets like gold pendants and silver rings.

All of the cases explored in this chapter rely on formal and visual strategies of replication, doubling, and establishing likeness, and expect their reader-viewers to partake in frequent, recurring acts of viewing. The objects surveyed in this chapter bear witness to the inseparability of the visual culture of medicine and that of healing, both of which could improve bodily health through repeatedly making and viewing images. In doing so, these images also demonstrate the centrality of representing human bodies and looking at human bodies in structured, prescribed ways to bring about health and healing.

Parchment and Patients

An image from a book of hours made in the years following the Stockholm Roll directly compares the healing potential of manuscript rolls and period medical theories (Fig. 3.4). Here, medicine and devotion are depicted as two distinct but complementary approaches to healing. Katherine Rudy describes the scene, a full-page illumination from the Hours of Catherine of Cleves (New York, Morgan Library MS 917 / 945 f.97r), made in the Netherlands c. 1440, as follows:

> In a deathbed scene painted by the Master of Catherine of Cleves, a pale and gaunt man who is propped up on two pillows has just died amidst various activities. A beguine

> gently closes the man's eyes, a woman holds a candle in his hand, and a doctor checks his urine. But the activity surrounding sickness and death that the Master foregrounds is reading. The hooded cleric and another beguine are reading codices, while another book – a roll – unfurls off the table. The efficacy of the roll with its formulae is as great as the doctor's with his urinalysis.[26]

Rudy's narrative of the dramatic deathbed scene exemplifies the close connections between reading, viewing, and healing in the later Middle Ages.[27] The Master of Catherine of Cleves has configured the characters in the scene to emphasize the significance of a manuscript roll, placing it at the image's center, the foreground to the series of medical treatments and rites that converge at the dead man's silk-robed body. The cleric and beguine at the bottom of the frame read codices, while a roll trails off the edge of a table, unread and held up by what appears to be its carrying case.[28] Behind the dead man's bed, almost crowded out of the scene by the other figures, a doctor holds up a flask to make a uroscopic diagnosis. Rudy juxtaposes the physically constrained doctor with the ready visibility of the roll to assert that the efficacious roll could be just as integral to the patient's healing as the doctor's diagnosis, but she ignores one key detail: the patient, despite the various figures' attempts to cure him, is dead. Neither the doctor's diagnosis nor the roll's formulae have worked.

Here the diagnostic potential of uroscopy stands in stark contrast to the work that the prayer roll can do. A roll could not help a practitioner diagnose or treat an illness, but it could offer instructions for a "non-medical" cure, protect the patient, or prevent the illness altogether.[29]

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[26] Rudy, "Kissing Images," 42.

[27] In contrast, see Jennifer M. Feltman, "Imagining the Sorrows of Death and Pains of Hell in the Hours of Catherine of Cleeves," in *Binding the Absent Body in Medieval and Modern Art,* ed. Emily Kelly and Elizabeth Richards Rivenbark, (London: Routledge, 2017), 111 – 132.

[28] Small parchment rolls could be protected and carried in cylindrical cases. One late fifteenth-century French manuscript, Morgan Library MS 1092, was preserved in its original, surviving case. Skemer, *Binding Words,* 156 - 162; Joachim M. Plotzek, *Andachtsbücher des Mittelalters aus Privatbesitz*, (Cologne: Das Museum, 1987), 246-47; Drimmer, "Beyond Private Matter," 100.

[29] Decker reports a case of using apotropaic image in late medieval and early modern Europe that

These functions, however, required repeatedly referencing the roll. The two approaches — medical and para-medical — in combination offered distinct, complementary modes of healing. Still looking up at a urine-filled flask even after his patient's death, the figure of the practitioner indicates the futility of humoral diagnosis in this particular case.[30] This is further emphasized by the practitioner's stance; contrary to medieval advice about how to best look at urine, his outstretched arm blocks the light filtering in through the window, preventing an accurate uroscopic diagnosis.[31] The combination of figures in the over-crowded room makes clear the dual spiritual and physical approach needed for health.

Surrounded by other objects at the cleric's table, the roll may have an even more direct part to play in healing than the work done by the physician. Like the Stockholm Roll, medieval manuscript rolls could themselves contain medical recipes and instructions for healing prayers. The liquids contained in the bowl, flagon, and beaker in the miniature's foreground may very well be the components of a recipe that failed to heal the man.[32] Prayers, medical procedures, and medical recipes were used in tandem in the diverse landscape of healing of late medieval

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goes beyond looking or touching in order to secure a physical cure: in the low countries, pilgrims could purchase printed sheets with woodcut images of holy figures or the text of bible verses, rip off small fragments of the sheet, roll it up, and ingest it like a pill. John R. Decker, "'Practical Devotion:' Apotropaism and the Protection of the Soul," in *The Authority of the Word: Reflecting on Image and Text in Northern Europe, 1400 - 1700,* eds. Celeste Brusati, Karl A.E. Enenkel, Walter Melion, (Boston: Brill, 2012), 357.

[30] Skepticism about the validity of uroscopy as a diagnostic method and the ease with which uroscopy allowed its practitioners to scam their patients into believing a given diagnosis had long plagued the practice. Perhaps the uroscoper's futile gesture here indicates a skepticism in the practice in cases of spiritual illness. See Michael Stohlberg, "The Decline of Uroscopy in Early Modern Learned Medicine (1500 - 1650)," *Early Science and Medicine* 12, (2007): 313 - 336.

[31] Henry Daniel offers instructions about where the practitioner ought to hold their hands, either to block out light or facilitate brighter light, in the *Liber Uricrisiarum*. For a detailed analysis of Daniel's instructions, see Chapter One.

[32] On the occurrence of such an event within a domestic setting and, even more specifically, a bed, see Katherine L. French, Kathryn A. Smith, and Sarah Stanbury, "An Honest Bed: The Scene of Life and Death in Late Medieval England," *Fragments* 5, (2016): 61 - 95.

England.[33] A multi-pronged approach, the combination of scholastic and practical medical methods and empirical healing procedures conducted by someone other than the medical practitioner enabled patients and their carers to cast a wide net when it came to health.[34]

With the man at the image's center dead, the roll depicted in this miniature is no longer compatible with the diachronic, repetitive mode of engagement that could make it efficacious. Nevertheless, its position in the scene suggests a form of repetition that has happened prior to the viewer's entrance into the pictorial space of the room. Between two clerics (one of whom is a woman), both of whom read from open codices, the roll becomes redundant. Although it is held open by its case, the roll merely sits in an unfurled position despite being unread. The only person to whom the roll is visible is the manuscript's reader, a viewer external to the scene and excluded from knowing what the roll's blurry text says. Either the roll has already been read and left open, or the roll matters less as a support for its text than it does as an efficacious object in and of itself. Rolls could heal even without a patient's focus on their text or images.

The unreadable text in the miniature simulates the very experience of seeing and *not* reading that some rolls explicitly ask their users to perform.[35] Manuscript rolls made in late medieval England use images in addition to text to secure physical health and protection from injury for their carriers.[36] Rolls such as these survive in significant numbers from fourteenth-, fifteenth-, and sixteenth-century England, and have been taken as the material remnants of increasingly

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[33] Rawcliffe, *Medicine & Society,* 23 – 25.
[34] Finucane, *Miracles and Pilgrims*, 59 - 64; For Arderne's account of a patient seeking aid from both spirituals and medical, see Peter Murray Jones, "Surgical Narrative in Middle English," *ANQ* 18 (2005): 1-6.
[35] Katherine Storm Hindley, "The Power of Not Reading: Amulet Rolls in Medieval England," in The Roll in England and France in the Late Middle Ages, (DeGruyter, 2020), 290 – 306.
[36] Skemer, *Binding Words,* 138 – 143.

private, personal devotional practices in the late Middle Ages.[37] These rolls demonstrate how patterns of repeated meditation and viewing could contribute to physical well-being. Often, these rolls depicted Christ's side wound and images of the Passion, and in doing so, transform the characteristics of late medieval devotion into bodily iconographies with a distinctly curative function.[38]

Touching, Healing

That manuscript rolls could be authoritative objects for physical and spiritual healing is clear both in depictions of rolls as healing tools (like in the Hours of Catherine of Cleves), but also in the ways the rolls themselves explicitly signal their own power through the texts they contain. In many ways, the format of the roll contributed to the perceived effectiveness of any given roll in achieving these goals; as Sonja Drimmer claims, the use of rolls for royal accounts and charters lent any manuscript produced on a parchment roll an air of authority and political legitimacy.[39] Such an association between the format of a manuscript and its legitimacy reinforced the efficacy of charms and images contained on parchment rolls. Whereas medical texts derived their

[37] For a listing of late Medieval English rolls that have a width of less than 8 inches, see Mary Agnes Edsall, "Arma Christi Rolls or Textual Amulets?: The Narrow Roll Format Manuscripts of 'O Vernicle'" *Magic, Ritual, and Witchcraft* 9 (2014): 102 – 104.
[38] Peter Murray Jones, "Amulets: Prescriptions and Surviving Objects from Late Medieval England," in *Beyond Pilgrim Souvenirs and Secular Badges, Essays in Honor of Brian Spencer,* (Oxbow Books Limited, 2007), 92.
[39] "Rolls were used as supports for account keeping, for obits, for charters, for the display of family pedigree, and in numerous other contexts. Within each of these categories, objects conform not only in their textual contents and function but also in physical character, where more granular genre distinctions emerge. Logically, those that had a public function or were intended for display are wide enough to be viewed from a modest distance." See Drimmer, "Beyond Private Matter," 107.

authority through their citations of older sources, the format of these para-medical objects secured the perception of their capacity to heal. The frequent use of rolls as supports for supplicative prayers, the combination of images of Christ's wounds and the *Arma Christi* used to illustrate these prayers, and the repeated scrolling and unrolling necessitated by the roll's format combined to form a powerful association between the healing power of the manuscript roll and the need to engage with it repeatedly.

This chapter requires a brief terminological digression. I will be using a variety of terms to describe rolls and the images on rolls throughout this section, but these terms are not interchangeable: prayer rolls can function as an overarching category; the term "vernicle rolls," less frequently labeled "arma christi rolls," refers specifically to rolls bearing images of the arma christi and Veronica veil and / or the Middle English poem "O Vernicle"; vernicle rolls happen to all be "narrow rolls," that is rolls whose width is quite small, such that they could be held in one hand, though not all narrow rolls are vernicle rolls; and "birth girdles" are all narrow rolls, and often contain vernicle text or images, but their specific combination of text and image indicate that they were used specifically in the realm of childbirth as protection for expectant mothers.[40] All of the rolls designated by these terms include examples replete with invocations to read, speak, and meditate on textual prayers and often, on images.[41]

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[40] Don C. Skemer, "Amulet Rolls and Female Devotion in the Late Middle Ages," in Scriptorium 55 (2001): 197 – 227.

[41] "The origins of the twenty-five surviving examples demonstrate that prayer rolls appear to have been a specifically English devotional aid produced in the late fourteenth and throughout the fifteenth century; several extant examples were also produced in the Netherlands, which had a large English population. They are typically constructed from narrow strips of parchment and of two or more membranes pasted or sewn together, sometimes amounting to a length of more than 180 cm (almost 6 feet) and in rare cases many more than that. The illumination and its adjoining text are often composed within numerous short registers that facilitate sectional reading and viewing as the roll is unfurled, a process eased by the pipes of wood, ivory, or some other durable material on which they were originally wound." Drimmer, "Beyond Private

Rossell H. Robbins, whose foundational study of the "arma christi rolls" in 1939 offered an early systematic survey of the manuscript roll genre, argued that because of their length and opulent illuminations, English vernicle rolls must have been made and used in public spaces for popular devotional rituals.[42] In the time since the publication of Robbins's work, scholars including Flora Lewis, Mary Edsall, Ann Eljenholm Nichols, Pamela Robbins, and Mary Morse have all convincingly proven just the opposite; the narrow width of the rolls, their small and detailed illuminations, and the amuletic character of the texts they contain indicate that these manuscripts would have been used by individuals in their personal devotional practices.[43] Edsall argues that the text itself is apotropaic, while others, including Newhauser and Russell, have claimed that the text and images mutually reinforce each others' power.[44] Edsall writes that the vernicle roll's

> language is consistent with that of apotropaic prayers and charms, and the arma depicted in the series of imagetexts are presented as having power in and of themselves, functioning almost like pictorial relics; for the quasi-incantatory stanzas continually invoke the arma for protection from sin, demons, and the consequences of sin.[45]

In Edsall's account, the efficacy of the roll and the texts it contains correlate directly to regularly reading and speaking the listed charms. Edsall has also suggested that the narrow format of these rolls added to their "amulet effect," that is the "perception and use of some of these rolls (and

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Matter," 100.

[42] Robbins, "Arma Christi," 415 – 421.

[43] Flora Lewis, ''Devotional Images and Their Dissemination in English Manuscripts, c. 1350–1470'' (diss. University of London, 1989); Pamela Robinson, ''The Format of Books-Books, Booklets, and Rolls,'' in *The Cambridge History of the Book in Britain, Vol. II: 1100–1400,* ed. Nigel Morgan and Rodney M. Thomson (Cambridge: Cambridge University Press: 2008), 44; Ann Eljenholm Nichols, '' 'O Vernicle': Illustrations of an Arma Christi Poem,'' in *Tributes to Kathleen Scott: English Manuscripts: Readers, Makers and Illuminators*, ed. Marlene Villalobos Hennessy (London: Harvey Miller, 2009), 141.

[44] Richard Newhauser and Arthur Russell, "Mapping Virtual Pilgrimage in an Early Fifteenth-Century Arma Christi Roll, in *The Area Christi in Medieval and Early Modern Material Culture,* ed. Lisa H. Cooper and Andrea Denny-Brown, (London: Routledge, 2014), 82.

[45] Edsall, "Arma Christi," 187.

even the smaller manuscripts) as 'functional objects'' of 'practical devotion.'"[46] Their practical, functional quality is further enhanced by the rolls' demand for repeated tactile engagement — not only does a roll demand a much more elaborate physical process of unfurling to be read, but, in the case of amuletic rolls, physical proximity was essential to the object's apotropaic function.[47]

One such roll made in fifteenth-century England, now London, British Library Harley Rotulus T. 11, uses a combination of text and image to provide its reader-viewer with access to a material approximation of Christ's body and, with it, protection and good health (Fig. 3.5). The roll consists of four membranes which, when unrolled, claim to measure the length of Christ's body.[48] A rubric following an image of the nails advises its reader "this ys the very lengh' of Cristiz nayliz which; most be holdy as a relekys & woshipith deuot deuotly w' sayng of v pater noster & v avez & a crede."[49] Below this rubric, the now-illegible text describes a proportional relationship between an illuminated tau-cross and the body of Christ. The extant script reads "This crose Imete xv...ys the ...gh of our Lord."[50] As the roll unfurls, additional images become visible. Three green nails drip with blood, and purport to show the correct measure of the nails

[46] Edsall, "Arma Christi," 188. See also John R. Decker, ''Practical Devotion," 360.
[47] The case of apotropaic objects associated with pilgrimage shed light on eneral medieval attitudes toward the healing power of objects and images. Diana Webb, *Medieval European Pilgrimage*, (New York: Palgrave, 2002), 166 - 169.
[48] W. Sparrow-Simpson provides a transcription of the now-damaged text of the roll. W. Sparrow-Simpson, "On A Magical Roll Preserved in The British Museum," *Journal of the British Archaeological Association* 48, (1892): 38 - 54; see also Adolf D. Jacobi, 'Heilige Langenmasse: Eine Untersuchung zur Geschichte der Amulette,' *Schweizer Archiv fur Volkskunde* 29 (1929), 187.
[49] "this is the very length of Christ's nails, which must be beholden as relics and worship devoutly by saying five pater nosters, five ave marias, and the creed." Translation my own, transcription from Sparrow-Simpson. In Sparrow-Simpson, "Magical Roll," 54.
[50] "This cross measures 15 times the length of our lord." Translation my own, transcription from Sparrow-Simpson. Sparrow-Simpson, "Magical Roll," 50.

used in the Crucifixion. The text of the roll assures its viewer that "Pope Innocent the viij hath g[ra]unted that who-so-ever, man or woman that beth, beryth the lenght of the naylis upon hy[m] & worshipith devoutly the IIj naylis of oure Lord … he shall' haue grauntyd to hym VII yeftiz."[51] Harley Rot. T. 11 reflects changes in late medieval devotional patterns, including a desire to implicate patients' bodies in practice.[52] In doing so, the roll suggests another form of doubling — a desire for mimetic, corporeal imitation of Christ. I will return to repetition as aspirational doubling later in this chapter. Additional diagrams show the measure of the spear that pierced Christ's side, and a schematic diamond composed of concentric bright red and orange layers portrays the measure of Christ's wound (Fig. 3.6).[53] The combination of texts on Harley Rot. T. 11's first membrane occur on three additional rolls from this period: New York, Morgan MS Glazier 39; London, Wellcome Library MS 632; and London, British Library Harley Rot. 43 A. 14. These rolls all promise protection to their bearer, note that beholding the roll will afford these protections, offer the true measurements of Christ's body and wounds, and specifically invoke Saints Quirricus and Julitta, two saints typically associated with childbirth.[54]

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[51] "Pope Innocent the VIII has granted that who ever — whether it is man or woman — bears the length of the nails upon himself and worships devoutly the III nails of oure lorde… he shall have granted to him seven gifts." Sparrow-Simpson, "Magical Roll," 52.
[52] Newhauser and Russell, "Mapping Virtual Pilgrimage," 87.
[53] "Harley T.11 features a number of illustrations. Three of these are necessary complements to three texts that center on the passion of Christ. The first is a drawing of a green Tau cross in a red frame, which is 12.5 centimeters long. The second drawing is of the three nails of the crucifixion and measures 17.7 centimeters. The nails are green, and the drops of blood surrounding them like strings of pearls are red. The third drawing is of Christ's side wound and measures 7 centimeters. The side wound is lozenge-shaped and is built up out of three concentric layers. In addition to the drawings accompanying the texts, Harley T.11 contains eight magic sigils drawn in red and green ink." Rosanne Hebing, "'Allmygti god this lettyr sent': English Heavenly Letter Charms in Late Medieval Books and Rolls," in *Studies in Philology* 114 (2017): 734.
[54] Mary Morse, "Alongside St. Margaret: The Childbirth Cult of Saints Quiricus and Julitta in Late Medieval English Manuscripts," in *Manuscripts and Printed Books in Europe 1350–1550: Packaging, Presentation, and Consumption*, eds. Emma Cayley and Susan Powell (Liverpool: Liverpool University Press, 2013), 187 - 206; Katherine French, "The Material Culture of

Another late medieval prayer roll, London, British Library Additional MS 88929, demonstrates how by the late Middle Ages Christ's wound and the arma christi had become codified elements of prayer rolls for even the most high-status of clients.[55] The so-called "Prayer Roll of Henry VIII" was made sometime between 1485 and 1509, for Henry, then Prince of Wales, and depicts Christ's side wound as an abstract diamond, its sides curving inward, in alternating feathered red and orange pigments (Fig. 3.7).[56] The wound is not set against unpainted parchment, but rather held up by angels in a delicately painted cloud. The roll combines this enlarged, disembodied representation of the wound with additional depictions of Christ, tying the isolated body part to its material instantiation in the Crucifixion and its spiritual import in connection to the Trinity.

A lengthy inscription surrounds the depiction of Crucifixion directly above the framed miniature of Christ's wounds. Two angels floating at the crucified Christ's eye level unfurl two smaller illusionistic rolls rendered with gentle brown cross-hatching on otherwise blank parchment (Fig. 3.8). The text on the left roll, which I transcribe here at length, ensures the reader of its own efficacy, and of the role the reader must play in garnering its protection.

This cros. VX

Childbirth in Late Medieval London and its Suburbs," *Journal of Women's History* 28 (2016): 146.

[55] On the English patrons of devotional manuscripts in the late Middle Ages, see Eamon Duffy, *Marking the Hours: English People and their Prayers, 1240 - 1570,* (New Haven: Yale University Press, 2011), 23 - 52.

[56] Sonja Drimmer and Andrea Clarke, "Prayer Roll of Henry VIII," in *Royal Manuscripts: The Genius of Illumination,* ed. Scot McKendrick, John Lowden, and Kathleen Doyle, (London: The British Library, 2011), 186 – 187; Edward Charlton, 'Roll of Prayers Formerly Belonging to Henry VIII, When Prince,' *Archaeologia Aelian*, n.s. 2 (1858), pp. 41-45; Hugo Van der Velden, 'A Prayer Roll of Henry Beauchamp, Earl of Warwick,' in *Tributes in Honor of James H. Marrow: Studies in Painting and Manuscript Illumination of the Late Middle Ages and Northern Renaissance*, ed. by Jeffrey Hamburger and Anne S. Korteweg (London: Harvey Miller, 2006), pp. 521-549; Kathleen L. Scott, *Later Gothic Manuscripts: 1390-1490, Survey of Manuscripts Illuminated in the British Isles* (London: Harvey Miller, 1996), vol. II, pp. 296, 351.

Tymes meten is
The length of our
Lord ihu criste and
That day that ye
Bere it upon you
Ther shal no evyl
Spirite have po
Wer of yow …[57]

The pseudo-rolls depicted on Add. MS 88929 contain all the textual cues typical of a protective or healing roll. First, a description of the proportional relationship of an image on the roll — the cross on which Christ hangs — to Christ. Next, the text reassures its viewer that whenever they "bear the cross" they will be protected from evil powers. These textual assurances surmount the abstract, framed image of Christ's wound, suggesting a further comparison between the depiction of the crucifix, the measure of Christ's actual wound that the crucifix symbolizes, and the depiction of the wound below. After this the text details various tragedies that could befall its possessor, mentioning all sorts of horrible accidents from lightning strikes to drowning that could result in injury or sudden death, and offers protection against these outcomes. That this text occurs on depictions of rolls that share the surface of the actual parchment roll leads to a paradox of sorts: the roll's owner cannot bear the text-laden roll upon themself because it will always be embedded as part of the program of images on the parchment, but, at the same time, the meta-roll and the actual roll mutually reinforce each other's power by depicting this particular format as central to the text's protective function. The dual meaning of "bear" – both wear and behold – also adds to the text's potential power. Seeing the image upon one's own body will protect the roll's user.

[57] "This cross 15 times measures the length of our lord Jesus Christ and that day that you bear it upon yourself, no evil spirit shall have power over you." Transcription and translation my own.

The associations between these rolls and healing comes from the texts they contain, which often explicitly list instructions for care or make claims to their own healing power.[58] The very format of prayer rolls, however, indicates their status as devices for private devotion; because of their shape and size, rolls could be easily held and handled, and could make efficacious texts easily accessible to be touched, read, or seen repeatedly.[59] While the rolls suggest a personal, intimate, physical devotional experience through their size and their need to be handled, the imagery that populates small prayer rolls made in late medieval England further reinforces the efficacy of these objects. Images of Christ's wounds and the Passion on vernicle rolls and birth girdles tie together the visual engagement required for healing and the use of images to mediate tactile, participatory rituals. An inscription on Harley Rot. T. 11 explicitly notes that it ought to be worn (or at least carried) by its possessor in order to be protective. In her comparison of English prayer rolls to the large, elaborate roll produced for Margaret of Anjou, Sonja Drimmer contends that "the significance of tactile religious experience in these rolls" is made explicit by "the instructions they include, often in the vernacular (even when the majority of the roll's text is in Latin), enjoining the worshipper to incline his attention to the images before him."[60] The interaction that Drimmer describes is, crucially, not only tactile but also repetitive — worshippers carried, handled, viewed, and spoke the prayers on these rolls on a repeated, perhaps even daily basis.[61] It's not just the repeated engagement with the material of the roll or the text it

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[58] Kathryn M. Rudy, "Images, Rubrics, and Indulgences on the Eve of the Reformation," in *The Authority of the Word: Reflecting on Image and Text in Northern Europe, 1400 - 1700,* eds. Celeste Brusati, Karl A.E. Enenkel, Walter Melion, (Boston: Brill, 2012), 443 - 479.
[59] Rudy, "Kissing Images," 4.
[60] Drimmer, "Beyond Private Matter," 101; See also Curt F. Bühler, "A Middle English Prayer Roll," *Modern Language Notes* 52 (1937): 555–62; Jeanne Krochalis, "God and Mammon: Prayers and Rents in Princeton MS. 126," P*rinceton University Library Chronicle* 44 (1983): 209–21; and van der Velden, "A Prayer Roll of Henry Beauchamp," 521–49.
[61] Bynum, like Rudy and others, ascribes the damage sustained on the surfaces of these rolls and

contains that lends it efficacy, but rather the combination of material, text, and image.[62] Repeatedly viewing the images on vernicle rolls and birth girdles offered protection to worshippers, and, at the same time, the repetition of established motifs across multiple rolls reinforced their authority and authenticity as protective objects.[63]

The rubric before a charm in London, British Library, Additional MS 39638, a Book of Hours replete with lush illuminations produced in Bruges in the 1440s, instructs its reader in the best way to apply the charm that follows:

> rub: Write these names onto a piece of abortive parchment that is long enough to go around the sick person's neck, sewn into the sick person's linens. This is tried and true. The angel from heaven brought it to Rome during a great plague and gave it to the pope at his pressing request and his serious appeal. These are the words…[64]

Katherine Rudy claims that these instructions signal an essential "aspect of medieval sympathetic logic: a physical ritual yields physical results. The proximity of the parchment roll plays a crucial role in its efficacy."[65] Proximity could enable efficacy, as could the sympathetic logic of physical likeness implicit in visualizing Christ's side wound and the measures of Christ and Mary. These forms of engagement imply the repetition of viewing, reading, and handling rolls. The wealth of images on late medieval rolls and the rolls' textual invocations to look repeatedly indicate

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fading of ink to repeated use. Caroline Walker Bynum, *Christian Materiality: An Essay on Religion in Late Medieval Europe*, (New York: Zone Books, 2011), 197 - 203.

[62] Edsall, "Arma Christi Rolls," 178–208.

[63] Shannon Gayk, "By Provocative Means": Power, Protection, and Reproduction in Prince Henry's Prayer Roll," *Exemplaria* 29 (2017): 300.

[64] Rudy, "Kissing Images,' 41.

[65] Rudy, "Kissing," 42 ; Rudy provides the transcription: "rub: Ende dan scryft dese namen in een lanc perkeement apertyf , also lanc dat omme sinen hals ghaen mach, ghenaeit in lijnwade van den zieken. Dit es gheprouft ende waer [15v] vonden, dinghel van hemelrikee brochtse te Roome in eene grote steerfte, ende ghafse den paeus te sinen groten versoucke ende narenstiger bede." From London, British Library, Add. MS. 39638, f. 15rv.

another form of sympathetic logic implicit in their function: seeing the rolls, a physical process in medieval thought, yielded physical results.

Charms and Childbirth

John Arderne advises his readers in the use of several textual charms throughout his *Liber Medicinalium*; typically these charms are meant to treat or prevent specific ailments — spasm, toothache, uncontrolled bleeding — and either find their sources in earlier English medical texts like John Gaddesden's *Rosa Anglica* or are tried and true methods developed through practice.[66] One such charm is meant "to make a woman deliver a child quickly after a long labor." The charm instructs the reader to

> Bind this charm below the knee of the woman in labor while saying the Lord's Prayer and the Ave Maria. + Just as we believe that the word + is made + flesh + and that the Virgin Mary bore the infant Jesus as both true God and man, so with Mary interceding and our Lord Jesus Christ bidding, may you successfully give birth to the child you bear in your womb. When Christ was born his mother suffered no pain. Once more Christ is born as both God and man + Christ calls you child + come out + come out + Christ conquers + Christ rules + Christ is lord + may Christ defend you from every evil amen + Michael + Gabriel + Raphael + come to his aid.[67]

In Arderne's charm, reciting the efficacious text ensures that the expectant mother delivers her child quickly and, through its invocation of the likeness between this mother and Mary, guarantees that the birth is not only quick, but also painless.[68] Its repetitive cadence activates the

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[66] Peter Murray Jones and Lea Olsan, "Performative Rituals for Conception and Childbirth in England, 900–1500," in *Bulletin of the History of Medicine* 89, (2015): 406 – 433.
[67] Jones and Olsan, "Performative Rituals," 421; This inscription is taken from from Cambridge University Library MS Dd.V53, for. 107 r -v, though the charm occurs in multiple manuscripts including Sloane MS 56, fol. 9v and Bodleian Library, Digby MS 88, fol. 3v.
[68] Jones and Olsan, "Performative Rituals," 427; French, "Material Culture," 131.

power of the charm, the repetition of Christ's name and, visually, the cross motif strengthens the charm's power.[69]

In this birthing charm, as in many other amuletic materials produced in late medieval England to help parturient women, it's not only the text or its repeated intonation that protects the patient. The object on which the text has been written is essential to the charm's efficacy.[70] Arderne begins by noting that the reader ought to "bind this charm below the knee of the woman in labor" while saying multiple prayers: the Lord's Prayer, then the Ave Maria, then the prayer that he himself provides.[71] The instructions themselves imply the carer acting repeatedly; the reader is told to bind this charm to the woman's leg while saying both the Lord's Prayer and an Ave Maria, indicating the continual action of tying. Tying the charm to the leg takes on the tone of a ritual, as the carer slowly binds the charm and continually recites prayers. The carer, in this case likely a midwife, would also have to copy this charm out of a codex onto a fragment of parchment or cloth before affixing it to the pregnant woman, making the charm even stronger through the repetition of writing.[72]

Despite the strong opposition of many scholastic medical authorities to empirical approaches to healing, charms such as those contained in birth girdles, narrow rolls, and other manuscripts are often presented as well-attested medical cures.[73] John Gaddesden (d. 1348 / 9), for example,

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[69] Morse, ''Alongside St. Margaret," 198.
[70] For more on the efficacy of charms and talismanic images, see the introduction to the special issue of *Representations* edited by Ittai Weinryb and Hannah Baader. See "Images at Work: On Efficacy and Historical Interpretation," in *Representations* 133 (2016): 1 - 19.
[71] Jones, "Amulets," 97.
[72] Skemer, "Amulet Rolls," 200 - 201; see also Carole Rawcliffe, 'Women, Childbirth, and Religion in Later Medieval England', in *Women and Religion in Medieval England*, ed. Diana Wood (Oxford: Oxbow Books, 2003), 91–117.
[73] Scholastic medicine's distrust in charms and prayers has found its way into the modern historiographic distinction of "folk" medicine. For one example, see Thomas R. Forbes, "Verbal Charms in British Folk Medicine," *Proceedings of the American Philosophical Society* 115

included twenty charms or amulets prayers in his *Rosa Anglica* (c. 1304 - 1317), and Arderne included nine in the *Liber Medicinae,* including the charm for childbirth mentioned above and a frequently-copied charm against spasm that also appears in the later writings of Thomas Fayreford.[74] Medical authors treated charms as *experimenta,* rather than as heretical or ineffective.[75] That is to say, any doctor including a textual charm or prayer in his writing did so because its efficacy had been proven in previous cases.[76] Olsan explains that "because the singular and extraordinary events represented by *experimenta* fell outside of the course of nature, they might be regarded as *mirabilia* or *miracula*. A *mirabile*, or 'marvel', is an intervention from outside nature but does not necessarily require that the power derives directly from an act of God."[77] Thus while the master surgeons teaching at continental universities may have occasionally disparaged amulets or textual charms, they did not do so more than they already questioned the efficacy of empirical treatment.[78] Practicing English doctor-authors, however, accepted and indeed promulgated these potential cures precisely because they had proved effective in practice.

The instructions for the use of Arderne's charm make clear that a physical connection was necessary for it to take effect. Arderne's charm, though it comes out of his well-regarded medical textbook, nevertheless requires the same sorts of activation — repetitive incantation, physical proximity, and ocular prayer — as a subset of narrow rolls produced in England in the fifteenth

(1971): 293 - 316.
[74] Olsan and Jones, "Performative Rituals," 347.
[75] Jones, "Amulets," 95 - 96; see also Don C. Skemer, "Written Amulets and the Medieval Book," *Scrittura e civiltà* 23 (1999): 253–305.
[76] Olsan, "Charms and Prayers," 356 - 357.
[77] Olsan, "Charms and Prayers ," 348.
[78] Jones "Amulets," 94.

and sixteenth centuries.[79] Classified as "birth girdles," these ten surviving narrow rolls attest to the use of repetitive strategies of viewership to effect physical health.[80] Whereas many of the rolls described above retain vibrant illuminations and legible text, damage sustained by surviving birth girdles indicates how programs of illumination and text that inspired repeated meditation were put to repeated use.

A text on Additional MS 88929 describes how a pregnant woman might benefit from use of the roll. After the lengthy description of tragic accidents already detailed, the text offers a longer reassurance for pregnant reader-viewers.

> And if a woman
> Be uitrauell off
> Childe ley this
> On her body and
> She shalle dely
> Verd with out
> Parel the childe…[81]

Beyond simply bearing the roll upon one's person or looking at the images on the roll, the text intones a woman in labor to lay the roll across her body (or, perhaps, for the reader acting as midwife to lay the roll across a pregnant patient) while in labor to ensure a safe delivery and with it brings assurances of piousness and purification for the mother.[82]

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[79] Skemer, *Binding Words,* 145.

[80] According to Olsan and Jones, the ten known birth girdles are: London, British Library, MS Additional 88929; London, British Library, Harley Roll T 11; London, British Library, Harley Charter 43 A 14; London, Well- come Library, MS 632; London, Wellcome Library, MS 804; London, Wellcome Library, MS 804A; New Haven, Beinecke Library, MS 410; New Haven, Beinecke Library, Takamiya MS 56; New York, Pierpoint Morgan Library, Glazier MS 39; and a "fifteenth-century roll in a private collection described by Skemer." See Olsan and Jones, "Performative Rituals,' 426.

[81] "And if a woman is laboring with child, lay this on her body and she shall deliver without peril the child." Transcription and translation my own.

[82] For an additional example, see Mary Morse, "'Thys moche more ys oure lady mary longe:' Takamiya MS 56 and the English Birth Girdle Tradition," *Middle English Texts in Transition: A Festschrift dedicated to Toshiyuki Takamiya on his 70th Birthday* (Cambridge: Brewer, 2014).

London, Wellcome Library MS 632, a birth girdle made in the late fifteenth century, contains a program of text and images quite similar to that of Harley Rot. T. 11; its bold, geometric depiction of the three nails from Christ's crucifixion, cross with heart and shield, and diamond-shaped side wound all replicate the familiar visual tropes of late medieval English devotional materials more generally.[83] The images across Wellcome MS 632 are damaged. The wear to the roll's images and texts is consistent with damage sustained by late medieval English devotional materials that were handled regularly. A green crucifix surrounded by christogrammic inscriptions has been rubbed away making it barely visible (Fig. 3.9). The red ink of the heart, shield, and robe that adorn the crucifix are significantly faded, and a blot that some have identified as the head of Judas in the same image has been obscured by a dark, oily stain.[84] The sides of the roll are abraded, and at points holes dot the surface of the wrinkled parchment.[85] This suggests that the roll was regularly handled, perhaps being used in multiple births, tied around the knee or affixed to the torso of a woman's body as Arderne's charm demands.

This damage, as Lea Olsan has argued, suggests that the roll was not only regularly unfurled and read, but also that it was used in service of its ostensible purpose and worn by a woman giving birth.[86] Recent chemical analysis of Wellcome MS 632 indicates that some of the dark splotches and stains that dot the roll's surface are indeed remnants of bodily fluid; human peptides extracted from the parchment match those commonly found in cervico-vaginal fluid,

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[83] Takamiya 56 and Wellcome 632 both have text lengthwise along roll, as opposed to other rolls which include vertical columns of text. See Hindley, "Power of Not Reading," 295.
[84] Flora Lewis, "Rewarding Devotion: Indulgences and the Promotion of Images," in *The Church and the Arts* 28 (1992): 179 – 194.
[85] Skemer, *Binding Words,* 259; S.A.J. Moorat, Catalogue of Western Manuscripts on Medicine and Science in the Wellcome Historical Medical Library (London: Wellcome Institute for the History of Medicine, 1962-1973), 491-3.
[86] Olsan says it "may be the only surviving birth girdle in England that was actually used during childbirth."

confirming that the roll was not only subject to physical manipulation, but that it was also actively used in the birthing process.[87]

The images that survive indicate a sustained interest in comparing one's own body to the body of the Virgin, and comparing one's newborn child to Christ. The image of Christ's five wounds that would have secured the roll's position as a powerful devotional object emphasizes the bodily gore of Christ's Passion, even if it does so through a combination of isolated and abstracted body parts (Fig. 3.10).[88] The diamond-shaped wound at the center of the composition is out of scale with the hands and feet that surround it; the combination of stark red outline and "IHS" inscription makes the side wound seem entirely divorced from the more traditionally-rendered body parts that surround it. In its context as an aide to a safe and painless birth, the side wound has an unmistakably vaginal character. Seen from the perspective of a midwife looking at her parturient patient, the sketched character of Christ's feet almost revealing the soles, the hands splayed out in an emphatic gesture, and Christ's name emerging from the central gaping wound parallels the form of a woman in labor.[89] A formal doubling between the wound — the object of

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[87] Sarah Fiddyment, Natalie J. Goodison, Elma Brenner, Stefania Signorello, Kierri Price, and Matthew J. Collins, "Girding The Loins? Direct Evidence of the Use of a Medieval English Parchment Birthing Girdle from Biomolecular Analysis," *Royal Society Open Science*, (2021): 1 - 14.

[88] The cult devotion to Christ's five wounds that developed in the late Middle Ages finds especially clear expression in these examples, in which the wounds become not only detached from the body, but begin to take on the look of abstract shapes and color fields. The insistence on these images of wounds, nails, and crosses measuring up to Christ further implicates concerns about the need to look at the proper thing in order to find healing. David S. Areford, "The Passion Measured: A Late-Medieval Diagram of the Body of Christ," T*he Broken Body: Passion Devotion in Late-Medieval Culture*, eds. MacDonald, Ridderbos, and Schlusemann, (Groningen: Egbert Forsten, 1998), 211-38; See also Martha Easton, "The Wound of Christ, the Mouth of Hell: Appropriations and Inversions of Female Anatomy in the Later Middle Ages," *Tributes to Jonathan J.G. Alexander: The Making and Meaning of Illuminated Medieval & Renaissance Manuscripts, Art & Architecture,* eds. J. J. G. Alexander, Susan L'Engle, and Gerald B. Guest, (London: Harvey Miller, 2006), 395-414.

[89] Bynum suggests that the vaginal look of Christ's wound in these instances would have added

a viewer's devotion — and the process of labor helps to secure the roll's efficacy by multiplying the presence of Christ. In this formulation, the newborn child not only stands in for Christ, but also repeats his presence as image made flesh.

In these prayer rolls and birth girdles, the depiction of Christ's wound differs from those in the woodcut prints that would become increasingly popular in Northern Europe in this same period. [90] In the Prayer Roll of Henry VIII, for example, the wound is just one visual instantiation of Christ, albeit the most tactile, and perhaps most relatable representation because of the wound's insistence on Christ's fleshly presence. The same is true of Wellcome MS 632, in which images of Christ's wounds in combination with other christological symbols contribute to the a fuller ontological statement of Christ's connection to images of him as well as the capacity of those images to act in his place. Many free-floating wounds, like those in a late fifteenth-century German woodcut (Fig. 3.11), appeared in series depicting both the *arma christi* and Christ's five wounds, and focused their viewer's attention on the physical suffering of the Crucifixion by abstracting and reducing Christ's form to that of his side wound, as David Areford succinctly writes, "as if it were interchangeable with the body of Christ."[91] The placement of the image of Christ's wounds on the body of a parturient woman complicates this direct exchange of wound and image. The depicted wound itself may remain interchangeable with Christ's actual wound, but the body that houses that wound has fundamentally changed.

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to the objects' efficacy by the principle of similia similibus. As Bynum puts it, the birth girdle, complete with wound image, could be bound to the birthing mother, "in the hope that one gaping slit would aid another in opening." Bynum, *Christian Materiality,* 197 - 200.

[90] French, "Material Culture," 134.

[91] David Areford, *The Viewer and the Printed Image in Late Medieval Europe,* (Burlington, VT: Ashgate, 2010), 240.

Protection resulted from physical or visual contact with the roll. In combination, this network of physical, visual, and textual signs summoned spiritual power through an ontological connection to the figure being venerated. Drimmer summarizes the function of such inscriptions and their impact on the perceived efficacy of these rolls succinctly:

> A number of the arma Christi rolls, for example, open with some variation on "Tis cros XV tymys metyn ys þe lenght of oure Lord Ihesu Criste. And þe day þat þou beryst it vpon þe or lokist þer-vpon, þou shalt haue þise gret gifis," proceeding to list the calamities from which the looker or bearer will be shielded. Regardless of how we might judge the potentially heterodox nature of these rolls, it is evident from the instructions to the user that they were written in the belief that their efficacy worked, at least primarily, through visual or physical contact.[92]

The birth girdle demanded physical proximity — either around the neck, tied to the knee, or placed over the womb — to work. These rolls had the potential to heal, but their efficacy depended on what Olsan and Jones would call a "performative ritual of childbirth," that is a series of repeated actions that make use of objects, images, and texts in order to ensure the physical health of both mother and child.

Mother as Mary

The combination of texts and images on birth girdles makes clear the medieval expectation that they would aid in easing the pain of childbirth, protecting expectant mothers both physically and spiritually, and securing the salvation of unborn, unbaptized children.[93] Because Wellcome MS 632 was used in childbirth (the evidence is less clear for the remaining surviving birth girdles), we can get a clearer picture of how familiar, repeated images in combination with

[92] Drimmer, "Beyond Private Matter," 102.
[93] French, "Material Culture," 138; for instances in which this work was performed by a midwife, see Rawcliffe, *Medicine & Society*, 199 - 200.

amuletic texts and repeated patters of viewing formed a sort of codified ritual in imitation of the paragon of nativity, Mary's delivery of Christ.[94] As Morse and Gwara note of Wellcome MS 632, "its narrow width (330.0 × 10.0 cm) suggests that it was intended to imitate an actual metal or cloth girdle that could be wrapped around a woman's body, with the strategic placement of particular prayers against her womb."[95] In combination with its evocative images of body parts, the narrow parchment support testifies to a link between what the rolls depict, their materiality, and the bodies of the women they were meant to protect. The image of Christ's wound, while formally it resembles the abstract, red diamond-shaped wound that appears in so many rolls, has been surrounded in Wellcome MS 632 by disembodied hands and feet, each marked with a wound Christ sustained when crucified. The five wounds together, which supplement an image of the arma christi surrounding a crucifix with a wounded heart, make devotion to Christ a repeated, visual act. With repeated viewing, as with repeated handling, the roll could heal more strongly.

An inscription on Wellcome MS 632 emphasizes the comparisons implicitly and explicitly made between the expectant mother and Mary, as well as the healing potential of the physical likeness between holy figures, the roll's wearers, and the images on the roll itself. The inscription, which is only partially legible, reads: "Thys parchement […] ys oure lady seynt mary length / by vertu of thys holy length oure savyor Jhesu criste and of hys dere / mother oure lady

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[94] Olsan and Jones use the phrase "Performative ritual"; On the development of specifically female devotion to the wound, see Flora Lewis, "The Wound in Christ's Side and the Instruments of the Passion: Gendered Experience and Response." In *Women and the Book: Assessing the Visual Evidence*, edited by Lesley Smith and Jane H. M. Taylor, (Toronto: University of Toronto Press, 1997) 204–229.

[95] Joseph Gwara and Mary Morse, "A Birth Girdle Printed by Wynkyn de Worde," *The Library* 13 (2012): 37.

seynte."[96] Like many other narrow rolls, the inscription on Wellcome MS 632 claims to replicate the measure of a holy figure.

Indeed, the measure of Christ's side wound or of Mary, portrayed in accurately measured images or described in text, could take on talismanic value, or could function as an indulgence.[97] Five of the rolls recognized as birth girdles contain a Middle English prayer to Saints Julitta and Quiricus, a martyred mother and child who came to be associated with protecting childbirth by the late Middle Ages.[98] Morse notes that

> The English prayer urges its readers to contemplate the length of Christ's body stretched upon the cross, using the accompanying cross image as His measure. Those looking upon or bearing the cross receive protection from several bodily harms and natural disasters. The prayer's concluding petition… instructs a woman in labour to have the cross 'on hyr when she trauelith of chylde' as protection against 'peryll of dethe'.[99]

Just as the sympathetic logic of physical means producing physical cures authenticated rolls power as tools for health and protection, a sympathetic logic of visual likeness undergirded the presence of wound iconography in the particular context of birthing; birth girdles, replete with abstractly vaginal wound imagery, suggested a parallel between the baby being born and Christ's own flesh. In doing so they also constructed a comparison between the woman in labor and Christ's own mother, Mary. Such a connection, made apparent through visual likeness, offered further protection.

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[96] "This parchment … is our lady Saint Mary's length / by virtue of this holy length our savior Jesus Christ and of his dear / mother our lady Saint." Despite the stature suggested by this comparison to Mary, the unfurled parchment measures roughly nine feet long. In cases where measures of Christ's body and wounds are given, there are enough copies to compare against each other to establish a relatively circumscribed group of measurements. Transcription from Gwara and Morse, "Birth Girdle," 37 - 38; Gwara and Morse use the translation suggested in Bühler, 'Prayers and Charms," 272.
[97] Lewis, "Rewarding Devotion," 179 - 194.
[98] Gwara and Morse, "Birth Girdle," 39; Mary Morse, "Alongside Saint Margaret," 187.
[99] The manuscript quoted is New Haven, Beinecke MS 410.

The Visual Efficacy of Text

Robbins's contention that the arma christi rolls were made for public use and public display has been disproved by many scholars in the past 80 years, but the assumption underlying his claim — that the amuletic effect of vernicle rolls rests in their being seen — deserves further attention.[100] The birth girdles discussed in the previous section called upon their reader-viewers to behold a cross, a text, or the roll itself, but not necessarily to *read* the text on the roll. These objects needed to be seen, regardless of whether or not they could be read.[101] Indeed, in examining the textual inscriptions on vernicle rolls, it becomes clear that seeing takes precedence over reading in activating these efficacious objects. The rolls and related texts Robbins included in his original survey granted indulgences to their wearers; these indulgences place equal emphasis on seeing, reading, and reciting prayers.[102] Robbins provides a transcription of an indulgence that follows a version of the "O, Vernicle" prayer recorded in a fifteenth-century manuscript, which reads:

> And also who þat eueri day
> þis armus of Crist be-hold may,
> þat day he ne sal dee no wiked ded....
> þe soum of wekeus to se hit ich day....
> To sen it ich day in þe moneþ also....
> To sen it a twelf-moneth ich day enter….[103]

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[100] Robbins, "Arma Christi," 415 – 421.
[101] Hindley makes this point with regard to the rolls as objects and the text they contain, but does not focus on the images. Hindley, "The Power of Not Reading," 289 - 306.
[102] Lewis, "Rewarding Devotion," 179 - 182; Eamon Duffy, *The Stripping of the Altars: Traditional Religion in England, 1400 - 1580,* (New Haven: Yale University Press, 2005), 226 - 227.
[103] "And also whoever that every day
These arms of christ behold may,
That day he shall not do any wicked deed

Robbins then concludes "the important point to observe is that the indulgence does not mention the saying of prayer."[104] Even without the need for public display or regular recitation, a roll containing an indulgence paired with images of the arma christi could protect a viewer from spiritual illness. Indeed, the indulgence does not mention saying the prayer out loud. It does not even mention reading or beholding the text. Instead, it stipulates that the thing that the beholder must do is behold, and the thing they must behold is the image of the arms of Christ.

In combination with additional charms and prayers meant to ensure physical health and protection, the images alluded to in the indulgence could have a central role in the protective or healing effect of the roll.[105] Often, as is the case in Robbins's example, the rubrics of vernicle rolls, prayer rolls, and related charms and indulgences explicitly entreat the reader to look at images, either in addition to or instead of reciting the prayers contained in text.[106] "Ocular prayer," as Robbins described it, did not only require the "beholding" indicated in the indulgence, but also depended on repeated viewing — seeing the image every day, every week, every month.

The sum of weeks to see it each day
To see it each day of the month also
To se it every day of the whole twelve months…"
Translation my own, transcription from Robbins. Robbins, "Arma Christi," 418.

[104] Robbins, "Arma Christi," 418.

[105] Lewis also traces the proliferation of similar indulgences and protective texts, all found in printed books of hours, later into the Middle Ages. The inclusion of such textual elements in the more clearly personal, devotional context of books of hours concretizes the intertwining of physical and spiritual health offered by rolls containing these same texts. See Flora Lewis, 'Garnished with Gloryous Tytles:' Indulgences in Printed Books of Hours in England," *Transactions of the Cambridge Bibliographical Society* 10, (1995): 577 - 590.

[106] Charms and indulgences often appear on the same objects, and follow the same logic of supplication, action, or vision in order to prompt a reward. On the linguistic formulae used in indulgences, see Rudy, "Images, Rubrics, and Indulgences," 444.

The Prayer Roll of Henry VIII (Additional MS 88929) likewise contains a text advising its reader-viewer in how to secure their own health and salvation. Directly below crucifix, depicted parchment rolls, and disembodied wound described above are the pointed tips of three golden nails. These have been rendered completely out of scale with the crucifixion scene, but also out of scale with the barely visible disembodied hands, feet, and heart of Christ on which they have been superimposed as if to create a ghastly echo of the crucifixion above. The text around the nails states:

> Pope In
> Nocent hath
> Grannted to
> Euery man
> And woman
> (That) berith upon
> Them (th)e length
> Of these nailes
> Seyng dauly. V.
> Pater n(oste)r . V.
> Ave mar(ia and
> X. Credo. Shall
> Have VII giftes.
> The first is he
> Shal not dye no
> Soden deth…[107]

The text continues to list additional tragedies against which it protects. While the syntax differs, the protection offered by this passage is identical to that of Harley Rot. T 11. In both cases, the text, images, and roll together provide both an indulgence and the objects of devotion necessary to secure the indulgence's spiritual protection. The illuminated roll thus protects its bearer from a variety of physical dangers and salvific missteps. Specific instructions guide what a reader-

[107] "Pope Innocent has granted every man and woman that bears upon themself the length of these nails, saying each day five pater nosters, five ave marias, and ten creeds, shall have seven gifts. The first is that he shall not die a sudden death…" Transcription and translation my own. London, British Library, Additional MS 88929.

viewer would have to do and say in order to secure this protection. Like Arderne's charm, this prayer roll asks for a certain number of Ave Marias, Pater Nosters, and Apostolic Creeds to be said daily.

Saying those prayers only accounts for part of the directions given to the reader-viewer; they also must bear the length of the nails upon themselves. In Middle English, the verb "beren" can mean to hold, wear, or posses, but also can denote giving birth or carrying sperm, senses of the word that seem especially relevant in the roll's potential use as birth girdle. The fleshliness of the roll is further emphasized by the rendering of the nails. Each nail pierces through a disembodied body part (the left and right nail each through a corresponding hand and the center nail through overlapping feet), leaving a neat trail of dripping blood in its wake. Because the hands and feet have been painted on otherwise blank parchment, these piercings create the effect of sharp breaks in the shimmering gold surface of each nail. The nails appear to pierce the parchment itself, creating a small fold of parchment as the sharp tip punctures the parchment surface and reenters through the roll's dorse. As in the depicted parchments rolls described above, this image of the wounds of Christ conflates Christ's body and the surface of the roll. Not only did such an object demand multiple, iterative viewings in order to perform its stated purpose, but looking at the roll multiple times reinforced the roll's connection — and therefore its viewer's connection — to Christ.

Significantly, some of the textual instructions on rolls indicate that rolls do not need to be read at all, but instead viewing and possessing a roll could yield efficacious results. An inscription on Harley Rot. T. 11 notes that simply holding the roll close to one's body — even without reading it — will have a protective effect. Katherine Rudy writes that "the irony is that the roll's user must read the instructions to learn that the act of reading is not required. The fact

that several of the texts on the roll are too abraded to read indicates that, despite such provisions, the roll has been heavily handled and read."[108] The roll's reader can only learn this information by reading. And, as Rudy states, the heavy physical damage to the roll shows that it has indeed been handled to reveal its amuletic texts despite this caveat. That does not prevent an illiterate reader from looking at the roll, unaware of these instructions but reaping the benefits of the apotropaic object anyway. The uninformed looking that Katherine Rudy does not explicitly acknowledge would still have been a powerful form of beholding, given the power ascribed to looking in other contexts.

Perhaps the continued handling of the roll is evidence of reader-viewer's repeated engagement with its images, rather than its paradoxical text. Seeing the roll, like holding or wearing it, could be just as powerful as reading it. Katherine Storm Hindley has argued that amuletic texts on parchment, whether rolls or fragments, did not necessarily need to be read in order to be effective. In fact, many surviving texts contain illegible strings of characters in imitation of the shorthand often used to inscribe longer text in amulets.

> If the letters did originally represent a longer text, their meaning was lost over time. The string of characters E. v. O. x. a., one of the more stable parts of this charm, appears elsewhere as o. z. o. x. a., as the shorter string e. v. x. a., and as a word, anexa. Such a range of versions suggests that any expanded text that may have been behind the letters went unrecognised by scribes.[109]

Seeing these characters necessarily took precedence over reading them. Seeing images on rolls could have had a similar, or perhaps even more powerful, effect.

Images on prayer rolls may have worked like "visual indulgences," offering physical and spiritual protection to those who look at them. [110] This idea finds its basis in other explicit

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[108] Rudy, "Kissing," 51
[109] Hindley, "Power," 293 - 294
[110] On the development of "ocular consumption of the host" in the later Middle Ages, see Decker, "Practical Devotion," 362 - 363.

invocations of the power of visual perception in liturgical rituals current in fifteenth-century England. Decker uses the example of the ocular consumption of the host to supplement the individual performance of the Eucharist both during the Mass and in other, even more public contexts.

> Ocular consumption of the Host, and the protection it offered, was not limited to the Mass. Processions like Corpus Christi, or even the mini-procession of taking the viaticum (the Host offered in the Last Rights) to a dying parishioner offered the laity chances to see the Host and benefit from that sighting. Whenever a priest accompanied the Host outside the Church and through the city, it was an opportunity for the faithful to show their veneration to the body of Christ.[111]

This veneration occurred by viewing the Host, and repeated viewing increased the protection that the Eucharist was commonly understood to provide.[112] Indeed, accounts from the late Middle Ages attest to lay people walking from one church to the next to see the elevation multiple times in a given day.[113]

The prayer rolls produced in fifteenth-century England call upon their readers to "behold" in order to secure the object's protection, but often they enjoin their reader to look at something in particular: an image. Among the extant vernicle rolls, the reader's attention is directed at images of Christ, the arma christi, and Christ's wounds.[114] This is in keeping with broader devotional trends in late medieval England, in which the image of Christ's wounds became the focus of individual meditation and prayer.[115] By depicting Christ's side wound, often abstractly and

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[111] Decker, "Practical Devotion," 363.
[112] Caroline Walker Bynum, "The Blood of Christ in the Later Middle Ages," in *Church History* 71, (2002): 685 – 714.
[113] C. Caspers, "The Western Church During the Late Middle Ages: *Augenkommunion* or Popular Mysticism?", in *Bread of Heaven: Customs and Practices Surrounding Holy Communion,* eds. in C. Caspers, G. Lukken, G. Rouwhorst, (Kampen: 1995), 83–98 .
[114] Lewis, "The Wound in Christ's Side," 204 - 229.
[115] James Marrow, *Passion Iconography in Northern European Art of the Late Middle Ages and Early Renaissance: A Study of the Transformation of Sacred Metaphor into Descriptive Narrative,* (Kortrijk, 1979); Hans Belting, *The Image and It's Public in the Middle Ages: Form*

geometrically as in Harley Rot. T 11, manuscript makers reified Christ's wound as a key feature of personal, visual devotion.[116] They also made looking the way by which a roll's beholder could exercise their piety. At the same time, the form these rolls take predisposes them to be worn on their owner's body, wrapped around injured body parts, and easily held in one hand and unfurled.[117] Long and thin — often no wider than five or six inches, roughly the width that could be comfortably held in a woman's hand — these parchment rolls enabled and often demanded repetitive handling, offering prayers in text and devotional fixtures in images that encouraged repeated engagement with Christ's Passion. Looking at the roll repeatedly enabled prolonged reflection on his wounds, and the regular reiteration of amuletic texts and charms included within the same manuscript.[118]

In other vernicle rolls, there is no image of a floating wound. Instead, in the sequence of figures of the Passion, Christ is shown both on the crucifix and as an image — his face displayed on an outstretched cloth. One such roll, London, British Library Additional MS 22029, shows Christ's face as mediated by the vernicle twice.[119] The image of the veronica in these instances reifies the importance of images in mediating the user's devotion to Christ. As an acheiropoeton, an image made without a human maker, the veronica serves as a powerful metaphor for the ability of images not only to picture Christ, but also to offer their viewers access to Christ's

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and Function of Early Paintings of the Passioni, trans. Mark Bartusis and Raymond Meyer, (New Rochelle, NY: 1990).

[116] Caroline Walker Bynum, *Fragmentation and Redemption: Essays on Gender and the Human Body in Medieval Religion*, (Cambridge, MA: Zone Books, 1992) 271; Ann Eljenholm Nichols, ''O Vernicle'" 138-69; Marth Easton, "The Wound of Christ," 395 - 397.

[117] Hebing, "Allmygti," 734.

[118] Gayk, "By Provocative Means," 298.

[119] On different iterations of the Veronica legend and the diverse renderings they lead to, see David Freedberg, *The Power of Images: Studies in the History and Theory of Response,* (Chicago: University of Chicago Press, 1991), 205 - 212.

presence.[120] At the very opening of the roll an enrobed female figure holds up a cloth with a gold-emblazoned, delicately drawn face upon it (Fig. 3.12). Later the same face appears, this time with blood dripping from his crown of thorns, embedded in a taught, stretched linen (Fig. 3.13).[121] This second image of Christ floats at the very center of the roll, in proportion to and along the same axis as the following instrument: Christ's coat. Together, the two figures create the eerie sense of a Christ who is at once fleshly and whole and, simultaneously, physically absent (Fig. 3.14). As D. Vance Smith argues of images of Christ's side wound in late medieval books of hours,

> it is the material logic of the book, the simultaneous concealing and presencing of other sides of other pages, that dictates this troubled relation between its dimensions and those of the ideal body. But the book is also imagined more abstractly as something that exceeds the imprint or the trace of the human.[122]

Wound, veil, and supplicant fall into a physical relationship in Add. MS 22029, but that physical relationship is necessarily mediated by looking at and understanding the spatial relationships on the roll. The need to handle the roll to see the images it contains prompts repeated viewings — both of Christ in his multiple pictorial instantiations and of the roll in its entirety.

Conclusion: Manufactured Amulets

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[120] Belting provides a long history both of the Veronica legend and of its reception as acheiropoeta in the medieval period. His description of the veneration of the veronica in the later Middle Ages is especially helpful in understanding the dynamics of worship at play in these fifteenth-century images. Hans Belting, *Likeness and Presence: A History of the Image before the Era of Art,* (Chicago: University of Chicago Press, 1996), 215 - 224.

[121] Ann W. Astell, "Retooling the Instruments of Christ's Passion: Memorial Technai, St. Thomas the Twin, and British Library Additional MS 22029," in *Arma Christi in Medieval and Early Modern Material Culture: With a Critical Edition of 'O Vernicle,'* ed. by Lisa H. Cooper and Andrea Denny-Brown (Abingdon: Ashgate, 2014; repr. London: Routledge, 2016), pp.171-202.

[122] D. Vance Smith, "The Inhumane Wonder of the Book," in *The Chaucer Review* 47, (2013): 371.

An etched gold pendant made in the late fifteenth century makes more permanent the apotropaic texts and images typical of English prayer rolls, connecting personal protection to the production and use of objects other than manuscripts (Fig. 3.15). The pendant, known as the Middleham Jewel, was found near Middleham Castle, King Richard III's childhood home, by metal detectorists in the 1980s.[123] The "Jewel" is in fact a lozenge-shaped locket, with images of the Trinity and Nativity on its front and back, respectively (Fig. 3.16). On one side of the pendant is a large, raised sapphire in a corded frame, and a hidden hinge that opens an inner compartment that once held holy relics.[124] An inscription frames the image of the Trinity, in which we see Christ on the cross, the Holy Dove, and God the Father along the lozenge's central axis. An inscription declares in a regular, perpendicular gothic style: "Ecce Agnus Dei / qui tollis peccata Mundi / miserere nobis tetragram / aton ananizap / ta."[125] The inscription begins with an imperative, "Ecce," demanding that the viewer behold Christ, depicted on both sides of the pendant, and ends with divine names, "tetragramaton" and "ananizapta," used in many textual charms as formulas for physical protection and freedom from spiritual dangers. These names occur frequently in charms and amulets, and solidify the importance of seeing, and not reading, the pendant's nonsensical text. By presenting texts and images that clearly partake in an iconography of healing and protection in gold and sapphire, the Middleham Jewel and other

[123] Richard Marks and Paul Williamson, *Gothic: Art For England, 1400 - 1547,* (London: V&A Publications, 2003), 233.
[124] Lea Olsan and Peter Murray Jones, "The Middleham Jewell: Ritual, Power, and Devotion," in *Viator* 31 (2000): 249 – 255.
[125] "Behold the Lamb of God that takes away the sins of the world. Have mercy on us. Ananizapta. Tetragrammaton." Olsan and Jones, "Middleham," 256; See also Jones, "Amulets," 99; On the holy names on the Middleham Jewel, see Skemer, *Binding Words,* 71 - 72.

amuletic objects like it anticipate their owner's long-term and continued use, and make the repetitions implicit in daily prayer available in a durable form.[126]

We cannot know much about if, how, and how often this pendant was handled. Instead, I bring the Middleham Jewel into this discussion to suggest that the bodily iconographies of narrow rolls could be divorced from the fleshy material of the parchment roll and still work. The lozenge-shaped frame of the Middleham Jewel, occupied by images of Christ in his fleshly and divine incarnations, neatly matches the composition of Christ's side wound in Wellcome MS 632 and New Haven, Beinecke Library,Takamiya MS 56. There, a sharply-outlined diamond with crisp corners has been shown dripping with blood, and at the center of the diamond is an abbreviation for Christ's name, IHS. Worn around the neck, the Middleham Jewel would produce the effect of physical *imitatio* between the wearer and Christ by superimposing a golden, gem-encrusted permutation of the wound on the wearer's own torso. Occupied by Christ's name in text or by an image of the earthly Christ, these two versions of the wound both enact a sort of replication by reinforcing a similarity between Christ and his devoted follower — a replication that's set into action by acts of seeing and being seen.

Like the Middleham Jewel a second wearable amulet, the fifteenth-century Coventry Ring, combines text and images in order to provide protection, health, and portable devotional material for its wearer (Fig. 3.17 – 3.19).[127] The wide (16 mm) band of the gold ring features images of

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[126] Joan Evans, Magical jewels of the Middle Ages and the Renaissance, particularly in England, (Oxford: Clarendon Press, 1922); See also John Cherry, "Healing Through Faith: The Continuation of Medieval Attitudes to Jewellery into the Renaissance," *Renaissance Studies* 15, (2001): 154 - 171.

[127] Ellen Ettlinger, "British Amulets in London Museums," *Folklore* 50 (1939): 148 - 174; Barbara Cartlidge, John Cherry, Charlotte Gere, and Anne Ward, The Ring from Antiquity to the Twentieth Century, (London: Thames and Hudson, 1981), no. 189; Marks and Williamson, *Gothic*, 333, (no. 211); see also O. M. Dalton, *Catalogue of the Finger Rings… in the Museum*, (London: British Museum, 1912).

Christ standing in the tomb surrounded by the instruments of the Passion and enlarged depictions of the five wounds. This combination of images maches contemporary prayer rolls, but its text differs from the standard "O, Vernicle" poem or grant of indulgence. The interior of the band displays an amuletic text: "Wulnera quinq dei sunt medicina mei pia / crux et passio Cri sunt medicina michi jaspar / melchior baltasar ananyzapta tetragrammaton."[128] Like the inscription on the Middleham Jewel, the text on the Coventry Ring includes divine names, and gestures toward Christ's role in physical and spiritual healing.

Whereas the Middleham Jewel explicitly calls for the viewer to look at it, the Coventry Ring implies that viewing is an essential part of physical healing and salvation by staging text and image in sequence. The inscription on the exterior of the band begins between the depictions of Christ in the tomb and two of Christ's wounds: "The well of pitty, the well of merci." It continues, "the well of confort, the well of gracy," between Christ's hand and foot wounds. Abstract, slit-like renderings of Christ's wounds surround the final portion of the exterior inscription: "the well of ewerlastingh lyffe." By alternating text and image, the ring forces its wearer to read each inscription onto the images surrounding it, allowing them to visualize each wound as one of the five metaphorical wells.[129] Such reading lends particularity to the images, and benefits from switching between text and images repeatedly.

Both the Middleham Jewel and the Coventry Ring conceal at least some of their protective attributes from viewers. Both objects contain inscriptions that gesture at spiritual, rather than physical health, but nevertheless foreground an iconography dependent on the viewer

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[128] "The five wounds of god are my pious medicine. The cross and passion of Christ are medicine to me. Jaspar, Melchior, Balthasar, Ananyzapta, Tetragrammaton." Translation my own, transcription from "Finger-Ring," The British Museum Online Catalogue, accessed November 2020, https://www.britishmuseum.org/collection/object/H_AF-897.
[129] Edsall, "Arma Christi," 205.

recognizing bodily suffering. Because these are wearable luxury goods, layered with personal and sentimental value, the inscriptions come to read differently than similar texts on parchment rolls. Worn on the body, these inscriptions were always in physical contact with their wearer. Sometimes that contact enabled the wearer to show off their apotropaic jewelry; the Middleham Jewel, worn over one's clothing instead of against the skin would be an enviable possession. The Coventry Ring, however, prevents anyone, even its wearer from seeing the inscription while the ring is worn. Whereas the Middleham Jewels includes a hidden compartment for storing relics, only accessible by pulling out the panel showing the nativity, the Coventry Ring's inscription is on its inner band, out of view.

Concealing textual amulets could add to their efficacy, even while complicating the possibility of activating them by looking. Arderne provides the example of a textual charm against spasm, advising his readers to hide the charm in order to preserve its virtues.[130] Arderne explains

> let it be closed afterwards in the manner of a letter so that it cannot be opened easily, & for this reason I used to write it in Greek letters that it might not be understanded of the people. And if anyone carries that charm written fairly in the name of God almighty, & believes, without doubt that he will not be troubled by cramp… & let it be made secretly that every one should not know the charm lest perchance it should lose the virtues given by God.[131]

While Arderne's advice seems at first to contradict the idea that amulets needed to be seen to be efficacious, his apprehension that his charm might "lose its virtues" in fact substantiates the powerful role vision played in making charms work: in Arderne's advice, he expresses his fear that too much looking will, in effect, siphon away the charm's power. The inscription on the Middleham Jewel remains fully visible in order to prompt its viewer to continue looking, but the

[130] Skemer, *Binding Words,* 145.
[131] Skemer, *Binding Words*, 145; Power, *Treatises,* 103 – 104.

concealed portion contained a small (now lost) relic. The relic contributes to the overall sense of the power of the Jewel, even though, and perhaps especially because it cannot be seen.[132] On the other hand, the inscription on the inner band of the Coventry Ring prevents the wearer from ever reading the inscription and wearing the ring simultaneously, but it does put the amuletic text into physical contact with the wearer's body.[133] In concealing the text from everyone except the wearer, the Coventry Ring attempts not only to preserve the power of the charm but also strengthen it.

These two object are not unique in their reconfiguration of amuletic texts and apotropaic images onto luxury goods: a wide variety of rings and other small, personal goods featuring similar textual amulets — what Jones refers to as "manufactured objects" — survive from late medieval England.[134] Because of the materials from which they were constructed, these objects were necessarily more durable and applicable to a wider variety of circumstances than even the best-crafted parchment roll. Jones and Olsan summarize how manufactured objects such as the Middleham Jewel could magnify the powers associated with looking at amuletic texts and images in the context of vernicle rolls: "The act of wearing the Jewel brings the wearer into contact with the various powers, or virtues, arising from its composition. The materials, the words and the images — as well as the relic — convey various powers that are transferred to the wearer, thereby endowing the wearer with both power and protection."[135] In the case of the Middleham Jewel, however, the powers a wearer might gain through physical contact seem to

[132] Cynthia Hahn, "The Voices of Saints: Speaking Reliquaries," *Gesta* 36, No. 1 (1997): 20.
[133] Gayk, "By Provocative Means," 309.
[134] Jones, "Amulets," 98.
[135] Olsan and Jones, "Middleham," 249.

have just as much to do with visual likeness to holy figures as they do with proximity to a powerful object.

Repeatedly viewing or continuously wearing objects such as the Middleham Jewel and the Coventry Ring would improve their efficacy by virtue of the texts and images they contain; these objects granted their own continued visual access and close physical contact to images of important christological scenes and texts that promised protection. They also propose an entirely different sort of repetition; a doubling of Christ's body with one's own form. The contact between one's own skin and these objects makes Christ's wounds a part of the wearer's own body — whether the actual depictions of wounds on the Coventry Ring or the abstract wound-shaped form created by the Middleham Jewel, these objects make it possible to look at oneself and see a physical manifestation of Christ's suffering.

CHAPTER FOUR: REPRESENTATION

Homo Signorum and Homo Venarum

The small figures that dot the body of the zodiac man, *homo signorum*, in John de Foxton's *Liber Cosmographiae* (c. 1408), range in kind from an impressionistically-painted aquarius holding two gilt vessels just below the man's knees to a wind-swept naturalistic ram, aries, that sits peacefully atop the man's flaxen hair (Fig. 4.1).[1] The illuminator (or perhaps illuminators) of this fifteenth-century astrological miscellany preserved in Cambridge, Trinity College MS R. 15.21 has presented the man's body and the astrological figures superimposed upon it as equally substantial against their unpainted parchment backdrop.[2] Opaque white highlights and rosy pink shading that provide a sense of the lifelikeness of the man's skin; these same features occur on the gemini that stretch their arms toward each other at the base of the man's beard.[3] The modulation of light and shadow that makes visible the tendons along the tops

[1] The first portion of the *Liber Cosmographiae* comprises a calendar, adapted from John Somer's new calendar to York use. Linne R. Mooney, ed., *The Kalendarium of John Somer,* (Athens, GA: University of Georgia Press, 1998).

[2] Friedman argues that the twelve full-page illuminations in the *Liber* may have been the work of John Siferwas. This is based on a set of shared history tables between the *Liber* and the Sherborne Missal, produced in southwest England around the same time. The similarities in style of illumination and the secured identity of the Sherborne Missal's artist leads Friedman to conclude that Siferwas may have also painted the *Liber's* figures. John Block Friedman, "John Siferwas and the Mythological Illustrations in the Liber cosmographiae of John de Foxton," *Speculum* 58 (1983): 391 - 418.

[3] Kathleen Scott identifies an additional manuscript, London, British Library, Harley MS 3719, as the possible work of the same illuminator, whom she labels the "de Foxton Master." This late-fourteenth century medical, astrological, and calendrical miscellany contains a similarly lively bloodletting figure, this time spread across an opening. Were it the case that the same illuminator were responsible for both programs of illumination, it would warrant additional work considering the presence of a subdivision of high-quality illuminators working specifically on medical manuscripts in this period. Based on the two figures alone, I am hesitant to identify these

of the man's feet is equally present in the depiction of scales on the two fish, pisces, which his toes gently grip.[4] These artistic allusions to the material qualities of both man and astrological sign, however, are undermined by the bright red lines that extend perpendicularly from the man's erect body. Clearly part of the page, they ruin the lifelike illusionism by attaching points on his skin to numerical symbols at the page's edges. As the text's prologue indicates, this man, while his image insists on his body's connection to the ongoing flux of reigning constellations, is in fact also a *homo venarum*, vein man, and the fifth image of 12 *figuris diversis* that explain the connections between the human body and the heavens throughout Foxton's *Liber*.[5]

In calendars, folded almanacs, and other astrological and diagnostic manuscripts produced in late medieval England, the homo signorum and homo venarum are theorized and depicted as human figures. Together, the two could convey the connections between the cosmos, human body parts, and when and why to treat ailments to their reader-viewer.[6] These two figures establish correspondence between the multiple systems of bodily knowledge. They show connections between limbs, the zodiac signs that affect them, and the impact of their humoral disposition diagrammatically in order to facilitate bloodletting and, with it, the health that comes with humoral balance. That is also to say that these figures show relationships between invisible

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illuminations as the work of the same artist. Kathleen L. Scott, *Later Gothic Manuscripts 1390-1490, A Survey of Manuscripts Illuminated in the British Isles*, 2 vols (London: Harvey Miller, 1996), II, 116; see also *A Catalogue of the Harleian Manuscripts in the British Museum*, 4 vols (London: Eyre and Strahan, 1808), II, no. 3719.

[4] These are qualities that unmistakably reflect the work of a talented illuminator familiar with the luxurious international gothic style. Whether or not this was the work of Silferwas is not relevant to the current study.

[5] Cambridge, Trinity College MS R. 15. 21, f. 28v; John Block Friedman, *John de Foxton's Liber Cosmographiae* (Leiden: Brill, 1988), LV.

[6] This is comparable to the work done by these types of images in folded almanacs. See Hilary M. Carey, "Astrological Medicine and the Medieval English Folded Almanac," *Social History of Medicine* 7, (2004): 361.

heavenly movements and the human body. Unified in a single body, the zodiac-vein man hybrid thematizes representation itself, shifting between human body and contrived diagram. The parts of the body, neatly identified and labeled by the lines that connect Foxton's homo venarum to the edges of the page, were understood to be governed by the flux of humors, and therefore, ultimately, by the macrocosmic shifts in elemental qualities that came about as different zodiac signs reigned over the night sky.[7] The homo venarum in the *Liber Cosmographiae* makes explicit the connections between body part, astrological sign, and the locations of veins for blood letting in a single image.[8]

Each part of the man's body is visible, his frontal pose, outstretched arms, and ever-so-slightly out-turned toes revealing the inner creases of his elbows, outer edge of his left hip, and the bends and caps of his knees. The man's back is hidden by his position on the page, but the grouping of terminal points on some of the red indicator lines hints at the placement of posterior veins that cannot be seen in the image. The illuminator has placed zodiac symbols along or atop the body parts they were understood to affect. Some — most notably the aries, taurus, and gemini — interact with the man's body, perched on or clinging to his head, neck, and shoulders as if to demonstsrate their inextricability from those bodily structures. The man's veins are presented in relation to both the parts of the body where they were found and the zodiac signs connected to those body parts.[9] On the following pages, text arranged in alternating red and

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[7] Danielle Jacquart, "Anatomy, Physiology, and Medical Theory," *The Cambridge History of Science, Volume 2: Medieval Science,* ed. David C. Lindberg and Michael H. Shank, (Cambridge: Cambridge University Press, 2013), 596 - 602.

[8] Bober succinctly describes the work of schematic zodiacal diagrams in an earlier English manuscript, noting that "their geometrical network serves as a clarifying frame, marking various relationships between parts of the text." This visual display of relationships is central to the work diagrams can do. See Harry Bober, "An Illustrated Medieval School-Book of Bede's "De Natura Rerum," *Journal of the Walters Art Gallery* 19 / 20 (1956 / 1957): 84.

[9] Sian Witherden, "Balancing Form, Function, and Aesthetic: A Study of Ruling Patterns for

black ink in a diamond-shaped grid offers explanations for how, when, and why to let veins in the locations designated by numbers in the image.[10] Information about the connection between the body and the cosmos, on the one hand, and the practical information necessary to perform phlebotomy, on the other, are mediated by the image of a man's body.

Harry Bober begins his investigation into the double-sided homo signorum that appears in the *Très Riches Heures* (Fig. 4.2) by quoting a series of questions from Paul Durrieu's foundational 1904 study of the manuscript.[11] Chief among these questions is a challenge to the very presence of this creative rendering of a scientific standby in the Duc de Berry's luxurious book of hours.[12] Durrieu asks:

> Comment les Tres riches Heures constituent-elles ainsi parmi les manuscrits un exemple unique? Comment l'image de 'l'homme anatomique,' s'y est-elle glissee? Est-ce un temoignage du grand credit dont les astrologues ... ont joui aupres du roi Charles V et de ses freres? A-t-elle éte inspirée par un des manuscrits qui se trouvaient dans la bibliotheque du duc Jean? Comment plus tard, une image analogue a-t-elle fait fortune 'a Paris pour les livres resoudre; nous nous bornons d'heures imprimes?[13]

While Durrieu was concerned primarily with the position of an astro-medical image that diverged from typical iconography in a luxurious courtly commission, Bober considers the tradition of astro-medical illumination in its own right. Durrieu's questions, and Bober's attempt at answering them, center on a figure that is unusual in its composition, but standard in its

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Zodiac Men in Astro-Medical anuscripts of Late Medieval England," *Journal of the Early Book Society,* (2017): 79 - 109.

[10] Cornelius O'Boyle, "Astrology and Medicine in Later Medieval England: The Calendars of John Somer and Nicholas of Lynn," *Sudhoffs Archiv* 89 (2005): 1 -22.

[11] Harry Bober, "The Zodiacal Miniature of the Très Riches Heures of the Duke of Berry: Its Sources and Meaning," *Journal of the Warburg and Courtauld Institutes* 11 (1948): 1.

[12] On the production of the calendar cycle in the *Trese Riches Heures,* see Millard Meiss, *French Painting in the Time of Jean de Berry, Vol 3: The Limbourgs and Their Contemporaries,* (New York: George Braziller, 1974), 178 - 194.

[13] Paul Durrieu, *Les Tres riches Heures de Jean de France, Duc de Berry*, (Paris: Bibliothèque de l'École des chartres, 1903), 29-30.

inclusion in a late medieval calendar.[14] The homo signorum occurs frequently in medical contexts, offering a simple visual device for understanding the correspondences between celestial changes and the human body.[15]

The enigmatic calendar figure that appears in the *Très Riches Heures,* the book of hours created for Jean, Duc de Berry by the Limbourg Brothers c. 1412, combines characteristics of multiple astro-medical diagrams into a single image. This image defies iconographical norms of astro-medical illumination, in which these two bodies of knowledge are either together in a single figure or entirely separate, but never back to back. As Bober succinctly claims,

> Unlike the uninspired, often repulsive and repetitious manikins in the hack professional medical works, here the same given material, in the hands of a creative artist, could be merged to form a new and entirely original iconographic and aesthetic synthesis… In place of two separate, stereotyped figures, the artist created a single harmonious group preserving all of the data contained in their prototypes.[16]

When they appear together in medical contexts, the homo signorum and homo venarum provide much the same information to their reader as two separate "stereotyped figures:" which zodiac

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[14] On the place of the zodiac and vein men in typical calendar iconography, see John E. Murdoch, *Album of Science: Antiquity and the Middle Ages*, ed. I. B. Cohen (New York: Scribner's Sons, 1984), no. 265; Loren MacKinney and Thomas Herndon, *Medical Illustrations in Medieval Manuscripts*, Wellcome Historical Medical Library, New Series, 5 (London: Wellcome Historical Medical Library, 1965), 138.

[15] In discussing the generalizing appearance of the zodiac man's human body, I think again of Camille's description of the function of the medieval diagram. "We see their illustrations as 'general' and not 'particular', partly because the universal schemata for animal depiction which they used copied formulae of a thousand-year-old tradition, and put forward animals not as perceived individuals but as concepts. But the best form of representation for refuting the arguments for the non-linguistic nature of visuality and for understanding how an image can function on the same complex semantic levels as a text is the medieval diagram. This was readable as *scriptura* and yet totally dependent on presentation through *pictura*." Michael Camille, "The Book of Signs: Writing and Visual Difference in Gothic Manuscript Illumination," in *Word & Image*, (1985): 135. See also Peter Murray Jones "Image, word and medicine in the Middle Ages," in *Visualizing Medieval Medicine and Natural History, 1200 - 1550,* eds. Jean Givens, Karen Reeds, Alain Touwaide, (Burlington: Ashgate, 2006), 10-11.

[16] Bober, "The Zodiac Miniature," 30 – 31.

signs affect which body parts; which body parts can blood be let from under which zodiac signs. Both images together depict an ordered and hierarchized cosmos in which, according to Bober, "the predictability of the macrocosm provided the basis of order in the excogitation of the disorders in man, the microcosm."[17] That the two figures often appear together (and in the case of the *Très Riches Heures* and the *Liber Cosmographiae* appear within the same image) reveals how illuminators could stage this knowledge through visual comparisons of the ways figures looked. The posture, complexion, hairstyle, and scale of two separate figures could indicate an equivalence between the two. Similarities and differences between the two figures help to establish their similarity and, at times, their sameness. Including both of these figures in medical contexts insists upon their relationship; that relationship is reinforced by the two systems of cosmological knowledge represented together in human form. Because of their implicit relationship to a macrocosmic concept of human health, these representations of the body indicate a distinction between the macrocosm and microcosm in a medical context contingent on representations of individual difference. The figuration of these concepts in a human body makes it possible to represent them.

As discussed in Chapter One, astrology played a significant role in medical treatment throughout the Middle Ages, and manuscripts made in fourteenth and fifteenth-century England demonstrate the intertwining of astrological thought and medical treatment.[18] John Arderne explains the importance of the zodiac not only as a diagnostic tool, but also as it relates to surgical procedures:

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[17] Bober, "The Zodiac Miniature," 12.
[18] Hilary Carey, "Astrological Medicine," 345 - 363; See also Roger French, "Astrology in Medical Practice," in *Practical Medicine from Salerno to the Black Death,*" eds. Luis García-Ballester, Roger French, Jon Arrizabalaga, and Andrew Cunningham, (Cambridge: Cambridge University Press, 1994), 30 - 59.

> Sicunt volunt Astrologi summi videlicet Ptolomæus, Pythagoras, Rhasis, Haly, &c., non debet cirugus incidere vel urere in aliquo membro corporis humani nec facere phlebotomiam dum Luna fuerit in signo regnante illud membrum. Nam secundum est quod 12 signa zodiaci regunt 12 partes humani corporis prout patet in imagine predicta, ubi aries quod est signum igneum temperate siccum caput regit cum suis contentis.[19]

Arderne relies on a drawing to instruct his readers in the relationship between the body, its treatment, and celestial change.[20] Whereas Arderne references a drawing of a single body, the homo signorum, whether implicitly or explicitly, always signals the presence of two related figures. Whether illuminated as one body or two, the homo signorum and homo venarum rely upon each other to make the cosmographical underpinnings of the human body legible to practitioners of medicine. Because both images — or, in the case of the *Liber Cosmographiae*, a single image of both figures — traffic in the concept of micro and macrocosmic relationships, they represent a set of relationships at the core of medieval understandings of the human body.[21] Rather than doing so in a complex but schematic diagram, the dual zodiac and vein man represents these concepts as embedded in the human body.

This chapter takes the modes of looking explored in the previous three chapters, and asks: what happens if we look at objects outside the realm of medicine using the carefully-trained empirical eye of the surgeon or the practiced comparative gaze of the physician? How do images of bodies suggest new and different relationships between what they signify and how they

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[19] "The highest Astrologers, viz.: Ptolomy, Pythagoras, Rhasis, Haly, &c., aver that a surgeon ought not to cut or to cauterise any member of the human body nor to breathe a vein so long as the moon is in the house ruling that member. For the 12 signs of the Zodiac rule the twelve parts of the human body, as is clear from the aforementioned drawing, where Aries, which is a fiery sign moderately dry, governs the head with its contents." Translation and transcription from John Arderne, *Treatises of fistula in ano : haemorrhoids, and clysters,"* ed. D'Arcy Power,(Oxford: Reprinted by Oxford University Press for the Early English Text Society, 1968), 16-17.
[20] Bober, "The Zodiacal Miniature," 8-15.
[21] Diagrams had a unique capacity to picture the correlations between macrocosm and microcosm, but also to make arguments about how those relationships worked. For an analysis of how this relationship manifests in computus diagrams, see Faith Wallis, "What A Medieval Diagram Shows: A Case Study of Computus," *Studies in Iconography* 36 (2015): 13 - 15.

signify it when considered in light of the representational strategies at hand in the theorization and practical treatment of the body in contemporary medical discourse? A group of canonical objects attest to an English interest in representing the human body as subject to illness, decay, and death. Figures of the dead, tomb effigies, and wax ex-votos left at saints' shrines all give visual representation to something otherwise imperceptible: the re-animation of the body after death, the slow decomposition of the inert corpse, or the immaterial enactment of physical health by spiritual force. This chapter argues that applying the visual strategies exposed, accommodated, or trained by the making and viewing of medical images in late medieval England to non-medical artifacts can liberate these images from the typical readings established by contemporary art historians. Rather than reading transi tombs and wax ex-votos as manifestations of macabre sensibilities or evolving interests in corporeality, this chapter suggests that, when viewed through the lens applied to medical images, these non-medical images and objects offer their own theorizations of what exactly bodies were, what they looked like, and how they could be represented.

The zodiac and vein men employed in medical contexts exemplify how the perceptual and artistic techniques that produced visual likeness could also be used to represent relationships that were otherwise invisible. Like the representations of humors described in Chapter One, these figurations give visual expression to the embodied qualities of medieval astro-medical humoralism. Unlike those figurations, however, the combination zodiac and vein man figure depicts the system that connects those figures as well as the figures themselves. The zodiac man and vein man in the *Très Riches Heures*, standing back to back and therefore visually fused into one image, analogizes the macrocosm and microcosm by representing both as men, nearly identical in appearance and posture, embedded in the same cosmological system. The literal

effacement of the vein man's individuated features contributes to the sense that the two figures share one identity.

Bober notes that the conflation of these two systems into a single image meant that for the manuscript's medieval viewers, "the science of man could be, and was, geared to the regular order of the universe and elaborate correlations between their mutual components were deduced."[22] Correlations between planetary movements, feast days, reigning constellations, and a person's well-being were more typically represented in schematic diagrams.[23] Just a few pages before the homo signorum in the *Liber Cosmographiae*, for example, the illuminator has arranged the winds, cardinal directions, elements, elemental qualities, seasons, and humors around the spokes of a rota (Fig. 1.3).[24] Whereas the correspondences and disjunctures in these categories of information are made clear through simple geometry in the rota, the homo signorum that follows instead grafts those relationships onto the parts of the human body, making the analogy between the two intertwined systems of knowledge — the practical and the cosmological — knowable and memorable through their literal embodiment. This chapter argues

[22] Bober, "The Zodiacal Miniature," 9.
[23] Hamburger's leading definition of diagrams clarifies exactly what it is diagrams represent, but not how they represent it, nor how they come to generate meaning. "A diagram, some might say, is a two-dimensional schematic representation, usually linear or geometric, of relationships betwee, in the case of technical drawing designed to show how something works, various parts or objects or, in the case of an aid to thought, interrelated concepts. If only it were that simple." Hamburger goes on to offer a more capacious description, but not a definition, of what diagrams do: "diagrams chart, they map, they interrelate, but they also unfold, sometimes literally. Diagrams deal with process, both in the world and, no less importantly, in the mind: they plot rationality in spatial terms and map out cognitive as well as mechanical practices and procedures." Defining what a diagram is would be beyond the scope of the current project; instead, using Hamburger's description of what diagrams do, this chapter seeks to demonstrate how figural images might be able to accomplish similar feats. Jeffrey Hamburger, *Diagramming Devotion: Berthold of Nuremberg's Transformation of Hrabanus Maurus's Poems in Praise of the Cross,* (Chicago: University of Chicago Press, 2020), 17.
[24] Friedman, "John Siferwas," 393.

that illuminators could employ pictorial representation to evoke things that were not easy to depict by giving them human form.

In many ways, the complex medieval functions of pictorial representation fall in line with medieval semiotics more generally. Drawing on earlier questions of linguistic metaphors, Boethius's theory of equivocation, which was still used by later medieval English logicians and linguists, consisted of four distinct forms of "deliberate equivocation."[25] That is, of metaphorical uses of different words to describe the same object in which the senses of those terms are linked.[26] The first, "similitude," involves "the sense of a similarity of external form, exemplified by a true man and a painted man."[27] The second is "analogy," in which the variables maintain "unity with respect to number and point with respect to a line."[28] This chapter examines how the representation of the human body slips between the layers of Boethius's equivocations, and between medieval definitions of how the world could be revealed through linguistic signs.

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[25] Rita Copeland, "Pathos and Pastoralism: Aristotle's Rhetoric in Medieval England," in *Speculum* 89, no. 1 (2014): 96 - 127.

[26] Ashworth describes the continued difficulty of distinguishing different forms of analogy throughout the Middle Ages: "The issue was complicated by the introduction of analogy in the new sense whereby, because of attribution, a term signifies one thing per prius and another per posterius or ex consequent. A number of sources pay little or no attention to this issue. Some, particularly the authors of Question commentaries, refer only to analogy; others refer, at least in effect, only to transumptio. At least two English sources belonging to the latter tradition refer in passing to analogical terms, and in his Summulae Roger Bacon included ens , which was a standard analogical term, among his examples of transumptio." She continues: "However, a certain Robertus and another Robertus, Robertus de Aucumpno, both explain that even though analogy reduces to transumptio , there is a difference because in one case there is a true unity of nature and in the other case there is only a resemblance, that is, a surface similarity. A better explanation is found in the theologian James of Viterbo (d. 1308). He argued that there is a crucial difference between analogy and metaphor." E. Jennifer Ashworth, "Metaphor and the Logicians from Aristotle to Cajetan," in *Viviarum* 43 (1), (2007): 323-324.

[27] Ashworth, "Metaphor," 317.

[28] Ashworth, "Metaphor," 317.

Tomb sculpture, images of the dead, and wax ex-votos all evoke a different relationship between sign and signified than the linguistic connections Boethius describes. There is not a straightforward similarity between form and being, as in Boethius's similitude, nor is there a consistency in the relationships between things depicted, the stability of sameness in Boethius's analogy.[29] The conflation of living subject and decomposing body enacted through late medieval tomb sculpture and images of death places two forms of bodily figuration in parallel in order to assert the sameness of physically disparate appearances. Death, decomposition, healing, and salvation are processes for which an illuminator could not possibly produce mimetic likenesses. By embodying these processes, that is by giving them human pictorial form, illuminators relied upon the comparative, discriminating, and repetitive looking performed in contexts of health and healing to let viewers see complex non-medical concepts.

Throughout this chapter, I will draw a clear boundary between visual likeness and mimetic likeness. While cadaver tombs and wax effigies evoked the bodies they commemorated through the specificity of their representation of human physiology in states of wellness and decay, these images also relied on implicit comparisons between the represented body and the body of some real person.[30] This chapter focuses on the same relationships that motivated the first two chapters of this dissertation: the abstract and the figural, the universal and the particular, the theoretical and the practical. Rather than examining either side of these relationships, this chapter examines

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[29] The two remaining forms of equivocation — "of one origin" and "in relation to one end" — Boethius describes as the contrast between the term "medical" and the term "health." The later, unlike the former, is relationtional and proportional, whereas the former merely describes multiple terms that fall into the same category.

[30] Here, the Zodiac man recomplicates its status as diagrammatic: "The diagram avoids these difficulties because it is not locked into the particularity of representing 'like by like' in the normal iconic means of pictorial representation. In medieval scholasticism it was possible to differentiate between 'man at the formal, definitional level' and an example like 'Socrates is a man' using the notion of *suppositio*." Camille, Book of Signs, 137.

how the relationships themselves were expressed in images. As Bober says of his homo signorum, the figure of man has a "specified dependent relation to that universe and is absolutely subordinate to it."[31] That specified dependent relationship between man and universe is a concept typically represented by means of diagrams in non-medical contexts; looking at non-medical images with the trained eye of the practitioner, however, helps to make those relationships visible in figural representations too. The non-medical body in late medieval England still conveyed information and required interpretation. Making that body legible, however, required pictorial representation and, more specifically, required likeness. By establishing likeness among represented figures or between a represented figure and its model, the makers of these non-medical images enabled viewers to engage in strategies of careful looking, comparison, and differentiation, and ultimately, to draw conclusions about the condition of the bodies being represented.

In her most recent book, Caroline Walker Bynum argues against visual similarity as the primary criteria for establishing the likeness between the earthly and heavenly. Bynum asks a leading question:

> Should one hold that likeness is located in some substance or physiological reaction behind appearance — that light or gold, for example, indicates in some more than arbitrary sense aspiration or glory or being lifted up? Or should one maintain that behind certain appearances — for example, the bread of the Eucharist or water from a holy spring — there may be a dissimilar presence unseen but really there (that is, God's body or spiritual cleansing)?[32]

In Bynum's view, visual similarity cannot sufficiently explain how "likeness" connects the heavenly to the earthly; she argues that despite visual difference, a presence or similarity

[31] Bober, "The Zodiacal Miniature," 14.
[32] Caroline Walker Bynum, *Dissimilar Similitudes: Devotional Objects in Late Medieval Europe*, (Princeton: Princeton University Press, 2020), 54.

inherent in the very being of profane material establishes that connection.[33] In her disavowal of visual similarity, though, Bynum neglects the many ways in which pictorial likeness was used not only implicitly to express the cosmic relationships at the heart of medieval science, but also explicitly to theorize those relationships. By illustrating the connections between life and death, one's body and one's health, through an iconography thoroughly located in the body itself, medieval artists, craftspeople, and the votaries and patrons who purchased and commissioned their wares indicated how thoroughly visual similarity informed medieval ideas about health. The relationships made visible through "likeness" — and through visual likeness in particular — tied together conceptually complex systems in the familiar form of the human body.

I. Living and Dead

The Slime of the Earth

Two deceased figures on folio 32v of London, British Library, Additional MS 37049 lie side by side, or perhaps one on top of the other, in a scene in which the perspectival relationship between the two is just as vexing as the metaphysical one (Fig. 4.3). The manuscript, referred to as "the Carthusian Miscellany," was made in Northern England in the late fifteenth or early sixteenth century and contains religious texts in Middle English.[34] In the image, a woman, still

[33] The argument builds on her narrative of the place of materials in late medieval devotion in her previous study. Caroline Walker Bynum, *Christian Materiality: An Essay on Religion in Late Medieval Europe,* (New York: Zone Books, 2011).

[34] Thomas W. Ross, 'Five Fifteenth-Century 'Emblem' Verses from British Museum Additional MS. 37049' *Speculum*, 32 (1957) 274-82; Douglas Gray, 'London, British Library, Additional MS 37049: A Spiritual Encyclopedia', in *Text and Controversy from Wyclif to Bale*, ed. by Helen Barr and Ann M. Hutchinson (Turnhout: Brepols, 2005), 99-116; Ralph Hannah, *The English*

clad in the elegant trappings of her upper-class social standing peacefully holds her hands to her chest, her head perched atop a tasseled pillow.[35] She is positioned on an architectural structure that could only be a tomb: the rectangular base, composed of clearly distinct layers of simulated crenellations and other carved details, gives way at the top to the stone slab on which she rests.[36] In contrast to the light blue wash and uncolored parchment used to depict the material of the tomb, the woman's garments have been rendered in bright red and rusty purple. Her crown still bears traces of a faint gold wash, and a mottled pink pigment across her face, chest, and hands creates the distinct impression of a body that is still very much alive. Directly below her tomb, or perhaps buried in a small plot next to it, is the second figure: a skeleton. The skeleton's jaw twists forward into an irrational smile while shadow-like vermin crawl up and down its limbs.[37]

In their configuration, whether stacked one on top of the other or lying in direct proximity, the two figures show the woman living and dying, though both of the figures depicted are no longer alive. The lively effigy represents the woman as she looked in life. At the same time, it commemorates its now-dead subject in motionless stone, as if to certify her lifelessness. The woman's remains survive in the desiccated skeleton, which, despite its role as an icon of death, seems to writhe expressively in the earth.[38] Below the image of the skeleton and the woman's

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Manuscripts of Richard Rolle, A Descriptive Catalogue (Exeter: University of Exeter Press, 2010), no. 41.

[35] Francis Wormald, 'Some Popular Miscellanies and their Rich Relations', in *Miscellanea Pro Arte: Festschrift für Hermann Schnitzler* (1965) 279-85.

[36] Marlene Villalobos Hennessy, "The Remains of the Royal Dead in an English Carthusian Manuscript, London, British Library MS 37049," *Viator* 33 (2002) 310-54.

[37] Joseph Koerner offers a curt explanation of the presence of worms and decaying flesh on late medieval figures of death: "Putrefaction is not simply the natural decay of a body after death. It is a vehicle of God's ugly message to the living, a repugnant display denoting moral corruption and designed to elicit terror." Joseph Leo Koerner, *The Moment of Self-Portraiture in German Renaissance Art,* (Chicago: Chicago University Press, 1993), 275.

[38] Ashby Kinch, *Imago Mortis: Mediating Images of Death in Late Medieval Culture* (Leiden: Brill, 2013), pp. 58-68; Paul Binski,"John the Smith's Grave," in *Tributes to Jonathan G*

corpse, an inscription identifies this figure as an illustration of the poem that follows. Both the inscription and the poem warn their reader:

> Take hede un to my fygure here abowne
> And so how su(m)tyme (it?) was frescche + gay
> Now turned to wormes mete + corupc(i)ou(n)
> Bot fowle erth + stynkyng slyme + clay
> Attende (th)(er)fore to (th)is disputaciou(n) wrytten here[39]

The reader should look at the figure above and take it as a morose portent of what's to come: their own fresh and gay body will someday be food for worms in the earth's stinking slime.[40] A special emphasis is placed on the macabre visuality of this omen; the reader is told to "take heed" of the visual signs of life and death embodied by the figure of the woman.

The "disputacioun" that follows describes the tomb sculpture in great detail. The tomb, perhaps in metonymic reference to the process of burial more broadly, structures the central conceit of the poem. Modeled after more typical body and soul poems, in which a personification of the soul enumerates the ways in which its now decomposing body sinned in life, *A Disputacioun Betwyx the Body and Wormes* offers a similar soteriological admonishment to the body in question.[41] Unlike other body and soul poems, however, the "body" in the *Disputacioun* seems to conflate body and soul, and it argues not with itself, but with the worms that feast on its

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Alexander: the making and meaning of illuminated medieval and Renaissance manuscripts, *art and architecture,* edited by S. L'Engle and G. B. Guest, (London: Harvey Miller, 1993), 386–93.

[39] Klaus P. Jankovsky, 'A View into the Grave: 'A Disputacion betwyx the Body and Wormes' in British Museum MS Add. 37049', in *TAIUS*, 7 (1974) 137-59; James Hogg, 'Unpublished Texts in the Carthusian Northern Middle English Religious Miscellany British Library MS. ADD. 37049', in *Essays in Honor of Erwin Stürzl on his Sixtieth Birthday,* ed. by James Hogg (Salzburg: Institut für Anglistik und Amerikanistik, 1980), 241-84.

[40] Throughout Brantley's lengthy study of Add. MS 37049, she insists that the mansucripts words rely on images generate meaning. In this instance, in which the text explicitly invites its reader to consult the image, its clear that both work together in order to get accross the poem's message. Jessica Brantley, *Reading in the Wilderness: Private Devotion and Public Performance in Late Medieval England,* (Chicago: University of Chicago Press, 2007), 4, 221 - 223.

[41] Jenny Rebecca Rytting, "A Disputacioun Betwyx þe Body and Wormes: A Translation," *Comitatus* 31 (1), 2001: 217 - 232.

flesh in the grave.[42] The poem itself cautions readers against sin through its graphic description of the putrid, rotting flesh of the well-dressed entombed woman. The image that precedes the poem highlights the disparities between the woman and her corpse by staging visual difference.[43] The depiction of the woman's body fixes the specificity of her individual status, complicating the typical comparison between life and death and instead constructing a material comparison of the reader-viewer's own body to what will eventually become of that body.

The relationship between the two bodies of the woman depicted in Add. MS 37049 and described throughout the *Disputacioun* is an ambiguous one. In one sense, they are two figurations of the same body. In another sense, they contrast with one another, offering two divergent possibilities of how a body might appear after death.[44] Representing a single subject in drastically different phases of being requires that subject to be depicted twice.[45] Both attempts at representation offer impossible views of the same figure: a woman who is animate, or at least expressive, but still dead. In doing so, the drawing of the tomb and two bodies calls into question the apparent similarity or sameness between the two figures represented, opening the possibility

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[42] Takami Matsuda, *Death and Purgatory in Middle English Didactic Poetry* (Woodbridge: Brewer, 1995), 243-44.

[43] On the possible readers of this manuscript, see John B. Friedman, *Northern English Book Owners, and Makers in the Late Middle Ages* (Syracuse, NY: Syracuse University Press, 1995), 244.

[44] Particularly jarring are the signs not just of death, but of decomposition on the skeletal figure. Camille provides a compelling analysis of rot as a visual signifier of death. Michael Camille, *Master of Death: The Lifeless Art of Pierre Remiet Illuminator,* (New Haven: Yale University Press, 1996), 171 - 179.

[45] Again, picturing the same figure twice recalls Pächt's explanation of the development of narrative structure in twelfth-century English manuscript illumination. Unlike Pächt's examples, in which the two figures are visually identical in order to express that the element that has changed, and not the represented person, in the Carthusian Miscellany double tomb image, these two figures look drastically different. The change represented is not merely the passage of time, but the passage from life to death. Otto Pächt, *The Rise of Pictorial Narrative in Twelfth-Century England*, (Oxford: Clarendon Press, 1962), 15 - 16.

of a more complex or liminal equivocation than the modes of analogy and similitude Boethius theorizes.

The woman and the skeleton are at once two figures represented in opposition to each other and also two representations of the same subject. They share a single body, but that body, rendered as two distinct figures, means that the visual representation of the woman after death relies on both a differentiation between physical body and other identifying signs and also on the separation of physical likeness from identity.[46] Significantly, neither figure represents a specific historical individual. Both figures simultaneously represent a once-living body and at the same time the current appearance of that fictional body in death.

Bodies that are at once dead and alive have been accepted as normative manifestations of what is often characterized as a "macabre fascination" in the later Middle Ages.[47] Representing the dead, however, could have broader ramifications. What, exactly, was needed to represent the

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[46] As discussed in Chapters One and Two, the concept of identity in the Middle Ages is a perpetual problem in modern scholarship. While the twelfth and thirteenth centuries have often been characterized as the period in which the idea of the individual was born, the application of ideas of individuality and individuation to images of the dead adds to this difficulty. In the early forms of medieval portraiture that Perkinson describes, there is most certainly a link between the look of the specific person being depicted and the identity of that subject. Images of the dead, however, are generalizing, and, in the most specific instances, link a depiction of a dead body to the depiction of a living body. This living body is rarely granted a specific identity through visual likeness. Exceptions to this are found in illuminated romances and chronicles, in which the continuity from one miniature to the next makes possible identifying the now-dead figure with previously-living iterations of similar-looking figures. Stephen Perkinson, *The Likeness of the King: A Prehistory of Portraiture in Medieval France,* (Chicago: University of Chicago Press, 2009), 89 - 90.

[47] Binski traces this intellectual geneaology back to Burckhardt and Huizinga, for whom the macabre was another manifestation of medieval decline against which the artistic and humanistic rebirth of the renaissance could shine. Binski argues that the macabre builds upon a "deconstructive trait in attitudes to the body," in which the fragmentation of Christ's body and the cult of relics give way to a "transference of religious responses to isolated body parts." Paul Binski, *Medieval Death: Ritual and Representation,* (Ithaca, NY: Cornell University Press, 1996), 123 - 125.

body of a no-longer-living subject, and how did viewers look at these images? In asking these questions the specific representational techniques needed to show the animation of these figures become pronounced. This complexity of this question is especially clear in the representation of a specific type of no-longer-living body, frequently shown with a sense of animated panache in late medieval English contexts: the skeleton. Skeletons in images of the *Danse Macabre* produced in the fifteenth and sixteenth centuries exemplify this paradoxical representation of living and dying.[48] Moving skeletons, though, contrast sharply with the figure of the corpse lying down, as if to imitate the state of the body in death. Not only do these figures forsake anatomical naturalism in favor of simplified yet hauntingly lively bodies, but they also give representation to something other than the now-dead body of a once-living subject. Camille asserts "the horizontal cadaver type is so ubiquitous by the fifteenth century that it becomes the emblem of death itself."[49] How do these recumbent skeletons come to represent death? Seeing the cadaver as an emblem of death seems to alter what tomb effigies show in increasing detail in late medieval England: the body of a specific dead person in a state beyond death.

Tomb Sculpture

Structured as a dream vision, *A Disputacioun Betwyx the Body and Wormes* begins with its narrator stopping into a church as he flees the plague; once inside, he is struck by the appearance

[48] Sophie Oosterwijk, "Of corpses, constables and kings: the Danse Macabre in late medieval and Renaissance culture," *Journal of the British Archaeological Association*, 157 (2015) 61–90; see also Elina Gertsman, "Pleyinge and Peyntynge: Performing the Dance of Death," *Studies in Iconography* 27, (2006): 1 - 43.
[49] Michael Camille, "The Corpse in the Garden: Mumia in Medieval Herbal Illustrations," *Micrologus VII: Il Cadavre,* (1999): 296; see also Camille, *Master of Death,* 192 - 211.

of a woman's newly-built tomb, and while looking upon it he falls into a trancelike vision.[50] The narrator places great emphasis on the look of the tomb.

> Bysyde me I sawe a towmbe or sepulture
> Ful freschly forgyd depycte and depynte
> Compassyd and made be newe coniecture
> Of sondre armes þer many a prynte
> Þe Epytaf to loke was I not faynte
> In gylt copyr with goldly schewyng þan
> With a fresche fygure fyne of a woman…[51]

Not only does the narrator describe the quality of carving, which he notes is both finely and newly done, but he lingers on the materials of the epitaph — gold and copper. The tomb which the narrator describes is that of the well-dressed, still-lively woman depicted just above this textual introduction.[52]

By describing the tomb, the narrator also necessarily describes the appearance of the woman, who, sculpted into the tomb's surface, is represented in the same materials as the monument. The image of the tomb, though, is on a different page than the passage of text describing it; the text and image face each other in a shared opening.[53] In the image above the beginning of the poem, we see the "sondre armes" that the narrator mentions illuminated with the clear outlines of circles, chevrons, and lions sketched across the base of the tomb. The poem and the image both indicate an explicit connection between the tomb and the desiccated body next to it: the effigy on the tomb and the skeleton being eaten by worms are two iterations of the same, now-deceased, person.[54] While the tomb effigy, the depiction of the tomb effigy, and its textual description in

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[50] Jankofsky, "View Into the Grave," 140 – 14.1
[51] "Beside me I saw a tomb or sepulcher, that seemed to be freshly adorned and raised— Just newly made, by my conjecture— With sundry arms thereon emblazed. Upon the epitaph I boldly gazed. Gilt gold on copper gleamed each line, With a woman's figure, fresh and fine." Transcription and translation adapted from Rytting. Rytting, "Disputacioun," 220, 226.
[52] Brantley, *Reading in the Wilderness*, 221.
[53] London, British Library, Additional MS 37049 ff. 32v - 33r.
[54] Erwin Panofsky, *Tomb Sculpture: Its Changing Aspects from Egypt to Bernini,* (New York:

Add. MS 37049 all give pictorial representation to the woman in question, the skeleton offers a much more complex and ambiguous representation of a figure after death. Ostensibly the skeleton *is* the woman who died; the effigy atop the tomb is merely a representation of her.

The complex relationship between the living and the dead is not unique to tomb sculpture — nor to the representation of tomb sculpture in manuscripts. Rather, the comparison between the two dead bodies in Add. MS 37049 uses multiple physical and visual signifiers of death current in late medieval England.[55] A parallel between life and death, in which deceased figures take on the worldly signs of life, or stand in dramatic opposition to living counterparts, is chief among these. The differences in representing living and dead figures — often in a single image — makes signs of corporeal animation and post-mortem decomposition interchangeable.

A body-double for the woman sculpted on the tomb, the skeleton in Add. MS 37049 appears physically distinct from her, but its their similarity, or perhaps even their sameness, that allows the *Disputacioun* to function as a cautionary tale. The tomb effigy, which depicts its subject as if she were alive, makes the corpse seem alien. These are not two depictions of death, but rather one person represented before her death and seen after. The skeleton depicted on f. 32v ensures the reader that it was once the beautiful woman seen in the tomb effigy:

> Of bewte I was a lady precious
> Of gentil blode descendyng of right lyne
> Of eve and of trewe begynnyng generows
> Al hertes glad my plesaunce to dyuyne
> Men of honour and of grete worschip al dyd declyne
> And nowe here in erth mortal deth come me to
> Emand 1ow wormes nakyd lyg I loo[56]

Harry N. Abrams, Inc., 1992),65 - 66.

[55] Binski, *Medieval Death,* 144 - 146.

[56] "As to beauty, I was a lady of worth, From gentle blood descending in right line From Eve, and of true noble birth. All hearts were glad my presence to divine; Men of honor and worship to me did incline; And now here in earth death has come to me. Among worms I lie naked—behold and see!" Transcription and translation from Rytting, "Disputacioun," 221.

The worms who take the other side in this debate, meanwhile, not only argue against her claims to her previous beauty, but also explicitly reference their role in her decomposition. The living woman is never depicted. Instead, we see the idealized, lifelike memorial rendered in marble to which the skeleton compares its looks.

Still the parity between these two figures creeps in. Details of the effigy's clothing and accouterments hint at the macabre fate that the body actually faces. Tassels (or perhaps ermine feet) clinging to the woman's body from the inside of her purple cloak have been rendered as small semicircles with protruding, short, uneven lines.[57] These evoke the dangling legs of spiders and of the crawling pests shown feasting on the corpse below. The corpse is wrapped in a transparent cloth that lies between its back and the grave, imitating the shape of the effigy's cloak, and the wrinkles of bunched fabric at the corpse's head and feet mimic the effigy's toes pointed upward amid an excess of fabric. The serene smile on the effigy's face mirrors the corpse's toothy grin.

In addition to these visual echoes, the two bodies lie side by side, despite their orientation above and below each other on the page. The bottom right edge of the tomb recedes into space, moving away from the top right corner of the corpse's grave. A light green wash used around the grave to indicate a ground line shines through the small openings at the tomb's base, as if to indicate the physical closeness of the tomb to the ground on the other side. This is not a dual level tomb, nor is it an effigy shown in an impossible perspective over the body it commemorates. Instead, these are two bodies — one representation depicting its subject in life and one rendering of that physical body after death — side by side.

[57] Panofsky describes the characteristics of some transi tombs as "representacioun au vif." Panofsky, *Tomb Sculpture*, 63 - 65.

A similar relationship between two figures is apparent in a second tomb image from Additional MS 37049 (Fig. 4.4).[58] Here, an image of a double tomb illustrates a prose narrative of a dialogue between the Emperor Antiochenus and the corpse of his dead father.[59] In addition to the rosy-cheeked, caped, and crowned effigy rendered colorfully above ground and the corpse being feasted upon by worms below, two other figures fill out the scene. The emperor looks downward, presumably in an expression of grief, but if we follow his sightline we see his gaze meets the wide-open eyes of his father's corpse. The steward, meanwhile, looks back at the emperor as if to console him. His left foot oversteps the curving layer of sculpted marble that attaches the tomb effigy to the ground; the steward effectively steps in the space between the dead father and his marble effigy, making the reading of this image as a double-decker tomb impossible, and therefore adding complexity to the two depictions of one dead figure.

Both of these images resemble the double-decker transi tombs that developed in late medieval England. They show the lifelike body that persists after death and the once-living body fated by mortality to decompose as parallel figurations of the same person.[60] Seeing these two bodies and recognizing that they represent the same subject demands a certain visual attention from the reader-viewer.[61] Like the patients figured in Arderne's *Experimenta*, the two bodies

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[58] London, British Library Additional MS 37049, f.87r.
[59] Brantley, *Reading in the Wilderness*, 228.
[60] I use the term lifelike here but do not mean to designate this as a body that was drawn from life. Indeed, in the case of this allegorical sculpture of a fictional woman, it would be impossible to draw from life. Instead, my use of lifelike falls in line with what Noa Turel deems "alivelike" painting and sculpture of late medieval and early modern northern Europe. The image of the dual tomb from Add. MS 37049 does not provide the mimetic visual likeness of the woman — what is typically designated by the term "lifelike" — and very literally represented the sculpture as if it were a living woman. Noa Turel, "Living Pictures: Rereading "au vif," 1350-1550," *Gesta* 50, (2011), 163 - 182.
[61] Brantley connects the physical, bodily manifestation of death depicted in the images of Add. MS 37049 to a broader interest in the macabre in late medieval England. In particular, Brantley singles out the epitaphs of transi tombs like that of Henry Chichele, discussed later in this

become intelligible as multiple representations of the same person because of minor individuating details. Understanding that the two are the same, rather than simply noticing their differences, is crucial to the salvific message of the poem.

Seeing Dead People

A similar relationship is visible in a group of exceptional panel paintings made in East Anglia sometime during the second half of the fifteenth century.[62] Two surviving adjacent panels of a now-destroyed rood-screen from St. Mary's church, Sparham show corpses dressed in fine clothing and interacting animatedly (Fig. 4.5).[63] A single skeletal figure on the panel on the left, shrouded in a white cloth, stands in front of a baptismal font in a space much like that of the church itself. The right panel contains two cadaver figures, both standing upright, wearing fine silks and jewels, and grinning at their viewer. Luxford notes that these figures are distinct from their continental counterparts; unlike panel paintings showing cadavers made in other parts of

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chapter. These inscriptions, which often address viewers from the first-person perspective of the tomb's dead subject, offer a similarly cautionary admonishment to living viewers. Brantley, *Reading in the Wilderness,* 227 - 228.

[62] Luxford dates the panels to the second half of the fifteenth century, though suggest dates ranging from the 1460s to the 1480s. Julian Luxford, "The Sparham Corpse Panels: Unique Revelations of Death from Late Fifteenth-Century England," in *The Antiquaries Journal* 90, (2010): 299 - 340; See also A. Baker 'Figure paintings on rood- screens in churches of Norfolk and South Devonshire', (PhD thesis, University of London, 1938).

[63] P. Cattermole and S. Cotton, "Medieval parish church building in Norfolk," *Norfolk Archaeology,* 38, (1983), 274; S. Cotton, "Medieval roodscreens in Norfolk – their Construction and Painting Dates," *Norfolk Archaeology* 40, (1989): 44–54; Eamon Duffy, 'The Parish, Piety and Patronage in Late Medieval East Anglia: the Evidence of Rood-screens', in *The Parish in English Life 1400–1600,* eds K. French, G. Gibbs, and B. Kümin, (Manchester: Manchester University Press, 1997): 155 - 156.

Northern Europe, this sole English example lacks any vermin feasting on the cadavers' flesh or any other signs of physical decay.[64]

The inscriptions that surmount the cadaver figures on both of the Sparham panels contain a continuous text from the Book of Job, adding to the need to analyze both panels together.[65] The unified composition, with the two scenes made distinct by the mullion that separates them, creates the effect of juxtaposing the corpses on the two Sparham panels.[66] Despite the differences between them, the corpse on the left, devoid of any signs of material wealth, and the corpses on the right, lavishly ornamented with gold, have met the same fate. This moral is further emphasized by the lack of differentiation of their bodies. With the exception of the costuming of the figures on the right panel, there are no signs of sex or physiological difference among the figures.[67] Tokens of life adorn these icons of death, casting living and dying as two opposite states of being that are nevertheless understood through their relationship to each other; in order to express the analogical relationship between a living figure and their corpse, however, the artist

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[64] Luxford, "Sparham," 311; J. Mitchell, 'Painting in East Anglia around 1500: the Continental Connection', in *England and the Continent in the Middle Ages: studies in memory of Andrew Martindale,* edited by J. Mitchell, (Stamford: Paul Watkins, 2001) 365–80.

[65] Luxford provides the following transcription and translation for the text contained in the scrolls on the painted panels: "Natus homo [de] muliere brevi de tempore parvo; Nunc est nunc non est quasi flos qui crescit in arvo. '[The life of] a man born of a woman [is] brief, of little span; Now it is, now it is not, like a flower which blooms in a field.'" This is a paraphrase of Job 14:1-2. See Luxford, "Sparham Panels," 315; see also L. L. Besserman, *The Legend of Job in the Middle Ages*, (Cambridge, MA: Harvard University Press, 1979), 59 - 62.

[66] Jung describes how rood screens, as both iconographic programs and para-architectural elements affect the space of the church. The role the unified composition of the Sparham panels served in situ is difficult to determine because of the loss of the other panels from the Sparham rood screen. Jacqueline Jung, 'Beyond the barrier: the unifying role of the choir screen in Gothic churches', *Art Bulletin*, 82, (2000): 622–57.

[67] This also seems to be in keeping with the representation of cadaver figures in brass tomb effigies produced in late medieval England. S. Badham, "Status and Salvation: the Design of Medieval English Brasses and Incised Slabs," *Transactions of the Monumental Brass Society* 15, (1996): 413–65.

of the Sparham panels has rendered two lively and lifelike dead subjects.[68] Each of the figures embodies both life and death, subsuming those two states into a single body rather than directly contrasting the two.[69]

Unlike the Sparham panels, many late medieval English representations of death tend to make direct comparisons between the living and the dead by representing them in juxtaposition to each other.[70] In contrast to tomb sculpture, these do not necessarily show the same person in life and death. An image of the Three Living and Three Dead in the De Lisle Psalter, London, British Library, Arundel MS 83, made in East Anglia in the first half of the fourteenth century, emphasizes the difference between a group of three young noblemen out hunting and three animated corpses they meet (Fig. 4.6). [71] This difference is made explicit through formal mirroring between the two trios.[72] The noblemen, who, according to the text, encounter the three

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[68] Camille identifies the obscuring of genitals and lack of other markers of sex as typical in representations of late medieval corpses. Camille, "Corpse in the Garden," 298.

[69] The rhyme scheme of the short text that appears in a text scroll above the image reinforces this parallelism between life and death. At left, the son speaks four lines to his father: "Fader sum tyme what was þou / A fowle stynke I fele of þe /horrybyll bestes restes with þe / þi fayr flesche falles & fades away."Adjacent to this are four additional lines spoken by the father: "Swylk son as I was art þu nowe / Son wele fowler sone sal cum of þe / Thow sal cum & rest with me / Son so sal þine do þat is now so gay." The first line of the son's dialogue rhymes with the first of the father's dialogue, and so on. Transcription from Brantley, *Reading in the Wilderness*, 228.

[70] Paul Binski, *Westminster Abbey and the Plantagenets: Kingship and The Representation of Power, 1200-1400* (New Haven: Yale University Press, 1995), 171-73; On other examples of this iconography see Fritz Saxl, "A Spiritual Encyclopedia of the Late Middle Ages," *Journal of the Warburg and Courtauld Institutes*, 5 (1942): 98.

[71] A vast art historical literature has developed on another medieval iconography of death: the dance of death. The three living and three dead and the dance of death share similar elements. On this, see Elina Gertsman, 'The Dance of Death in Reval (Tallinn): the Preacher and his Audience', *Gesta*, 42, (2003): 143–59; F. Kloppenborg, "Totentänze in der religiösen Gebrauchskunst Englands," *L'Art Macabre,* 1, (2000): 53–67; On the Middle English text of the *danse macabre,* see F. Warren and B. White, *The Dance of Death*, EETS, original series 181, (London: Oxford University Press, 1931).

[72] Catalogue of Manuscripts in The British Museum, New Series, 1 vol. in 2 parts (London: British Museum, 1834-1840), I, part 1: The Arundel Manuscripts, p. 22-2; Lucy Freeman Sandler, "A Follower of Jean Pucelle in England," *Art Bulletin*, 52, 4 (1970), 363-72; Lucy

corpses while hunting in the woods, have been depicted in golden crowns and colorful, flowing robes, against an uncolored background. A gold frame separates the noblemen from the decaying corpses, who warn the hunters of the transience of life and the inevitable fate they will someday meet.[73] This warning seems especially apt given the noblemen's chosen leisure activity; a successful hunt ends in lives being cut short, even if they are not human lives. The corpses' warning is convincing because of the way they look: they have skeletal bodies and decomposing flesh.

The frame that separates the two groups functions as an uncanny mirror of sorts.[74] The two figures closest to the middle of the page look toward the frame that bisects the image; the nobleman and the corpse that stand at the center of their respective groups bow their heads and hold their hands to their chins; the outermost figure in each group stands frontally. While the corpse at the far right of the page looks directly out at the viewer, his living double cannot help but look to the corpses, and stealthily cranes his neck to look at the skeletons out of the corner of his eye. The direct formal comparison suggests a parallelism between the two groups. Despite their contrasts, the noblemen and the corpses are the same. This is further emphasized by the alternating rhyme scheme of three inscriptions above each group of figures, each of which seems to be spoken by the figure below. While the three dead impress this fact upon their audience in text, the noblemen come to this realization not only through hearing the corpses' speech, but also by seeing their decaying flesh and exposed bones.

Freemen Sandler, *The Psalter of Robert de Lisle in the British Library* (London: Harvey Miller, 1983).

[73] Binski, *Medieval Death*, 171.

[74] James Marrow, "'In Desen Speigell:' a New form of Memento Mori in Fifteenth-Century Netherlandish Art," in *Essays in Northern European Art Presented to Egbert Haverkamp-Begemann on his Sixtieth Birthday,* ed. A. M. Logan, (Doornspijk: Davaco, 1983), 154-163.

The English inscriptions that surmount the noblemen and the corpses call attention to the role vision and visual similarities play in establishing this parity. In response to the middle nobleman, who exclaims "Lo whet ich se," his corresponding corpse warns "Such schel thou be."[75] Not only does the nobleman signal the uncanniness of the sudden appearance of these figures through this invocation to look, but the corpse responds with a warning that emphasizes the noblemen's death as a process of visual likeness: they too will become like what they see.

The Archbishop's Two — Or Six — Bodies

At least six images made during the fifteenth century survive depicting Henry Chichele (d. 1443), Archbishop of Canterbury, ambassador and statesman appointed by his patron Henry VI, and founder of All Souls College, Oxford.[76] The first is the seal matrix of All Souls College, which shows Chichele and King Henry VI kneeling in front of an enthroned Christ with enough detail to recognize the archbishop's robes (Fig. 4.7). The second is an historiated initial on the first folio of a breviary made for Chichele, which depicts a seated archbishop surrounded by tonsured clerics presenting the very same book (Fig. 4.8). A third image, a life-sized sculpture of Chichele in a jeweled mitre, once stood alongside a similar statue of Henry VI on the gate tower of All Souls College (Fig. 4.9). The fourth image is a panel painting likely made just before the archbishop's death, and depicts a man who is very much still alive (Fig. 4.10).[77] With rosy

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[75] London, British Library, Arundel MS 83 f. 127r.
[76] E. F. Jacob, (ed) *The Register of Henry Chichele, Archbishop of Canterbury 1414–1443,* Canterbury and York Society 42, 45, 46, 47, (4 vols), (Oxford: Clarendon Press, 1937–47); Richard Marks and Paul Williamson, *Gothic: Art for England: 1400 - 1547*, (London: V&A Publications, 2003), 176, 234 - 240.
[77] J. C. Schmitt, *Les revenants, Les vivants, et les morts dans la société mediévale*, (Paris: Gallimard, 1995).

cheeks and a glint in his eye, Chichele holds a crozier and raises his hand in a gesture of blessing. Dressed in the lavish vestments afforded to England's highest-ranking cleric, the Chichele represented in this painted panel portrait memorializes the bishop in life; regardless of its proximity to the way the actual Chichele looked, his portrait shows a distinctive individual surrounded by symbols that fix his identity.[78] These portraits or portrait-like images of Chichele each assert a different relationship between the living archbishop, his memorialization after death, and the possibility of representing him pictorially.[79]

The two final extant medieval images of Chichele comprise the same object (Fig. 4.11). [80] Chichele's tomb in Canterbury Cathedral shows the bishop not just frozen in state as though still alive, but also as a decaying corpse, portraying him at once as a vibrant and high-ranking cleric and as a cadaver, a rotting body no different than anyone else (Fig. 4.12). This dual portrait suggests the necessity of both bodies to properly memorialize and represent Chichele.[81] In combination the two effigies represent the specificity of the once-living bishop and the universal decomposed state to which he will return. The two figures are visually distinct representations of Chichele that nevertheless assert their sameness. Both the effigy and the corpse represent the archbishop's status on earth by de-emphasizing the similarities between the two in favor of conveying some spiritual truth through bodily signs. While the former exaggerates his status in

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[78] Arthur Oswald, "Canterbury Cathedral: The Nave and Its Designer," *The Burlington Magazine* 75 (1939): 221 - 228; see also E. F. Jacob, *The Two Lives of Henry Chichele,* (Manchester: John Rylands Library, 1935), 1 -55.
[79] N. Rogers, ‘’’Et Expectio Resurrectionem Mortuorum:’ Images and Texts Relating to the Resurrection of the Dead and the Last Judgement on English Brasses and Incised Slabs," in *Prophecy, Apocalypse and the Day of Doom,* edited by Nigel Morgan, (Donington: Shaun Tyas, 2004), 342–56.
[80] Paul Binski, *Gothic Sculpture,* (New Haven: Yale University Press, 2018), 227 - 233.
[81] This, in contrast to the ability of earlier tomb sculptures to evoke the presence of the subject represented. See Joan Holladay, "Portrait Elements in Tomb Sculpture," *Europäische Kunst um 1300*, (Vienna: Hermann Böhlaus Nachf., 1986), 217.

life, the latter dramatizes his physical state in death. Both figures rely upon the effects of individuation and the suggestion of visual likeness to convey, through their combination, a solemn spiritual message. Getting this message, though, requires a viewer to understand the relationship being staged in chiseled marble.

Transi tombs produced in England in growing numbers beginning in the mid-fifteenth century always explicitly show the lifelike bodies of their subjects perched atop a monument with open sides, allowing the viewer to see a carving of the cadaver that necessarily lies buried below, out of sight.[82] Like the upper level of the tomb, the cadaver carving has been idealized and exaggerated to appear emaciated and animated — decomposing, but not quite lifeless. Through these techniques, these tombs implicitly compare likenesses of the once-living bodies of their subjects with the anonymous, emaciated figures both contained and concealed within the tomb and depicted in its lower level. Binski succinctly notes one of the major departures from traditional burial culture enacted in the transi tomb: "Instead of displaying the character of the family, it displayed the character of the body as a mirror of the soul."[83] The mirroring enacted by transi tombs is both a formal mirroring implicit in the double-decker sculpture and an assumption of the physiological or physiognomic mirroring of the character of the soul through the body.[84] As such, transi tombs insist upon the importance of reading physical signs that manifest on the body in an ecclesiastical (and distinctly non-medical) context.

Chichele's tomb provides an ideal lens for analyzing the ways in which transi tombs complicated the simple, formal parallels explicit between the two bodies they depict. Made

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[82] King counts 47 cadaver tombs from the fifteenth century; see Pamela King,'Contexts of the cadaver tomb in fifteenth-century England', (DPhil thesis, University of York,1987).
[83] Paul Binski, *Medieval Death,* 139.
[84] As in other examples throughout this dissertation, the link between physical features and inner character comes out of physiognomic theory.

before Chichele's death, and just one of the extant objects portraying Chichele, the Canterbury transi tomb reflects some of the archbishop's own assumptions about death, burial, and the need to represent body and soul in parallel.[85] Unlike their French antecedents, early English transi tombs neatly stack the two represented bodies of the dead they commemorate in direct alignment, one on top of the other.[86] One of the earliest extant French transi tombs, that of Cardinal Jean Legrange (d. 1402), included a much more elaborate ornamental architectural structure than subsequent French and English tombs (Fig. 4.13).[87] Binski describes Legrange's tomb from Saint Martial, Avignon as follows

> Cardinal Legrange's tomb, now fragmented, was certainly the most spectacular, employing a colossal reredos-like arrangement of ten registers 17 m high, with scenes concerning the Virgin Mary and the Nativity of Christ, with the Cardinal as a votive figure; this was a tableau whose roots lay in the multiple self-representation of tombs of a century of more earlier, with correspondingly multiplied focuses of devotion and interest.[88]

Despite its impressive structure, Legrange's tomb lacks the form that makes English transi tombs such salient, foreboding figures. Legrange's corpse, surrounded by images of the Virgin and Nativity, places the ephemerality of the human body in conversation with long duree

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[85] Cohen summarizes the impetus behind designing and constructing such an involved tomb for Chichele as bound up in ideas about the connection between body and soul, and concerns about the state of the body before and after the ressurrection. Kathleen Cohen, *Metamorphosis of a Death Symbol: The Transi Tomb in the Late Middle Ages and the Renaissance,* (Berkeley, CA: University of California Press, 1973), 4, 38 - 39.

[86] Binski claims these tombs are a distinctly northern phenomenon: "The geographic distribution of transi tombs coincides with the practice of covering the dead in funerary ritual; macabre iconography occurs in those places where the corpse's face was concealed. The use of the coffin in Northern Europe from around the thirteenth century effectively concealed the body in its entirety, prompting the use of simulacrum wooden or waxen effigies in its place for the duration of the ritual, effigies whose appearance resembles that of the permanent tomb effigy." Binski, *Medieval Death,* 140

[87] Cohen, *Metamorphosis*, 12 - 13

[88] Binski, *Medieval Death,* 142 - 143

soteriological concerns; the body that is represented, however, bears few visual markers linking it to the Cardinal.

English transi tombs, in contrast, make explicit the similarities and differences between life and death, body and soul precisely through their juxtaposition of bodies. Binski argues that transi tombs are one instance of a late medieval interest in doubling, claiming

> The notion of the *double* also linked images like those of the Three Living and the Three Dead to other high cultural Gothic representations, especially the so-called double *transi* tomb (*transi* meaning 'gone over' to perhaps, more appositely, 'gone off'). In such tombs, which came into being around 1400, a dichotomy is commonly, though not universally, established between the representation of the dead in their full social station, as complete, perfected representatives of a particular class or group in a state of timeless repose, and their representation as a corpse, naked or shrouded, in various stages of decomposition.[89]

As a double, the effigy in peaceful repose is always linked to the cadaver below. The tension between these two components of the monument pose a comparison: the clothed body with its signs of social status is posited in juxtaposition to the naked body, marked only by visible signs of illness and decomposition.

Making the appearance of the body in death readily legible to viewers implies an interest in what, exactly, death looked like. It also implies the material sameness of the two bodies, casting them as two iterations of the same body at distinct points in time rather than two different bodies. Beyond the moralizing capacity of transi tombs and disputation poems, the representation of human figures in these macabre monuments indicates a visual insistence on the *look* of being dead. As Caroline Walker Bynum argues, perhaps the impetus in making death visible was not so much an effort to depict decomposition as a way of setting off the appearance of the body at the moment of resurrection.[90] The analogy between living and dead elevates the depicted body

[89] Binski, *Medieval Death*, 139

[90] As Bynum notes, "There was in the Middle Ages, it is true, an enthusiasm for dividing the

beyond its earthly status, asserting the possibility of the body's ultimate glorification by setting it against an exaggerated, fantastical scene of decomposition.

The inscription that surrounds the effigy at the base of the tomb describes the relationship between the two bodies of Archbishop Chichele.[91] Around the figure's feet and lower body the inscription reads:

> Pauper eram natus, post Primas hic elevatus
> Iam sum prostratus et vernibus esca paratus
> Ecce meum tumulum.
> Quisquis eris qui transieris rogo memoreris
> Tu quod eris mihi consimilis qui post morieris
> Omnibus horribilis, pulvis, vermis, caro vilis.[92]

Chichele's tomb not only intones its viewers (Chichele himself among them) to look, but also warns its viewers that they too will one day look this way.[93] In the case of the transi tomb, in which Chichele's state of being is tied directly to the appearance of the shrouded cadaver, to "be the same" as the archbishop also insists that one will look the same as the archbishop.[94] Because the tomb was constructed before Chichele's death, according to the archbishop's instructions, and positioned in direct view of his episcopal seat, the tomb's demand to be looked at commands

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bodies of the saints in order to spread the power of holy bodies as widely as possible. Indeed even the bodies of non-holy but prominent figures—kings and queens, nobles, cardinals—were for similar reasons divided for multiple burials. But the form of reliquaries—like the form of transi tombs, with peaceful, clothed, regal figures carved above worm- eaten skeletons—was intended not so much to display the partition of earthly death as to foreshadow the glory of bodily resurrection." Caroline Walker Bynum, "Violent Imagery in Late Medieval Piety," *Fifteenth Annual Lecture of the GHI* (2001), 14.

[91] In contrast to inscriptions on brass tomb slabs, see J. Bertram, "First Read the Label," *Monumental Brass Society Bulletin*, 99, (2015): 789–92; See also Jessica Barker, "The Sculpted Epitaph," *Sculpture Journal* 26, no. 2 (2017): 237 - 275.

[92] "I was born a pauper, then elevated to Primate. Now I am cut down and prepared to be food for worms. Behold my tomb. Who ever you may be who passes by I ask that you will remember. You will be the same as me after you die. All things horrible, dust, worms, vile flesh." Transcription from Cohen, *Metamorphosis*, 16.

[93] Koerner, *Moment,* 275

[94] Michael Camille, *Mirror in Parchment: the Luttrell Psalter and the making of medieval England*, (London: Reaktion Books, 1998), 342–344.

Chichele's attention above anyone else's. The tomb doesn't merely compare the two exaggerated, imagined versions of Chichele depicted in death, but also implicates the living Chichele in its triangulation of how bodies appear in life and death.[95] In doing so, the tomb and its inscription also attempt to represent something beyond any visible state of being: a universalizing future.

An additional English *transi* tomb from the fifteenth century depicts its ecclesiastical subject with both a cadaver and a tomb effigy. The tomb of Richard Fleming, Archbishop of York (d. 1431) sits at the east end of Lincoln Cathedral in Fleming's Chantry Chapel (Fig. 4.14).[96] An inscription on Fleming's tomb calls upon its viewer to reflect:

> Isthuc qui graderis paulisper perlege lector;
> Sta, speculans, quod eris, in me nunc Vernibus eso:
> Qui fueram pridie Juvenis, forma speciosus…
> Ecce sub hoc Lapide Flemmyng Richardus humatur
> Pensa, Plange, vide; sic omnis honor superatur….[97]

The inscription calls upon the viewer to look, but also addresses the viewer in the first person, as though it is Fleming himself speaking. It also draws a distinction between the tomb — which the inscription calls a stone — and the body of the dead archbishop. In doing so, the inscription demands that its viewer look not at Fleming but at the tomb itself, in effect positing a difference between the two figures.

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[95] Binski, *Medieval Death*, 143

[96] Panofsky, *Tomb Sculpture,* 64; Cohen, *Metamorphosis,* 17; On another transi tomb produced in fifteenth century England, see R. Dinn, "Death and re-birth in late medieval Bury St Edmunds," in *Death in Towns: Urban Responses to the Dying and the Dead, 100 - 1600,* ed. Bassett (Leicester: Leicester University Press, 1992), 151–69.

[97] "To you, reader, who walk this way, read for a short time, Stand, seeing what you will be, in me now eaten by worms, I who before was young, with a splendid form… Look, under this stone Richard Fleming is burried. Reflect, mourn, behold; thus all honor is overcome…" Transcription from Cohen, *Metamorphosis*, 17 - 18.

Jessica Barker categorizes the inscriptions on transi tombs as invocations to pray for the soul of the dead.[98] In the case of both Chichele's and Fleming's tombs, however, the subject of the tomb was not yet dead for years after the tombs' construction.[99] The comparison and differentiation between living and dead in transi tombs, then, is more complex than a simple admonishment or invocation of prayer or a straightforward memorialization. While these monuments explicitly warn their viewers of what they will inevitably become, they do so in service of a more complicated understanding of bodily permanence.[100]

Binski argues that

> double tombs are orthodox statements of prospective Christian faith in which we are encouraged to have confidence, not least faith in the Resurrection. Yet that they are also explorative seems to be arguagble, for their images are always held in tension and are not over-determined. They cannot simply be read 'up' from the cadaver or 'down from the effigy clothed in its finery; rather, they propose to us a state of irresolution between states or possibilities; change is unidirectional whereas the human imaginary is not.[101]

The very structure of English transi tombs, in which the two forms of the body are held in direct parallel, creates the tension Binski describes. In an earlier description, Binski argues that transi tombs are the outcome of gradual shifts in the development of "gothic naturalism;" not only did the sculptors of transi tombs seek to produce effigies that made the body seem alive, but they also produced images of bodies in states beyond living — these are bodies that were once alive

[98] Barker, "Sculpted," 237 – 238.
[99] Chichele's physical presence as a viewer of his own tomb seems to invert the need to make the dead visible to mourners through the use of effigies in funerary rituals. On the use of effigies in English royal funerary rituals, see Julius Von Schlosser, "The History of Portraiture in Wax," in *Ephemeral Bodies,* edited by Panzanelli, 205.
[100] Katherine Park, "The Life of the Corpse: Division and Dissection in Late Medieval Europe," in *The Journal of the History of Medicine,* 50 (1995): 111 – 132.
[101] Binski, *Gothic Sculpture*, 231 – 233.

but are now not.[102] The appearance of the cadavers of Chichele and Fleming, however, seem to resist this reading. These are bodies that are simultaneously alive and not alive.

Whereas the effigy is in a state of peace but bears the markers of earthly social status, the cadaver lacks any social or personal identifiers but grimaces, writhing in pain that could only be experienced by the living. The multi-valent reading Binski suggests is still possible in moving between effigy and cadaver, but it's not a simple oscillation between seeing the body in life and death. Rather the double representations of the transi tomb depict two distinct visual markers of dead bodies held together by their effort to represent the same subject. The traditional tomb effigy, which stands in for its subject's desiccated corpse, represents the dead subject with body parts that seem characteristically alive. The cadaver, meanwhile, hyperbolizes the dead, offering an impossible view into the tomb, and showing a body stripped of all signs of personal identity. In tandem, these two bodies do not contrast life and death, but rather juxtapose two impossible forms of representation: two renditions of the lifelike body after death.

II. Votives and Votaries

Lifelike Waxworks

Whereas cadaver tombs exaggerate the appearance of their subjects' decomposing bodies as acts of memorialization after death, objects that imitated a subject's corporeal form were also used in the Middle Ages to stimulate the healing of still-living bodies. Wax ex-votos left at tombs and shrines replicate the bodies of the votaries, offering an embodied form of *imitatio* that

[102] Binski, *Medieval Death,* 150.

allowed donors to participate in their own healing.[103] Rather than considering patients imitating Christ, as explored in Chapter Three, I now turn to images made heal by imitating patients. That imitation was predicated on visual likeness.[104] These wax figurines also replicate the look of the body of the votary, insisting on a relationship between the representation of a person or body part in wax and the person after whom that wax is modelled. Returning to Boethius's theory of equivocation, however, the relationship between the person represented and their representation in wax seems more complex than mere "similitude."[105] Unlike the similarity between "true man" and his painted image, the representation of a votary in wax implies a sameness beyond surface resemblance. Wax, unlike paint, could create a replicate a body or body part in addition to representing it — the parts of the body figured in wax were understood to be interchangeable with their corporeal referents with the limbs and bodies they represented, at least in the economy of divine healing.[106]

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[103] Freedberg claims that "The most common votives after candles and coins were the replicative gifts, 'images' or replicas — occasionally life-size but usually miniature — of the part cured or the object(s) involved in miracles. Sometimes wax images of afflicted parts were sold by local dealers at established shrines, as at Marseilles where pilgrims to the tomb of Louis of Toulouse brought wax teeth and eyes at convenient shops nearby. In the nature of things, most replicative offerings were human organs or limbs, and countless miniature men, women, children, eyes, arms, hands, legs, hearts, breasts, heads, were suspended above the shrines." David Freedberg, *The Power of Images: Studies in the History and Theory of Response,* (Chicago: University of Chicago Press, 1991) 97.

[104] In contrast to her later argument in *Dissimilar Similitudes,* Bynum claims that visual likeness between represented and real body parts could assert the sameness of a subject and it's representation. In her discussion of the vagina-like wound of Christ that appear in late medieval devotional manuscripts, Bynum writes that in the context of devotion, a part of the body could stand in for the whole, but could also be the whole. While Bynum's claim rests on the idea that the depicted thing bear a resemblance to a referent other than its subject, it overlooks the ways in which images could stand in for their subjects. Bynum, *Christian Materiality,* 207 - 208.

[105] Ashworth, "Metaphor," 317.

[106] Julius Von Schlosser, "History of Portraiture in Wax," 177.

A donor bringing a wax votive to a shrine would purchase (or perhaps fashion) a replica of the body part for which they sought a miracle; while it need not bear an exact visual likeness to the donor's own appearance, the votive was more efficacious when it took the form of the ill, injured, or otherwise indisposed body part for which the donor sought a miraculous intervention.[107] Cathedral inventories, records from papal envoys, and surviving wax figures attest to the use of ex-votos resembling bodies in late medieval England. In the course of renovations in the 1940s, a group of wax figures in the shape of different bodies and body parts were found on a ledge above the shrine of Bishop Edmund Lacey (d. 1455) at Exeter Cathedral (Fig. 4.15).[108] Surviving in this cache were hollow wax votives in the shape of limbs, fingers, feet, and one fully-intact body of a woman.[109] Written records from Hereford Cathedral attest to a similar diversity of bodily ex-votos offered in the previous century:

> A list of offerings was drawn up just twenty years after the first miracles were reported at the curative shrine of Thomas Cantilupe. Midway between his death (1282) and canonization (1320), papal commissioners went to Hereford where, early on Tuesday, 29 August 1307, they examined the dead bishop's shrine and found 170 silver ships, 41 wax ships, 129 silver images, whole and of diverse human limbs, 436 whole images of men, wax, 1200 wax images of parts of the body and limbs, 77 figures of horses, animals, and birds, an uncountable quantity of eyes, breasts, teeth, ears…[110]

The document produced by the papal commissioners contains an inventory of some 2,000 wax ex-votos at Cantilupe's shrine in 1307 and another 100 wax figures that had appeared when the commissioners returned to the shrine several months later.[111] Of those 2,000 wax offerings, over

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[107] Adrian R. Bell and Richard S. Dale, "The Medieval Pilgrimage Business," *Enterprise & Society* 12 (2011): 601 - 627.
[108] Ronald C. Finucane, *Miracles and Pilgrims: Popular Beliefs in Late Medieval England*, (New York: St. Martin's Press, 1995), 97.
[109] U.M. Radford, "The Wax Images found in Exeter Cathedral," *The Antiquaries Journal* XXIX (1949), pp. 164–168; Eleanor Townsend, "Votive Offerings" in *Gothic: Art of England 1400–1547,* eds. Richard Marks and Paul Williamson, (London: V & A Publications, 2003), 432.
[110] Finucane, *Miracles and Pilgrims*, 98.
[111] Sarah Blick, "Votives, Images, Interaction and Pilgrimage to the Tomb of and Shrine of St.

1,600 depicted either the bodies or body parts of those who offered them. In donating images in wax, these late medieval English votaries conflated their own bodies with their molded wax images.[112] Healing required that the donated wax image replicate the indisposed body part, or perhaps the whole body, for which the votary sought a cure.[113]

A stained glass window made for the east end of York Minster in the late fifteenth century attests to the centrality of bodily wax ex-votos in late medieval conceptions of miraculous healing. The window showing the life of St. William depicts the saint's shrine in York Minster well over a dozen times. In one of these depictions, a pilgrim approaches the shrine and offers a wax ex-voto (Fig. 4.16).[114] The bearded pilgrim holds up a leg, complete with a delicately curving calf and differentiated toes, practically inserting the foot into the structure of the shrine. The leg, roughly to scale with the pilgrim's body, could very well be the pilgrim's limb. It almost

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Thomas Becket, Canterbury Cathedral," in *Push Me, Pull You: Imaginative, Emotional, Physical, and Spatial Interaction in Late Medieval and Renaissance Art,* eds. Sarah Blick and Laura Gelfand, (Leiden: Brill, 2011), 31; see also Carole Rawcliffe, *Medicine & Society in Later Medieval England* (Stroud: Sutton Publishing, reprint 1997), p. 23; Finucane, *Miracles and Pilgrims*, 98; Diana Webb, *Pilgrimage in Medieval England* (London: Hambledon, 2000), pp. 71–72.

[112] The process of making figurines out of wax using metal molds calls to mind another widely-employed medieval practice: sealing. Kumler's discussion of the serial production of eucharistic wafers using stamping technology helps to clarify how a mass-produced wax figurine could, paradoxically, stand in for the body of a specific votary: through the process of impressing the wax into its new form, a stamp took on the identity of its referent. Making wax into body parts required similar techniques of molding and stamping, resulting in figurines that carried with them the identities of the votaries who bought and donated them. See Aden Kumler, "The Multiplication of the Species: Eucharistic Morphology in the Middle Ages," *RES* no. 59 / 60, (2011): 187.

[113] Using different colors of wax and metal seal matrices enabled medieval people to leave a personal mark, and the seal was taken as a personal emblem for the person it represented. Bedos-Rezak shows that seals could be functioned as a form of non-mimetic portraiture in the Middle Ages, giving specific, fixed, visual form to their subject despite the lack of mimetic likeness. See Brigitte Bedos-Rezak, "Medieval Identity: A Sign and a Concept," *The American Historical Review* 105, (2000): 1489 - 1533. See also Brigitte Bedos-Rezak, *When Ego Was Imago: Signs of Identity in the Middle Ages,* (Leiden: Brill, 2011), 140 - 160.

[114] Rawcliffe, *Medicine & Society*, 21 - 23.

seems to poke out of his robes, and has been depicted in the same translucent white used to denote the man's flesh. The contrast of the black lead outlining the major shapes of the pane creates the effect of a fracture — a clear break just below the knee — of the sort that could use a miraculous cure. Only the leg's position in the pilgrim's arms, held up awkwardly at chest level, secures its identity as wax.

In this stained glass scene, the leg is one of five wax figures brought to William's shrine to assure their donors' health. Strung from a pole behind the pilgrim's head is a woman's face, complete with veil, another leg, a fist, and a heart.[115] All five ex-votos have been depicted in the same translucent white glass with brown painted details; not only does the coloration of these figures look like particularly valuable, clarified wax, but it also mimics the appearance of the depicted pilgrim's pale flesh.[116] Because of this similarity, these depicted ex-votos suggest that wax figures not only needed to model the body parts of their donors, but to look like those specific body parts, distinct from the bodies of other donors.[117] Comparing the wax leg held up by the pilgrim to a second leg strung up on the pole adjacent to the shrine confirms the need for visual likeness in the votary's donation. The visible knees and differentiated toes on each of the

[115] The surviving wax ex-votos from Exeter cathedral still have fragments of string and, in some cases, wooded sticks attached. The strings poke out from the wax, indicating that these figures were made with the intention of being hung up near the shrine. See Radford, "Wax Images," 164.
[116] Records of imported wax from the Hanseatic region make clear the high value ascribed to the substance. Most household wax used in Southern England was locally produced from tallow. In contrast, luxurious wax used in religious settings came from abroad. See Winifred Harwood, "Trade and Consumption Patterns in Central Southern England: The Supply of Iron and Wax to Winchester College, c. 1400 - 1560," *Southern History* 29, (2008): 1 - 28.
[117] Hugo van der Velden offers a succinct differentiation of types of iconic portraits donated in the late Middle Ages: "parts of the body were obviously donated in connection with specific maladies or injuries (with the probable exception of heads and portrait busts) whereas human figures and votive portraits had a wider application. In essence, however, there is no difference between these two types of images…" Hugo van der Velden, *The Donor's Image: Gerard Loyet and the Votive Portraits of Charles the Bold*, (Turnhout: Brepols, 2000), 219.

two legs show that the pilgrim holds a right foot, while a left foot dangles behind him. Although both the pilgrim's bearded face and the face of the wax woman behind him have been rendered in the same pale palette and wispy linework, the two can be recognized not only as distinct from each other, but as resembling provisional, individuated subjects. The differentiation of wax body parts from each other asserts their connection to the specific votaries for whom they secured health.

In another panel of the St. William window in York, five men gather around the saint's shrine (Fig. 4.17).[118] Rather than presenting ex-votos, the men reach out with bowls and hands to catch the liquid that flows out of spouts in the pointed gables that surround the saint's tomb.[119] The pilgrims' physical contact with excretions from the saint have the power to heal, and incite the pilgrims to reach into the holes in the shrine, pressing their hands and eyes up against the spouts.

The two panels from York reveal two divergent approaches to healing at shrines that, through their divergence, indicate the perceived sameness of the bodies of pilgrims and votaries and the representation of those bodies in wax. In this second scene, the proximity and physical contact of the shrine's visitors with the bodily remains of St. William heals the specific ailments demonstrated by distinct outward signs: bandages on legs, a crippled limb, a cane. In contrast, the wax ex-votos in the first scene supplant the physical contact of actual bodies, allowing for a longer duration of contact through the continued presence of the ex-voto at the shrine even after the votary had left. The two forms of contact — that of the pilgrim reaching out to touch the shrine and that of the wax ex-voto — could both be considered efficacious because the wax

[118] Rawcliffe, *Medicine & Society*, 21 -23.
[119] On the incorporation of material substances from shrines into souveniers, see Diana Webb, *Medieval European Pilgrimage,* (New York: Palgrave, 2002), 164 - 166.

statuettes of visitors doubled the visitors' bodies.[120] Like vernicle rolls, which promised their users effective cures in return for repeated looking, wax ex-votos depended on an understanding that looking, representing, and healing were durational. Instead of frequently beholding an image on a roll, the ex-voto made it possible for a votary to maintain their own presence by way of their image in a miraculous space over a long period of time in order to ensure their own miraculous healing.

The ontological connection between the votary and their wax ex-voto was further emphasized by wax's unique capacity to mimic human likeness. Freedberg notes that wax "has the additional advantage of actually looking rather like flesh — especially if tinted."[121] Wax, unlike the small metal statuettes and coins sometimes left at these same shrines, could take on the appearance of flesh because of its material properties. Julius von Schlosser, in his foundational work on the use of wax across historical periods, argues similarly that wax as a material made it uniquely possible to represent the bodies and bodily qualities of subjects. In his account, the use of wax votives in antiquity and the Middle Ages signals an investment in the particular appearance of the individual. Wax presented artists with the capacity for

> maximally individualized pictorial form in the cast taken from nature (and in the photograph), where the observer's participation is reduced to a minimum; it is a development that one would be tempted to define as leading away from the most 'subjective' to the most 'objective' pictorial form, were these terms not so ambiguous.[122]

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[120] Bredekamp further explains the connection between a body and its image: "The notion that images can be fully valid bodies in another form and consistency led not only to the practice of iconoclasm but also to the diametrically opposed alternative: that absent individuals or institutions might be rendered present with the help of images. To this belongs the practice of the votive cult, in which persons, or parts of their bodies, were displayed in the effort to bring about their true healing or to ensure that a successful recovery from illness would endure." Horst Bredekamp, "Substitutive Image Acts: The Exchange of Body and Image," in I*mage Acts: A Systematic Approach to Visual Agency*, trans. Elizabeth Clegg, (Berlin: De Gruyter, 2018), 179.
[121] Freedberg, *Power of Images*, 157.
[122] Schlosser, "History of Portraiture, 177.

The use of wax in these objects coincided in Roman waxworks with what von Schlosser characterizes as a "painstakingly naturalistic style of portraiture."[123] This style was enabled in part by wax's propensity to "look" human as well as the process of cast-making enabled by the use of wax. Wax, in short, could ensure visual likeness between votive and votary in a way that the use of other materials precluded.

Mimesis through Measurement

English cathedrals that attracted late medieval pilgrims house earlier iconographic programs that represent the donation of ex-votos as significant moments in the enactment of healing miracles.[124] At Canterbury Cathedral, a stained glass window from the first quarter of the thirteenth century depicts a woman who suffered through a difficult childbirth making an offering at Thomas Becket's shrine.[125] The window depicts the woman holding a trindle, a long coiled candle with a continuous wick, instead of a wax figure molded in her own image.[126] Despite lacking any obvious visual similarity to their votaries, such offerings still explicitly invoked their donors' bodily presence through other physical means. Records attest to donors commissioning candles with wicks that match their own height, or with weights of wax that

[123] Schlosser, "History of Portraiture," 205.
[124] Richard Marks, "Wills and Windows: Documentary Evidence for the Commissioning of Stained Glass Windows in Late Medieval England," in *Glas, Maleri, Forschung: Internationale Studien zu Ehren von Rüdiger Becksmann,* eds. I. Rauch and D. Hess, (Berlin: Deutscher Verlag für Kunstwissenschaft, 2004): 245 - 252.
[125] Blick, "Votives, Images," 34.
[126] Blick, "Votives, Images," 34; on an additional window at Canterbruy cathedral that depicts a trindle, see Rachel Koopmans, "Visions, Reliquaries, and the Image of 'Becket's Shrine' in the Miracle Windows of Canterbury Cathedral," *Gesta* 54 (2015): 50.

correspond proportionally to their own.[127] This correspondence was understood to improve the efficacy of the offering. Like prayer rolls that claim in text to represent the wounds of Christ at a reduced scale, wax could replicate a votary's bodily measurements. Representing one's own body in wax through its weight or measure asserted an authenticity, or perhaps a presence, to the image. If a proportional rendering of Christ's measure could heal, then a similar approach to signifying oneself could surely do the same.

Van der Velden claims that because candles made with specific weights of wax and molded wax figures were used simultaneously at many late medieval shrines "a likeness forges exactly the same link between a portrait and the person depicted, sign and signified, as does the similarity in height between a votive candle and its donor."[128] Like the painting in Boethius's example of similitude, the weight and height of a donor freed from the constraints of their physical body could represent that donor.[129] This correspondence proved fruitful for the woman depicted in the window from Canterbury, who, according to Blick, "was cured after her nurse persuaded her husband to offer a candle as long and as wide as the lady's body."[130] The woman's cure was attributed both to the donation itself, and to the fact that the donation mimicked the height and girth of the donor's body.

Representing likeness in late medieval England did not necessarily require the depiction of visual likeness. Length and weight could be used in order to assert the physical sameness of a votary and their donation.[131] Because the material value of wax came from its weight and quality as well as any workmanship that went into its form, donations in precise proportions suggested

[127] Van der Velden, *The Donor's Image,* 253.
[128] Van der Velden, *The Donor's Image,* 229.
[129] Ashworth, "Metaphor," 207.
[130] Blick, "Votives, Images," 34.
[131] Van der Velden, *The Donor's Image*, 248.

both a physical connection to the donor as well as the donor's desire to make a significant monetary investment in their own health. As Van Der Velden notes, wax could be given as a material instead of as a figure:

> Wax could be donated in any one of numerous ways, as unworked material, a candle or an image. All of these variants would be produced and supplied by the same craftsmen. In a decree passed by the English parlament in 1423, it was laid down that the price charged by wax-chaundelers for 'Chaundelles, Images, Figures & autres overaigns de Cere, faitz pur oblations' should not exceed the price of unworked wax by more than a set amount.[132]

The wax donated was thus valuable regardless of the artisan's reworking of the raw material into a given form, even if body-part shaped ex-votos improved the efficacy of the donation. Blick elaborates on the role of other criteria to establish the likeness of the donated wax to the donor. She claims that

> A simple candle was effective, but many devotees wanted to make sure that their individual presence was sensed by the divinity through the donation of trindles or rotulas—coiled large candles made from lengthy wicks. Here personal interaction was crucial as the wicks, measured to the length of the afflicted person's body from fingertip to fingertip with the arms outstretched, or the circumference of the affected body part, became part of the candle.[133]

The likeness of the candle and its donor — established in these cases by criteria other than visual similarity — could ensure that a donor's plea for health could be fulfilled; in parallel to the way in which ex-votos in the shapes of given body parts secured a cure for those afflicted parts, the mimetic repetition of a donor's weight or height in wax and wicks improved the efficacy of a cure for that donor.

Horst Bredekamp writes of a fundamental tension in the production of images — both medieval and modern — that enables the substitution of images for bodies and bodies for

[132] Van der Velden, *The Donor's Image,* 248.
[133] Blick, "Votives, Images," 34.

images. “The precondition for this phenomenon lies in a deep-seated tradition of conceiving of body and image as separate, and yet nonetheless identical.”[134] Wax ex-votos from English pilgrim’s shrines epitomize this conceptualization of images and the bodies they represent as at once separate and identical. The relationship between ex-voto and votary is more complex than a simple pictorial representation of a supplicant in wax.[135] Freedberg expands upon the need for likeness to make votive images work, and claims that “with votive images of all kinds, one deals with the need to represent the event from which the devotee was saved (or the physical member saved), and to set up such representations as a form of lasting testimony and gratitude at a pilgrimage center or other shrine.”[136] In the case of English pilgrim shrines, representation is not limited to a past event from which the votary has been saved, but also includes figurations of body parts not-yet healed in order to bring about a miraculous cure. Freedberg continues by noting that

> in every case, manufacture and figuration is predicated on a strict concept of distinctiveness and accuracy. There may be cases where accuracy and distinctiveness seem to yield to a simpler idea of sufficient denotation, but even in such instances one has a sense of the diminished adequacy of the less true and the less precise.[137]

Accuracy comprised of non-visual but still physical likeness to the donor made ex-votos more efficacious.

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[134] Bredekamp, “Substitutive Image Acts,” 137.
[135] This, again, differs from the ways in which wax seals can produce an image of the individual they represent. See Brigitte Bedos-Rezak, "Ego, Ordo, Communitas: Seals and the Medieval Semiotics of Personality (1200-1350)," in Die *Bildlichkeit korporativer Siegel im Mittelalter: Kunstgeschichte und Geschichte im Gespräch*, ed. M. Spath (Köln: Böhlau, 2009): 47 – 64.
[136] Freedberg, *The Power of Images,* 97.
[137] Freedberg, *The Power of Images,* 155.

The perception that donating wax with an attention to non-visual, mimetic likeness could effect a cure seems to support Bynum's claim that similarity in the Middle Ages rested on material likenesses, similarities that were decidedly non-visual. Bynum claims

> Objects could carry presence, power, or even identity by mathematical rather than visual similarity. In the later Middle Ages, worshippers sometimes gave to a church or its saint an amount of wick or candle wax calibrated to their own height or weight, as if they were in some sense giving themselves by offering their measure.[138]

This numerical approach to likeness, while effective in its own right, did not exist in contrast to or isolation from visual likeness. This is especially apparent in the case of wax ex-votos. Giant trindles and rotulas depicted in medieval English stained glass make clear the significance of the size of these donations. The visible size of the candle indicates that it was made to match the measure of its donor, even if the specific donor might not be recognizable from measure alone. While the weight of the candle or length of the wick insists on its connection to a specific donor through these non-visual, material connections, those very same conceptions of material or quantitative similarity have a visual language all their own; the oversized look of these candles — and the depiction of these objects in other media — always explicitly references a donor, even if it does not mimetically replicate that donor's visible appearance.

Perhaps the need for visual likeness in votive images produced in late medieval England finds its basis in more general attitudes toward the representation of the body. Katherine Park argues that major differences in the development of southern and northern European late medieval burial rituals reflected divergent ideas of the connection between a subject and their physical body.

> In the North, I would argue, people saw the flesh-and-blood body as in some sense integral to the self. Thus the selfhood of the corpse persisted (though ever more

[138] Bynum, *Disimilar Similitudes*, 29.

> tenuously) in the transitional year after burial, during which the body gradually reduced and decomposed. While in this liminal state, this selfhood did not depend at all on the body remaining intact: as in the case of saintly relics, its personal identity and properties could inhere in its scattered parts as easily as in the whole.[139]

As Park puts it, bodies did not need to remain intact after death to maintain their identity. Rather, a corpse or cadaver insisted on a continued connection between soul and body, the person and their physical appearance. This emphasis on physical appearance is attested by the physical connection between votive and votary rendered in wax.

III. Conclusion: *Christus Medicus*

Le Livre de Seyntz Medicines (1354)*,* an anglo-norman text written by Henry of Grosmont, first Earl of Lancaster, explicitly draws on a popular medieval metaphor: that of *Christus Medicus.*[140] Henry's *Livre* not only frames Christ as healer, but also compares physical and spiritual illnesses. While evidence for Henry's own study of medicine is limited, the structure of his text and frequent allusions to well-known medical theories indicate that Henry had at least some knowledge of the medical conventions of his day.[141] Henry frames his allegorical text in clear, medical terms; even his title plays on the twelfth-century *Liber de simplici medicina* by the Salernitian medical theorist Matteus Platerius.[142] The devotional text describes a series of

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[139] Park, "The Life of the Corpse," 119.
[140] On a potential visual representation of Christ as doctor in the already-discussed London, British Library, Sloane MS 1977, see Karl Whittington, "Picturing Christ as Surgeon and Patient in British Library MS Sloane 1977," *Mediaevalia*, 35 (2014), 83-115. The text which these images preface, the *Circa Instans,* was also authored by the Matteus Platerius, on whose work the title of Henry's *Livre* plays.
[141] Arderne's patient, Adam of Everingham was a baron in the pay of Henry of Lancaster. See Catherine Batt, *The Book of Holy Medicines,* (Tempe: Arizona Center for Medieval and Renaissance Studies, 2014), 38.
[142] Tony Hunt, *Anglo-Norman Medicine* (Woodbridge: D. S. Brewer, 1994), 11-13.

physical ailments, each linked to a particular body part, as the result of spiritual infirmity. Before enumerating his many spiritual wounds, Henry intones: "Lord, as you, and no other, are the physician and the medicine able to cure me, give me grace, Lord, so that I may, Lord, show you my wounds properly, and so that I may have health through you. And in your holy compassion, have pity on them."[143] Throughout the *Livre de Seyntz Medicines*, Henry describes Christ's actions as those of a physician, but the actual healing that Christ facilitates is not merely a matter of his actions, but of his very body. In Henry's account, Christ's blood, administered by the physician himself, can cure these wounds. [144] Even at the level of medical recipes, Henry substitutes etiological and eschatological explanations.

Henry's repeated conflation of Christ and the figure of the physician refocus penitential devotion not on Christ's actions, but on his body. As Batt argues, "Henry of Lancaster's focus on Christ's wounds and blood is fully of a piece with this devotional concentration on the visceral, which, in the festering abject body of the penitent, and in Christ's own broken body, establishes the necessity for, and the source of, spiritual healing."[145] The late medieval devotional practices discussed in the previous chapter — the devotion to Christ's five wounds, for example — reinforce this interest in visualizing Christ's body and, in particular, in visualizing a gory body and the grisly limbs, displaced fluids, and abject face that contribute to that goriness.

The idea that Christ's blood could itself serve as medicine appears in images as well as Henry's text.[146] In addition to the widespread investment in the efficacy of relics attached to

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[143] Batt, *The Book of Holy Medicines,* 78.
[144] Catherine Batt, 'Henry, duke of Lancaster's Book of Holy Medicines: The Rhetoric of Knowledge and Devotion', *Leeds Studies in English*, 47 (2006): 409.
[145] Batt, *The Book of Holy Medicines,* 41.
[146] Here, there is an additional conflation between Christ's blood and ink. See Marlene Villalobos Hennessy, "The Social Life of a Manuscript Metaphor: Christ's Blood as Ink," in Joyce Coleman, Mark Cruse and Kathryn A. Smith (eds.), *The Social Life of Illumination: Manuscripts,*

sacred figures in the late Middle Ages, images depicting Christ's blood attest to its healing power, and to the power of representations of his blood. London, British Library, Egerton MS 1821, a late-fifteenth or early-sixteenth century psalter and rosary, begins with an opening that shows only stylized drops of blood painted in bright red over a black background (Fig. 4.18).[147] Later, folios 6, 7, and 8 continue this motif, with drops of blood set against a red wash. Colorful prints with symbols of the Passion and images of Christ's wounds come after these depictions of his blood.[148] Folio 9r, which contains a print of Christ's five wounds surrounded by dripping blood pasted onto the red pseudo-bloodstained page, emphasizes the place of Christ's blood as a spiritual medicine (Fig. 4.19). With the figure of Christ absent, the wounds themselves and the blood that drips out of them hold the capacity for healing.

In the Carthusian Miscellany, a combination of images attest to Christ's skill as a healer, as well as to the necessity of devotion to Christ's body, wounds, and blood for health. Throughout the manuscript, images depicting the five wounds of Christ and the crucifixion focus the reader-viewer's attention, and with it their devotion, on Christ's blood.[149] As discussed in Chapter Three, these wound images were used as personal devotional materials, often for the explicit purpose of effecting physical healing. On folio 20r, for example, the five wounds take the form of an oversized heart, each wound depicted in two bold shades of red and speckled with tear-drop

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Images, and Communities in the Late Middle Ages (Turnhout: Brepols, 2013), 17-52.

[147] F. A. Gasquet, "An English Rosary Book of the 15th Century," *Downside Review*, 12 (1893), 215-28; Nancy Thebaut, "Bleeding Pages, Bleeding Bodies: A Gendered Reading of British Library MS Egerton 1821," *Medieval Feminist Forum*, 45, no. 2 (2009), 175-200.

[148] David S. Areford, *The Viewer and the Printed Image in Late Medieval Europe* (Farnham, Surrey, and Burlington, VT: Ashgate, 2010), pp. 76-80.

[149] F. N. M. Diekstra, "British Library MS 37049, Fol 96r-96v: A Mutilated Tract on God's Mercy and Justice and Material for its Reconstruction," *English Studies*, 75 (1994) 214-22; "An Illustrated Yorkshire Carthusian Religious Miscellany," ed. James Hogg, (Salzburg: Institut fuer Anglistik und Amerikanistik, 1981).

like blood, as if to insist on both the bodiliness of the wounds and the suffering that they imply (Fig. 4.20).[150] Standing over this abstraction of the wounds is Christ himself, his body marked with wounds from the flagellation and blood flowing out of his wounds.[151] An inscription that traces the outline of the side wound claims "(th)is is (th)e mesure of (th)e wounde (th)t our I(e)h(sus) Crist sufferd for oure rede(m)pc(i)on."[152] A scroll trailing out of Christ's mouth above declares "(th)ies woundes smert bere I(n) (th)i(r) hert + luf god aye / If (th)ow do (th)is, (tho)u sal haf blys w(ith) owten delay."[153] At the bottom of the page a man kneels in prayer, looking upward toward Christ, his gaze mediated by the wounded heart. Christ's body — both in the abstraction of his wounds and the depiction of Christ in a state of gory suffering — thus become the subject of the reader-viewer's devotion, and with it facilitate the possibility of redemption — of spiritual healing. The analogy extends beyond the explicit comparison between Christ and the figure of the physician; instead, the physician stands in as a metonym for medicine itself, and a representable one at that. Christ is made parallel to any and all means of healing. This comparison becomes clear through the similarities in the pictorial representation of the two figures.

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[150] The devotional cult around Christ's blood produced a significant group of images in late medieval England. On representations of blood made to be the object of devotion, see Thebaut, "Bleeding Pages," 175-200; see also Julian M. Luxford, "Precept and Practice: The Decoration of English Carthusian Books," *Studies in Carthusian Monasticism in the Late Middle Ages* (Turnout: Brepols, 2009), 225-67; On other metaphorical uses of Christ's blood, see Hennessy, "The Social Life of a Manuscript Metaphor," 17-20.

[151] Brantley, *Reading in the Wilderness*, 215 - 216.

[152] "This is the measure of the wound that our Jesus Christ suffered for our redemption." Transcription and translation my own. London, British Library, Additional MS 37049 f. 20r

[153] "Bear these piercing wounds in [your] heart & praise god. If you do this, you shall have bliss without delay." Transcription and translation my own. London, British Library, Additional MS 37049 f. 20r.

One additional image places Christ's power to heal in the context of astro-humoral medicine, suggesting that the relationship between Christ and medicine depends upon the pictorial representation of the connection of macro and microcosm with which this chapter began. The personifications of the four humors in The Guild-Book of the Barber-Surgeons of the city of York, British Library Egerton MS 2572, surround a delicately drawn face of Christ, his halo in the same gentle red and yellow wash used to decorate the humoral figures' stockings and tunics (Fig. 1.21).[154] Like the humoral figures, Christ has been depicted with pale but detailed impressionistic linework, emphasizing the figure's vitality and situating him directly between opposing humoral types.[155] Here, at the center of these opposing elemental forces, Christ mediates the apparent irreconcilable differences between wet and dry, hot and cold. Because of the image's position on the verso of a page containing a volvelle that could aid in predicting the best time to administer medical treatment based on the present reigning star signs, Christ's head surrounded by the humoral figures takes on a distinctly humoral quality. The volvelle at the center of fol. 51r sits between depictions of John the Baptist, John the Evangelist, and Saints Cosmas and Damian; at the intersection of these representations of physical and spiritual healing, the volvelle grants its user access to the entirety of astrological movements, facilitating control of the cosmos with the simple twist of a dial (Fig. 1.22).

Cleverly hidden in the part of Christ's hair, the matrix of the volvelle (and by extension the volvelle itself) and the figure of Christ are physically linked. The placement of both figures at the

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[154] Loren MacKinney, *Medical Illustrations in Medieval Manuscripts*, Wellcome Historical Medical Library, 5, Part II, Medical Miniatures in Extant Manuscripts, (London: Wellcome Historical Medical Library, 1965), no. 39Scott*, Later Gothic Manuscripts 1390-1490*, 55-57.
[155] Richard Wragg, "A Civic Relationship: The Guild Book of the Barbers and Surgeons of York as an Expression of Professional Status and City Authority" in *Occupying Space in Medieval and Early Modern Britain and Ireland*, ed. by Gregory Hulsman and Caoimhe Whelan, (Oxford: Peter Lang, 2016), 235-52; See also Rawcliffe, *Medicine & Society*, 132.

center of opposite sides of the page further implies the unity of the figure of Christ and the control of the cosmos, and with it the possibility of predicting and facilitating human health and healing.[156] The role of Christ in medieval medical healing finds its clearest expression in the Augustinian idea of *Christus Medicus,* Christ the doctor. The structure of this comparison — that Christ could serve as a source of healing, is expressed in f. 51r as a comparison between Christ and physicians: both facilitate healing, and Christ represents figurally the balance that equates to health. The arrangement of figures on f. 51v, however, proposes a slightly different comparison; Christ is not merely a healer, but an agent of health. In late medieval English images related to the tradition of *Christus Medicus*, Christ is not merely a doctor, but rather gives figural representation to something unrepresentable: medicine itself.

[156] As such, volvelles were connected to broader practices of astrological and astronomical prediction and planning. See Sophie Page, *Astrology in Medieval Manuscripts* (London: British Library, 2002), 54-55.

CONCLUSION

Throughout this dissertation, I have argued that medieval readers, viewers, doctors, patients, and illuminators all looked at bodies and images of bodies with care. Texts and images made to support medicine and healing in late medieval England not only taught their viewers to recognize anatomical structures or perform procedures, but they also prompted and cultivated visual skill. The evidence of sustained and thoughtful visual analysis is clear in images and texts made in the context of medicine, but these objects also point to how medieval beholders thought bodies should look, and how they thought bodies ought to be looked at. That is to say, medical images represented bodies, but they also implicitly theorized how bodies should look, and how bodied should be looked at. The visual culture of late medieval English medicine was twofold: English medicine produced a coherent set of visual materials to show readers what bodies looked like; but the culture of English medicine in this period was also itself visual. Medicine and healing depended upon looking — and looking with skill and intention.

Visual skill could take many forms: the negotiation of comparison and difference in abstract diagnostic diagrams; taking up the position of the surgeon by making or viewing carefully detailed depictions of patients; repeatedly looking at Christ's wounds, or making oneself look like Christ by applying images to the body. The modes of observation and representation analyzed in this dissertation all contributed to a broader discourse around vision and visuality. Looking with care could yield health, protection, or knowledge; but looking, like medical practice, had to be learned.

The first three chapters of this dissertation examined identifiable phenomena in late medieval English manuscripts that fall between representation and perception. In order for bodies to be

made abstract, for example, an illuminator must depict them diagrammatically, and a reader-viewer must recognize how that diagram corresponds to an actual body. The same is true of individuation, and repetition; these are phenomena that are produced both by illuminators depicting bodies or astro-medical systems according to their theorization in text, but also (and equally) by what reader-viewers see when they look at these images, compare them to text, and attempt to make the theories they describe consonant with their own lived reality. These visual phenomena are all unified both by the contexts in which they occur and by what they strive to do at their most basic level. Abstraction, individuation, and repetition make it possible to represent and understand the representation of bodies in all the complicated physical, temporal, and spiritual situations they may inhabit.

By way of a conclusion, and in order to look once more at the relationship between representation as a series of techniques and representation as a way of understanding the world, I turn to the story of one last object.

The New Haven – Stockholm Roll

In 1929, Sven Hedin, famed Swedish explorer, took a break from his ongoing expeditions in Central Asia to travel to Boston, Massachusetts. That Spring Hedin began to worry that he was developing a tumor and, upon a neurologist's recommendation, he left his post in Beijing to meet doctor Harvey Cushing for a consultation. Cushing was a well-respected neurosurgeon and pathologist, and was nearing retirement from his dual position at Harvard. Much like his medieval forebears, Cushing both lectured and served as surgeon-in-chief at the university's newly founded Peter Bent Brigham Hospital. Hedin's treatment was swift (and successful), but

in the days he spent in Cushing's care, Hedin won the surgeon over with tales of expeditions and his wide-randing knowledge of art and literature. Later that year, Cushing visited his new Swedish friend in Stockholm. During that visit, the two examined an 18-foot-long parchment roll made in the fifteenth century at Sweden's Royal Library, the Kungliga Biblioteket. Cushing was captivated by this medieval object, and by the texts it contained. His host, Hedin, sensed the enchanting effect the roll had on Cushing, and commissioned the Swedish painter Carl Olauffson to craft a detailed copy at scale (Fig. 5.1). Hedin gave Cushing the roll as a Christmas present later that year.

Cushing retired from his position at Harvard in 1933, and took up another dual position as professor of neurosurgery and professor of the history of medicine at Yale. He would go on to donate his collection of early surgical and anatomical books to Yale, forming the basis of what is now the Cushing / Whitney Library of Medicine. Among the books he gave to Yale was his Christmas present from Hedin, a meticulously reproduced copy of the Stockholm Roll, complete with illuminations and the abbreviated version of Arderne's text. Unlike the original Stockholm Roll, heavily guarded in its temperature and humidity controlled Swedish habitat, Cushing's copy is available for consultation.

I spent a few hours looking at Cushing's roll in March 2019, gingerly rolling and unrolling it with the help of a librarian and comparing the illuminations to hi-res scans of the original on my phone. It was clear to me that not many researchers came looking for this particular object; I had to consult it in a small vestibule directly outside the librarian's open door; the table on which the roll rested — the largest they could give me to use away from other readers — was far too small to see any significant portion of the roll at once. As I worked my way through the roll and tried, with limited success, to view its dorse, the mechanics of reading the original Stockholm Roll

were at the top of my mind. Rolling and unfurling rolls required dexterity and some degree of muscle memory to be done with ease, but my handling of this monumental object was clumsy, and frequently the librarian popped in from the next room to help me reposition the object and access new bits of text.

Olauffson's copy of the Stockholm Roll is extraordinarily faithful to the original, even down to the purposefully-distressed parchment membranes on which it was painted. The artist's painting neatly replicates a fifteenth-century hand, and the pigments used throughout the roll recreate the saturated jewel tones that are so striking in the original. Nevertheless, looking at Cushing's roll after having spent countless hours staring at digitized photos of the manuscript in Stockholm, there were glaring differences that I still find difficult to verbalize. The evidence of wear on the original roll occurs in vein-like vertical lines, predictably wending across the parchment surface, clearly the result of thumbs and fingers pressing repeatedly on the thin support while it was tugged back into a cylinder; in its twenthieth-century counterpart, wrinkles spread evenly in all directions. Bright, unwavering patches of color make up the clothing of figures on the Stockholm Roll despite its age; those same colors have been smudged or abraded to indicate distress in Olauffson's copy. The Stockholm Roll's illuminator used overlapping washes, so darker outlines of bodies and blank parchment mingle with no clear rhyme or reason, but with intensely lifelike effect; Olauffson, in his attempt to copy this, has produced a sort of regular smudging across some of the figures that flattens them, rather than contributing to their uncanny vibrancy.

Despite these differences, Cushing's roll allowed me access to something that had eluded me for years: the experience of handling the roll and seeing how its iconography changed as a result of basic physical movements. In digitizations and descriptions of the original Stockholm Roll, it

is clear that the frontal, full-body figures on the roll's front and reverse loosely match up. A small hole in the parchment just above the right hip of the first figure, which shows the veins, falls in the same spot on the body of the figure on the roll's dorse. Positioned back to back, these two figures create the effect, much like the hybrid zodiac-vein man of the *Tres Riches Heures,* of a unified figure composed of two images. In this case, the figure's parchment and ink body does not end on one side of the roll, but, in a sense, palpably takes up space, occupying the other side of the roll as if to assert its status as a real, material, body. This phenomenon is even clearer in the second figure, a skeleton. The skeleton's face is prominent on the front of the roll, turned down with (inexplicably) closed eyes and a slack jaw. In that exact position on the roll's reverse, we see the same skeleton from behind. A smooth cranium replaces the expressive face, and upper vertebrae are visible where the jaw continues on the roll's front. Despite the illuminator's attempt to show the body frontally and from behind, the feet on this rear skeleton still point outward, and the kneecaps are visible, as if everything below the body's hips has turned 180 degrees.

When I unrolled Cushing's copy with this relationship between the roll's two sides in mind, though, something unexpected happened. Depending on how tightly the roll is wound, unrolling and rolling has the effect of pulling apart two layers of bodily tissue. This is true not only of the full-body figures, but also for the lower bodies more typical of Arderne's manuscripts that occur on the same central column of the roll. The figures' feet, which all face toes out, appear to be superimposed upon each other. This creates the illusion that two bodies overlap when the parchment is rolled up, and, when it's unrolled, the reader is literally pulling open the bodies of the figures they look at (Fig. 5.2). The bones of the skeleton invisibly press up against one of the figures from the fistula-in-ano series when the roll is put away. Overlapping like moveable parts

in a child's pop-up-book, the two figures come to form one body in this resting state. The relationship between the two figures, and with it the relationship between these bodily systems only becomes visible when the roll is in the process of being unrolled.

This dissertation began with my own fascination with portraiture, and with the idea of tracing its geneaology back through a set of images that put something like portraiture to distinctly practical ends. John Arderne's illuminators' detailed pictures of patients seemed to be proof enough that an impulse toward mimesis in medicine had been left out of canonical accounts of the birth of portraiture, and that gap was enough to secure the epistemological significance of medical manuscripts. My encounter with Cushing's roll, and with the many other manuscripts analyzed throughout this project, have convinced me that the work these images do extends far beyond some heroic striving towards mimetic likeness.

Medical images made in late medieval England have the capacity to break apart traditional conceptions of how the body works and of how the body could be represented. The visual skills these images required and trained may very well have been the same sorts of perceptual techniques put to use as naturalism was reborn and, with it, portraiture became a means of portraying the look of a specific person. But these skills, when applied to medieval images, could do so much more. Pulling apart the layers of the pictured body to look inside of it required a diachronic collaboration between maker and viewer; implicit in that collaboration were a series of unspoken assumptions about how the body worked, and how images worked.

This dissertation has sought to illuminate what some of those unspoken assumptions were in order to understand medical images in the context of late medieval visual culture, but also to understand late medieval image-making practices more generally through the clear and purposeful lens medicine provides. Representation was complicated in late medieval England. So

too was health. By representing bodies in states of health and illness, specificity and universality, animation and decomposition, English illuminators gave their reader-viewers the tools to make their own trained judgments, to learn from surgical detail, and to access spiritual health. Late medieval English medical discourse centered vision and visuality, offering a solution to the complex epistemological problems that understanding and representing the human body entailed through the cultivation and practice of looking.

BIBLIOGRAPHY

Alexander, Jonathan J.G. “Labeur and Paresse: Ideological Representations of Medieval Peasant Labor.” *Art Bulletin* 72, no. 3 (1990): 436 - 452.

------ *Medieval Illuminators and their Methods of Work*. New Haven, CT: Yale University Press, 1992.

Alin, Edvard. “Der Obstetrische Theil Der Practica Johannis Arderni.” *Nordiskt Medicinskt Arkiv* 2 (1899): 1 -23.

Anderson, Benjamin. *Cosmos and Community in Early Medieval Art.* New Haven: Yale University Press, 2017.

Arderne, John. *De Arte Physicali et de Cirurgia*. Edited by Torgny Svenberg and Peter Murray Jones. Stockholm: Hagströmerbiblioteket, 2014.

Areford, David. “The Passion Measured: A Late-Medieval Diagram of the Body of Christ.” T*he Broken Body: Passion Devotion in Late-Medieval Culture*. Edited by MacDonald, Ridderbos, and Schlusemann. Groningen: Egbert Forsten, 1998.

------ *The Viewer and the Printed Image in Late Medieval Europe.* Burlington, VT: Ashgate, 2010.

Aristotle. *Metaphysics.* Translated by Hugh Lawrence-Tancred. London: Penguin Books, 2004.

Ashworth, E. Jennifer. “Metaphor and the Logicians from Aristotle to Cajetan.” *Viviarum* 43, no.1, (2007): 323-324.

Astell, Ann W. “Retooling the Instruments of Christ's Passion: Memorial Technai, St. Thomas the Twin, and British Library Additional MS 22029.” *Arma Christi in Medieval and Early Modern Material Culture: With a Critical Edition of ‘O Vernicle.’* Edited by Lisa H. Cooper and Andrea Denny-Brown. London: Routledge, 2016.

Baader, Hannah and Ittai Weinryb, "Images at Work: On Efficacy and Historical Interpretation.” *Representations* 133 (2016): 1 - 19.

Badham, S. “Status and Salvation: the Design of Medieval English Brasses and Incised Slabs.” *Transactions of the Monumental Brass Society* 15, (1996): 413–65.

Baker, A. “Figure paintings on rood- screens in churches of Norfolk and South Devonshire.” PhD thesis, University of London, 1938.

Barker, Jessica. “The Sculpted Epitaph.” *Sculpture Journal* 26, no. 2 (2017): 237 - 275.

Barthes, Roland. “The Reality Effect.” *The Rustle of Language.* Berkeley: University of California Press, 1989. 141 - 148.

Batt, Catherine. “Henry, duke of Lancaster's Book of Holy Medicines: The Rhetoric of Knowledge and Devotion.” *Leeds Studies in English*, 47 (2006): 407 - 414.

------ *The Book of Holy Medicines.* Tempe: Arizona Center for Medieval and Renaissance Studies, 2014.

Bedos-Rezak, Brigitte Miriam. “Medieval Identity: A Sign and a Concept.” *The American Historical Review* 105, no. 5 (2000): 1489 – 1533.

------ "Ego, Ordo, Communitas: Seals and the Medieval Semiotics of Personality (1200-1350)." *Die Bildlichkeit korporativer Siegel im Mittelalter: Kunstgeschichte und Geschichte im Gespräch*. Edited by M. Spath. Köln: Böhlau, 2009.

Bell, Adrian R. and Richard S. Dale. “The Medieval Pilgrimage Business.” *Enterprise & Society* 12 (2011): 601 - 627.

Belting, Hans. *The Image and Its Public in the Middle Ages: Form and Function of Early Paintings of the Passion.* Translated by Mark Bartusis and Raymond Meyer. New Rochelle, NY: 1990.

------ *Likeness and Presence: A History of the Image before the Era of Art.* Chicago: University of Chicago Press, 1996.

Berlekamp, Persis. "Visible Art, Invisible Knowledge." *International Journal of Middle East Studies* 40, no. 3 (2013): 563 – 565.

Bertram, J. “First Read the Label.” *Monumental Brass Society Bulletin*, 99 (2015): 789–92.

Besserman, L. L. *The Legend of Job in the Middle Ages*. Cambridge, MA: Harvard University Press, 1979.

Bibliothèque impériale, Département des Manuscrits,Catalogue général. des manuscrits français, t. I, Ancien fonds. Paris, 1868.

Binski, Paul. *Medieval Death: Ritual and Representation.* Ithaca: Cornell University Press, 1996.

------ “John the Smith’s Grave.” *Tributes to Jonathan G Alexander: the making and meaning of illuminated medieval and Renaissance manuscripts*, *art and architecture.* Edited by Susan L’Engle and Gerard B. Guest. London: Harvey Miller, 1993.

------ *Westminster Abbey and the Plantagenets: Kingship and The Representation of Power, 1200 - 1400*. New Haven: Yale University Press, 1995.

------ "The Angel Choir at Lincoln and the Politics of the Gothic Smile." *Art History* 20, (1997): 350 - 374

------ *Gothic Sculpture*. New Haven: Yale University Press, 2018.

Bischoff, Bernhard. *Manuscripts and Libraries in the Age of Charlemagne*. Translated and Edited by Michael Gorman. Cambridge Studies in Palaeography and Codicology. Cambridge: Cambridge University Press, 1994.

Black, William Henry. *A descriptive, analytical, and critical catalogue of the manuscripts bequeathed unto the University of Oxford by Elias Ashmole Esq., M.D., F.R.S., Windsor Herald, also of some additional MSS. contributed by Kingsley, Lhuyd, Borlase, and others.* Oxford: 1945.

Black, Winston. *Medicine and Healing in the Premodern West.* Peterborough, ON: Broadview Press, 2020.

Blick, Sarah. "Votives, Images, Interaction and Pilgrimage to the Tomb of and Shrine of St. Thomas Becket, Canterbury Cathedral." *Push Me, Pull You: Imaginative, Emotional, Physical, and Spatial Interaction in Late Medieval and Renaissance Art.* Edited by Sarah Blick and Laura Gelfand. Leiden: Brill, 2011.

Bober, Harry. "The Zodiacal Miniature of the Très Riches Heures of the Duke of Berry: Its Sources and Meaning." *Journal of the Warburg and Courtauld Institutes* 11 (1948): 1 – 34.

------ "An Illustrated Medieval School Book of Bede's *De Natura Rerum." Journal of the Walters Art Gallery* 19/20 (1956/1957): 64 - 97.

------ "In Principio: Creation before Time." *De Artibus Opuscula: Essays in Honor of Erwin Panofsky*. Edited by Millard Meiss. New York: New York University Press, 1961.

Borland, Jennifer. "Freeze-framed: theorizing the historiated initials of the Régime du corps." *Word & Image* 32 (2016): 235 – 250.

------ "Unruly Reading: The Consuming Role of Touch in the Experience of a Medieval Manuscript." *Scraped, Stroked, and Bound" Materially Engaged Readings of Medieval Manuscripts*. Edited by Jonathan Wilcox. Turnhout: Brepols, 2013.

Brantley, Jessica. *Reading in the Wilderness: Private Devotion and Public Performance in Late Medieval England.* Chicago: University of Chicago Press, 2007.

Bredekamp, Horst. "Substitutive Image Acts: The Exchange of Body and Image." *Image Acts: A Systematic Approach to Visual Agency*. Translated by Elizabeth Clegg. Berlin: De Gruyter, 2018.

Brilliant, Richard. *Portraiture*. London: Reaktion Books, 2004.

Bühler, Curt F. "A Middle English Prayer Roll." *Modern Language Notes* 52 (1937): 555–62.

Bullough, Vern L. "Medical Study at Mediaeval Oxford." *Speculum* 36 (1961): 600 – 612.

------ "Training of the Nonuniversity-Educated Medical Practitioners in the Later Middle Ages." *Journal of the History of Medicine and Allied Sciences* 14, (1959): 446-458.

Bynum, Caroline Walker. "Did the Twelfth Century Discover the Individual?" *Journal of Ecclesiastical History,* 31, no. 1 (1980): 1-17.

------ "The Body of Christ in the Later Middle Ages: A Reply to Leo Steinberg." *Renaissance Quarterly*39, (1986): 399 – 439.

------ "Violent Imagery in Late Medieval Piety," *Fifteenth Annual Lecture of the GHI* (2001).

------ "The Blood of Christ in the Later Middle Ages." *Church History* 71, (2002): 685 – 714.

------ *Christian Materiality: An Essay on Religion in Late Medieval Europe*. New York: Zone Books, 2011.

------ *Fragmentation and Redemption: Essays On Gender and the Human Body in Medieval Religion*. New York: Zone Books, 2012.

------ *Dissimilar Similitudes: Devotional Objects in Late Medieval Europe*. Princeton: Princeton University Press, 2020.

Byrne, Donald. "The Boucicaut Master and the Iconographical Tradition of the 'Livre Des Propriétés Des Choses.'" *Gazette des beaux-arts* 92, (1978): 154-156.

Camille, Michael. "The Book of Signs: Writing and Visual Difference in Gothic Manuscript Illumination." *Word & Image*, (1985): 133 – 148.

------ "Labouring for the Lord: The Ploughman and the Social Order in the Luttrell Psalter" in *Art History* 10, no.4 (1987): 423 – 454

------ *Image on the Edge: The Margins of Medieval Art*. Cambridge, MA: Harvard University Press, 1992.

------- "The Image and the Self: Unwriting Late Medieval Bodies." *Framing Medieval Bodies.* Edited by Sarah Kay and Miri Rubin. Manchester: Manchester University Press, 1992.

------ *Master of Death: The Lifeless Art of Pierre Remiet Illuminator.* New Haven: Yale University Press, 1996.

------ “Glossing the Flesh.” *The Margins of the Text.* Edited by D.C. Greetham. Ann Arbor, MI: University of Michigan Press, 1997.

------ *Mirror in Parchment: the Luttrell Psalter and the making of medieval England*. London: Reaktion Books, 1998.

------ “The Corpse in the Garden: Mumia in Medieval Herbal Illustrations.” *Micrologus VII: Il Cadavre*, (1999).

------ "Before the Gaze: The Internal Senses and Late Medieval Practices of Seeing.” *Visuality Before and Beyond the Renaissance: Seeing As Others Saw*. Edited by Roberty Nelson. Cambridge: Cambridge University Press, 2000.

Carey, Hilary. “Astrological Medicine and the Medieval English Folded Almanac.” *Social History of Medicine* 17 (2004): 345 – 363.

------ “Henry VII's Book of Astrology and the Tudor Renaissance.” *Renaissance Quarterly*, 65 (2012), 661-710.

------ “What is the Folded Almanac? The Form and Function of a Key Manuscript Source for Astro-medical Practice in Later Medieval England.” *Social History of Medicine* 16, no. 3 (2003): 481 – 509.

Carey, Moya. "Mapping the Mnemonic: A Late-Thirteenth-Century Copy of al-Ṣūfī's Book of the Constellations." *Arab Painting: Text and Image in Illustrated Arabic Manuscripts*. Edited by Anna Contadini. Leiden: Brill, 2007.

------ "Al-Sufi and Son: Ibn al-Sufi's Poem on the Stars and Its Prose Parent." *Muqarnas* 26 (2009): 181-204.

Carruthers, Mary. *The Book of Memory: A Study of Memory in Medieval Culture.*Cambridge: Cambridge University Press, 1990.

------ *The Craft of Thought: Meditation, Rhetoric, and the Making of Images, 400 – 1200.* Cambridge: Cambridge University Press, 2000.

Cartlidge, Barbara with John Cherry, Charlotte Gere, and Anne Ward. *The Ring from Antiquity to the Twentieth Century*. London: Thames and Hudson, 1981.

Caspers, C. “The Western Church During the Late Middle Ages: *Augenkommunion* or Popular Mysticism?” *Bread of Heaven: Customs and Practices Surrounding Holy Communion.* Edited by C. Caspers, G. Lukken, G. Rouwhorst. Kampen, 1995.

Catalogue of Additional Manuscripts: Sloane 2720-2906. London: British Museum unpublished manuscript of unedited descriptions, no date.

Catalogue of Additions to the British Museum, vol. 6 (London: British Museum, 1831-1835).

A Catalogue of the Harleian Manuscripts in the British Museum, 4 vols. London: Eyre and Strahan, 1808.

Catalogue of Manuscripts in The British Museum. New Series. 1 vol. in 2 parts. London: British Museum, 1834-1840. Volume I, Part 1.

Catalogus Librorum Manuscriptorum Bibliothecae Sloanianae (Manuscripts 1-1091). London: British Museum, no date.

Cattermole, P. and S. Cotton. "Medieval parish church building in Norfolk." *Norfolk Archaeology,* 38, (1983): 235 – 279.

Caviness, Madeleine. "Images of Divine Order and the Third Mode of Seeing." *Gesta* 22, no. 2, (1983): 99-120.

------ "'The Simple Perception of Matter' in Representations ca. 1180–1280: Narrative Mode or Gothic Style?" *Gesta* 30 (1991): 48-64.

------ "Patron or Matron? A Capetian Bride and a Vade Mecum for Her Marriage Bed." *Speculum* 68 (1993): 333 - 362.

Charlton, Edward. "Roll of Prayers Formerly Belonging to Henry VIII, When Prince," *Archaeologia Aelian*, no. 2 (1858): 41-45;

Cherry, John. "Healing Through Faith: The Continuation of Medieval Attitudes to Jewellery into the Renaissance." *Renaissance Studies* 15, (2001): 154 - 171.

Citrome, Jeremy. *The Surgeon in Medieval English Literature.* New York: Palgrave MacMillan, 2006.

Clemens, Raymond and Timothy Graham. *Introduction to Manuscript Studies.* Ithaca: Cornell University Press, 2007.

Cohen, Kathleen. *Metamorphosis of a Death Symbol: The Transi Tomb in the Late Middle Ages and the Renaissance.* Berkeley, CA: University of California Press, 1973.

Connolly, Daniel. "Imagined Pilgrimage in the Itinerary Maps of Matthew Paris." *The Art Bulletin* 81, (1999): 598 – 622.

Conrad-O'Brien, Helen. "Imitatio." *The Oxford Dictionary of the Middle Age.* Edited by Robert E. Bjork. (2010).

Copeland, Rita. "Pathos and Pastoralism: Aristotle's Rhetoric in Medieval England." *Speculum*

89, no. 1 (2014): 96 - 127.

Corner, G. W. “The Rise of Medicine at Salerno.” *Annals of Medical History* 3, (1931): 2-3.

Cotton, Simon. “Medieval roodscreens in Norfolk – their Construction and Painting Dates.” *Norfolk Archaeology* 40, (1989): 44–54.

Cullum, P. H. *Cremetts and Corrodies: Care of the Poor and Sick at St Leonard's Hospital, York, in the Middle Ages*. York: Borthwick Institute, 1991.

Dalton, O. M. *Catalogue of the Finger Rings… in the Museum*. London: British Museum, 1912.

Daniel, Henry. *Liber Uricrisiarum: A Reading Edition*. Edited by E. Ruth Harvey, M. Teresa Tavormina, and Sarah Star. Toronto: University of Toronto Press, 2020.

Daston, Lorraine. “The Nature of Nature in Early Modern Europe.” *Configuration*s 6:2 (1998): 149–172.

------ “On Scientific Observation.” *Isis* 99 (2008): 97 - 110.

with Peter Galison, *Objectivity*. New York: Zone Books, 2007.

Decker, John R. “‘Practical Devotion:’ Apotropaism and the Protection of the Soul.” *The Authority of the Word: Reflecting on Image and Text in Northern Europe, 1400 – 1700.* Edited by Celeste Brusati, Karl A.E. Enenkel, and Walter Melion. Boston: Brill, 2012.

Demaitre, Luke. “Medical Writing in Transition: Between Ars and Vulgus.” *Early Science and Medicine* 3, no. 2 (1998): 88 – 102.

------ “Theory and Practice in Medical Education at the University of Montpellier in the Thirteenth and Fourteenth Centuries.” *Journal of the History of Medicine* (1975): 103 - 23.

Diekstra, F. N. M. “British Library MS 37049, Fol 96r-96v: A Mutilated Tract on God’s Mercy and Justice and Material for its Reconstruction.” *English Studies*, 75 (1994) 214-22.

Dinn, R. “Death and re-birth in late medieval Bury St. Edmunds.” *Death in Towns: Urban Responses to the Dying and the Dead, 100 – 1600.* Edited by Bassett. Leicester: Leicester University Press, 1992.

Doyle, A. I. “Book Production by the Monasatic Orders in England (c. 1375-1530).” *Medieval Book Production: Assessing the Evidence*. Edited by Linda l. Brownrigg. Proceedings of the Second Conference of The Seminar in the History of the Book to 1500, Oxford, July 1998. Los Altos Hills, CA: Anderson-Lovelace, 1990.

Drimmer, Sonja. “Beyond Private Matter: A Prayer Roll for Queen Margaret of Anjou.” *Gesta*

53 (2015): 95 - 120.

----- "Disorder of Operations: Illuminators, Scribes, and John Gower's *Confessio Amantis*." *Lias* 44, No.1 (2007): 5 – 28

with Andrea Clarke. "The Prayer Roll of Henry VIII." *Royal Manuscripts: The Genius of Illumination.* Edited by Scot McKendrick, John Lowden, and Kathleen Doyle. London: The British Library, 2011.

Dronke, Peter. "Tradition and Innovation in Medieval Western Colour Imagery." *Eranos Jahrbuch* 41, (1972):51 - 107.

Duffy, Eamon. 'The Parish, Piety and Patronage in Late Medieval East Anglia: the Evidence of Rood-screens." *The Parish in English Life 1400–1600.* Edited by K. French, G. Gibbs, and B. Kümin. Manchester: Manchester University Press, 1997.

------ *The Stripping of the Altars: Traditional Religion in England, 1400 – 1580.* New Haven: Yale University Press, 2005.

------ *Marking the Hours: English People and their Prayers, 1240 – 1570.* New Haven: Yale University Press, 2011.

Durrieu, Paul. *Les Tres riches Heures de Jean de France, Duc de Berry*. Paris: Bibliothèque de l'Ècole des chartres, 1903.

Dvořák, Max. *Idealism and Naturalism in Gothic Art*. Translated by Randolph J. Klawiter. South Bend, IN: University of Notre Dame Press, 1967.

Easton, Martha. "The Wound of Christ, the Mouth of Hell: Appropriations and Inversions of Female Anatomy in the Later Middle Ages." *Tributes to Jonathan J.G. Alexander: The Making and Meaning of Illuminated Medieval & Renaissance Manuscripts, Art & Architecture*. Edited by J. J. G. Alexander, Susan L'Engle, and Gerald B. Guest. London: Harvey Miller, 2006.

Eastwood, Bruce. *Ordering the Heavens: Roman Astrology and Cosmology in the Carolingian Renaissance*. Leiden: Brill, 2007.

Edsall, Mary Agnes. "Arma Christi Rolls or Textual Amulets?: The Narrow Roll Format Manuscripts of 'O Vernicle.'" *Magic, Ritual, and Witchcraft* 9 (2014): 178 - 205.

Elkins, James. "Art History and Images that Are Not Art." *Art Bulletin* 77 (1995): 553 – 571.

------ "On Pictures and The Words That Fail Them." Cambridge: Cambridge University Press, 1998.

------ "Who Owns Images?: Art or Science." *Circa* 97 (2001): 96 – 97

Esmeijer, Anna. *Divina Quaternitas: Een onderzoek naar methode en toepassing der visuele exegese.* Utrecht: Rijksuniversiteit te Utrecht, 1973.

Ettlinger, Ellen. "British Amulets in London Museums." *Folklore* 50 (1939): 148 – 174.

Evans, Joan. *Magical Jewels of the Middle Ages and the Renaissance, Particularly in England*. Oxford: Clarendon Press, 1922.

Evans, Michael. "The Geometry of the Mind." *Architectural Association Quarterly* 12 (1980): 32–55.

Feibel, Robert. "Mortimer Frank, Johann Ludwig Choulant, and the History of Anatomical Illustration." *Journal of Medical Biography* (2018).

Felfe, Robert and Maurice Saß. "Warum Naturalismen? Historisches Problem und methodische Herausforderung." *Naturalismen: Kunst, Wissenschaft und Ästhetik*. Edited by Robert Felfe and Maurice Saß. Berlin: De Gruyter, 2019.

Feltman, Jennifer M. "Imagining the Sorrows of Death and Pains of Hell in the Hours of Catherine of Cleeves." *Binding the Absent Body in Medieval and Modern Art*. Edited by Emily Kelly and Elizabeth Richards Rivenbark. London: Routledge, 2017.

Fiddyment, Sarah, Natalie J. Goodison, Elma Brenner, Stefania Signorello, Kierri Price, and Matthew J. Collins. "Girding The Loins? Direct Evidence of the Use of a Medieval English Parchment Birthing Girdle from Biomolecular Analysis." *Royal Society Open Science*, (2021): 1 - 14.

Finucane, Ronald C. *Miracles and Pilgrims: Popular Beliefs in Medieval England.* New York: St. Martin's Press, 1995.

Forbes, Thomas R. "Verbal Charms in British Folk Medicine." *Proceedings of the American Philosophical Society* 115 (1971): 293 - 316.

Frank, Mortimer. *History and Bibliography of Anatomic Illustration In Its Relation to Anatomic Science and the Graphic Arts.* Chicago: University of Chicago Press,1920.

Freedberg, David. *The Power of Images: Studies in the History and Theory of Response.* Chicago: University of Chicago Press, 1991.

French, Katherine L., Kathryn A. Smith, and Sarah Stanbury. "An Honest Bed: The Scene of Life and Death in Late Medieval England." *Fragments* 5, (2016): 61 - 95.

------ "The Material Culture of Childbirth in Late Medieval London and its Suburbs," *Journal of Women's History* 28 (2016): 146.

French, Roger. "The Long Fifteenth Century of Medical History." *Medicine From the Black Death to the French Disease*. Edited by Roger French. Brookfield, VT: Ashgate Publishing, 1998.

------ "Astrology in Medical Practice." *Practical Medicine from Salerno to the Black Death.* Edited by Luis García-Ballester, Roger French, Jon Arrizabalaga, and Andrew Cunningham. Cambridge: Cambridge University Press, 1994.

Fricke, Beate. "A Liquid History: Blood and Animation in Late Medieval Art." *Res* 63/64, (2013): 53 – 69.

Friedman, John Block. *John de Foxton's Liber Cosmographiae (1408): An Edition and Codicological Study*. Leiden: Brill, 1988.

------ "John Siferwas and the Mythological Illustrations in the Liber Cosmographiae of John de Foxton." *Speculum* 58, (1983): 391 - 418.

------ *Northern English Book Owners, and Makers in the Late Middle Ages*. Syracuse, NY: Syracuse University Press, 1995.

Friend, A. M. "The Portraits of the Evangelists in Greek and Latin Manuscripts." *Art Studies* 5 (1927).

Fronska, Joanna. "The Royal Image and Diplomacy: Henry VII's Book of Astrology (British Library, Arundel 66)." *Electronic British Library Journal* (2013).

Gage, John. "A Locus Classicus for Colour Theory: The Fortunes of Apelles." *Journal of the Courtauld and Warburg Institutes* 44 (1981): 1 – 26.

Gardham, Julie. *The World of Chaucer: Medieval Books and Manuscripts*. Glasgow, 2004.

Garipzanov, Ildar. "The Rise of Graphicy in Late Antiquity and the Early Middle Ages." *Viator* 46 (2015): 1 - 21.

Gasquet, F. A. "An English Rosary Book of the 15th Century." *Downside Review*, 12 (1893): 215-28

Gayk, Shannon. "By Provocative Means: Power, Protection, and Reproduction in Prince Henry's Prayer Roll." *Exemplaria* 29 (2017): 296 – 313.

Gertsman, Elina. "The Dance of Death in Reval (Tallinn): the Preacher and his Audience." *Gesta*, 42, (2003): 143–59.

------ "Pleyinge and Peyntynge: Performing the Dance of Death." *Studies in Iconography* 27, (2006): 1 - 43.

------ "The Facial Gesture: (Mis)reading Emotion in Gothic Art." *Journal of Medieval Religious Cultures* 36, no. 1 (2010): 28 – 46.

Getz, Faye. "Medical Practitioners in Medieval England." *The Society for the Social History of Medicine* (1990): 245 – 250.

------ "The Faculty of Medicine before 1500." *The History of the University of Oxford,* vol. II. Edited by J. Catto and R. Evans. Oxford, 1992.

----- *Medicine in the English Middle Ages*. Princeton, NJ: Princeton University Press, 1997.

Givens, Jean. *Observation and Image-making in Gothic Art.* Cambridge,: Cambridge University Press, 2005.

Gombrich, Ernst. "The Mask and the Face: The Perception of Physiognomic Likeness in Life and Art." *Art, Perception, Reality*. Edited by Ernst Gombrich, Julian Hochberg, and Max Black. Baltimore: Johns Hopkins University Press, 1972.

Goodman, Nelson. *Languages of Art.* Indianapolis: Hackett Publishing Company, 1976.

------ "Seven Strictures on Similarity." *Problems and Projects.* Indianapolis: Bobbs Merrill, 1972.

Gottfried, Robert. *Doctors and Medicine in Medieval England.* Princeton: Princeton University Press, 1986.

Gray, Douglas. "London, British Library, Additional MS 37049: A Spiritual Encyclopedia." *Text and Controversy from Wyclif to Bale*. Edited by Helen Barr and Ann M. Hutchinson. Turnhout: Brepols, 2005.

Green, Monica. "Women's Practical Medicine and Healthcare in Medieval Europe." *Signs* 14, (1989), 434 – 473.

------ "From 'Diseases of Women' to 'Secrets of Women': The Transformation of Gynecological Literature in the Later Middle Ages." *Journal of Medieval and Early Modern Studies* 30 (2000): 5–39.

------ *Making Women's Medicine Masculine: The Rise of Male Authority in Pre-modern Gynaecology.* Oxford: Oxford University Press, 2008.

Groebner, Valentin. *Who Are You: Identification, Deception, and Surveillance in Early Modern Europe*. Cambridge, MA: MIT Press, 2007.

Guerin, Sarah. "The Nature of Naturalism: A Trans-Historical Examination." *Canadian Art Review* 41, (2016): 5-16.

Gwara, Joseph and Mary Morse. “A Birth Girdle Printed by Wynkyn de Worde.” *The Library* 13 (2012): 33 – 62.

Hahn, Cynthia. “The Voices of Saints: Speaking Reliquaries.” *Gesta* 36, No. 1 (1997): 20 – 31.

------ “Visio Dei. Changes in Medieval Visuality.” *Visuality Before and Beyond the Renaissance: Seeing as Others Saw*. Editedby Robert S. Nelson. Cambridge: Cambridge University Press, 2000.

------ “Visuality.” *A Companion to Medieval Art*. Edited by Conrad Rudolph. Hoboken, NJ: Blackwell, 2006.

Hall, Bert. “The Didactic and the Elegant: Some Thoughts on Scientific and Technological Illustrations in the Middle Ages and Renaissance.” *Picturing Knowledge: Historical and Philosophical Problems Concerning the Use of Art in Science.* Toronto: University of Toronto Press, 1996.

Hamburger, Jeffrey. *The Visual and the Visionary: Art and Female Spirituality in Late Medieval Germany.* New York: Zone Books, 1998.

------ “Seeing and Believing: The Suspicion of Sight and the Authentication of Vision in Late Medieval Art and Devotion.” *Imagination Und Wirklichkeit: Zum Verhältnis von Mentalen und Realen Bildern in Der Kunst Der Frühen Neuzeit*. Edited by Klaus Krüger and Alessandro Nova. Mainz am Rhein: Philipp von Zabern, 2000.

------ *Diagramming Devotion: Berthold of Nuremberg’s Transformation of Hrabanus Maurus’s Poems in Praise of the Cross.* Chicago: University of Chicago Press, 2019.

Hannah, Ralph. *A descriptive catalogue of the western medieval manuscripts of St John's College, Oxford*. Oxford : Oxford University Press, 2002.

------ *The English Manuscripts of Richard Rolle, A Descriptive Catalogue*. Exeter: University of Exeter Press, 2010.

Hartnell, Jack. “Tools of the Puncture: Skin, Knife, Bone, Hand.” *Flaying in the Premodern World.* Woodbridge: Boydell & Brewer, 2017.

------ “The Continuous Page,” *The Continuous Page: Scrolls and Scrolling from Papyrus to Hypertext*. Edited by Jack Hartnell. London: Courtauld Online Book Series, 2020.

------ *Medieval Bodies: Life, Death and Art in the Middle Ages*. London: Profile Books, 2018.

Harwood, Winifred. “Trade and Consumption Patterns in Central Southern England: The Supply of Iron and Wax to Winchester College, c. 1400 – 1560.” *Southern History* 29, (2008): 1 - 28.

Hebing, Rosanne. "'Allmygti god this lettyr sent:' English Heavenly Letter Charms in Late Medieval Books and Rolls." *Studies in Philology* 114 (2017): 720 - 747.

Hedeman, Anne D. "Valois Legitimacy." *Art Bulletin*, 66, (1984): 97-117.

------ "Copies in Context: The Coronation of Charles V in his Grandes Chroniques de France." *Coronations : Medieval and Early Modern Monarchic Ritual*. Edited by J. Bak. Berkeley: University of California Press, 1990.

Heng, Geraldine. *The Invention of Race in the European Middle Ages.* Cambridge: Cambridge University Press, 2018.

Hennessy, Marlene Villalobos. "The Remains of the Royal Dead in an English Carthusian Manuscript, London, British Library MS 37049." *Viator* 33 (2002): 310-54.

------ "The Social Life of a Manuscript Metaphor: Christ's Blood as Ink." *The Social Life of Illumination: Manuscripts, Images, and Communities in the Late Middle Ages.* Edited by Joyce Coleman, Mark Cruse and Kathryn A. Smith. Turnhout: Brepols, 2013.

Henry, Desmond Paul. "The Early History of Suppositio." *Franciscan Studies* 23 (1963): 205-212.

Higgins, Hannah. *The Grid Book.* Cambridge, MA: MIT Press, 2009.

Hindley, Katherine Storm. "The Power of Not Reading: Amulet Rolls in Medieval England." *The Roll in England and France in the Late Middle Ages*. DeGruyter, 2020.

Hoffman, Eva. "The Author Portrait in Thirteenth-Century Arabic Manuscripts: A New Islamic Context for a Late-Antique Tradition." *Muqarnas* 10 (1993): 6 – 20.

Hogg, James. "Unpublished Texts in the Carthusian Northern Middle English Religious Miscellany British Library MS. ADD. 37049." *Essays in Honor of Erwin Stürzl on his Sixtieth Birthday*. Edited by James Hogg. Salzburg: Institut für Anglistik und Amerikanistik, 1980.

------ "An Illustrated Yorkshire Carthusian Religious Miscellany." Edited by James Hogg, Salzburg: Institut fuer Anglistik und Amerikanistik, 1981.

Holladay, Joan. "Portrait Elements in Tomb Sculpture: Identification and Iconography." *Akten des XXV. Internationalen Kongresses für Kunstgeschichte Wien.* Vienna: Hermann Böllhaus, 1986.

Hunt, Tony. *Popular Medicine in Thirteenth-Century England: Introduction and Texts*. Woodbridge: Brewer, 1990.

Jacob, E. F. *The Register of Henry Chichele, Archbishop of Canterbury 1414–1443.* Canterbury

and York Society 42, 45, 46, 47. Oxford: Clarendon Press, 1937–47.

------ *The Two Lives of Henry Chichele.* Manchester: John Rylands Library, 1935.

Jacobi, Adolf D. "Heilige Langenmasse: Eine Untersuchung zur Geschichte der Amulette," *Schweizer Archiv fur Volkskunde* 29 (1929), 1-18.

Jacquart, Danielle. "Theory, Practice, and Three Fifteenth-Century Physicians." *Osiris* 6, (1990): 140-160.

------ "Anatomy, Physiology, and Medical Theory." *The Cambridge History of Science, Volume 2: Medieval Science*. Edited by David C. Lindberg and Michael H. Shank. Cambridge: Cambridge University Press, 2013.

James, Montague Rhodes. *The Western Manuscripts in the Library of Trinity College, Cambridge: A Descriptive Catalogue.* Vol. 3. Cambridge: Cambridge University Press, 2009.

Jankovsky, Klaus P. "A View into the Grave: 'A Disputacion betwyx the Body and Wormes' in British Museum MS Add. 37049." *TAIUS*, 7 (1974): 137-59.

Jasin, Joanne. *A Critical Edition of the Middle English Liber Uricrisiarum in Wellcome MS 225.* PhD dissertation, Tulane University, 1983.

Johannessen, Tom A. *The Liber Uricrisiarm in Goneville and Caius College, Cambridge, MS 336/725.* Master's Thesis, University of Oslo, 2005.

Jones, Peter Murray. *Medieval Medical Miniatures*. London: The British Library, 1984.

------ "Sicut hic depingitur: John of Arderne and English Medical Illustration in the 14th and 15th Centuries." *Die Kunst und das Studium der Natur vom 14. zum 16. Jahrhundert*. Edited by Wolfram Prinz and Andreas Beyer. Cologne: Acta humaniora, 1987.

------ "Four Middle English Translations of John of Arderne." *Latin and Vernacular Studies in Late Medieval Manuscripts*. Edited by A J. Minnis. Cambridge: D.S. Brewer, 1989.

------ "British Library MS Sloane 76: A Translator's Holograph." *Medieval Book Production: Assessing the Evidence*. Edited by Linda l. Brownrigg. Proceedings of the Second Conference of The Seminar in the History of the Book to 1500, Oxford, July 1998. Los Altos Hills, CA: Anderson-Lovelace, 1990.

------ "John Arderne and the Mediterranean Tradition of Scholastic Surgery." *Practical Medicine from Salerno to the Black Death*. Edited by Luis García- Ballester, Roger French, Jon Arrizabalaga, and Andrew Cunningham. Cambridge: Cambridge University Press, 1994.

------ "Thomas Fayreford: An English Fifteenth-Century Medical Practitioner." *Medicine From*

the Black Death to the French Disease. Edited by Roger French. Brookfield, VT: Ashgate Publishing, 1998.

------ *Medieval Medicine in Illuminated Manuscript*. London: British Library, 1998.

------ "Staying with the Programme: Illustrated Manuscripts of John of Arderne, c. 1380 – 1550." *English Manuscript Studies, 1100 – 1700,* Volume 10. Edited by A.S.G. Edwards. London: The British Library, 2002.

------ "Surgical Narrative in Middle English." *ANQ* 18 (2005): 2 - 7.

------ "Word and Image in Medieval Medicine." *Visualizing Medieval Medicine and Natural History, 1200–1550*. Edited by J. Givens, K. Reeds and A. Touwaide. Aldershot, VT: Ashgate, 2006.

------ "Amulets: Prescriptions and Surviving Objects from Late Medieval England." *Beyond Pilgrim Souvenirs and Secular Badges, Essays in Honor of Brian Spencer.* Oxford, Oxbow Books Limited, 2007.

------ "University Books and the Sciences, c.1250–1400." *The Cambridge History of the Book in Britain*, Volume II (1100–1400). Edited by N. Morgan and R.M. Thomson. Cambridge: Cambridge University Press, 2008.

------ "Medicine and Science." *The Cambridge History of the Book in Britain*. Edited by Lotte Hellinga and J. B. Trapp. Cambridge: Cambridge University Press, 2008.

------ "Amulets and Charms." *Medieval Christianity in Practice*. Edited by Miri Rubin. Princeton: Princeton University Press, 2009.

------ "The Surgeon as Story-Teller." *Poetica,* (2009): 77 – 91.

------ "Medical Literacies and Medical Culture in Early Modern Vernacular Medicine." *Medical Writing in Early Modern English*. Edited by Irma Taavitsainen and Päivi Pahta. Cambridge: Cambridge University Press, 2011.

------ "Complexio and Experimentum: Tensions in Late Medieval Medical Practice." *The Body in Balance: Humoral Medicines in Practice*. Edited by Elisabeth Hsu and Peregrine Horden. New York: Berghahn Books, 2013.

with Lea Olsan. "Performative Rituals for Conception and Childbirth in England, 900–1500." *Bulletin of the History of Medicine* 89, (2015): 406 – 433.

Jung, Jacqueline. "Beyond the Barrier: the Unifying Role of the Choir Screen in Gothic Churches." *Art Bulletin*, 82, (2000): 622–57.

Karr, Suzanne. "Constructions Both Sacred and Profane: Serpents, Angels, and Pointing Fingers

in Renaissance Books with Moving Parts." *The Yale University Library Gazette* 78 (2004): 101-127.

Kauffmann, C. M. *Romanesque Manuscripts 1066-1190 Survey of Manuscripts Illuminated in the British Isles,* 3. London: Harvey Miller, 1975.

Kay, Sarah and Miri Rubin. *Framing Medieval Bodies.* Manchester: Manchester University Press, 1992.

Kaye, Joel. *A History of Balance, 1250 – 1375*. Cambridge: Cambridge University Press, 2016.

Keiser, George R. "Works of Science and Information," in *A Manual of the Writings in Middle English, 1050 - 1500*, vol. 10. New Haven: Connecticut Academy of Arts and Sciences, 1998.

Kemp, Martin. "Temples of the Body and Temples of the Cosmos: Vision and Visualization in the Vesalian and Copernican Revolutions." *Picturing Knowledge: Historical and Philosophical Problems Concerning the Use of Art in Science*. Edited by Brian S. Baigrie. Toronto: University of Toronto Press, 1996.

Ker, Neil R. *Medieval Manuscripts in British Libraries* IV. Oxford: Oxford University press, 1992.

Kessler, Herbert. *Spiritual Seeing: Picturing God's Invisibility in Medieval Art.* Philadelphia: University of Pennsylvania Press, 2000.

------ "Corporeal Texts, Spiritual Paintings, and the Mind's Eye." *Reading Images and Texts: Medieval Images and Texts as Forms of Communication*. Edited by M. Hageman and M. Mostert. Turnhout: Brepols, 2005.

Kinch, Ashby. *Imago Mortis: Mediating Images of Death in Late Medieval Culture.* Leiden: Brill, 2013.

King, Pamela. "Contexts of the cadaver tomb in fifteenth-century England." DPhil thesis, University of York,1987.

Kloppenborg, F. "Totentänze in der religiösen Gebrauchskunst Englands." *L'Art Macabre,* 1, (2000): 53–67.

Koerner, Joseph Leo. *The Moment of Self-Portraiture in German Renaissance Art.* Chicago: Chicago University Press, 1993.

Koopmans, Rachel. "Visions, Reliquaries, and the Image of 'Becket's Shrine' in the Miracle Windows of Canterbury Cathedral." *Gesta* 54 (2015): 37 – 57.

Krauss, Rosalind. "Grids." *October* 9 (1971): 50-64.

Krochalis, Jeanne. “God and Mammon: Prayers and Rents in Princeton MS. 126.” *Princeton University Library Chronicle* 44 (1983): 209–21.

Kumler, Aden. “The Multiplication of the Species: Eucharistic Morphology in the Middle Ages.” *RES* no. 59 / 60, (2011): 179 – 191.

with Chris Lakey. “Res et significatio: The Material Sense of Things in the Middle Ages.” *Gesta* 51, (2012): 1 – 17.

Kusukawa, Sachiko. “The Role of Images in the Development of Renaissance Natural History.” *Archives of Natural History* 38 (2011): 189 – 213.

Lanfrank's 'Science of Cirurgie.' Edited by R. V. Fleischhacker. *Early English Text Society, Original Series* 102. 1894; reprint 1988.

Leahy, Michael. “To Speke of Physik: Medical Discourse in Late Medieval English Culture.” PhD Thesis, Birkbeck, University of London, 2015.

Lewis, Flora. “Devotional Images and Their Dissemination in English Manuscripts, c. 1350–1470.’’ PhD Thesis, University of London, 1989.

------ “Rewarding Devotion: Indulgences and the Promotion of Images.” *The Church and the Arts* 28 (1992): 179 – 194.

------ “The Wound in Christ’s Side and the Instruments of the Passion: Gendered Experience and Response.” *Women and the Book: Assessing the Visual Evidence*. Edited by Lesley Smith and Jane H. M. Taylor. Toronto: University of Toronto Press, 1997.

------- “‘Garnished with Gloryous Tytles:’ Indulgences in Printed Books of Hours in England.” *Transactions of the Cambridge Bibliographical Society* 10, (1995): 577 - 590.

Lovatt, Roger. “The Imitation of Christ in Late Medieval England.” *Transactions of the Royal Historical Society* 18 (1968): 97 – 121.

Lüthy, Christoph and Alexis Smets. “Words, Lines, Diagrams, Images: Towards a History of Scientific Imagery.” *Early Science and Medicine,* Vol. 14, No. 1/3 (2009): 398 - 439.

Luxford, Julian. “The Sparham Corpse Panels: Unique Revelations of Death from Late Fifteenth-Century England.” *The Antiquaries Journal* 90, (2010): 299 – 340.

------ “Precept and Practice: The Decoration of English Carthusian Books.” *Studies in Carthusian Monasticism in the Late Middle Ages.* Turnout: Brepols, 2009.

MacKinney, Loren. *Medical Illustrations in Medieval Manuscripts*. London: Wellcome Historical Medical Library, 1965.

------ “Medical Ethics and Etiquette in the Early Middle Ages.” *Bulletin of the History of Medicine,* XXXVI (1952)

------ “The Beginnings of Western Scientific Anatomy.” *Medical history* 62, No.3 (1962): 233 – 239.

with Boyd Hill. “A New Fünfbilderserie Manuscript — Vatican Palat.Lat.1110.” *Sudhoffs Archiv für Geschichte der Medizin und der Naturwissenschaften* 49 (1964): 323 -330.

Macray, W. D. *Bodleian Library Quarto Catalogues IX: Digby Manuscripts*. Addenda by R. W. Hunt and A. G. Watson (Reprint 1999).

------, *Catalogi codicum manuscriptorum Bibliothecæ Bodleianæ...viri munificentissimi Ricardi Rawlinson, J.C.D., codicum...complectens.* Quarto Catalogues V, 5 fascicles. 1862-1900.

Marks, Richard. “Wills and Windows: Documentary Evidence for the Commissioning of Stained Glass Windows in Late Medieval England.” *Glas, Maleri, Forschung: Internationale Studien zu Ehren von Rüdiger Becksmann*. Edited by I. Rauch and D. Hess. Berlin: Deutscher Verlag für Kunstwissenschaft, 2004.

with Paul Williamson. *Gothic: Art For England, 1400 – 1547.* London: V&A Publications, 2003.

Marrow, James. *Passion Iconography in Northern European Art of the Late Middle Ages and Early Renaissance: A Study of the Transformation of Sacred Metaphor into Descriptive Narrative.* Kortrijk, 1979.

------ “In Desen Speigell:’ a New form of Memento Mori in Fifteenth-Century Netherlandish Art.” *Essays in Northern European Art Presented to Egbert Haverkamp- Begemann on his Sixtieth Birthday.* Edited by A. M. Logan. Doornspijk: Davaco, 1983.

Mathews, Norris. "Early Printed Books and Manuscripts in the City Reference Library, Bristol." Bristol, 1899.

Matsuda, Takami. *Death and Purgatory in Middle English Didactic Poetry.* Woodbridge: Brewer, 1995.

McCall, Taylor. “Disembodied: Additional MS. 8785 and the Tradition of Human Organ Depictions in Medieval Art and Medicine.” *eBLJ*, (2018): 1 - 26.

------ *Transactions of the Cambridge Bibliographic Society* 16 (2016): 1-22.

McVaugh, Michael. “The Nature and Limits of Medical Certitude at Early Fourteenth-Century Montpellier.” *Osiris* 6 (1990): 62-84.

------ “Bedside Manners in the Middle Ages.” *Bulletin of the History of Medicine* 72, (1997).

------ “Surgical Education in the Middle Ages.” *Dynamis* 20, (2000): 284 - 304.

------ “Surface meanings: The Identification of Apostemes in Medieval Surgery.” *Medical Latin from the late Middle Ages to the Eighteenth Century*. Edited by W. Bracke and H. Deumens. Brussels: Koninklije Academie voor Geneeskunde van België, 2000.

------- “Cataracts and Hernias: Aspects of Surgical Practice in the Fourteenth Century.” *Medical History* 45, (2001).

------ *The Rational Surgery of the Middle Ages*. Micrologus' Library, no. 15. Florence: Sismel-Edizioni del Galluzzo, 2006.

------ “Spaces of Anatomy: Fistulas, the Knee, and the ‘Three-dimensional’ Body.” *Medicine and Space: Body, Surroundings and Borders in Antiquity and the Middle Ages*. Edited by Patricia A. Baker, Han Nijdam, and Karine van’t Land. Leiden: Brill, 2012.

Means, Laurel. “Electionary, Lunary, Destinary, and Questionary: Toward Defining Categories of Middle English Prognostic Material.” *Studies in Philology* 89 (1992): 367-403.

------ “‘Ffor as moche as yche man may not haue Þe astrolabe:’ Popular Middle English Variations on the Computus.” *Speculum* 67 (1992): 1-41.

------ “The Vulnerability of Volvelles in Manuscript Codices', Manuscripta, 35 (1991): 43-54

Meiss, Millard. *Painting in Florence and Siena After the Black Death: The Arts, Religion, and Society in the Mid-fourteenth Century*. Princeton, NJ: Princeton University Press, 1978.

------ *French Painting in the Time of Jean de Berry, Vol 3: The Limbourgs and Their Contemporaries.* New York: George Braziller, 1974.

Meyer, Heinz. “Die illustrierten lateinischen Handschriften im Rahmen der Gesamtüberlieferung der Enzyklopädie des Bartholomäus Anglicus.” *Frühmittelalterliche Studien*, 30 (1996): 368-95.

Mitchell, J. “Painting in East Anglia around 1500: the Continental Connection.” *England and the Continent in the Middle Ages: studies in memory of Andrew Martindale.* Edited by J. Mitchell. Stamford: Paul Watkins, 2001.

Mooney, Linne R. “Manuscript Evidence for the Use of Medieval English Scientific and Utilitarian Texts.” *Interstices: Studies in Middle English and Anglo- Latin Texts in Honor of A.G. Rigg*. Toronto: University of Toronto Press, 2004.

------ “The Sickness of Women.” *Sex, Aging, and Death in a Medieval Medical Compendium: Trinity College Cambridge MS R.14.52, Its Texts, Language, and Scribe*, Medieval & Renaissance Texts and Studies 292, 2 vols. Edited by M. Teresa Tavormina. Tempe:

Arizona Center for Medieval and Renaissance Studies, 2006.

------ *The Kalendarium of John Somer,* (Athens, GA: University of Georgia Press, 1998).

Moorat, S.A.J. *Catalogue of Western Manuscripts on Medicine and Science in the Wellcome Historical Medical Library.* London: Wellcome Institute for the History of Medicine, 1962-1973.

Morse, Mary. "Alongside St. Margaret: The Childbirth Cult of Saints Quiricus and Julitta in Late Medieval English Manuscripts." *Manuscripts and Printed Books in Europe 1350–1550: Packaging, Presentation, and Consumption*. Edited by Emma Cayley and Susan Powell. Liverpool: Liverpool University Press, 2013.

------ "'Thys moche more ys oure lady mary longe:' Takamiya MS 56 and the English Birth Girdle Tradition." *Middle English Texts in Transition: A Festschrift dedicated to Toshiyuki Takamiya on his 70th Birthday*. Cambridge: Brewer, 2014.

Murdoch, John. *Album of Science: Antiquity and the Middle Ages*. New York, Charles Scribners Sons, 1984.

Newhauser, Richard and Arthur Russell. "Mapping Virtual Pilgrimage in an Early Fifteenth-Century Arma Christi Roll." *The Arma Christi in Medieval and Early Modern Material Culture*. Edited by Lisa H. Cooper and Andrea Denny-Brown. London: Routledge, 2014.

Nicholas of Lynn. *The Kalendarium of Nicholas of Lynn*. Edited by Sigmund Eisner. Athens, GA: University of Georgia Press, 1980.

Nichols, Ann Eljenholm. "'O Vernicle': Illustrations of an Arma Christi Poem." *Tributes to Kathleen Scott: English Manuscripts: Readers, Makers and Illuminators*. Edited by Marlene Villalobos Hennessy. London: Harvey Miller, 2009.

Nixon, J. A. "Guy de Chauliac, A New MS. Including the 'Practica Astrolabii,'" *Janus* XII, 1907.

------ "A New Guy de Chauliac MS." *The Seventeenth International Congress of Medicine,* Section XXIII, History of Medicine, London, (1914).

Nordenfalk, Carl. *Book Illumination: Early Middle Ages.* Geneva: Editions d'art Albert Skira, 1995.

Norri, Juhani. "Premodification and Postmodification as a Means of Term-Formation in Middle English Medical Prose." *Neuphilologische Mitteilungen,* 90, (1989).

O'Boyle, Cornelius. "Astrology and Medicine in Later Medieval England: The Calendars of John Somer and Nicholas of Lynn." *Sudhoffs Archiv* 89 (2005): 1 -22.

Obrist, Barbara. “Wind Diagrams and Medieval Cosmology.” *Speculum* 72 (1997): 33 – 84.

Ohly, Friedrich. *Sensus Spiritualis: Studies in Medieval Signifies and the Philology of Culture.* Translated by Kenneth Northcott. Chicago: University of Chicago Press, 2005.

Olsan, Lea. “Charms and Prayers in Medieval Medical Theory and Practice.” *Social History of Medicine* 16 (2003): 343 – 366.

with Peter Murray Jones. “The Middleham Jewell: Ritual, Power, and Devotion.” *Viator* 31 (2000): 249 – 255.

Omont, H. *Anciens inventaires et catalogues de la Bibliothèque nationale, t. IV*. Paris, 1913.

O’Neill, Ynez. “The Fünfbilderserie — A Bridge to the Unknown.” *Bulletin of the History of Medicine* 51, (1977): 538 - 549.

------ “The Fünfbilderserie Reconsidered.” *Bulletin of the History of Medicine,* Vol. 43, No. 3 (1964): 236 – 245.

------ “The History of Publication of Bernard de Gordon’s Liber de Conservatione Vitae Humanae.” *Sudhoff’s Archiv für Geschichte der Medizin und der Naturwissenschaften*, Bd. 49 (1965): 269 – 279.

Oosterwijk, Sophie. “Of corpses, constables and kings: the Danse Macabre in late medieval and Renaissance culture.” *Journal of the British Archaeological Association*, 157 (2015) 61–90.

Orlemanski, Julie. *Symptomatic Subjects: Bodies, Medicine, and Causation in the Literature of Late Medieval England.* Philadelphia: University of Pennsylvania Press, 2019.

------ “Jargon and the Matter of Medicine in Middle English.” *Journal of Medieval and Early Modern Studies* 42 (2012): 395 – 420.

Oswald, Arthur. “Canterbury Cathedral: The Nave and Its Designer,” *The Burlington Magazine* 75 (1939): 221 – 228.

Overbey, Karen Eileen and Jennifer Borland. “Diagnostic Performance and Diagrammatic Manipulation in the Physician’s Folding Almanacs.” *The Agency of Things in Medieval and Early Modern Art: Materials, Power and Manipulation*. Edited by Grażyna Jurkowlaniec, Ika Matyjaszkiewicz, Zuzanna Sarnecka. New York: Routledge, 2017.

Pächt, Otto. *The Rise of Pictorial Narrative in Twelfth-Century England.* Oxford: Clarendon Press, 1962.

------ “Early Italian Nature Studies and the Early Calendar Landscape.” *Journal of the Warburg and Courtauld Institutes* 13, No. 1/2, (1950): 13- 47.

with Jonathan J. G. Alexander. *Illuminated Manuscripts in the Bodleian Library Oxford*, III. Oxford, 1973.

Page, Sophie. "Richard Trewythian and the Uses of Astrology in Late Medieval England." *Journal of the Warburg and Courtauld Institutes* 64 (2001): 193-228.

------ *Astrology in Medieval Manuscripts.* London: British Library, 2002.

Pagel, Walter. "Prognosis and Diagnosis: A Comparison of Ancient and Modern Medicine." *Journal of the Warburg Institute* 2 (1939): 382 – 398.

Panofsky, Erwin. *Tomb Sculpture: Its Changing Aspects from Egypt to Bernini*. New York: Harry N. Abrams, Inc., 1992.

----- "Artist, Scientist, Genius: Notes on the Renaissance Dämmerung." *The Renaissance: Six Essays*. Edited by Wallace K. Ferguson. New York: Harper & Row, 1962.

Park, Katharine. "Medicine and Society in Medieval Europe, 500 – 1500." *Medicine and Society: Historical Essays.* Cambridge: Cambridge University Press, 1992.

------ *The Secrets of Women: Gender, Generation, and the Origins of Human Dissection.* New York: Zone Books, 2006.

------ "The Life of the Corpse: Division and Dissection in Late Medieval Europe." *The Journal of the History of Medicine* 50 (1995): 111 – 132.

------ "Observation in the Margins, 500 – 1500." *Histories of Scientific Observation*. Edited by Lorraine Daston and Elizabeth Lunbeck. Chicago: The University of Chicago Press, 2011.

Pastoreau, Michel. *Black: The History of a Color*. Princeton: Princeton University Press, 2009.

Perkinson, Stephen. *The Likeness of the King: A Prehistory of Portraiture in Medieval France.* Chicago: University of Chicago Press, 2009.

------ "Likeness." *Studies in Iconography* 33, (2012): 15 – 28.

------ "Rethinking the Origins of Portraiture." *Gesta* 46, no. 2 (2007): 135 - 157.

Petzold, Andreas. "On the Significance of Colors: The Iconography of Color in Romanesque and Early Gothic Book Illumination." *Image and Belief: Studies in Celebration of the Eightieth Anniversary of the Index of Christian Art*. Princeton: Princeton University Press, 1999.

Plotzek, Joachim M. *Andachtsbücher des Mittelalters aus Privatbesitz*. Cologne: Das Museum,

1987.

Powell, Amy Knight. “Late Gothic Abstractions.” *Gesta* 51, no. 1 (2012): 71 – 88.

Power, D’Arcy. *Treatises of fistula in ano, haemorrhoids, and clysters.* Oxford: Reprinted by Oxford University Press for the Early English Text Society, 1968.

------ *The Lesser Known Writings of John Arderne*. London: Seventeenth International Congress of Medicine, 1913.

------ *De Arte Physicali et de Chirurgia of Master John Arderne, Surgeon of Newark.* New York: William Wood & Co, 1922.

Radford, U.M. “The Wax Images found in Exeter Cathedral.” *The Antiquaries Journal* XXIX (1949): 164–168.

Ramirez-Weaver, Eric. “William of Conches, Philosophical Continuous Narration, and the Limited Worlds of Medieval Diagrams.” *Studies in Iconography* 30 (2009): 1-41.

Rawcliffe, Carole. *Medicine & Society in Later Medieval England*. Stroud: Sutton Publishing, 1997.

------ “The Profits of Practice: the Wealth and Status of Medical Men in Later Medieval England.” *Social History of Medicine* 1, no. 1 (1988): 61-78.

------ “Women, Childbirth, and Religion in Later Medieval England.” *Women and Religion in Medieval England*. Edited by Diana Wood. Oxford: Oxbow Books, 2003 .

------ *Sources for the History of Medicine in Medieval England*. Kalamazoo: Medieval Institute Publications,1995.

------ *Medicine for the Soul: The Life, Death and Resurrection of an English Medieval Hospital St. Giles's, Norwich, c.1249-1550.* Stroud: Sutton Publishing, 1999.

Resnick, Irven. *Marks of Distinction: Christian Perceptions of Jews in the High Middle Ages.* Washington, D.C.: Catholic University of America Press, 2012.

Robbins, Rossell H. “Medical Medical Manuscripts in Middle English.” *Speculum* 45 (1970): 393 - 415.

------ “The Physicians Authorities.” *Studies in Language and Literature in Honor of Margaret Schlauch.* Warsaw: Polish Scientific Publishers, 1966.

Robinson, Pamela. “A 'Very Curious Almanack': The Gift of Sir Robert Moray FRS, 1668.” *Notes and Records of the Royal Society of London* 62 (2008): 301-305.

------ "The Format of Books-Books, Booklets, and Rolls." *The Cambridge History of the Book in Britain, Vol. II: 1100–1400*. Edited by Nigel Morgan and Rodney M. Thomson. Cambridge: Cambridge University Press: 2008.

Rogers, Michael. "Text and Illustrations: Dioscorides and the Illustrated Herbal in the Arab Tradition." *Arab Painting: Text and Image in Illustrated Arabic Manuscripts*. Edited by Anna Contadini. Boston: Brill, 2007.

Rogers, N. "'Et Expectio Resurrectionem Mortuorum:' Images and Texts Relating to the Resurrection of the Dead and the Last Judgement on English Brasses and Incised Slabs." *Prophecy, Apocalypse and the Day of Doom.* Edited by Nigel Morgan. Donington: Shaun Tyas, 2004.

Ross, Thomas W. "Five Fifteenth-Century 'Emblem' Verses from British Museum Additional MS. 37049." *Speculum*, 32 (1957): 274-282

Rudy, Katherine. "Kissing Images, Unfurling Rolls, Measuring Wounds, Sewing Badges and Carrying Talismans: Considering Some Harley Manuscripts through the Physical Rituals they Reveal." *eBLJ* (2011): 1 – 56.

------ "Images, Rubrics, and Indulgences on the Eve of the Reformation." *The Authority of the Word: Reflecting on Image and Text in Northern Europe, 1400 – 170*. Edited by Celeste Brusati, Karl A.E. Enenkel, and Walter Melion. Boston: Brill, 2012.

Rytting, Jenny Rebecca. "A Disputacioun Betwyx þe Body and Wormes: A Translation," *Comitatus* 31, no.1 (2001): 217 - 232..

Sandgren, Eva L.Q. "Reflexions by an Art Historian." *De Art Physical et de Cirurgia by John Arderne*. Edited by Torgny Svenberg and Peter Murray Jones. Stockholm: Hagströmerbiblioteket, 2014.

Sandler, Lucy Freeman. "The Word in the Text and the Image in the Margin: The Case of the Luttrell Psalter." *Journal of the Walters Art Gallery* 54, (1996): 87 - 99.

------ "A Follower of Jean Pucelle in England." *Art Bulletin*, 52, 4 (1970): 363-72.

------ *The Psalter of Robert de Lisle in the British Library.* London: Harvey Miller, 1983.

Sauerländer, Willibald. "The Fate of the Face in Medieval Art." *Set in Stone: The Face in Medieval Sculpture*. Edited by Charles T. Little. New York: Metropolitan Museum of Art, 2006.

Savage-Smith, Emilie. "Anatomical Illustration in Arabic Manuscripts." *Arab Painting: Text and Image in Illustrated Arabic Manuscripts*. Edited by Anna Contadini. Boston: Brill, 2007.

------ "The Most Authoritative Copy of ʿAbd al-Rahman al-Sufi's Tenth-century Guide to the

Constellations." *God is Beautiful and Loves Beauty: The Object in Islamic Art and Culture*. Edited by Sheila Blair and Jonathan Bloom. New Haven: Yale University Press, 2013.

Saxl, Fritz. "A Spiritual Encyclopedia of the Late Middle Ages." *Journal of the Warburg and Courtauld Institutes* 5 (1942): 82 - 142

with Hans Meier. *Verzeichnis astrologischer und mythologischer illustrierter Handschriften des lateinischen Mittelalters*. Edited by Harry Bober. London: Warburg Institute, 1916-1966.

with Hans Meier. *Catalogue of Astrological and Mythological Illuminated Manuscripts of the Latin Middle Ages in Manuscripts in English Libraries*. Volume 3. Edited by Harry Bober. London: The Warburg Institute, University of London, 1953.

Schapiro, Meyer. "On the Humanity of Abstract Painting." *Mondrian: On the Humanity of Abstract Painting*. New York: George Brazillier, Ltd., 1995.

Schmidt, Kari Anne Rand. *Manuscripts in the Library of Gonville and Caius College, Cambridge*. Rochester, NY: D.S. Brewer, 2001.

Schmitt, Jean-Claude. "The Ethics of Gesture." *Fragments for a History of the Human Body*. Edited by Michael Feher, Ramona Naddaff, and Nadia Tazi. Cambridge, MA: MIT Press, 1989.

------ *Les revenants, Les vivants, et les morts dans la société mediévale*. Paris: Gallimard, 1995.

Scott, Kathleen L. *Later Gothic Manuscripts: 1390-1490*. Volume 2: Survey of Manuscripts Illuminated in the British Isles. London: Harvey Miller, 1996.

Sherman, Claire Richter. *The Portraits of Charles V of France*. New York: College Art Association,1969.

Shotwell, Allen. "The Illustrated Dissection: Drawings in the Extant Student Notes from Vesalius's Dissections." *Towards the Authority of Vesalius: Representations of the human Body in Antiquity, the Middle Ages and the Renaissance.* Turnhout: Brepols, 2018.

Silverstein, Theodore. "Elementatum: Its Appearance Among the Twelfth Century Cosmogonists." *Medieval Studies* 16 (1954): 156 - 162.

Singer, Charles. "The Figures of the Bristol Guy de Chauliac MS (c. 1430)." *Journal of the Royal Medical Society* 10 (1917): 71 – 90.

Siraisi, Nancy. *Taddeo Alderotti and his Pupils: Two Generations of Italian Medical Learning.* Princeton, NJ: Princeton University Press, 1981.

------ *Medieval & Early Renaissance Medicine: An Introduction to Knowledge and Practice*. Chicago: University of Chicago Press, 1990.

------ "How to Write a Latin Book on Surgery: Organizing Principles and Authorial Devices in Guglielmo da Saliceto and Dino del Garbo." *Practical Medicine from Salerno to the Black Death,* ed. Roger French, et al. Cambridge: Cambridge University Press, 1994.

Skemer, Don. *Binding Words: Textual Amulets in the Middle Ages.* University Park, PA: Pennsylvania State University Press, 2006.

------ "Amulet Rolls and Female Devotion in the Late Middle Ages." *Scriptorium* 55 (2001): 197 – 227.

------- "Written Amulets and the Medieval Book." *Scrittura e civiltà* 23 (1999): 253–305.

Smith, D. Vance. "The Inhumane Wonder of the Book." *The Chaucer Review* 47, (2013): 361 – 371.

Smith, John James. *A Catalogue of the Manuscripts in the Library of Gonville and Caius College, Cambridge*. Cambridge: J. Deighton, and Macmillan & Co, 1849.

Sparrow-Simpson, W. "On A Magical Roll Preserved in The British Museum." *Journal of the British Archaeological Association* 48, (1892): 38 – 54.

Steiner, Emily. "Naming and Allegory in Late Medieval England." *The Journal of English and Germanic Philology* 106, no. 2 (April 2007): 248 - 275.

Stohlberg, Michael. "The Decline of Uroscopy in Early Modern Learned Medicine (1500 – 1650)." *Early Science and Medicine* 12, (2007): 313 – 336.

Stones, Alison. *Gothic manuscripts, c. 1260-1320*. Turnhout : Brepols, 2013.

------ "Nipples, Entrails, Severed Heads, and Skin: Devotional Images for Madame Marie." *Images and Belief: Studies in Celebration of the Eightieth Anniversary of the Index of Christian Art*. Edited by Colum Hourihane. Princeton: Princeton University Press, 1999.

Sudhoff, Karl. "Die Oxforder anatomijche Fünfbilderserie des Cod. Ashmol. 399." *Archiv für Geschichte der Medizin* 7, (1914): 363 – 378

------ "Abermals eine neue Handschrift der anatomischen Fünfbilderserie. Versuch einer Wiederherstellung des lateinischen Textes dieses illustrierten Leitfadens der Anatomie." *Archiv für Geschichte der Medizin*, Bd. 3, H. 6 (1910): 353-368.

Taavitsainen, Irma. "Transferring Classical Discourse Conventions into the Vernacular." *Medical and Scientific Writing in Late Medieval English*. Edited by Irma Taavitsainen and Päivi Pahta. Cambridge: Cambridge University Press, 2004.

Tachau, Katherine. "Seeing as Action and Passion in the Thirteenth and Fourteenth Centuries." *The Mind's Eye: Art and Theological Argument in the Middle Ages*. Edited by Jeffrey Hamburger and Anne-Marie Bouché. Princeton: Princeton University Press, 2006.

Talbot, C. H. "A Mediaeval Physician's Vade Mecum." *Journal of the History of Medicine and Allied Sciences* XVI, (1961): 213 – 233.

with E.A. Hammond. *The Medical Practitioners in Medieval England.* London, 1965.

Tavormina, M. Teresa. "Uroscopy in Middle English: A Guide to Texts and Manuscripts." *Studies in Medieval and Renaissance in History,* volume 11. Edited by Roger Dahood and Peter Medine. 2014.

Thebaut, Nancy. "Bleeding Pages, Bleeding Bodies: A Gendered Reading of British Library MS Egerton 1821." *Medieval Feminist Forum*, 45, no. 2 (2009): 175-200.

Thorndike, Lynn. *A History of Magic and Experimental Science*, 6 vols. London: Macmillan, 1923-1941.

------ "Computus." *Speculum* 29 (1954): 223-238.

------- "Notes on Some Less Familiar British Astronomical and Astrological Manuscripts." *Journal of the Warburg and Courtauld Institutes*, 22 (1959): 157-171.

Thoroton. *The Antiquities of Nottinghamshire,: Extracted Out of Records, Original Evidences, Leiger-books Other Manuscripts, and Authentic Authorities. Beautified with Maps, Prospects, and Portraitures*, Volume 1. Oxford: Burbage,1790.

Thorp, Nigel. *The Glory of the Page*. London, 1987.

Townsend, Eleanor. "Votive Offerings." *Gothic: Art of England 1400–1547*. Edited by Richard Marks and Paul Williamson. London: V & A Publications, 2003.

Trevisa, John. *On the Properties of Things: John Trevisa's Translation of Batholomaeus Anglicus' De Proprietatiub Rerum: Critical Text*. Edited by M. C. Seymour. Oxford: Clarendon Press, 1975.

Turel, Noa. "Living Pictures: Rereading 'au vif,' 1350-1550." *Gesta* 50, (2011): 163 - 182.

Turner, Marion. "Illness Narratives in the Later Middle Ages: Arderne, Chaucer, and Hoccleve." *Journal of Medieval and Early Modern Studies* 46, no. 1 (2016): 61 – 87.

------ "Thomas Usk and John Arderne." *The Chaucer Review* 47 (2012): 95- 105.

Van der Velden, Hugo. "A Prayer Roll of Henry Beauchamp, Earl of Warwick." *Tributes in*

Honor of James H. Marrow: Studies in Painting and Manuscript Illumination of the Late Middle Ages and Northern Renaissance. Edited by Jeffrey Hamburger and Anne S. Korteweg. London: Harvey Miller, 2006.

------ *The Donor's Image: Gerard Loyet and the Votive Portraits of Charles the Bold*. Turnhout: Brepols, 2000.

Voigts, Linda Ehrsam. "Multitudes of Middle English Manuscripts, or the Englishing of Science and Medicine." *Manuscript Sources of Medieval Medicine: A Book of Essays*. Edited by Margaret R. Schleissner. New York: Routledge, 1995.

------ "Fifteenth-Century English Banns Advertising the Services of an Itinerant Doctor." *Between Text and Patient: The Medical Enterprise in Medieval and Early Modern Europe*. Edited by Florence Eliza Glaze and Brian K. Nance. Florence: Sismel-Edizioni del Galluzzo, 2011.

------ "Scientific and Medical Books." *Book Production and Publishing in Britain, 1375-1475*. Edited by Jeremy Griffiths and Derek Pearsall. Cambridge: Cambridge University Press, 2007.

------ "The 'Sloane Group,' and Medical Manuscripts from the Fifteenth Century in the Sloane Collection." *The British Library Journal* 16 (1990): 26 - 57.

with Michael McVaugh. "A Latin Technical Phlebotomy and its Middle English Translation." *Transactions of the American Philosophical Society* 74, 1984.

Von Schlosser, Julius. "The History of Portraiture in Wax." *Ephemeral Bodies: Wax Sculpture and the Human Figure.* Edited by Roberta Panzanelli. Santa Monica, CA: Getty Research Institute, 2008.

Wallis, Faith. *Medieval Medicine: A Reader*. Toronto: University of Toronto Press, 2010.

------ "Signs and Senses: Diagnosis and Prognosis in Early Medieval Pulse and Urine Texts." *Social History of Medicine* 13, (2000): 265 - 278.

------ "Inventing Diagnosis: Theophilus' De Urinis in the Classroom." *Dynamis* 20 (2000): 31 – 73.

------ "Medicine and the Senses: Feeling the Pulse, Smelling the Plague, Listening for the Cure." *A Cultural History of the Senses in the Middle Ages*. Edited by Richard Newhauser. London: Bloomsbury, 2014.

------ "Medicine in Medieval Calendar Sources." *Manuscript Sources of Medieval Medicine: A Book of Essays*. Edited by Margaret Schleissner and Muriel Whitaker. London: Routledge, 1995.

------ "What a Medieval Diagram Shows: A Case Study of Computus." *Studies in Iconography* 36 (2015): 1 – 40

Warren, F. and B. White. *The Dance of Death*. Early English Text Society, Original Series 181. London: Oxford University Press, 1931.

Watson, A. G. *Catalogue of Dated and Datable Manuscripts c.435-1600 in Oxford Libraries.* Oxford, 1984.

Webb, Diana. *Medieval European Pilgrimage*. New York: Palgrave, 2002.

Weinryb, Ittai. "Living Matter: Materiality, Maker, and Ornament in the Middle Ages." *Gesta* 52 (2013): 113 - 132.

Weitzmann, Kurt. "The Greek Sources of Islamic Scientific Illustration." *Archaeologica Orientalia in Memoriam Ernst Herzfeld*. Edited by George Miles. Locust Valley, 1952.

Whitfield, Peter. *The Mapping of the Heavens*. London: British Library, 1995.

Whittington, Karl. "The Cruciform Womb: Salvation in Bodleian Ashmole MS. 399." *Different Visions* 1, (2008): 1 - 24.

------ "Picturing Christ as Surgeon and Patient in British Library MS Sloane 1977." *Mediaevalia* 35 (2014): 83 – 116.

Witherden, Sian. "Balancing Form, Function, and Aesthetic: A Study of Ruling Patterns for Zodiac Men in Astro-Medical manuscripts of Late Medieval England." *Journal of the Early Book Society,* (2017): 79 - 109.

Wormald, Francis. "Some Popular Miscellanies and their Rich Relations." *Miscellanea Pro Arte: Festschrift für Hermann Schnitzler* (1965).

Worringer, Willhelm. *Abstraction and Empathy: A Contribution to the Psychology of Style*. Translated by Michael Bullock. London: Routledge and Kegan Paul Limited, 1953.

------ *Form Problems of the Gothic.* New York: G.E. Stechert and Co, 1920.

Wragg, Richard. "A Civic Relationship: The Guild Book of the Barber Surgeons of York as Expression of Professional Status and City Authority." *Occupying Space in Early Modern Britain and Ireland*. Bern: Peter Lang AG, 2016.

Wright, Cyril Ernest. *Fontes Harleiani: A Study of the Sources of the Harleian Collection of Manuscripts in the British Museum*. London: British Museum, 1972.

Young, John and P.H. Aitken. *A Catalogue of the Manuscripts in the Library of the Hunterian Museum in the University of Glasgow*. Glasgow, 1908.

Ziegler, Joseph. “Religion and Medicine in the Middle Ages.” *Religion and Medicine in the Middle Ages*. Edited by Peter Biller and Joseph Ziegler. York: York Medieval Press, 2001.

------ “Text and Context: On the Rise of Physiognomic Thought in the Later Middle Ages.” *De Sion exibit lex et verbum domini de Hierusalem: Essays on Medieval Law, Liturgy, and Literature in Honour of Amnon Linder*. Edited by Yitzhak Hen. Turnhout: Brepols, 2001.

Ziolkowski, Jan. “The Highest Form of Compliment: Imitatio in Medieval Latin Culture.” *Poetry and Philosophy in the Middle Ages: A Festschrift for Peter Dronke.* Leiden: Brill, 2001.

Zglinicki, Friedrich. *Die Uroskopie in der bildenden Kunst: eine kunst- und medizinhistorische Untersuchung über die Harnschau*. Darmstadt: G-I-T Verlag, Ernst Giebeler, 1982.