

ALTERNATIVE ANATOMIES

ART, SCIENCE, AND THE MEDIEVAL BODY, 1165–1485

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INTRODUCTION

Two different images show a cadaver suspended in the air for dissection and analysis (**pl. 1**): the first, a drawing created in 1345 by a royal physician named Guido da Vigevano; the second, an engraving from Andreas Vesalius's *De humani corporis fabrica* of 1543. Although separated in time by two hundred years, these images have been historically used to define the parameters "medieval" and "renaissance" anatomical art. Guido's image exemplifies the medieval approach to the body: abstracted with minimal effects of naturalism and spatial illusion. Its two subjects, an anatomist and a cadaver, float vertically in a blank void of parchment with no indication of space or volume. Flattened and pressed anxiously close to the picture plane, the anatomical body has seemingly been rendered from imagination rather than empirical observation, a technique that ultimately undermines its scientific credibility for modern viewers. Vesalius's work on the other hand models the body naturalistically in space. The corpse leans against a studio wall at an oblique angle from the viewer, which allows it to be rendered with volume and dimension. These naturalistic tricks suggest that the body has been drawn from direct observation and seemingly authenticates its anatomical reality for the viewer.

In both appraisals, the audience's gaze forms the ultimate criteria for the image. Truth and credibility are directly tied to a mimesis of nature. Reality is observation. Knowledge becomes art. For much of their history, these rules have underscored the scholarly receptions of each image. Vesalius and his anatomical renaissance have been placed on an exalted perch in the historical record, cast in relief of Guido and his colleagues whose abstract representations of the body seem to confirm the modern perception of medieval ignorance and irrationality. Medieval anatomical depictions are

said to possess “only the most minor significance” in historian Charles O’Malley’s words, since they illustrated written texts, replete with errors, rather than following the book of nature.¹ As “pre-Vesalian” objects, these images have been relegated largely to catalogs and surveys texts such as Robert Herrlinger’s *History of Medical Illustration* (1970) or Roberts and Tomlinson’s *Fabric of the Body* (1992), which present medieval anatomical images as a teleological stage to Vesalius and the so-called “Anatomical Renaissance.”² Or they have been studied by medical historians, such as Karl Sudhoff, in an effort to reconstruct “lost” archetypes of the ancient world, purportedly drawn from observations of human dissection performed in Ptolemaic Alexandria.³ In either case, medieval images are considered to be unscientific and therefore unimportant—either corrupted shells of ancient masterworks, or the ignorant formulae of a dark age—schematic and unnatural, awaiting the rebirth of science and empiricism.

These interpretations, however, are misleading. What is observed is not always reality, nor is artistic naturalism a measure of knowledge. As Lorraine Daston and Peter Galison have argued, scientific representations are merely signs of “epistemic virtues” practiced by scientific communities and no method of representation is fully “objective.”⁴ Because every image requires an audience, its truth is subject to what the viewer sees and knows. What is displayed and what is observed reflect shifting metrics of truth and

¹ Charles O’Malley, *Andreas Vesalius of Brussels, 1514–1564* (Berkeley: University of California Press, 1965), 18.

² Robert Herrlinger, *History of Medical Illustration: From Antiquity to 1600* (New York: Medicina Rara, 1970); K.B. Roberts and J. D. W. Tomlinson, *The Fabric of the Body: European Traditions of Anatomical Illustration* (Oxford: Clarendon Press, 1992).

³ Karl Sudhoff, “Anatomische Zeichnungen (Schemata) aus dem 12. und 13. Jahrhundert und eine Skelettzeichnung des 14. Jahrhunderts,” in *Studien zur Geschichte der Medizin, I: Tradition und Naturbeobachtung in den Illustrationen medizinischer Handschriften und Frühdrucke vornehmlich des 15. Jahrhunderts*, 49–65 (Leipzig: Barth, 1907).

⁴ Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2015).

reality. Whether rendered through abstract or naturalistic values, scientific images are evaluated by cultural systems of knowledge, which favor certain forms of representation over others. This reminder should make us rethink the formal qualities of medieval works—not as symptoms of ignorance but rather as distinct modes of epistemology for the medieval body.

It is also important to question the chronological “progress” of scientific image-making that has habitually characterized medieval anatomical depictions as precursors to a sixteenth-century renaissance. As Jean Givens has argued, medieval artists deeply valued the role of observation in their creative process and crafted works “from life” as authoritative models.⁵ But medieval techniques of life-drawing were subjective and portrayed the natural world through conventional symbols. Observing and drawing a plant, animal, or anatomical body was not simply a matter of recording what was seen. Rather it was a display of what was known or imagined, desired or feared—what a subject signified. Medieval mages of anatomy must therefore be understood as a rich visual syntax, balancing observation and invention with traditional symbols and motifs.

This dissertation presents a new perspective on medieval anatomy and its visual culture in three case studies, beginning with the earliest-known drawings from the twelfth century and concluding with early printed images in the sixteenth century. It argues that medieval anatomical depictions are idiosyncratic and demand historical contextualization. There was no progressive advance toward naturalism or the Renaissance; rather, anatomical depiction developed piecemeal as artists and anatomists experimented with new ways to represent the body. And while it has been argued that

⁵ Jean Givens, *Observation and Image-Making in Gothic Art* (Cambridge: Cambridge University Press, 2005).

medieval anatomical images are merely corrupt copies of ancient models, I will show that they were designed in response to medieval questions concerning the nature of the body.

Furthermore, the development of anatomical images was part of a broader shift from written to observational anatomy, closely aligned to exploratory dissections of animals and humans in medieval centers of learning. However, images were not simply “illustrations” of dissection; they were complex designs that impacted the development of knowledge and epistemology from the twelfth-century onward. A significant portion of this dissertation thus explores the epistemic role of anatomical images in the Middle Ages. It argues that the complexity of the anatomical body demanded new methods of visualization and impacted the means by which knowledge could be displayed and explored the medieval era.

Finally, this dissertation examines the anatomical image through a cultural history of the body. Created for a surprising range of patrons—monks, physicians, laypersons and royalty—each image defined the anatomical body through an array of medical, religious, and political ideologies. As such, anatomical images were not categorically “medical” in nature but rather spoke broadly about the physical and spiritual nature of the body. It is therefore important to shed the perception that medieval anatomical depictions are simply illustrations of a primitive medical science; rather, they present unique windows into medieval perceptions of the body, which until now have rarely been explored.

Much of what we know of anatomy in the Middle Ages has been derived from a diverse written record that engaged a matrix of cultural and religious practices. As Katherine Park has shown, human dissection (*anatomia*) was first mobilized in the

thirteenth century for a variety of needs: to authenticate “potential” holy bodies, to preserve and embalm political rulers (“bodily division”), and, especially, to enforce patriarchal interest in the female body and its “secrets” of reproduction.⁶ Interest in the anatomical body, however, was also tied to more fundamental questions of personal identity. In Christian thought, the body was viewed as an instrument of the soul, whose operations could be observed through the study of anatomy. A “doctrine of the spirits,” for instance, explained how the immaterial soul could inhabit and control a material body through a medium called *spiritus*. Produced in the body by the “spiritual organs” (i.e. the liver, heart, and brain), the *spiritus* bridged the perceived chasm between the physical and spiritual and gave the anatomical body new importance in intellectual study. These theories were but one manifestation of the increasing status of the body in the somatic spirituality of the high Middle Ages that Caroline Walker Bynum has examined.⁷ Anatomical texts influenced theology and philosophy; physiological theories impacted questions of form and matter; and the body was increasingly viewed in conceptual terms as an anatomical subject “made in the image and likeness of God.”

Less understood, however, is the visual record of anatomy in the Middle Ages whose testimony remains largely superfluous to understanding the anatomical body and its cultural and scientific history. Often treated as “illustration” or “diagram,” these images are thought to supplement the text with little to say for themselves. But the idea of an “illustration” or “diagram” must be reevaluated. As Edward Tufte has argued, scientific illustrations and diagrams are complex knowledge-making systems that

⁶ Katherine Park, *The Secrets of Women: Gender, Generation, and the Origins of Human Dissection* (New York: Zone Books, 2006).

⁷ Caroline Walker Bynum, “Why All the Fuss about the Body? A Medievalist's Perspective,” *Critical Inquiry* 22 (1995): 1–33.

combine representational forms with text, number, and scheme. “To envision information—and what bright splendid visions can result—is to work at the intersection of image, word, number, art.”⁸ These confluences make the illustration/diagram a multidimensional entity, which engages its audience through visual, verbal and numerical thinking.⁹ In effect, the illustration/diagram requires complex, intellectual engagement that extends well beyond the texts it accompanies.

These traits of the illustration/diagram also provide a means to manage and compartmentalize the body as a three dimensional object. “In the debates around perception,” writes Bruno Latour, “what is always forgotten is this simple drift from watching confusing three-dimensional objects, to inspecting two-dimensional images which have been made less confusing.”¹⁰ Scientists, Latour claims, can only understand and quantify the natural world by looking “exclusively and obsessively at prints and flat inscriptions.” These instruments of visualization, Latour continues, “enhance the image, accelerate the readings, and conspire with the visual characteristics” of natural objects, restructuring their dynamic, multidimensional character into dexterous vehicles of information.¹¹ Together, Tufte and Latour’s work inspires a critical rethinking of anatomical illustrations and diagrams as a simplistic and supplemental media of the anatomical body; rather, they should be viewed as an essential feature of its identity, form, and meaning.

The present study reexamines this visual record and argues that anatomical images were not auxiliary but essential to the investigation of the body, forming a crucial

⁸ Edward R. Tufte, *Visual Explanations: Images and Quantities, Evidence and Narrative* (Cheshire: Graphics Press, 2012), 9.

⁹ Ibid.

¹⁰ Latour, “Visualization and Cognition,” 15.

¹¹ *ibid*, 16.

scaffold for its observation and regiment. Offering a fresh vantage point on the body's interior—a largely hypothetical space in the medieval imagination—they visualized, perhaps for the first time, the unknown yet intimate conditions of self, “prone to disorder, largely estranged from consciousness, and animated not by intentions but by impersonal, asocial powers.”¹²

The present study advances in part from recent investigations by Taylor McCall and Karl Whittington who have both studied the medieval anatomical image as a cultural artifact rather than an illustrative model. McCall's comprehensive analysis of the earliest known system of medieval anatomical images—“the nine-figure-series”—traces the development and evolution of this anatomical scheme, “alongside changing societal notions of the importance of the body in both medicine and in art.”¹³ These figures, she argues, formed indigenously in Europe, appearing first in monastic houses and later in surgical textbooks to advance their craft.¹⁴ Here they were modified into more naturalistic iterations to approximate the emerging epistemologies of dissection and rearticulate the body in images, which could be examined through visual quantification and display.¹⁵

Whittington's study, on the other hand focuses on a single image from the nine-figure-series tradition, a diagram of the womb, which provides “an understanding of the ways that medieval scientists conceptualized the reproductive female body as a site of both theoretical and physiological processes as well as abstract systems, symbols, and

¹² Brooke Holmes, *The Symptom and the Subject: The Emergence of the Physical Body in Ancient Greece* (Princeton: Princeton University Press, 2010), 4.

¹³ Taylor McCall, “Illuminating the Interior: The Illustrations of the Nine Systems of the Body and Anatomical Knowledge in Medieval Europe,” PhD diss., Cambridge University, 2016.

¹⁴ *Ibid.*, 42.

¹⁵ *Ibid.*, 14.

ideologies.”¹⁶ Whittington teases out the foil of these assorted doctrines over the female body through a comparative analysis with adjacent visual cultures, a methodology rarely utilized in the evaluation of medieval anatomical imagery. Examining the diagram as a representational scheme rather than an illustration, Whittington, notes especially the “cruciform” pattern of the womb and its religious subtext that exerted Christological power over female anatomy and simultaneously offered the crucifixion as an act of reproduction.

While differing in methodology and scale, these two studies open doors for both broader analyses of anatomy and its visual culture as well as the specific religious, political, and medical doctrines in which they trafficked. My own approach in this project lies halfway between these works, offering three case studies from manuscripts and incunabula created at crucial turning points in the history of anatomical images, in 1158, 1345, and 1485. I explore the wider arc of the body’s history through specific, appraisals that give contextual portraits of the anatomical image and its creators. Placing these documents in their physical and temporal settings, I evaluate especially the anatomical figure within the fluctuating parameters of “scientific” and “religious” imagery, which Peter Murray Jones has shown to be razor thin in the Middle Ages.¹⁷ However, as I will demonstrate, the encounter between these two visual cultures was often contested, with “scientific” ideologies vying for authority over the anatomical body and its image. These tensions were rooted in the basic identity of the body itself: how it lived, reproduced, and died and what doctrine or desire it submitted to.

¹⁶ Karl Whittington, “The Cruciform Womb: Process, Symbol, and Salvation in Bodleian Library *MS. Ashmole 399*,” *Different Visions* (2008): 1–24, 3.

¹⁷ Peter Murray Jones, “Image, Word, and Medicine in the Middle Ages,” in *Visualizing Medieval Medicine and Natural History, 1200–1500*, ed. Jean A. Givens, Karen M. Reeds and Alaine Touwaide, 1–24 (Aldershot: Ashgate, 2006).

What I refer to here as “science,” must be briefly clarified. The term “science” is fraught, carrying a modern syntax and meaning different than that observed during the Middle Ages. *Scientia* (Latin for “knowledge”) was perceived in medieval European thought as advancing knowledge of the Creator through the exploration of the created world, the human body, nature, and the order of the universe. As David Lindberg has shown, *scientia*, was not defined by a specific method or course of study, but rather was textured by alternative epistemologies, objectives, and institutions.¹⁸ Medieval science and its apprehension of the body was not a closed system but rather constructed from “a vast range of practices and beliefs,” encompassing scriptural and medical doctrines, cosmic schemata, and teleological order.¹⁹ As *scientia* represents various forms of knowledge that do not equate to the modern definition, I will purposely use the term *scientia* to remind myself and the reader that this is a premodern issue.

As a subject of *scientia*, anatomy began as only a minor discipline in medical study, but would become increasingly important as Michael McVaugh has shown, in the technical pursuits of surgery, or, as Andrew Cunningham has explored, as a heuristic principle in the purview of philosophical systems.²⁰ As a religious subject, anatomy was no less complicated. Park has shown that the persisting view of the interior as a “sacred reservoir of protection and magical power” expanded well past the fifteenth century and cast the body and its interiors as a relics and icons of religious value.²¹ Intimately framed

¹⁸ David Lindberg, *The Beginnings of Western Science: The European Scientific Tradition in Philosophical, Religious, and Institutional Context, Prehistory to A.D. 1450* (Chicago: University of Chicago Press, 2007), 1–3.

¹⁹ *Ibid.*, 3.

²⁰ Michael McVaugh, *The Rational Surgery of the Middle Ages* (Florence: SISMEL; Edizioni del Galluzzo, 2006); Andrew Cunningham, *The Anatomical Renaissance: The Resurrection of the Anatomical Projects of the Ancients* (London: Routledge, 2016).

²¹ Park, *Secrets of Women*, 39–76.

by both “religious” and “secular” knowledge, the anatomical image thus provides a unique vantage point, “unwriting” the body, in Michael Camille words, to show that “nothing is natural, everything is constructed the body as well as society.”²²

Chapter one examines a series of anatomical figures from a miscellany produced in 1165 at a Benedictine house in Prüfening, Germany. Skillfully crafted by the scribes of the monastery, these images are the oldest extant copy of a sought-after treatise, *Historia incisiones*, then circulating through the monastic network. While these figures have received significant study as objects of recension by Sudhoff and others, their emergence and utilization in monastic houses has not been explained. Focusing on the specific context of Prüfening, this chapter argues that these figures were the product of a teleological *scientia* that configured the anatomical body as a divine schematic. Complementing previous studies by McCall, Adam Cohen, and Stephan Bogan and Felix Thurlemann, this chapter reappraises the diagrammatic qualities of the images and argues that their schematic mode was a form of “cognitive art” utilized especially in monastic study. While these figures have long been described as unimaginative copies, I argue for a greater agency within the monastic scriptoria; these figures were the product of conscious choices and designs, which thoughtfully plotted out the body’s layers with graphic clarity. In their monastic context, however, these figures also posed a potential danger to the scriptural authority over the body and were edited in response to a contemporary heresy concerning the body of Adam from Genesis 2:21. Collectively, these stimuli reveal a complex origin for the anatomical image, not as a medical object but rather a divine subject positioned at the pinnacle of the created world.

²² Michael Camille, “The Image and the Self: Unwriting Late Medieval Bodies,” in *Framing Medieval Bodies*, ed. Sarah Kay and Miri Rubin, 62–99 (Manchester: Manchester University Press, 1996), 62.

Chapter two explores a second document, the *Anothomia Philippi septimi*, created nearly two hundred years later at the French court by an Italian physician named Guido da Vigevano for his royal patron, Philip VI in 1345.²³ While Guido's treatise has been largely classified as a pre-Vesalian work of no originality, I argue again for the creative agency of his images, which transformed earlier modes of anatomical depiction. Rather than presenting the body as the "divine schematic" of the monastic aegis, these images simulate the open body, presented as a stratum of flesh sequentially incised before the viewer's gaze. This new methodology required a new form of image that Guido developed to replicate dissection, which remained prohibited in France. Treating the figure as a proxy, Guido, broke down the cadaver in a striking series of images, which he claimed showed the body "better than the body itself." These engaging designs carried special weight for his patron Philip VI, who according to French custom, was uniquely exempt from the legal ban on dissection and enjoyed the "privilege" of a mortuary anatomy reserved for the aristocracy. The king's body, as Elizabeth Brown has shown, was a relic of the state, and its organs had to be dispersed to multiple burial sights to maintain its political power.²⁴ Guido's treatise thus entangles the king's cadaver in its subtext, demonstrating the processes of immortalization through anatomy. Simultaneously, however, Guido objectifies the body as a rotting corpse in a fitting *memento mori* to his audience. Lingering delicately over the cadaver's decomposition Guido balances the dual identities of the king's corpse, anatomically preserved yet sentenced, like all bodies, to the oblivion of decay.

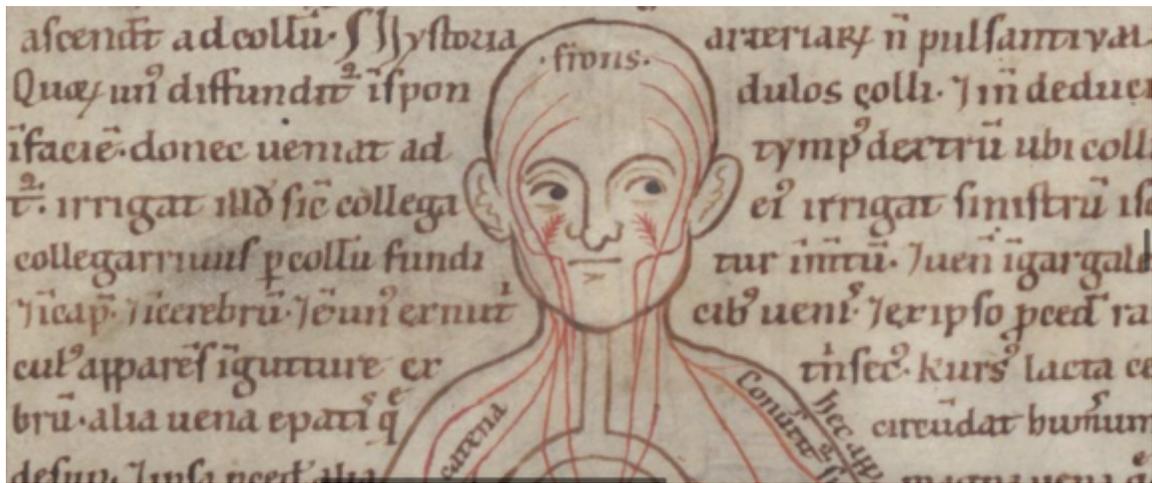
²³ Frequently spelled "Anathomia" in secondary scholarship, the title is rendered "Anothomia" in Guido's manuscript.

²⁴ Elizabeth Brown, "Authority, the Family, and the Dead in Late Medieval France," *French Historical Studies* 16 (1990): 803–32.

Chapter three examines a unique anatomical print created in 1485 for publication in a popular encyclopedia of Bartholomaeus Anglicus by the press of Jacob Bellaert in Haarlem. Although anatomy and its image had been the domain of monks and secular professionals in prior centuries, its image became widely available to lay audiences in the late fifteenth century through printed media like Bellaert's publication as well as calendars, *vade mecums*, books of hours and other popular imagery. While this wider diffusion of anatomical imagery has received limited study, this chapter considers the genre within the wider spectrum of fifteenth-century visual culture, and explores its growing influence within popular perceptions of the body. Despite its novelty, the image from Bellaert's press advertised its anatomy in relation to a traditional scene of creation, the so-called "birth of Eve," which provides a visual backdrop to the anatomical figure. As seen in Chapter One, Adam was treated as the hegemonic archetype of the body's form and anatomical imagery was often repurposed into one of his icons. This power was further expanded in Bellaert's image, which configures the anatomical body as an agent of creation, figuratively birthing Eve from its incision. Appropriating the symbols of the female body and its power, the womblike opening in the belly of the figure represents the culminating birth of the body as an anatomical subject of divine potency. Dispersed through the technology of print, images like Bellaert's are thus important artifacts in the history of the body, its ideologies of gender and reproduction, and its shifting perceptions within the popular imagination.

These alternative anatomies would eventually be replaced by more complex and sophisticated illustrations in the sixteenth-century, but their iconic legacy—from Genesis imagery to *memento mori*—and their overarching conclusion of the body as a unit of

identity would only strengthen in the Renaissance and beyond. Medieval anatomical images therefore are not poor reflections of ancient archetypes or unsuccessful attempts en route to the triumph of the Renaissance. They are creative experiments that refashioned the body for inherently medieval pursuits. They spoke to a variety of persons and functioned broadly in a surprising array of contexts. In this period between the twelfth and fifteenth centuries, the power of the anatomical image revealed the “likeness and image of God” and other essential truths about the body and self.



CHAPTER ONE

MONASTIC ANATOMIES: DISCOVERING THE DIVINE SCHEMATIC

INTRODUCTION

The earliest medieval images of human anatomy were not created by scientists or physicians but by scribes in a monastery of little medical regard (pl. 2). The figures accompany a short treatise titled *Historia incisiones*, created in 1165 by the monks of the Abbey of Prüfening outside the imperial city of Regensburg. Five in all, the figures are inserted intertextually within the anatomical tract and strike an unusual pose as if squatting or sitting on the typography, which ripples around their contours. While collective in posture, each member of the quintuplet advertises an individual *historia*, or narrative study, of the body. Commencing with the veins (*arteriae*), the figures are arranged across two folios, describing the arteries (*uenae quae pulsant*), bones (*ossibus*),

nerves (*nervis*), and finally conclude with the muscles (*lacerti*). The figures themselves are drawn with firm, confident pen strokes and a restrained application of color, a style characteristic of Bavarian monastic scriptoria of the twelfth century.²⁵ The text, attributed to the famed Galen of Pergamum (d. CE 210), reads more like a student’s lecture notes, a brief and by no means comprehensive summary of the principle members of human anatomy. Inside the body, the figures expose a world of marvels: vascular networks of veins and arteries; skeletal scaffolds; rhizomes of nerves and muscles—all of which elucidate the body’s greatest secret: the ephemeral presence of the spirit and its keys to self-knowledge.

It is not by chance that these figures were created in a monastic institution, and their provenance discloses new and complex features of medieval anatomical illustration that have been largely overlooked by historians of art and medicine. These studies have long bypassed the monastic production of the drawings in an attempt to pinpoint their “origins” whose mystery is thought to be traced in the classical past. As a result, the monastery of Prüfening has faded from view, becoming merely a way-stop within a diaspora of medical images from the antique world. In a similar way, the specific context of the images has been neglected. Though often dissected for clues to the secrets of their predecessors, their legacy as objects from the monastery has been largely forgotten.

While their designs may be based on earlier prototypes, this chapter argues that the Prüfening figures were part of newly emerging visual culture of anatomy in the

²⁵ Melanie Holcomb, “Strokes of Genius: The Draftsman’s Art in the Middle Ages,” in *Pen and Parchment: Drawing in the Middle Ages*, ed. Melanie Holcomb, 3–24 (New Haven: Yale University Press, 2009), 19–20; Elisabeth Klemm, *Die romanischen Handschriften der Bayerischen Staatsbibliothek: Die Bistümer Regensburg, Passau und Salzburg*, 2 vols. (Wiesbaden: Ludwig Reichert, 1980), 1:47–48; Albert Boeckler, *Die Regensburg-Prüfeningener Buchmalerei: Des XII. und XIII. Jahrhunderts* (Munich: Buch- und Kunstverlag A. Reusch, 1924), 27.

twelfth-century, which derived from the monastic impetus to study, explore, and control the body through images. The living body and its gestures were scrutinized as reflections of soul and these diagrams of the body provided a means of imposing order on the inner person.²⁶ Rather than reconstructing the now-lost exemplars that inspired these figures, I bring the images themselves back into focus and explore their role within the monastic episteme. These illustrations, I contend are a twelfth-century phenomenon, grounded in its artistic idioms and impressed by its matrix of epistemologies. Additionally, the presence of these diagrams in a monastic house illustrates how the genesis of medieval anatomical illustration formed outside the realm of medicine and was guided by the spiritual and philosophical curiosities of the cloister. Rather than guide the healing endeavors of the monastic community, these figures expressed the divine schematic of the human body—a diagram of the self to be confronted, studied, and absorbed. This scheme formed a portrait of the individual that idealized the body “image and likeness of God.”²⁷ Portraits of the living body and portraits of the anatomical body are both tied to knowledge of self within the context of the “twelfth-century” rediscovery of self and individual.

While this form would transform into varying idioms in the fourteenth and fifteenth centuries, its emergence in twelfth-century monastic houses, like Prüfening,

²⁶ Jean-Claude Schmitt, *La raison des gestes à l'Occident médiéval* (Paris: Gallimard, 1990); Stephen C. Jaeger, *The Envy of Angels: Cathedral Schools and Social Ideals in Medieval Europe, 950–1200* (Philadelphia: University of Pennsylvania Press, 1994); Thomas Dale, “Monsters, Corporeal Deformities, and Phantasms in the Cloister of St-Michel-de-Cuxa.” *Art Bulletin* 83 (2001): 402–436; *ibid.*, “Romanesque Sculpted Portraits: Convention, Vision, and Real Presence,” *Gesta* 46 no 2 (2008):103–107.

²⁷ Thomas Dale, “Romanesque Sculpted Portraits: Convention, Vision, and Real Presence,” *Gesta* 46 (2007): 101–119; Colin Morris, *The Discovery of the Individual, 1050–1200* (Toronto: University of Toronto Press, 2004); Caroline Walker Bynum, “Did the Twelfth Century Discover the Individual” *Journal of Ecclesiastical History* 31, no. 1 (1980): 1-17.

forces us to rethink the history of anatomical depiction: not as passive reflection of the classical world but as a heuristic invention that oriented the *scientia* of the body around the principles of visualization and display.

i. Historiography

Until now, the monastic role in the creation and distribution of anatomical images has been downplayed or outright ignored. If anything, the monastery has been characterized as a repository for the classical image of anatomy, which calcified its presumably “realistic” expression of the body into an abstract diagram of its form. As the oldest surviving set of anatomical figures, the Prüfening Series was long assumed to be the least corrupted of its many predecessors who form a complex network of recensions. Karl Sudhoff was the first to bring attention to the Prüfening treatise in his *Studien zur Geschichte der Medizin* of 1907 in which he suggested that these figures, christened the *Fünfbilderserie* (five-figure series), were the relics of an ancient illustrative tradition begun in the Ptolemaic schools of Alexandria.²⁸ Searching libraries throughout Germany and beyond, Sudhoff identified multiple versions of the *Historia*, all of which postdate the Prüfening copy. Although no evidence existed to confirm Sudhoff’s hypothesis, his opinion and nomenclature were widely accepted until 1977 when Ynez O’Neill identified an English codex, unknown to Sudhoff, that included an additional four diagrams treating the viscera, neuro-optical system, and the sexual organs.²⁹ O’Neill also argued against

²⁸ Karl Sudhoff, “Anatomische Zeichnungen (Schemata) aus dem 12. und 13. Jahrhundert und eine Skelettzeichnung des 14. Jahrhunderts,” in *Studien zur Geschichte der Medizin, I: Tradition und Naturbeobachtung in den Illustrationen medizinischer Handschriften und Frühdrucke vornehmlich des 15. Jahrhunderts*, 49–65 (Leipzig: Barth, 1907).

²⁹ Ynez Violé O’Neill, “The *Fünfbilderserie*—a Bridge to the Unknown,” *Bulletin of the History of Medicine* 51 (1977): 538–49.

Sudhoff's hypothesis concerning the Greek origin of the work, noting concepts and terminology from Arabic-speaking lands that suggest that the *Historia* was partially a work of Islamic composition, transferred to Latin Europe through either Spain or Southern Italy.³⁰ More recently, this “nine-figure series” has seen exhaustive study by Taylor McCall, whose dissertation provides a complete account of all redactions of the *Historia* and argues that the treatise is indigenous to Europe, assembled piecemeal from fragments of antique and Islamic treatises.³¹ While arguing for no specific point of origin, McCall judges that the illustrations from the *Historia* could not have been created *de novo*, but rather emerged from a patchwork of medical diagrams then circulating Western Europe: “each illustrative mode created separately, and subsequently attached to the treatise by virtue of being the only visual language available to depict the interior.”³² But ultimately she concludes, “a definitive answer as to the origins of the Series cannot be concretely determined at this point.”³³ Given the exhaustive nature of McCall's study, it is worth asking if such an “origin” is only imaginary, but it is clear that even the most exhaustive research will not realize its recovery.

McCall's dissertation ultimately moves beyond the question of origins to the dispersal of the series from the cloister to the secular sphere in the thirteenth and fourteenth centuries.³⁴ But while noting their function as tools of physicians and surgeons, she only briefly considers how such images might have been utilized by the monastic community. Her brief remarks on this point hint at “a concern for the health of

³⁰ Ynez Violé O'Neill, “Tracing Islamic Influences in an Illustrated Anatomical Manual,” *Bulletin of Islamic Medicine* 2 (1982): 154–62.

³¹ Taylor McCall, “Illuminating the Interior,” 42.

³² *Ibid.*, 42

³³ *Ibid.*

³⁴ *Ibid.*, 134–53

the earthly body alongside the spiritual” in which the five figures provided “sexless views of the interior, revealing the secrets of God’s miraculous creation of the complicated, rational human body.”³⁵ Unfortunately this observation is not explored further, and the general profile of monastic anatomy remains unexplored.

Beyond McCall’s remarks only two other studies have explored the images within the monastic sphere. Elisabeth Klemm has posited that that the anatomical illustrations are part of a sequential schema intended to help the monastic community at Prüfening study both the physical and spiritual qualities of human nature.³⁶ In conjunction with the other contents of the compendia—medical illustrations, spiritual tracts, a diagram of the microcosm, and a map of Jerusalem—the anatomical images, she contends, cataloged the human body and its situation in the natural world. Adam Cohen has carried this analysis further, focusing on the affective qualities of these illustrations and their impact on the monastic viewer. Invoking the work of Mary Carruthers, Cohen describes the diagrams as active mechanisms for study, inextricably linked to the “mental images” utilized by monastic communities for rumination and memorization.³⁷ As a collection, Cohen believes the program of illustrations found in *Clm. 13002* “resulted from monastic *ductus*, the method of collating and structuring raw elements into a new whole.”³⁸ This program guided the viewer through a “mental chain of associations,” commencing with the microcosm image that originally prefaced the treatise and into “more detailed deliberations, beginning with the pictures of cauterization and the anatomical systems,

³⁵ Ibid, 99

³⁶ Elisabeth Klemm, “Die Regensburger Buchmalerei,” in *Regensburger Buchmalerei: Von frühkarolingischer Zeit bis zum Ausgang des Mittelalters Ausstellung der Bayerische Staatbibliothek München und der Museen der Stadt Regensburg*, ed. Karl Dachs and Florentine Mütterich (Munich: Prestel, 1987), 40–2, 50.

³⁷ Adam Cohen, “Making Memories in a Medieval Miscellany,” *Gesta* 48, no. 2 (2009): 1–18, 15

³⁸ Ibid, 14.

which flesh out or, to be more precise, penetrate beneath the flesh of the microcosm.”³⁹

Like McCall, however, Cohen does not examine this idea any further or explain what relationship might have been forged between the images of microcosm and anatomy in the mind of the audience. Thus the role of these anatomical figures within the monastery remains only tangentially defined. How did the monastic community at Prüfening actually use these figures? In what ways might they have factored into the programs of spiritual contemplation? And how did they signal the iconic place of the human body within the created world?

In the following chapter I press these questions further, spotlighting especially the visual codes of the images themselves. Crafted in a diagrammatic mode, I suggest the figures were not meant to describe the physical body but rather its divine schematic, whose principle engendered all redactions of the created body. I then examine the exchange between the intrinsic qualities of the anatomical figures with the extrinsic register of the body presented by the figure of the microcosm at the preface to the manuscript. These two displays, I argue, reveal the two conceptual systems on which the monastic body hinged: the anonymous self which directed the subconscious movements of organs, humors, bones, and muscles; and the conscious self, implicated in the sensing, microcosmic being whose rational understanding elevated humanity to a divine principle. Finally, this chapter concludes with a brief meditation on an overlooked reference to scripture tacked on to the description of the bones, which reveals anxieties over the nature of anatomical knowledge and its potential challenges to corporeal orthodoxies.

³⁹ Cohen postulates further that this suite of images on the body (i.e. the microcosm, therapeutic cautery, and anatomy) was perhaps inspired by a brief list of the parts of the body, which concluded the *Hermeneumata* in an older section of the book near the back. Created seven years before, this briefest of descriptions might have stimulated the monks of Prüfening “to ponder the microcosm, the nature of the body, and to explicate it in a visual format.” Ibid, 5.

Collectively, these explorations show the roots of anatomical illustration arising from a monastic episteme textured by various concerns but ultimately reliant on the image as a vehicle to frame the body and reveal the image of its creator.

In what follows, the “Prüfening Series” will be used specifically to refer to the five images depicted in the treatise; the “Prüfening *Historia*” will indicate the treatise as a whole. Likewise, the “Gathering” will refer specifically to the collection of illustrations (including the Prüfening *Historia*) found in the first seven folios of the manuscript, which were conceived and executed as a collective visual suite; the codex in its entirety will be referred to by its shelf number: *Clm. 13002*. Finally the “*Historia*” or “*Historia incisionis*” refers to the treatise within its broader historical arc, from its shadowy origins to its extinction in the fifteenth-century; the “Sitting-Figure Series” refers to the illustrations that accompanied the *Historia* but can also be found in a disparate array of medical writings from Europe to South Asia. This final category has alternatively been classified as the “five-figure series” or *Fünfbilderserie* by Sudhoff and more recently the “nine-figure series” by McCall. However, because the illustrations vary in number in both the European and Asian traditions, I choose to identify the series by its one common feature: the sitting position of the anatomical figures.

ASSEMBLING THE BODY:

THE CONTENTS AND MONASTIC “ORIGIN” OF *CLM. 13002*

The Prüfening Series is part of a seven-folio miscellany of religious and medical images bound to a slightly older lexicon created a few years prior. In its present form, this “gathering” of illustrations commences with drawings on the medical art of cautery (1v–2v) (**pl. 3**); the Prüfening *Historia* (2v–3r) (**see pl. 2**); registers of virtue and vice (3v–4r)

(**pl. 4**); a fragment of Bede’s *de locis sanctis* and a map of Jerusalem (4v) (**fig. 1**); a cartouche surmounted by Christ and saints listing the contents of the monastery’s treasury (5v) (**fig. 2**); a catalog of the monastery’s library, listing an impressive range of works from the “classics” to the “moderns” (6r–6v); and a figural diagram of the microcosm (7r) (**fig. 3**). As confirmed by Klemm, Cohen, and John McQuillen, the microcosm originally served as the frontispiece to the gathering but was refoliated in subsequent bindings.⁴⁰ This sleeve of folios was then affixed to an older volume dating to 1158, consisting of an enormous lexicon, the “Solomon Glossaries,” (8v–208v) supposedly compiled by Bishop Salomon of Constance (d. 919). A final work, a short lexicon of Greek and Latin (*Hermeneumata Pseudodositheana*, 209r–218r) and a brief set of commentaries on the Old and New Testaments (218v–229r) conclude the codex. Together these works now exist as one large volume in the Bayerische Staatsbibliothek, Munich (*Clm. 13002*).

i. Creating *Clm. 13002*

An inscription on 5v (*Anno d[omi]ni mill[e] cent[um] sexagessimo quinto*) commemorates the year of the gathering’s dedication to the monastery under the auspices of Wolfgar the librarian. Though no scribes are named in *Clm 13002*, contemporary works produced at Prüfening reveal a number of potential artists: Boto, Eilofus, Heinricus, Merboto, Sigboto, Swicher, Ulricus, and Witelo.⁴¹ While little remains of the original library, the scriptorium of Prüfening was one of the most prolific in the region.⁴²

⁴⁰ Klemm, *Die romanischen Handschriften*, 1:63; Cohen, “Making Memories,” 9.

⁴¹ Klemm, *Die romanischen Handschriften*, 1:47

⁴² Felix Heiner, *Klosterreform und mittelalterliche Buchkultur im deutschen Südwesten* (Leiden: Brill, 2008), 85–88; Klemm *Die romanischen Handschriften*, 1:47–8.

Two catalogues—one dated to 1150 (now held at the Bayerisches Hauptstaatsarchiv, *Prüfening KL 2*, fols. 9v–12v) and the other contained in *Clm. 13002* (fols. 6v–6r)—attest to the library’s impressive output and collection: scriptures as well as patristic authors ranging from “ancients” (*antiqui*) such as Ambrose, Origen, and Isidore of Seville to “moderns” (*moderni*) including Anselm of Canterbury, Peter Damian, Peter Lombard “et multi alii” (6r).

The images within these manuscripts are of great interest for both their content and their distinctive style. Drawn with minimalist pen strokes, they signal a significant shift in aesthetic tastes from the lavish books favored by Ottonian rulers to a more austere and schematic paradigm.⁴³ This visual asceticism is emblematic of the Prüfening scriptorium and the reformist spirit of the monastery, which was founded by zealous monks of the Hirsau movement.⁴⁴ This campaign had begun nearly a hundred years earlier (1069) in the Black Forest monastery of Hirsau when abbot William began a fierce reform of the Benedictine houses in southern Germany.⁴⁵ Built upon rigorous discipline, labor, and study, William’s drew converts and built new communities; Saint George, Prüfening, established by William’s disciple Otto of Bamberg in 1109, was one of the first and most prestigious.⁴⁶

⁴³ Adam Cohen, *The Uta Codex: Art, Philosophy and Reform in Eleventh-Century Germany* (Philadelphia: University of Pennsylvania Press, 2000).

⁴⁴ Melanie Holcomb, “Strokes of Genius,” 19; Albert Boeckler, *Die Regensburg-Prüfeninger Buchmalerei*, 27; Klemm, *Die romanischen Handschriften*, 1:47–8.

⁴⁵ On the Hirsau reform see: Heinzer, *Klosterreform und mittelalterliche Buchkultur*; Phyllis G. Jestice, *Wayward Monks and the Religious Revolution of the Eleventh Century* (Leiden: Brill, 1997); Wolfgang Urban, *Wilhelm von Hirsau: Reformator und Klostergründer* (Ostfildern: Schwabenverlag, 1991). On the importance education and the liberal arts within the Hirsau reform see: Constant J. Mews, “Monastic Educational Culture Revisited: The Witness of *Zwiefalten* and the Hirsau Reform,” in *Medieval Monastic Education*, ed. George Ferzoco and Carolyn Muessig, 183–97 (London: Leicester University Press, 2000).

⁴⁶ Günter Lorenz, *Kloster Prüfening* (Regensburg: Gerlach, 2009); Werner Chrobak, “Die Hirsauer Reform,” in *900 Jahre Prüfening: Kloster, Schloss, Schule* (Regensburg: Dr. P. Morbach Verlag, 2010).

ii. Tradition and Invention in the Prüfening Series

Charged with reformist spirit, the anatomical figures of Prüfening bear a visual asceticism indicative of the community they served. Executed in this distinctive house style, these drawings assert a degree of autonomy from the traditional cycle of the Sitting Figure Series and, I argue, showcase deliberate artistic choices made by the scriptorium. Not only are the style and execution distinctive, but the treatise itself has been fundamentally altered with the elimination of four images that typically accompanied the anatomical program. Though the preface to the Prüfening *Historia* mentions a total of nine systems of the body, only five are actually illustrated.⁴⁷ As these four missing images have been “found” in slightly later redactions of the *Historia*, their absence in the Prüfening version suggests a deliberate negation on the part of the scribes. While it is always possible that an exemplar from which the monks drew their inspiration was similarly incomplete, this explanation assumes a slavish reliance on the prototype that is largely antithetical to the creative adaptations routinely employed by the Prüfening scriptorium.⁴⁸ A number of idiosyncrasies mark the Prüfening *Historia* as the unique product of a skillful team of scribes who relied on careful planning and execution. These levels of agency and adaptation, as Michelle Brown has shown, were central to the process of image-making in the twelfth century, which balanced the inheritance of *traditio* (i.e. reverence for the past) with *inventio* (i.e. the unfolding of tradition in the

⁴⁷ “In the name of the Father, and of the Son, and of the Holy Spirit, here begins the account of incision described by Galen, most expert of physicians: vein after vein, bone after bone, muscle after muscle, nerve after nerve, and he described them as they are and separated one from the other, in order that the observer might not accidentally err, but might understand in its true nature those things which he can see. Thus the first description is of the arteries; the second, the veins; the third, of the position of the bones; the fourth, the nerves; the fifth, the muscles; the sixth, the genitals; the seventh, the stomach, liver, and belly; the eighth, the womb; the ninth, the brain and the eyes.” Translated in McCall, “Illuminating the Interior,” 4

⁴⁸ Boeckler, *Die Regensburger-Prüfeninger Buchmalerei*, 27.

present).⁴⁹ Instead of viewing the variances between the Prüfening Series and its prototype as thoughtless corruptions of the original, it is important to ask why these alterations occurred in the first place and how they affected the meaning and reception of the work itself.

A slightly later redaction of the *Historia incisionis*, currently held in Cambridge library of Gonville and Caius (*MS. 190/223*), provides a close approximation to the probable exemplar of the Prüfening Series and illuminates the creative foils used by its creators. The Cambridge manuscript, which McCall has shown to represent the most “complete” form of the *Historia*, is also of monastic provenance but was created in England near the end of the twelfth century.⁵⁰ The Cambridge *Historia* includes the same five figures found in Prüfening Series (**pl. 5**) but also illustrates the missing figures referenced in the Prüfening *Historia*; internal organs (**fig. 4**), male (**fig. 5**) and female (**fig. 6**) sexual organs and the neuro-ocular system (**fig. 7**).⁵¹ These extended scenes, however, are rendered in a highly schematic style, which suggests that they may not have been originally belonged with the five figures.⁵² In fact, this style of diagramming is much closer to Islamic traditions of anatomical illustration, which also mapped the body with schematic and geometrical units.⁵³ In particular the diagram of the eyes from the Cambridge *Historia* is highly reminiscent of Arabic diagrams like those found in the

⁴⁹ Michelle P. Brown, “An early outbreak of ‘influenza’?: Aspects of Influence, Medieval and Modern,” In *Under the Influence: The Concept of Influence and the Study of Illuminated Manuscripts*, ed. John Lowden and Alixe Bovey, 1–9 (Turnhout: Brepols, 2007).

⁵⁰ Taylor McCall, “*Reliquam dicit picture*: Text and Image in a Twelfth-Century Illustrated Anatomical Manual (Gonville and Caius College, Cambridge, MS 190/223)” *Transactions of the Cambridge Bibliographical Society* 16 (2016): 1–22.

⁵¹ *ibid.*, 1–3.

⁵² Taylor McCall, “Disembodied: Additional MS. 8785 and the Tradition of Human Organ Depictions in Medieval Art and Medicine” *Electronic British Library Journal* (2018): article 8, 17–19.

⁵³ Emilie Savage-Smith, “Anatomical Illustrations in Arabic Manuscripts,” in *Arab Painting: Text and Image in Illustrated Arabic Manuscripts*, ed. Anna Contadini, 147–59 (Leiden: Brill, 2007).

Jawāmi' Kit āb Jālīnūs fial-amrādal-hādith fial (**fig. 8**)⁵⁴ and suggest that at least this portion of the *Historia incisiones* descended from Arabic traditions.⁵⁵

Comparisons between the Prüfening and Cambridge redactions reveal significant differences in both design and composition. In scale, the Cambridge *Historia* is much larger and more expansive, occupying a full nine folios with one subject per page. The Prüfening scribes, on the other hand, economized this large-scale format into a succinct pair of folios with the histories of veins and arteries on the first page and the bones, nerves, and organs on the following. Instead of adding one of the four remaining diagrams from the treatise, the Prüfening artists simply ended the work and inserted a brief tract on medical climatology (*Mense ianuario repornaco*).⁵⁶ Abbreviations have also been made to the layout of the text. Whereas the Cambridge codex arranges its scripts into neat blocks that flank the figures' faces or extends between their thighs, the Prüfening scribes crowded the text closely to the figure, in many places cramming words and letters through their outlines. These abridgements make it clear that space within the manuscript *Clm. 13002* was dearly valued and that the scribes were willing to remodel their subjects for greater economy and eliminate materials they considered superfluous.

To create their redesign, the scribes carefully planned their figures and drew them with precision. Underdrawings (**fig. 9**) are clearly legible below the surface of each figure, which plot out the body in geometricized units. A line was traced down the center and the remaining portions of the figure were sketched out from this axis. This approach

⁵⁴ On optical illustrations in Arabic texts see Emilie Savage-Smith, "Galen's Lost Ophthalmology and the *Summaria Alexandrinorum*," *Bulletin of the Institute of Classical Studies. Supplement*, no. 77 (2002): 121–38.

⁵⁵ On other Islamic influences see: O'Neill, "Tracing Islamic Influences," 154–162.

⁵⁶ On this genre see: Faith Wallis, "Medicine in Medieval Calendar Manuscripts," in *Manuscript Sources of Medieval Medicine: A Book of Essays*, ed. Margaret R. Schleissner, 105–42 (New York: Garland, 1995).

stabilizes each figure with a high degree of symmetry and betrays an experienced approach to figural depiction. The final drawing covers this scheme with smooth, confident pen strokes of varying pressure and thickness, which gives the figures a sense of weight and dimension. With this clean design and application, the Prüfening scribes corrected many of the gross mistakes that characterized other redactions of the Sitting Figures Series. For instance, the Cambridge codex (**see pl. 5**), which lacks any underdrawing, balloons the figures out of proportion with bulbous, limbs, necks, and faces. In several instances, the spine protrudes impossibly from the body itself, and many of the interior shapes, such as the ribs, are rendered in flat, linear schemes that deny any sense of dimensionality. Other redactions of the Sitting Figure Series, are even more troubled, morphing the body into grotesque, almost monstrous shapes, which completely obscure the interior (**fig. 10**). In comparison to these models, the Prüfening scribes produced cleanly proportioned figures drawn with purpose and care that should be counted as one of the most elegant and sophisticated cycles of the Sitting Figure Series.

iii. The *Historia incisiones* as a Product of the Monastic Network

Created within a short time of each other, the Prüfening and Cambridge *Historiae* likely descended from a common ancestor that was repeatedly borrowed and copied by different monastic houses.⁵⁷ While much effort has been placed in recovering the “ancient” prototypes of the Prüfening Series, few have considered the medieval manuscript from which it was drawn or the institution that lent it. Although this archetype has disappeared, the emergence of the Prüfening and Cambridge *Historiae* from the monastic circuit speak to a vibrant set of reform-minded communities with an appetite for the latest in natural

⁵⁷ McCall, “*Reliquam dicit picture*,” 7–8.

philosophy. As McCall has suggested, the Cambridge *Historia* likely descended from the Anglo-Norman houses of England, which shared a broad range of connections both domestically and within the continent. The exemplar itself might have been first produced at the school of Salerno in southern Italy, which had been writing and translating anatomical treatises for over a century.⁵⁸ As studies by Monica Green, Faith Wallis, and Gils Gasper have shown, Benedictine houses in Anglo-Normandy were firmly connected to continental schools such as Salerno, and acquired a sizable number of medical and anatomical treatises from these centers.⁵⁹ Works of medicine were quickly absorbed by the monasteries which copied, abbreviated, and illustrated them at an impressive pace. Green's tally of medical Latin literature from the twelfth century shows that nearly a quarter of these texts were produced in Norman controlled England and Northern France, which "may have been even more richly endowed with medical literature than Salerno itself."⁶⁰

Many of these works appear with illustrations, *rotas*, charts, *computi*, and related schemata whose style and execution recall much of the imagery found in the Prüfening

⁵⁸ On Salerno see: Florence Eliza Glaze, "Gariopontus and the Salernitans: Textual Traditions in the Eleventh and Twelfth Centuries," in *La "Collectio Salernitana" di Salvatore De Renzi: Convegno internazionale, Università degli studi di Salerno, 18–19 giugno 2008*, ed. Danielle Jacquart and Agostino Paravicini Bagliani, 149–90 (Firenze: SISMEL - Edizioni del Galluzzo, 2009); Brian Lawn, *The Salernite Questions: An Introduction to the History of Medieval and Renaissance Problem Literature* (Oxford: Clarendon Press, 1963), 16–39; Monica Green, ed., *The Trotula: A Medieval Compendium of Women's Medicine* (Philadelphia: University of Pennsylvania Press), 1–67.

⁵⁹ Monica Green, "Salerno on the Thames: The Genesis of Anglo-Norman Medical Literature," in *Language and Culture in Medieval Britain: The French of England, c. 1100–c. 1500*, ed. Jocelyn Wogan-Browne, 220–32 (York: York Medieval Press, 2009); Gils Gaspar, "'A Doctor in the House'?: The Context for Anselm of Canterbury's Interest in Medicine with Reference to a Probable Case of Malaria" *Journal of Medieval History* 30 (2004): 245–61; Giles Gasper and Faith Wallis, "Anselm and the *Articella*" *Traditio* 59 (2004): 129–74. See also Debby Banham "Medicine at Bury St. Edmonds in the Time of Abbot Baldwin," in *Bury St Edmunds and the Norman Conquest*, ed. Tom Licence (Woodbridge: The Boydell Press); Edward J. Kealey, *Medieval Medicus: A Social History of Anglo-Norman Medicine* (Baltimore: Johns Hopkins University Press, 1981); Richard Gamenson, *The Manuscripts of Early Norman England (c. 1066–1130)* (Oxford: Oxford University Press), 11–12.

⁶⁰ Monica Green, "Salerno on the Thames," 221.

Gathering. As these medical works penetrated into the monastic sector, they often were combined into illustrated miscellanies of physical and spiritual knowledge known as *florilegia*, intended especially for students and novices.⁶¹ The sampling of subjects within the Prüfening gathering resembles much of this content, as do similarities between the image cycles. The Prüfening diagram of the microcosm is in fact highly reminiscent of its counterpart in the *Hortus deliciarum* of Abbess Herrad of Hohenberg (**fig. 11**): a naked figure in twisted profile surrounded by schemata of elements and planetary influences. The similarities between these works strongly suggest that the Prüfening *Historia* was carried to the monastery in a document of similar form.⁶² This manuscript could have arrived from Anglo-Norman lands during the rule of the Abbot Gottfried of Prüfening who had studied in the schools of Northern France as a monk and maintained connections with the region, donating at least four books of French provenance after being elected in 1163.⁶³ Or it could also have been lent by nearby Saint Emmeram, an esteemed house located less than five kilometers from Prüfening, which was well connected to the schools of northern France and repeatedly exchanged medical and natural philosophical materials with these communities.⁶⁴

⁶¹ See especially Danielle Joyner. *Painting the Hortus Deliciarum: Medieval Women, Wisdom, and Time* (University Park: Pennsylvania State University Press, 2016); Fiona Griffiths, *The Garden of Delights: Reform and Renaissance for Women in the Twelfth Century* (Philadelphia: University of Pennsylvania Press, 2007); John E. Murdoch, *Album of Science: Antiquity and the Middle Ages* (New York: Charles Scribner's Sons, 1984), 32. Botanical language in the treasury diploma from Prüfening evokes these “gardens of knowledge” with metaphors of plants and flowers used to assess the material goods of the monastery. At the top, the three figures—Otto I of Bamberg (founder), Saint George (patron), and Christ—support the diploma in their hands. Otto describes the contents of the treasury as “good things” he has planted (*hec bona plantavi*); Saint George reflects on the growth of these “plants” via his intercessions (*p[rae]cib[us] plantata rigavi*); and Christ notes that he maintains these “plants” through study, vows, and pious song extended by the community (*Tangor planantis stvdiiis votisq[ue] p[rae?]cantis*). See Boeckler, *Die Regensburger-Prüfeninger Buchmalerei*, 27.

⁶² Cohen, “Making Memories,” 5.

⁶³ Klemm, *Die romanischen Handschriften*, 1:28–9.

⁶⁴ In the first quarter of the century, a monk named Hartwich proudly returned from his studies at Chartres with a trove of works on dialectics, astronomy, and natural history (a catalog of which can still be read in

Many of these French-inspired works are currently held by the Bayerische Staatsbibliothek in Munich, and attest to the import and adaptation of natural-philosophical images in Bavarian monastic communities: a miscellany (**fig. 12**) compiled between the eleventh and twelfth century that contains a world map and diagrams of the zodiac; a copy of Microbius's *Lacantius* (**fig. 13**), likewise illustrated with maps and astronomical schemata; plus another miscellany (**fig. 14**) containing astronomical data, diagrams of the micro-macrocosm, and a sketch of Noah's ark, possibly related to Hugh of Saint Victor's *De arca Noe mystica*.⁶⁵ In addition to these works, Saint Emmeram was well endowed with medical manuscripts as attested by an eleventh-century catalog, which lists "ten books concerning the medical arts" (*Libri X de medicinali arte*) plus an additional work "regarding man and his parts" (*Liber de homine et partibus eius*).⁶⁶ Unfortunately, like many medieval catalogs, these books received no further description and we can only speculate as to their contents.

While the exact route of the exemplar for the Prüfening *Historia* remains unknown, the monastic networks through which it passed presents a vigorous climate of medical illustration. The Prüfening house was itself directly engaged in this climate and exported its own share of manuscripts to other communities. Around 1241, *Clm. 13002* was itself loaned to the Benedictine monastery of Scheyern where it was copied by a scribe named Conrad. His version (**pIs. 6–7**), reordered the illustrations found in the

Bayerische Staatsbibliothek MS Clm. 14436, fol. 61v). See Harriet Pratt Lattin, "The Eleventh Century MS Munich 14436: Its Contribution to the History of Co-ordinates, of Logic, of German Studies in France" *Isis* 38 (1948): 205–25.

⁶⁵ Klemm, *Die romanischen Handschriften*, 1: no. 18, 21, and 23.

⁶⁶ Florence Eliza Glaze, *The Perforated Wall: The Ownership and Circulation of Medical Books in Medieval Europe, ca. 800–1200* (Ann Arbor: University of Michigan Press, 2005), 192; Gustav Becker, *Catalogi bibliothecarum antiqui* (Bonn: M. Cohen et filium, 1885), 42; Theodor Gottlieb, *Über Mittelalterliche Bibliotheken* (Leipzig: Otto Harrassowitz, 1890), 169.

Prüfening Gathering and supplemented them further with new themes.⁶⁷ A “Sphere of Apuleius,” a labyrinth, a wind chart, a T-chart, and a diagram of the four elements are enveloped into a preface for the image of the microcosm; the cautery treatises (enlarged to two registers a page) come next followed by the *Historia incisionis* with its five figures. These treatises are trailed by the map of Jerusalem and a small musical tract not included in the Prüfening copy. The illustrations conclude with a dedicatory image and colophon of Conrad (**fig. 15**), kneeling before a brightly painted Virgin and Child and presenting his book.⁶⁸ These modifications again attest to the active role of the scribe as creator and editor and provides yet another insight into how such works were lent and copied among monastic institutions.

**THOUGHT FORMS AND VISUAL INSTRUMENTS:
RECEPTION AND APPLICATION OF THE ANATOMICAL IMAGE AT PRÜFENING**

While this general profile broadly illuminates the natural-philosophical interests within the monastic network, it remains to be seen how such works were actually received and utilized in the monastery. Were the Prüfening *Historia* and its anatomical figures used to further medical study or did they have alternative purposes? A closer analysis of the question, in fact, problematizes any hard categorization of “medicine” within the monastery and reveals instead a hybrid approach to the body grafted from a diverse sampling of physical and spiritual knowledge. Here I contend that the Prüfening Series advanced an open schematic of the body through the matrix of the diagram, which presented the metaphysical “form” of the body rather than a facsimile of its physical

⁶⁷ McCall, “Illuminating the Interior,” 100; John T. McQuillen, “In Manuscript and Print: The Fifteenth-Century Library of Scheyern Abbey,” PhD diss., University of Toronto, 2013, 326–7.

⁶⁸ McCall, “Illuminating the Interior,” 100–101.

appearance. This form conditioned the *intrinsic* pattern of self within the viewer's mind, articulating especially the relations between the corporeal and the spiritual. These connections are especially reinforced in relation to the image of the microcosm on folio 7v (see **fig. 3**), which serves to counterpart the anatomical figures through an exploration of the *extrinsic* forces of nature exerted over the body.

To focus these issues of viewer reception, it is important to explore the fundamental place of the diagram within medieval modes of thought and image making, which, Jeffery Hamburger has argued, epitomized the broader order and hierarchy of the medieval world. Though the diagram has rarely been elevated to the status of “art” Hamburger argues that “the diagram, on its face a cold abstraction, permits one to delve into the desires that informed its makers and in this way map the primary points of intersection between the technical and the cultural.”⁶⁹ Thus medieval diagrams are not simply relics of a bygone visual culture, but rather the formation of a highly structured worldview, which enveloped competing hierarchies of theology, cosmology, and epistemology into visual mantels of orthodoxy.

In these contests for truth, the diagram was not simply a passive description of an idea, body, or text, but rather an active device that directly shaped the parameters of knowledge. In their work on medieval diagrams, Steffen Bogen and Felix Thürlemann have theorized that diagrams represent a third category of expression, which did not simply reiterate information from the text but rather created new meaning through the

⁶⁹ Jeffery Hamburger, “Mindmapping: The Diagram Paradigm in Medieval Art—and Beyond,” in *The Visualization of Knowledge in the Medieval and Early Modern Periods*, ed. Marcia Kupfer et al. (Turnhout: Brepols, forthcoming).

dynamic exchanges between word and picture.⁷⁰ As conjoined graphic structures, the medieval diagram resists the conventional semiotics of Charles Sanders Peirce, in which “diagrams control thought and establish argumentative relations between statements.”⁷¹ Rather, the authors propose that diagrams are “quasi-magical” objects that perform a “poetic reshaping of both text and image.”⁷² Derived, as McCall notes, from the Greek *diagraphēin*, meaning to mark out by lines (*dia* = through *graphein* = writing), “diagram” implies the united action of thought and visualization and should be understood as the graphic shape of ideas and concepts.⁷³ These qualities ultimately mark the diagram as a *tool of thought*, an interaction between producer and recipient, rather than a passive illustration of data.⁷⁴ The stroke of the pen thus becomes the material of the intellect—what Sybille Krämer has termed the “epistemology of the line”—in which knowledge is drafted and the movements of the mind are visualized and managed.⁷⁵

As structures that materialized knowledge and imagination, the Prüfening Series provided an open template on which its monastic audience could pursue an array of technologies for the body. Applying the diagram to the body, the Series produced a scheme of its secret potencies and vulnerabilities. *Scemate humano* of related type were not uncommon in natural-philosophical drawings of the twelfth century and were used as conceptual tools to outline the body’s properties, features, and susceptibility to illness

⁷⁰ Steffen Bogen and Felix Thürlemann. “Jenseits der Opposition von Text und Bild: Überlegungen zu einer Theorie des Diagramms und des Diagrammatischen,” in *Die Bildwelt der Diagramme Joachims von Fiore: Zur Medialität religiös-politischer Programme im Mittelalter*, ed. Alexander Patschovsky, 1–22 (Ostfildern: Jan Thorbecke Verlag, 2003).

⁷¹ *Ibid.*, 17–18.

⁷² *Ibid.*

⁷³ On this point see also Charlotte Bigg, “Diagrams” in *A Companion to the History of Science*, ed. Bernard Lightman, 644–60 (New York: John Wiley & Sons, 2016).

⁷⁴ Bogen and Thürlemann “Jenseits der Opposition von Text und Bild,” 18.

⁷⁵ Sybille Krämer, “‘The Mind’s Eye’: Visualizing the Non-visual and the ‘Epistemology of the Line,’” in *Image and Imaging in Philosophy, Science and the Arts*, ed. Richard Heinrich, Elisabeth Nemeth, Wolfram Pichler, and David Wagner, 275–93 (Berlin: De Gruyter), 279.

(fig. 16). Body schemes could also structure more immaterial concepts from astrological data to histories and genealogies. A consanguinity chart produced by the Prüfening scriptorium in 1160–65 to illustrate a copy of Isidore’s *Etymologiae* (**fig. 17**), uses a related scheme to plot out the various tracts of kinship between relations. Drawn by one of the artists who worked on the gathering, a body scheme is depicted standing upright carrying a series of arcaded micro-registers containing personifications of the various degrees of familial separation. The arcades recall the entablature of the Prüfening cautory series and remind us of the importance of the register in the expression of the schematic mode. The framework surrounding the consanguinity figure also educes a similar edifice in the Prüfening microcosm (**see fig. 3**), which likewise uses banderols to link concepts inscribed in the frame to the structure of the consanguineous body. These examples draw out the general potency of the body as both a thought form and a visual instrument in twelfth-century monastic communities with a broad range of applications. But how exactly might have the anatomical images been utilized at Prüfening?

i. Medical Use

It is generally taken for granted that the Prüfening Series was principally drawn for medical application, but there is little in the document to confirm this assumption. The Series provides only a template of the body and could be interpreted through various frames of reference, both in and outside the paradigms of medicine. The text gives no therapeutic directives nor suggests how its information might inform medical practice; instead it simply lists various parts of the body in a prosaic tally of organs, veins, muscles, nerves, and bones. Gleaning medical information from the Prüfening *Historia*

and its Series would have thus required an audience with experience and training, which was rare in twelfth-century monastic institutions.⁷⁶ Prüfening, in particular, was never a center of any medical repute and the scattered contents from *Clm 13002* are the only medical works produced by its scriptoria.⁷⁷ Like most monasteries in the region, Prüfening did have an infirmary (consecrated in 1123) in compliance with *Constitutiones Hirsaugienses*, which stipulated that each house designate a special room, serviced by a God-fearing attendant for the care of the sick.⁷⁸ Anatomy, however, would have had minimal applications in this space, where the healers of the community practiced an eclectic mix of spiritual therapy, Hippocratic tradition, and local pharmacology.⁷⁹ The drawings may have provided some level of illumination to the preceding registers on

⁷⁶ Florence Eliza Glaze, “Medical Writer: ‘Behold the Human Creature,’” in *Voice of the Living Light: Hildegard of Bingen and Her World*, ed. Barbara Newman, 125–48 (Berkeley: University of California Press, 1998), 128.

⁷⁷ While both library catalogs (i.e. *Bayerisches Staatsbibliothek Clm 13002*, fol. 6v. and *Bayerisches Hauptstaatsarchiv, Prüfening KL 2*, fols. 9v–12v) list a range of theological and philosophical documents, no medical works are found. See: Gerhard Baader, “Mittelalterliche Medizin in bayerischen Klöstern” *Sudhoffs Archiv* 57 (1973): 275–96, 279.

⁷⁸ “Infirmarius qui sacerdos esse debet, ad obsequium infirmorum separatism habet cocum et quoquinam.” Willehelmi Abbatis, *Constitutionum Hirsaugiensium*, ed. Candida Elvert and Pius Engelbert, 2 vols. (Siegburg: Franz Schmitt, 2010), 1:115.

⁷⁹ Of the kinds of medicine practiced in Hirsau infirmaries, there is little description in the Constitution, which prescribes only regulations with no mention of therapy other than acts of benediction: that the sick be treated with holy water upon entering the infirmary (*aqua benedicta asperguntur*), that they attend mass daily (*infirmis autem, quamuis cotidie missam*), and that they strictly obey the general observance of house rule. See: *Constitutionum Hirsaugiensium* 1:115–18. On “monastic medicine” see especially: Umberto Longo. ““Ut sapiens medicus”: Il monastero e la medicina tra metafore celesti e pratiche terrene,” in *Scritti di storia medievale offerti a Maria Consiglia de Matteis*, ed. Berardo Pio, Berardo, 313–36 (Spoleto: Fondazione Centro italiano di studi sull’alto Medioevo, 2011); Daniel Dossenbach, “Heilzauber in der voruniversitären Klostermedizin,” in *Universität, Religion und Kirche: Tagung 19. bis 23. Sept. 2007 im Kloster Weltenburg*, ed. Rainer Christoph Schwinges, 205–29 (Basel: Schwabe, 2011); Philippe Racinet, “Les infirmeries monastiques: Perspectives de recherché,” *Histoire médiévale et archéologie* 17 (2004): 21–34; Carole Rawcliffe, ““On the Threshold of Eternity”: Care for the Sick in East Anglian Monasteries,” in *East Anglia’s History: Studies in Honour of Norman Scarfe*, ed. Christopher Harper-Bill, Carole Rawcliffe, and Richard Wilson, 41–72 (Woodbridge: Boydell Press, 2002); Bernhard Schnell, “Prolegomena to a History of Medieval German Medical Literature,” in *Manuscript Sources of Medieval Medicine*, ed. Margaret R. Schleissner, 1–16 (New York: Garland, 1995); Frederick S. Paxton, “*Signa mortifera*: Death and Prognostication in Early Medieval Monastic Medicine,” *Bulletin of the History of Medicine* 67, no. 4 (1993): 631–50; Wolfgang Hirth, “Korpus der Klostermedizin,” in *Die deutsche Literatur des Mittelalters. Verfasserlexikon*, ed. Burghart Wachinger, 321–25 (Berlin: De Gruyter, 1985).

cautery, which also accompany later redactions of the *Historia incisionis*.⁸⁰ But this form of therapy had little connection to anatomy, being essentially a controlled blistering of the skin to release noxious humors lodged directly below (**fig. 18**).⁸¹ Cautery held no therapeutic claim to the internal structures of the body nor did it rely on any anatomical system to formulate its approach.⁸² Thus while the Prüfening *Historia* may have provided some reference to the arts of healing practiced in the infirmary, its medical applications remain difficult to parse out.

ii. Ontological Uses

More can be gleaned from the anatomical body, however, in the relationship to the figure of the microcosm, which helps place the Prüfening Series within the context of more ontological schemes of self-knowledge. These two diagrams perform complimentary roles, presenting the body in its twin idioms of cosmic lord and anatomic subject. This dichotomy was a subject of immense interest in twelfth-century monastic culture and is closely connected to the dictum of *scio te ipsum* (know yourself), a philosophy that viewed the body as a corporeal frame of identity. Like the Prüfening Series, the microcosm diagram in the same manuscript (**see fig. 3**) is the oldest known figural

⁸⁰ McCall, “Illuminating the Interior,” 35–6.

⁸¹ Cautery was often a therapy of last resort, useful when pharmacological and dietetic remedies were ineffective. Its primary concern was the regulation of humoral balances or “complexio” within the body, an ancient system developed within the Hippocratic corpus. See: Pedro Gil-Sortes, “Introduction,” in *Regimen sanitatis ad regem Aragonum*, by Arnold de Villanova, ed. Luis García Ballester and Michael R. McVaugh, with the collaboration of J. A. Paniagua and L. García Ballester (Barcelona: Fundació Noguera 1996); Nancy Siraisi, *Medieval and Early Renaissance Medicine*, (Chicago: University of Chicago Press, 2009), 101; Michael McVaugh, *The Rational Surgery of the Middle Ages* (Florence: SISMEL, 2006), 168–9; Peter Murray Jones, *Medieval Medicine in Illuminated Manuscripts* (London: The British Library), 76–94; Lawrence Bliquez, *The Tools of Asclepius: Surgical Instruments in Greek and Roman Times* (Leiden: Brill, 2015), 30–32.

⁸² One of the most detailed descriptions of twelfth-century monastic cautery can be found in the *Cause et cure* of Hildegard of Bingen, which recommends annual to semiannual treatments. “Burning, that is to say cautery, is good and useful at any time. If performed carefully, it diminishes the humors and *livores* [the third and fourth humors] under the skin and affords health to the body.” Hildegard of Bingen, *On Natural Philosophy and Medicine: Selections from Cause et cure*, trans. Margret Berger (Rochester: D. S. Brewer, 1999), 95–6.

depiction of this theme, though precursors almost certainly existed.⁸³ Personifying the “little world” the figure diagrams the various correspondences between the sensory motors of the body with cosmic-elemental forces.⁸⁴ Unlike the squatting poses of the anatomical figures, this body stands erect, arms extended and palms upturned inviting the viewer to inspect its properties. Rays of texts project from the arms, legs, and shoulders and the heavenly sphere (*instar celestis spere*) encircles the head. Banderols radiate from the body to reach a frame enclosing the entire composition of the microcosm, which represents the medieval periodic table. Its four elements—fire, air, earth, and water—inhabit the four corners of the image frame and inform us of their influence over the body and its sensory motors: “from the earth—touch” (*ex terra tactus*); “from water—taste” (*ex aqua gustus*); “from fire—vision” (*ex igne visum*); “from higher air—hearing” (*ex aere superiori auditum*); “from lower air—smell” (*ex inferiori est olfactum*).”

A cosmic halo encircling the head of the microcosm shows the planetary correspondences to the seven openings of the head: Saturn for the mouth, Venus and Mars for the nostrils, Jupiter and Mercury for the ears, the sun and moon for the eyes. As Fritz Saxl has suggested, the symmetry between planet and orifice, in all probability descends from ancient Iranian myths, which describe the human head as “the highest

⁸³ Cohen, “Making Memories,” 1.

⁸⁴ Ruth Finckh, *Minor Mundus Homo: Studien zur Mikrokosmos-Idee in der mittelalterlichen Literatur* (Göttingen: Vandenhoeck and Ruprecht, 1999); MarieTérèse d’Alverny, “L’homme comme symbole: Le microcosme,” in *Simboli e simbologia nell’alto medioevo*, 2 vols. (Spoleto: Presso la sede del Centro, 1976), 1:123–83; W. K. C. Guthrie, W. K. C. “Man’s Role in the Cosmos: Man the Microcosm: the Idea in Greek Thought and its Legacy to Europe,” in *The Living Heritage of Greek Antiquity*, 56–73 (the Hague: Mouton, 1967); Fritz Saxl, “Macrocosm and Microcosm in Mediaeval Pictures,” in *Lectures*, 2 vols., 1:58–72 (London: Warburg Institute, 1957).

heaven; his two eyes are like the sun and moon, his teeth the stars, his ears like the windows of the sky, his two nostrils like the breeze of heaven and his mouth is its gate.⁸⁵ But the microcosm was also formed of earth—as inscriptions in the lower half of the frame point out: its bones, an unmoving strata of rocks and minerals; its hair growing like grass, its chest a tempest of winds, and its belly flowing as rivers and seas. Captions at the foot of the microcosm remind the viewer that flesh is made from earth and that the feet support the body just as the earth sustains all. A detail of plant growing at the feet of the figure perhaps represents, the *arbor inversa* or *anthropos*, a vegetal symbol demonstrating the humanoid bridge between heaven and earth, flesh and spirit.⁸⁶ “For a human being is like an inverted tree,” wrote William of Conches. “That is why he is called *anthropos* by the Greeks, that is ‘turned upside down.’ For real trees thrust their roots as it were the head, downward into the earth...On the contrary, humans stretch up their heads, as if it were the roots into the air, from which they breath.”⁸⁷

Like the consanguinity chart discussed earlier (see **fig. 17**) the diagram of the microcosm used the scheme of the body to measure the elemental dimensions of the cosmos. Its frame organized the raw matter of the universe into a corporeal mirror that reflected “the possible half to a universal atlas” in Michel Foucault’s words.⁸⁸ This saliency made the body-as-microcosm a powerful category of thought, which reflected

⁸⁵ Fritz Saxl, “Macrocosm and Microcosm in Mediaeval Pictures,” in *Lectures*, 2 vols., 1:58–72 (London: Warburg Institute, 1957), 1:58.

⁸⁶ See Carl-Martin Edsman, “*Arbor inversa*: Heiland, Welt und Mensch als Himmelpflanzen” in *Festschrift Walter Baetke*, 85–109 (Weimar: Hermann Böhlau Nachfolger, 1966).

⁸⁷ William of Conches. *A Dialogue on Natural Philosophy* (*Dragmaticon Philosophiae*), trans. Italo Ronca and Matthew Curr, ed. John Van Engen and Edward D. English. (Notre Dame: University of Notre Dame Press, 1997), 167.

⁸⁸ Michel Foucault. *The Order of Things: An Archaeology of the Human Sciences* (New York: Vintage Books, 1970), 22.

both the highest and lowest orders of reality and thus served as an axis of truth.⁸⁹ Thus the study of the body was invariably a study of the creation and engendered a model to consolidate the world's diversity of forms. As the microcosm from *Clm. 13002* posits, it is the experience of the body itself, through sensory interactions, which operated this unit. Powered by these five forces of agency, the body acted to filter knowledge into a personal reference through autonomous systems of experience and sensation.

In this corporeal dimension, the Prüfening microcosm makes a significant leap from earlier iterations of the subject, which quantify the microcosm through geometrical designs.⁹⁰ Most common was the "Isidorean wheel" from Isidore of Seville's popular *De natura rerum* (**fig. 19**), which encapsulated the physical world within a circular diagram subdivided along the circumference by six half circles enclosing the seasons, the climates, and the humors.⁹¹ Positioned at the center the words: *mundus, annus, homo* (world, year, man) express the confluence of the temporal, climactic, and humoral elements within the microcosm of the human body.⁹² Seen from above with a God's-eye view, the diagram expresses man as the offspring of time, season and elements, compressed within the core of the universe.

The microcosm from Prüfening, however, takes a different approach, embodying the didactic spheres of the Isidorian wheel within the human frame. As the grand opening to the gathering, this figure focuses the reader's attention on the body's corporeality and especially its sensory engines.⁹³ Interwoven with numerous inscriptions, the body is

⁸⁹ Ibid, 30–31.

⁹⁰ Murdoch, *Album of Science*, 356–9.

⁹¹ Isidore's rota was one of many iterations on the subject, which he claims derived from Ambrose of Milan fourth-century commentary on Genesis. See: Murdoch, *Album of Science*, 356.

⁹² Ibid.

⁹³ Klemm, *Die romanischen Handschriften*, 1:63

transformed into a new diagram of the cosmos replacing the top-down perspective of the universe with a human perspective rooted in the body's perception, consciousness, and sensuality.

The monastic community at Prüfening seemed to have a special interest in this subject of the microcosm, executing a similar diagram fifteen years later (**fig. 20**).⁹⁴ This figure, which appears amid a selection of Christological and astrological tracts, shows a naked figure standing within a diamond-shaped frame surrounded by twelve winds, each connecting to a particular region of the body through lines perforated with arrows. The figure itself is oriented both geographically and elementally within its frame. His feet face west and rest on a solid triangle representing the earth; his head faces east and is surmounted by a triangle representing fire; his right hand, oriented north, grasps a disc representing air; his left hand, oriented south, holds a flower representing water.⁹⁵ Texts encircling the figure explain that the same four elements exist in both the greater *mundus* and the body of man.⁹⁶ These four elements, the text continues, also represent the four gospels whose preaching throughout the four corners of the world signify its ultimate redemption.⁹⁷

These two diagrams from Prüfening express the growing currency of the microcosm as an embodied subject within monastic thought and demonstrate especially a

⁹⁴ Rembrandt Duits, "Celestial Transmission: An Iconographical Classification of Constellation Cycles in Manuscripts (8th–15th Centuries)" *Scriptorium* 59 (2005): 147–202; Renate Trnek, "Die Darstellung der vier Elemente in Cod. 12600 der Österreichischen Nationalbibliothek in Wien: Ein Beitrag zum Problem der Antikenrezeption in der 'Kunst um 1200.'" *Jahrbuch der Kunsthistorischen Sammlungen in Wien* 75 (1979): 7–56; Renate Borchers, "Die ikonographischen Quellen des Codex 12600 der Österreichischen Nationalbibliothek in Wien" BA diss., Wien 1975.

⁹⁵ Murdoch, *Album of Science*, 358.

⁹⁶ "Macrocosmos constat ex quatuor elementis igne aere aqua et terra. Sic et microcosmos id est homo constat ex isdem iiii elementis igne aere aqua terra." Österreichischen Nationalbibliothek, Vienna (Cod. 12600, fol. 29r).

⁹⁷ "Significant iiii euangelia que per iiii mundi ad saluationem," *ibid.*

new impetus to arrange this figure pictorially. In this regard they speak to more famous iterations of the subject, such as Hildegard of Bingen’s diagram from Vision Three of her *Liber divinorum operum* (**fig. 21**), which centers the human body in concentric spheres of the firmament, surrounded by the winds, anthropomorphized as animals.⁹⁸ Hildegard rhetorically invokes the same figure in her *Liber simplicis medicinae* to emphasize the central importance of humanity within the creation: “Humans stand in the center of the cosmos, since they are of greater meaning than all other creatures, which remain dependent on the world. Although they are small in stature, they are great in the power of their souls.”⁹⁹

While each of these microcosms emphasize different elements, they all treat the body as the center of creation, a being whose rational senses marked it as the most advanced form of the universe. The Prüfening figure makes this point especially clear, extending the banderols of sensory force to the limits of the page, which frame the outermost boundaries of human experience within the index of the elemental world. Outside of this box, the blank margins signal the unknown immaterial world, which the senses cannot enter. But within this frame, the sensing being is exultant. Crowned with a nimbus of planetary schemata, the figures exudes an aura of divinity, a point further embellished by the artist’s choice to draw the microcosm with the same physiognomy of Christ surmounting the treasury cartouche (**see fig. 2**). Given the diversity of countenances pictured within the entire gathering, this choice seems deliberate,

⁹⁸ The image postdates both Prüfening microcosms—painted tentatively around 1227 to promote her canonization—but was likely copied from an earlier work. See Madeline Caviness, “Hildegard as Designer of the Illustrations to her Works,” in *Hildegard of Bingen: The Context of Her Thought and Art*, ed. Charles Burnett, Jill Kraye, and W. F. Ryan, 29–64 (London: Warberg Institute, 1998), 34; Ritta Otto, “Zu den gotischen Miniaturen einer Hildegardhandschrift in Lucca,” *Mainzer Zeitschrift* 71/2 (1976–77): 110–126.

⁹⁹ Quoted in: Wighard Strehlow and Gottfried Hertzka, *Hildegard of Bingen’s Medicine*, trans. Karin Anderson Strehlow (Santa Fe: Bear and Co., 1988), xix.

underscoring the fact that the human body was “made in the image and likeness” of the creator.

iii. A Mirror of Flesh

Created by the same artist, the linear, calligraphic modes of the microcosm and the Sitting Figure Series resonate with the same graphic vitality and form a common bond in their revelation of the body schematic. In later centuries, these subjects would entwine completely in so-called “zodiac men,” which presented the anatomical body surrounded by the twelve symbols of the zodiac whose cosmic influenced created both auspicious and hazardous moments for therapy (**fig. 22**).¹⁰⁰ Here in the Prüfening manuscript, however, the forms of microcosm and anatomy have yet to fully unite; each diagram provides separate readings of the human form and its parts like a double-sided mirror casting diverging reflections: anatomy—a descent through the flesh, past organs and bones, to the human spirit; and microcosm—an ascent from the flesh, through the senses, and outward through elemental channels to the limits of the firmament. However, the five figures delineate the body’s form in unfolding detail, fragmenting the greater mirror of the microcosm into individualize reflections. The serial rhythm of the five figures allows the body to be studied at intervals and forces the viewer to conceptually stack the body in anatomical strata to piece together the totalizing image of the microcosm.

¹⁰⁰ On late medieval medical astrology see especially: Liana Saif, “The Arabic Theory of Astral Influences in Early Modern Medicine,” *Renaissance Studies* 25 (2011): 609–26; Daniell Jacquart, “Le soleil, la lune et les états du corps humain,” *Micrologus* 12 (2004): 239–56; Cornelius O’Boyle, “Astrology and Medicine in Later Medieval England: The Calenders of John Somer and Nicholas Lynn,” *Sudhoffs Archiv* 89 (2005): 1–22; Gerrit Bos, Charles Burnett, and Y. Tzvi Langermann, “Hebrew Medical Astrology: David Ben Yom Tov, *Kelal Qaṭan*,” *Transactions of the American Philosophical Society* 95, no. 5 (2005): i–ix, 1–121.

As a five-part dissection of the human microcosm, the figures elucidate especially how this body operated in relation to human will. The first two figures, in particular outline the anatomical structures through which the soul directs the body and receives sensory input (**fig. 23**). In Galenic terms, this scheme relied on the tripartite system of “spiritual” organs: the heart (*corde*), a teardrop shaped organ in figure two emanating a web of arteries; the stomach (*stomachi*), a complex system of chambers connecting to the intestines in figure one; and the liver (*epar*) a five-lobed crescent pictured in both figures.¹⁰¹ Galen’s anatomy proposed how these spiritual organs produced a *pneuma* (*spiritus*) generated from a complex physiological process.¹⁰² First, food digested in the stomach (*chyle*) passed to the liver where it was refined into “natural spirit” the subconscious automation of the body, initiating the process of appetite, digestion and expulsion.¹⁰³ In this most primitive state the “natural spirit” was innate to all living forms, but in the human body it was passed through the veins to the heart where it was purified in the right ventricle through the respiration of the lungs. This became the “vital spirit,” whose presence moved to every part of the body and give it sensation.¹⁰⁴ Vital spirit sent to the brain, however, underwent a third transition in the *rete mirable*, a “marvelous net” pictured in the forehead of figure two. This lattice of veins processed the “vital” into “animal spirit,” the psychic force of thought and movement, which descended through the nerves and powered the body.¹⁰⁵ While generated through physical processes, the animal spirit was understood to be not entirely physical but rather, a quasi-spiritual substance

¹⁰¹ See Charles Burnett, “The Chapter on the Spirits in the *Pantegni* of Constantine the African,” in *Constantine the African and Alī Ibn Al-‘Abbās Al-Magūsī: The Pantegni and Related Texts*, 99–120 (Leiden: Brill, 1994).

¹⁰² On Galen’s anatomy see: Nancy G. Siraisi, *Taddeo Alderotti and His Pupils: Two Generations of Italian Medical Learning* (Princeton: Princeton University Press, 1981).

¹⁰³ *Ibid.*, 104.

¹⁰⁴ *Ibid.*

¹⁰⁵ *Ibid.*

through which the soul could exercise its will over the body and experience its sensations.

The fineries of this pneumatology have been largely lost within the textual descriptions offered by Prüfening *Historia*, but one fragment of this scheme remains lodged in a description of a “black grain in the heart in which a spirit resides” (*a nigro grano quod est intus in corde eius quo spiritus habitat*). While this “black grain” was not pictured in the Prüfening Series, later redactions do include it and attest to the Series’s longstanding relationship with Galen’s systems of spirits (**fig. 24**).¹⁰⁶ While the exact interpretation of the “black grain” in Galen’s corpus of writing remains undetermined, the reference points to a broader interest in the animating principles of the body.¹⁰⁷ As vehicles of the soul, the physical body bore witness to its invisible presence, raising a mirror of flesh before its ethereal agent. This locution ultimately transformed the body into a sign of the eternal soul whose understanding was essential to the monastic enterprise and guided the viewer through the labyrinth of corporeal forms to the hierarchies of truth.

iv. *Scito te ipsum*

The tripartite doctrines of the *spiritus* and its ambulation in the body expressed in the Prüfening Series had considerable impact on a number of twelfth-century monastic thinkers who became greatly interested in the dynamics between body and soul and its implications for the individual within the fixed universe. As vehicles of “self knowledge” (*scito te ipsum*) both anatomy and its microcosmic double were treated as signposts

¹⁰⁶ Boyd H. Hill, “The Grain and the Spirit in Mediaeval Anatomy,” *Speculum* 40 (1965): 63–73

¹⁰⁷ O’Neill, “The *Fünfbilderserie* Reconsidered,” 236–45.

beckoning the viewer toward recognition of the self as a physical, spiritual, and cosmological entity. Similar mediations had been conducted in fourth-century Christian works such as Nemesius *De natura hominis*¹⁰⁸ but were greatly expanded and revived in the twelfth-century, especially in Cistercians writings such as Alcher of Clairvaux's *De spiritu et anima* (1170), Issac of Stella's *De spiritu et anima* (ca. 1162) and most notably William of Saint Thierry's *De natura corporis et animae* (ca. 1140).¹⁰⁹ At the outset of this influential work, Saint Thierry invokes the figure of the microcosm in a doxology on the human form:

Among the Greeks the answer of the Delphic Apollo is well known: 'Man, know yourself' [*scio te ipsum*]. . . For he who does not dwell in his own domain through the contemplation of wisdom, necessarily enters into that of others through the vanity of curiosity. . . And so, we shall make a thorough investigation of our *microcosm*, our little world, man, both within and without, that is in soul and body, so that through our understanding of what we can see and perceive in ourselves we may rise to the author of all things, visible and invisible.¹¹⁰

¹⁰⁸ Nemesius, Bishop of Emesa. *De Natura Hominis* (Leiden: Brill, 1975).

¹⁰⁹ These works helped set the stage for more elaborate theories of the body/soul nexus in the thirteenth century such as Albert Magnus and would culminate with his pupil Thomas Aquinas who reformulated the Aristotelian position of "formal identity" in which the body was affirmed to be an expression of the soul—its matter a form of pure potency generated within the nexus (*unica forma*) of body/soul. See: Michael Frampton, *Embodiments of Will: Anatomical and Physiological Theories of Voluntary Animal Motion from Greek Antiquity to the Latin Middle Ages, 400 B. C.–A.D. 1300* (Saarbrücken: Muller, 2008), 371–4; Caroline Walker, Bynum, *The Resurrection Of the Body in Western Christianity, 200–1336* (New York: Columbia University Press, 1995), 259–63; Bernard McGinn, *The Golden Chain: A Study in the Theological Anthropology of Isaac of Stella* (Washington, DC: Cistercian Publications, 1972); Gaetano Raciti, "L'autore del De spiritu et anima," *Rivista di Filosofia Neoscolastica* 53 (1961): 385–401.

¹¹⁰ William of Saint Thierry, *De natura corporis et animae*, I, 2. "Fertur celebre apud Graecos delphici Apollinis responsum: homo, cito te ipsum. Hoc et Salomon immo Christus in Canticis: si non, inquit cognueris te, egredere. Qui enim non immoratur in eis quae sua sunt per sapientiae contemplationem egreditur necessario in aliena per curiositatis uanitatem. Quapropter, cum omni homini qui capax est rationis uix suus sufficiat sensus nisi adiutus a fratria ut sciat se ipsum, cum tamen hoc nihil ei conferat nisi ex hoc quod ipse est, ascendat ad eum a quo ipse est et qui est super ipsum, miserrime errat et desipit qui extra se in alienis intellectum suum dispergit, cui natura, immo autor naturae Deus, tantum intra se indixit operationis negotium. Vt igitur microcosm nostrum, id est minorem mundum, hominem scilicet, ex aliqua parte intus perscrutemur et foris, id est anima et copore, ut per uisibilia uel sensibilia nostra intellect ad uisibilia et inuisibilia omnium surgamus autorem." Guillaume de Saint-Thierry, *De la nature du corps et de l'âme*, ed. and trans. Michel Lemoine (Paris: Société d'Édition "Les Belles Lettres," 1998), 67; for English Translation see William of Saint Thierry, "The Nature of the Body and Soul," in *Three Treatises on Man: A Cistercian Anthropology*, trans. Benjamin Clark, ed. Bernard McGinn, 101–25. (Kalamazoo: Cistercian Publications, 1977), 103

Merging Christian and Delphic maxims, William's treatise invokes the principle of the microcosm as the staging ground for the performance *scito te ipsum*. But William's microcosm is only the starting point of this intellectual journey in which the practitioner scaled "seven grades of ascent to God."¹¹¹ The microcosm was the first angle of this trajectory; next was an investigation of the material body whose forms were described as the "instruments of the soul."¹¹² Relying heavily on anatomical theory from the *Pantegini* of Constantine the African, William of Saint Thierry explored the material realms of anatomy to triangulate the presence of a *spiritus*, posited as a bridge between matter and spirit and used to formulate the problematic relationship between the body and the soul.¹¹³ If the physical body was perishable object, composed purely of matter, how then did an immaterial soul enter and enliven this subject? The solution was a partial revival of the ideas of eleventh-century philosophers, such as Alfanus of Salerno who had posited the presence of a *spiritus* or animating life force that bound the material and the immaterial together.¹¹⁴ With heavy quotations from Nemesius, Galen, and others, Alfanus had declared that the "soul being incorporeal and distant from the body may in no way adhere to the substance of the body if the *spiritus* like an incorporeal body were not an intermediary, which harmonizes and harmoniously binds the separate substances."¹¹⁵ The *spiritus* thus suggested a solution to the paradox of human identity, but the question still needed refinement.

¹¹¹ William of Saint Thierry, "The Nature of the Body and the Soul," 141

¹¹² Anima igitur in primo gradu corpus hoc terrenum atque mortale praesentia sua uiuificat, colligit in unum atque in uno tenet, defluere atque contabescere non sinit, alimenta per membra aequaliter suis cuique redditus de distribui facit, congruentiam eius modumque conseruans non tantum in pulchritudine, sed etiam in crescendo atque gignendo." Guillaume de Saint-Thierry, *De natura corporis et animae*, 199.

¹¹³ Bernard McGinn, "Introduction," in *Three Treatises on Man: A Cistercian Anthropology*, ed. Bernard McGinn, 101–25. (Kalamazoo: Cistercian Publications, 1977), 30–35.

¹¹⁴ Boyd H. Hill, "The Grain and the Spirit in Mediaeval Anatomy," 63–73.

¹¹⁵ Quoted in *ibid.*, 65.

William of Saint Thierry developed the issue further, building from Galenic theory to postulate how the “fundamental principles of life: the brain, heart and liver” set a spirit (*spiritus*) in motion that “flows through them to every part of the body [and] gives for the body’s motions a direction which is varied and manifold, exceedingly swift and versatile and adapted to every activity.”¹¹⁶ Ministering through this quasi-material *spiritus*, the rational soul was able to unite directly to the body to sustain life and promote natural growth. The body is configured as a template of the soul for “in the fashioning of the organs of the body, the soul is foreshadowed by analogy, imperfect in the imperfect, but perfect in the perfect to come.”¹¹⁷ Though analogical and often obscure, physical investigation of the body and its anatomy carried the potential to yield the material traces of the soul, and in William’s system would sponsor an important step in the audience’s spiritual advancement.

William of Saint Thierry’s theories ultimately help clarify the relationship between the anatomical Series and the figure of the microcosm in the Prüfening manuscript, suggesting that these subjects formed a joint investigation of the body through material and ontological frames. While medical information could still be gleaned from the anatomical Series by a knowledgeable reader, their function was primarily heuristic as devices for monastic readings of self and its position within the created universe. In this commitment, they imprinted the divine scheme of the body within the viewer’s memory through the artifice of the diagram itself. It is thus no

¹¹⁶ Quaecumque ergo ad munimen uitae pulchritudinem natura machinate est omittentes, quae plura sunt et ad se inuicem suas habentia differentias, prima ex eis segregemus principia in quibus uitae constitution fundatur, scilicet cerebrum, cor et hepar.” William of Saint Thierry, *De natura corporis et animae* II, 54.

¹¹⁷ “Sic uitae nutriendae et confortandis naturalibus incrementis, per hanc artificialem et disciplinalem formationem statim coniuncta uirtus animae rationali ostenditur, obscurius quidem per primam manifestationem, diende uero ex processu naturae et bonorum studiorum usu manifestius.” *ibid.* II, 57.

coincidence that the first anatomical images were developed and dispersed from the intellectual cultures of the monastery. Rather, the need to visualize and diagram knowledge within these communities facilitated the need to map the body for programs of study and meditation.

A MISSING RIB? ANATOMICAL HERESY AND THE ORDER OF TRUTH

As tools for thought, the Prüfening Series, ultimately reveals a monastic culture deeply entangled in the study of ontology. Developed as branch of medical theory, anatomy was not utilized for therapy but rather as *scientia* of the body in the twelfth-century, deployed to answer questions about the physical and spiritual nature of man. In this mode it also gained significant influence and began to impact the order of knowledge in twelfth-century monastic thought. An usual passage accompanying the bone figure in the Series provides a final vantage point on the document's interpretation and the broader position of anatomy with the twelfth-century hierarchies of monastic knowledge. The passage in question concludes the "long" description of the bones with a rather puzzling interjection on the differing number of ribs in male and female bodies, resulting (implicitly) from the creation of Eve in Genesis. After detailing the nature and number of the bones (248 in all) in the body,¹¹⁸ the passage adds a numerical revision in its conclusion: "The ribs on the right side of the body are complete but in the left side

¹¹⁸ Roger French, "An Origin for the Bone Text of the 'Five-Figure Series,'" *Sudhoffs Archiv* 68 (1984): 143–58, 146.

there is one less rib in men while in women, this side is whole.”¹¹⁹ This curious statement can be found nowhere else in anatomical literature, and is completely idiosyncratic the *Historia incisiones*.¹²⁰ However, it is without question a reference to the birth of Eve described in Genesis 2:21, in which God forms Woman from a rib taken from Adam’s side. Incredibly, the statement implies that *all* men bear the hereditary mark of Eve’s creation, even though a basic observation of the male body would show otherwise. Asserting the literal truth of Genesis over the visible evidence of the ribs themselves, the *Historia* reduces the body to a subject of *divina scriptura* and obfuscated anatomy’s frame of truth.¹²¹ Interestingly, the image of the bone figure seems to resist the hierarchy registered by the text, picturing a whole set of ribs on both sides of the figure (**fig. 25**). Perhaps, then, this is meant to represent the body of a woman whose complete figure provided the most thorough iteration of the bones for the illustrators. However, as all five figures are rendered without sexual organs, typical of representations of pre-lapsarian Adam and Eve, the Series does not show any other tendency to gender its subjects, nor does the text offer any further delineation between the sexes aside from the reference to the missing rib. More likely, this passage on the rib was added after the original composition of the

¹¹⁹ “Costae vero (i.e. the vertebrosteral ribs) lateris dextri [sunt] complete et in parte sinistra est minus costa una in masculo et feminis sunt complete.” Munich, Bayersiche Staatsbibliothek, *Clm. 13002*, 3r.

¹²⁰ McCall, “Illuminating the Interior,” 160.

¹²¹ Given the scholarly focus on the *Historia*’s textual tradition, it is surprising how little attention has been given to this idiosyncratic remark. French’s study of the origin of the bone text makes no mention of this passage. McCall’s dissertation mentions the rib, but offers no real interpretation of its presence. Sudhoff only describes the passage as a “delightful” (*köstlich*) precursor to later medieval scenes of the birth of Eve. O’Neill’s work focuses on the arterial passage and the compound organs and makes no mention of the missing rib. Boyd Hill’s dissertation merely refers to the statement on the rib as only a “pious reference.” See French, “The Origin for the Bone Text”; McCall, “Illuminating the Interior,” 60; Karl Sudhoff, “Anatomische Zeichnungen (Schemata) aus dem 12. und 13. Jahrhundert,” 57; O’Neill, “The *Fünfbilderserie* Reconsidered,” 236–45 and O’Neill, “The *Fünfbilderserie*—a Bridge to the Unknown,” 538–49; Boyd Hill, “The *Fünfbilderserie* and Medieval Anatomy” PhD dissertation, University of North Carolina at Chapel Hill, 1963, 36.

treatise and the change was never incorporated into the figures (although some later redactions of the Series do illustrate the missing rib).¹²² While the discontinuity between text and image could have resulted from many factors, the resulting effect chronicles the Prüfening Series as a genderless paradigm of the body procreated in the realm of thought. This scheme patterned the body after its divine prototype—prior to the birth of Eve—as existing first in the mind of God.

i. “Deribbing” the Truth of Genesis

Aside from the formulaic benediction offered by the incipit (*In nomine patris et filii*) the text is otherwise devoid of any other scriptural or theological reference, suggesting that this statement on the ribs was singled out for a particular purpose. While the exact impetus for this reflection on the ribs remains unknown, its claim points to a controversy over the genesis of the body that broke out a few decades prior in the region of Northern France. In 1120, William of Conches had written a short essay on philosophy entitled *Philosophia mundi* that brought a new interpretation to the Genesis story and especially the origin of Woman. Of Eve’s creation, William made a rather daring claim that scripture—which stated that Eve had been created from Adam’s rib—should not be understood literally as it ran contrary to the order of nature. Instead he suggests that, “the body of woman was likely created from an adjacent mound of earth...and though divine scripture says that God created woman from the rib of Adam, it is not literally believed that God ‘deribbed’ [*excostare*] the first man.”¹²³

¹²² McCall, “Illuminating the Interior,” 60.

¹²³ “Ex uicino limo terrae corpus mulieris esse creatum uerisimile est...et hoc est quod diuina pagina dicit, deum fecisse mulierem ex latere Adae. Non enim ad litteram credendum est deum excostasse primum hominem.” William of Conches, *Philosophia mundi: Ausgabe Des. 1. Buchs Von Wilhelm Von Conches*’

William's interpretation of Eve's creation had been heavily inspired by Neo-Platonism and other works of natural philosophy, which he used to gloss portions of Genesis.¹²⁴ Understanding the creator's touch, William believed, was best approached with studies of the human body, which he describes at length with extensive quotes from the medical anthologies of Constantine the African and commentaries on Plato's *Timaeus*. Utilizing especially the physiology of humoral theory, William traced the creation of the body back to its natural origin as an eruption of elemental froth during God's creation.¹²⁵ As the newly-formed stars heated the earth, boiling bubbles (*calore bulliens*) of mud began to spawn different creatures based on the elemental composition of the clay. Parts heavy with fire and water produced choleric creatures such as lions, whereas those of only water birthed phlegmatic animals like pigs.¹²⁶ Humans on the other hand developed from a node of perfect elemental, and thus humoral balance, making it the most complete of God's creatures.

According to Genesis, however, the creation of Woman occurred through the removal of Adam's rib, not a primordial eruption. Daringly, William suggests that his Platonic reading was in greater conformity to the laws of nature and suggested that the claim of scripture was metaphorical (*non ad literam*). God surely would not violate the

Philosophia Mit Anhang, Übersetzung Und Anmerkungen, ed. Gregor Maurach (Pretoria: University of South Africa, 1974), 30.

¹²⁴ See: Andrew James Hicks. *Composing the World: Harmony in the Medieval Platonic Cosmos* (Oxford: Oxford University Press, 2017), 129–40; Italo Ronca and Matthew Curr, "Introduction," in *A Dialogue on Natural Philosophy* (*Dragmaticon philosophiae*), by William of Conches, ed. Italo Ronca and Matthew Curr, xv–xxvi, (Notre Dame: University of Notre Dame Press, 1997); Tullio Gregory, *Anima mundi: La filosofia di Guglielmo di Conches e la Scuola di Chartres* (Florence: G. C. Sansoni, 1955), 11–12, 165–66, 204–6.

¹²⁵ Hicks, *Composing the World*, 134.

¹²⁶ *Istis sic creates ex aqua effectu superiorum, ubi tenuior fuit aqua ex calore et creation praedictorum desiccate, apparuerunt in terra quasi quadem maculae, in quibus habitant homines et alia quadem animalia. Sed cum terra ex superposita aqua esset lutosa, ex calore bulliens, creavit ex se diversa genera animalium, et si in aliqua parte plus abundaverit ignis, colerica nata sunt leo; si terra, melancolica ut bos et asinus; si ver aqua, flegmatica ut porci.* William of Conches, *Philosophia mundi*, 30–31.

rules of his creation in the formation of its final piece, Eve. The “deribbing” (*excostare*) of Adam—a term William seems to have jokingly invented for the occasion—was therefore merely a symbol for the true process of nature described by scientists (*Non enim ad litteram credendum est deum excostasse primum hominem*).¹²⁷

Conches’s theory of an organic generation of the body—enacted by the effects of the stars upon the elements—did not have a positive response.¹²⁸ As his work began to circulate, condemnations began to mount. The most severe was levied in 1140 by William of Saint Thierry after the *Philosophia mundi* reached his monastery of Signy, carried innocently enough in the sack of a novice.¹²⁹ Outraged by what he read, Saint Thierry penned a heated letter to Bernard of Clairvaux—known today as the *Epistola de erroribus Guillelmi de Conchis*—providing scorching rebuttals of his reading of Genesis and especially on William of Conches’ birth of Eve. “On the creation of woman, it is clear to all readers how foolishly, how arrogantly he mocks the creation account vouched for by divine authority, namely [by saying] that God had “deribbed” (*excostare*) the first man in order to make Woman from his rib.”¹³⁰

The matter of Adam’s rib turned out to be of grave concern, not only to uphold the literal authority of scripture but also its sacramental and typological systems. Quoting Augustine at length, William of Saint Thierry asserts that Adam is the prefiguration of

¹²⁷ Ibid.

¹²⁸ On William’s accusation and retraction see especially Paul Edward Dutton, *The Mystery of the Missing Heresy Trial of William of Conches* (Toronto: Pontifical Institute of Medieval Studies, 2006).

¹²⁹ Ibid, 3–5.

¹³⁰ “In creation uero mulieris palam omnibus legentibus est, quam stulte, quam superbe irridet historiam diuinae auctoritatis, scilicet excostasse Deum primum hominem ad faciendam de costa eius mulierem. Et physic illud sensu interpretans, nimis arroganter ueritati historiae suum praefert inuentum.” William of Saint Thierry, *Opuscula aduersus petrum abaelardum et de fide*, ed. Pauli Verdeyen (Turnout: Brepols, 2007), 70–71.

Christ, and his sleep during the creation of Eve anticipated the savior's death. Emerging from the sleeping body of Adam, Eve prefigured the birth of the church, from Christ's side, "out of which the sacraments flow."¹³¹ In order for these typologies to maintain any significance, the literal birth of Eve from Adam's side had to retain its authority, for if the body of Eve could form independently of Adam, it no longer preserved its service to the ecclesiastical system and its kingdom of typologies. These concerns would evolve further in later centuries (see Chapter 3) but here they posed a direct danger to the larger sacramental system through which the church administered its doctrines.

William of Saint Thierry's charges of heresy greatly impacted William of Conches's future. Though no formal charges were ever brought against him, he was forced to retire from his position at Chartres to the estate of Geoffrey the Fair, count of Anjou under whose patronage he reworked his *Philosophia mundi* into a more mature and orthodox work, the *Dragmaticon philosophiae*.¹³² In this treatise, William recanted his previous statements concerning the creation and specifically the "deribbing" of Adam.¹³³ But despite William of Saint Thierry's accusations and William of Conches's

¹³¹ Ergo autem dico in Christo et in ecclesia. Augustus: "Adam, qui erat forma future, rerum imaginem et magnum indicium sacramenti nobis praebeuit, immo Deus in illo." Nam et dormiens meruit accipere uxorem, quae de costa eius facta est, quoniam de Christo in cruce dormiente future erat ecclesia de latere eius dormientis, quia de latere in cruce pendentis lancea perfosso sacramenta ecclesiae profluxerunt. Magnum sacramentum! Potuit Deus carnem detrahere homini, unde faceret feminam, et magis uidetur quasi congruere potuisse. Fiebat enim sexus infirmior, et magis de carne infirmitas fieri debuit quam de osse. Sed de osse, hoc est de costa uiri, formata est mulier, et in loco ossis caro adimpleta est. Poterat pro osse os facere; poterat ad faciendam mulierem non costam, sed carnem detrahere. Quid igitur haec significant? Facta est mulier in costa tamquam fortis; factus est Adam in carne tamquam infirmus, Christus in Ecclesia. Illius enim infirmitas nostra fortitudo fuit." Ibid, 70–71.

¹³² Why Conches was never brought to trial remains unknown, but the matter was likely settled privately, perhaps to avoid disgracing the Cathedral school or perhaps due to the trial of Abelard (ca.1141), which consumed inquisitorial efforts at the time. See: Dutton, *The Mystery of the Missing Heresy Trial of William of Conches* and Italo Ronca and Matthew Curr, "Introduction," xvi.

¹³³ "There is however, a little book of ours on the subject, entitled *Philosophia*; it is quite imperfect, as it was composed in our imperfect youth...when we spoke in that little book about the creation of the first man, we said that God neither took a rib from Adam nor created the woman from a rib, but from a part of that same mass of clay out of which he had molded the body of man. We then concluded that the statement 'the woman was created from a rib of Adam' was meant metaphorically. This too we condemn and advise

retractions, copies of the problematic *Philosophia*, continued to circulate throughout Europe, with eighty-nine versions extend today (twenty-three of twelfth-century provenance).¹³⁴ Although the matter was perhaps overshadowed by the more high-profile trials of Abelard (1141) and Gilbert of Poitiers (1148), the charges of heresy, the exile of William of Conches, and the subsequent retraction of his “errors” all signal the potential pitfalls of applying natural philosophy to scripture.

ii. The Image and the “True Rib”

While there are no precise links between the heterodoxy of William of Conches and the statement on the ribs found in the *Historia incisionis*, the controversy provides a wider frame to understand how a single piece of anatomy could threaten abstruse systems of theology. At minimum, the *Historia*’s rib count shows an awareness of the issue and a concern that its anatomical material might carry potential heterodoxies. Following the *excostare* controversy, works like the *Historia* must have been placed under greater surveillance and edited by pious individuals to nullify the chance of error.

However, just as the passage asserts an extraordinary authority over the physical body, the image of the bone figure challenges this claim, championing its own truth based on visual evidence. This discrepancy between image and text may only be chance, but its ongoing reception in the community must have elicited further questions on the nature of the material body: when visual observation contradicts the written word, where does truth lie? This conflict between written doctrines and empirical observation, as Andrea Carlino

others to do likewise according to holy and divine scripture, which says: ‘And the Lord God caused a deep sleep to fall upon Adam and he took one of his ribs’ and used it as material to form the woman.” William of Conches, *A Dialogue of Natural Philosophy*, 6.

¹³⁴ See Dutton, *The Mystery of the Missing Heresy Trial*, 37–40; Gregor Maurach, “Introduction,” in William of Conches, *Philosophia mundi*, 4–5.

has observed, would emerge repeatedly in anatomical studies well into the sixteenth century and often reduced the practice to “little more than a ritual to celebrate the ancient classical authorities.”¹³⁵ In the case of the Prüfening *Historia*, however, the image strikes back, asserting the primacy of sight over the weight of scriptures, sacraments, and typologies.

Bearing the footprint of the *excostare* controversy, it is clear that the Prüfening *Historia* and its Figure Series held significance in the broader episteme of the monastery and its pursuits of truth. While the anatomical figures from Prüfening maintained a range of applications, the Series was not ultimately oriented toward a practice of medicine but rather a practice of self. Coupled with the image of the microcosm, the five figures provided the viewer two frames of reference to explore the nature of man—upward toward the greater cosmos or inward to the secrets of the domain of the three spirits. Both diagrams, however, peeled the viewer away from mediations on the physical body toward broad vistas of human knowledge and experience. In this way they steered the viewer toward an ascent to the divine in a similar direction as Saint Thierry’s treatise on the body and the soul.

These various interpretations were ultimately directed by the graphic form, which represented the body as a schematic of thought, which could be memorized and applied and in many pursuits. And while anatomical studies in the monastery would prove to be short-lived, the diagrams illuminate the broader development of an anatomical visual culture in Middle Ages and its spread from monastic houses like Prüfening into the domain of surgeons and physicians. These secular practitioners would harness the

¹³⁵ Andrea Carlino, *Books of the Body: Anatomical Ritual and Renaissance Learning*, trans. John Tedeschi and Anne C. Tedeschi (Chicago: University of Chicago Press, 1999), 20.

anatomical image for their own purposes, but the initial contribution of monastic image-making was essential to this evolution, for it imprinted the body with the methodologies of diagram and visualization. As the practice of human dissection increased in the thirteenth and fourteenth centuries, these desires changed and the anatomical image was converted from a diagram into a facsimile of nature, which claimed authority through observational truth. In *Prüfening*, the *Sitting Figure Series* laid the groundwork for this course by first transforming the body into a graphic subject.



CHAPTER TWO

ANATOMIES OF DEATH: GUIDO DA VIGEVANO AND THE ROYAL BODY

INTRODUCTION

Inscribed in a blank void of parchment, an ashen corpse stands with uncanny ease (**fig. 26**); its pale skin stretched taut across a scaffold of bones, knobby joints, protruding ribs, and brittle fragments of fingers and toes. Humbly accepting its denigration, the figure's face is calm if not detached, with eyelids thinly sealed as if dreaming of a past life. From behind the corpse emerges an anatomist who braces the body in his arms and carves open its chest with a surgical blade. Though the stroke is violent, the anatomist emanates a strange tenderness for the corpse; his labor seems caught somewhere between butchering

and embracing. Through a crimson gash in the chest, the anatomist inserts his hand and prepares to peel back the skin; in a moment the body will open.

This unnerving scene is one of eighteen images from an anatomical treatise designed by an Italian physician named Guido da Vigevano in 1345.¹³⁶ Now held in the library of the Musée Condé in Chantilly, France (*MS 334*), this short work is titled *Anothomia Philippi septimi* in homage to Guido's patron King Philip VI of France.¹³⁷ Created for a royal audience, Guido's treatise displays a grisly sequence of cadavers in various states of dissection, concluding with four rows of severed heads perched eerily on a tabletop. These gripping images are equally matched by Guido's commentary, which claims to record the results of human dissection personally performed "many, many times" in Italy. However, since dissection was forbidden in France, Guido asserts that his *Anothomia* would instead demonstrate human anatomy through pictures which, "can be seen better than the body because when making an anatomy in the human body, we must hurry because of the stench."¹³⁸

¹³⁶ Two records at the French court also refer to Guido as "Guido de Papie" indicating that he was in fact from Pavia rather than the city of Vigevano: "Magister Guido de Pavia, phisicus domine Regine, missus per dominum Regem apud Remos pro certis negotiis, pro certis denariis sibi traditis pro expensis, 30. l., per cedulam curie, etc." And: "Magister Guido de Pavya phisicus domine Regine, pro denariis per ejus litteram datam XV Junii predicti, de denariis coffrorum Regis, pro certis negociis medicinalibus sibi per dominos Regem et Reginam injunctis faciendis, 100 florenos auri ad scutum, quemlibet precii de 25 s. p., valent 125 l. p." See: Jules Marie Édouard Viard, ed., *Les journaux du Trésor de Philippe VI de Valois, suivis de l'Ordinarium thesauri de 1338–1339* (Paris: Imprimerie Nationale, 1899), 269, 374.

¹³⁷ Guido's confusing reference to Philip VI as "Philippi Septimi" was the result of alternate genealogical stem of the French monarchy that included an extra Philip, Philip II (1116–1131) son of Louis VI (1081–1137), who co-reigned with his father. See Ernest Wickersheimer, "L'anatomie de Guido de Vigevano, médecin de la reine Jeanne de Bourgogne (1345)," in *Archiv für Geschichte der Medizin* 7 (1913): 1–25, note 2. Guido's spelling in the manuscript, "Anothomia," contrasts with the conventional spelling, "Anathomia."

¹³⁸ "...satis melius quam in corpore humani videri poterit quia cum facimus anothomiam in homine oportet nos cito expedire propter fetorum. Guido da Vigevano, "Anothomia Philippi septimi" (Musée Condé, Chantilly: *Ms. 334*, 271r).

In this chapter I show how Guido's unique records of human dissection radically shift away from the schematic traditions of the Sitting Figures Series, and I argue that these changes responded to new practices in fourteenth-century anatomy. As the emerging practice of human dissection in Italy contributed first-hand knowledge of the body, Guido reformulated the visual record of anatomy to mimic its discoveries and valorized his images as authoritative substitutes for the body. Additionally, I argue that Guido's macabre depiction of the cadaver provided an evocative subtext for the anatomical image, drawing especially from late-medieval death culture and its deployment the corpse as a *memento mori*. This feature, I contend, was especially pertinent in the context of the French court where the royal cadaver was subject to dissection in order to preserve it for display and to disperse its principle organs for burial in familial and political necropoli.¹³⁹ Traditionally royal physicians would perform this task, setting up an uncanny relationship between doctor, patron, and image. Demonstrating anatomy in new ways, Guido expanded the technical capacity of the image while simultaneously formatting a double portrait of physician and lord locked in an ominous funeral rite.

i. Historiography

Previous studies of the *Anothomia*, have largely dismissed Guido as an error-prone anatomist, slavishly reproducing the zeitgeist of his time. A 1926 monograph by Ernest Wickersheimer remains the most comprehensive analysis of the *Anothomia*, providing a biographical sketch of Guido, a transcription of the treatise, and full-page reproductions

¹³⁹ Elizabeth Brown, "Authority, the Family, and the Dead in Late Medieval France," *French Historical Studies* 16 (1990): 803–32.

of the illustrations.¹⁴⁰ But while offering these invaluable tools, Wickersheimer study, provides little analysis of Guido's treatise, casting it solely as an emulation of the work of his mentor, the famed Mondino de Luzzi, who had written an influential treatise on dissection in 1316.¹⁴¹ In Wickersheimer's analysis, Guido's designs are offered as mere illustrations of Mondino's school and not credited with the innovation and foresight they deserve. Wickersheimer also made several cataloging errors in his publication, including the incorrect citation of the manuscript's shelf number (given by Wickersheimer as *MS 569*) and unusual alterations of the pagination.¹⁴² These inaccuracies have bled into subsequent studies and created a confusing picture of the physical document. As remedy, I provide an updated description of the manuscript in the Appendix based on my own examination and transcription of the original manuscript.

While Wickersheimer's characterization of Guido as an "imitator" has minimalized the uniqueness of the *Anothomia*, other scholars have mobilized his images in a wider attempt to anticipate the technical revolutions of the so called "Anatomical Renaissance" and its champion Vesalius whose landmark publication of *De fabrica* (1543) has been claimed as a liberation of the body from the corruptions of medieval science. This rebirth—characterized by Andrew Cunningham as "the beginning of

¹⁴⁰ Ernest Wickersheimer, *Anatomies de Mondino dei Luzzi et de Guido de Vigevano* (Paris: E. Droz, 1926).

¹⁴¹ Wickersheimer viewed Guido as a person of minor importance whose work offered only an emulation of his professor Mondino de Luzzi's research. Wickersheimer's study ultimately centered on de Luzzi's *Anothomia corporis humani* (written in 1316), known to us only through unillustrated copies. Believing that de Luzzi's must have been illustrated at some point, Wickersheimer urged the reader to inspect Guido's images "to get an idea of what the illustrations were like when it was written." Ibid, 70.

¹⁴² The codex is often cited as MS 569 following Wickersheimer's *Anatomies de Mondino dei Luzzi et de Guido de Vigevano*, which cited an old catalog number (569). As directed by the library's staff, the number should be cited as 334. See: *Chantilly, le cabinet des livres: Manuscripts* (2 vols. Paris: Plom and Nourrit, 1900): 1:271–73. Wickersheimer's publication also paginates the work differently than the *le cabinet des livres*, excluding the first seventeen folios of rubrics and prologue and marking the first treatise of the codex, Galen's *De ingenio sanitatis*, as folio 1. This chapter follows the pagination of the catalog, which commences with the rubrics. My citation of shelf number and pagination will thus appear differently than other publications that follow Wickersheimer.

recognizably modern understandings of the function and anatomy of the human body”—has been defined by two elements: the ascendancy of observational inquiry (*autopsia*) within the practice of dissection and the use of naturalism by artists to define the “reality” of the body.¹⁴³ Guido’s *Anothomia* is said to possess neither of these traits. K. B. Roberts and J. D. W. Tomlinson, for instance, write of the “ludicrous nature” of Guido’s representation, which “make clear that these illustrations are very largely symbolic in nature, and are based on written, not visual anatomy.”¹⁴⁴ Set against the mirror of later centuries, Guido and his treatise have thus been submerged within the homogeneity of “pre-Vesalian anatomy”—works of “only the most minor significance” in Charles O’Malley’s words—which serve to amplify the Renaissance and its alleged discovery of the body.¹⁴⁵

Recently the Anatomical Renaissance and its teleological appeals to modernity have received welcome reevaluations by Katherine Park, Andrea Carlino, Sachiko Kusukawa and others, yet the general appraisal of Guido’s work remains largely fettered to the traditionalist view of medieval anatomy as an art enslaved to textual traditions with little regard for artistic experimentation.¹⁴⁶ This predisposition remains a useful backdrop for studies seeking “firsts” and “advances” in the arc of scientific history and its visual culture. Kusukawa for instance credits Vesalius as the first author to make images central to the understanding of nature and the first to truly develop a “visual argument” in the

¹⁴³ Andrew Cunningham, *The Anatomical Renaissance*, 3.

¹⁴⁴ K.B. Roberts and J. D. W. Tomlinson, *The Fabric of the Body: European Traditions of Anatomical Illustration* (Oxford: Clarendon Press, 1992), 38.

¹⁴⁵ Charles O’Malley, *Andreas Vesalius of Brussels, 1514–1564* (Berkeley: University of California Press, 1965), 18.

¹⁴⁶ Sachiko Kusukawa, *Picturing the Book of Nature: Image, Text, and Argument in Sixteenth-Century Human Anatomy and Medical Botany* (Chicago: University of Chicago Press, 2012); Park, *Secrets of Women*; Andrea Carlino, *Books of the Body*; Jonathan Sawday, *The Body Emblazoned: Dissection and the Human Body in Renaissance Culture* (London: Routledge, 1996).

pursuit of knowledge.¹⁴⁷ But while unquestionably, Vesalius and his contemporaries advanced visual studies for the body that far outpaced any medieval work, I will argue that Guido's picture series made significant claims about the body's truth centuries earlier. Treating the image as a visual demonstration, the *Anothomia* captured the physical practice of dissection through the image, which solidified the body from decay and demonstrated information that was not otherwise easy to obtain. And while Guido's ambitious plans quickly encountered artistic limits, his project elevated the possibilities of anatomical images in the fourteenth century, demonstrating the body "clearly and openly" through visual display.

While Guido's image-forward project was punctured by a handful of errors—both anatomical and artistic—his portrayal of the cadaver was also a novel maneuver in the history of the body. As Michael Camille argued, Guido's construction of the corpse showed the "new anatomized body" whose exhibition was controversial to the mores of the Church.¹⁴⁸ However, under the purview of medicine Guido was able to experiment as a "theorist of death," who presented the cadaver "taken outside of society and analyzed."¹⁴⁹ The tension Camille senses in Guido's *Anothomia* was in fact the product of a sharpening division in attitudes about the body and its display in the fourteenth century. Guido's challenge for the cadaver sympathized with the French aristocracy who Elizabeth Brown has shown clashed repeatedly with the papacy over their mortuary practice of "bodily division."¹⁵⁰ Entwined in these political competitions for the body,

¹⁴⁷ Kusakawa, *Picturing the Book of Nature*, 3

¹⁴⁸ Michael Camille, *Master of Death: The lifeless Art of Pierre Remiet, Illuminator* (New Haven: Yale University Press), 152.

¹⁴⁹ Ibid.

¹⁵⁰ Elizabeth Brown, "Authority, the Family, and the Dead in Late Medieval France," 803–32; *ibid.*, "Royal Bodies, Effigies, Funeral Meals, and Office in Sixteenth-Century France," in *Il Cadavere/The Corpse*, 437–

Guido's project was motivated by medical curiosity, legal restrictions, and the perpetual power of the king's body, which Ernst Kantorowicz has shown was displayed and interned as relic of state power.¹⁵¹ These desires were framed specifically for the gaze of the king, whose own body was proxied in Guido's work as its metonymic subject of dissection.

This chapter examines the artistic and political aspirations of Guido's manuscript in two phases. First, I examine the physical document, exploring the methodology of Guido's treatise and its experimental modes of image making. These illustrations, I argue, were not mindless copies of earlier prototype but rather inventive cycles that broke away from traditional diagrams like the Sitting Figure Series. And while other physicians of the fourteenth century were also experimenting with new forms of pictorial illustration, Guido's work surpassed his contemporaries in both scale and detail, challenging the technical capacity of the anatomical image to argue for the body's truth. In the second part of this chapter, I explore the creation of Guido's *Anothomia* within the politics of "bodily division" at the French court. While dissection was forbidden in France for medical reasons, it was ceremoniously practiced in the division of royal cadavers to multiply its power through a plurality of burial sites. Cast in the relief of these practices, Guido's treatise on dissection invested in the policies of the French crown, which fancied the royal body as an anatomized relic of the state. In this political sphere, I argue that Guido's portrayal of the cadaver as a decaying being acted as a *memento mori*

508 (Florence: SISMEL–Edizioni del Galluzzo, 1999); *ibid.*, "The French Royal Funeral Ceremony and the King's Two Bodies. Ernst H. Kantorowicz, Ralph E. Giesey and the Construction of a Paradigm," in *Le Corps du Prince*, ed. Agostino Paravicini Bagliani, 105–137 (Florence: SISMEL–Edizioni del Galluzzo).

¹⁵¹ Ernst Kantorowicz, *The King's Two Bodies: A Study in Mediaeval Political Theology* (Princeton: Princeton University Press, 1957).

retrofitted for his patron. Like the *transi*-corpse in contemporary illustrated tales such as the “Three Living and the Three Dead,” Guido’s illustrations mirrored the king’s mortality but also promised a certain power over the corpse mediated by the anatomist’s knife and the royal gaze.

THE DISSECTED BODY: THE *ANOTHOMIA* AND ITS VISUAL SYSTEM

“Because it is prohibited by the church to make an anatomy in the human body and because it is not possible to know the complete art of medicine without first studying anatomy...I Guido...demonstrate the anatomy of the human body, clearly and plainly, through correctly drawn figures, just as they are in the body and can be seen better than the body because when making an anatomy in the human body, we must hurry because of the stench.¹⁵²

In this prologue to his *Anothomia*, Guido summarizes the central problem facing his work. Anatomy through dissection, he declares, was fundamental to a medical understanding of the body, yet it had been prohibited in France since 1299 by *detestende feritatis* (detestable savagery), a bull issued by Boniface VIII that declared the division of the cadaver “abhorrent” for any purpose.¹⁵³ Guido had studied anatomy in Italy, however,

¹⁵² “Quia prohibitum est ab ecclesia facere anothomiam in corpore humano et cum ars medicine complete sciri non potest nisi quis prius sciverit anothomiam...ego Guido suprascriptus...demonstrabo anothomiam corporis humani patenter et aperte per figuras depinctas recte sicut se habent membra in corpore humano, ut inferius per figuras manifest apparebit et satis melius quam in corpore human videri poterit quia cum facimus anothomiam in homine oportet nos cito expedire propter fetorum. Guido da Vigevano, “Anothomia Philippi septimi” (271r). Transcribed in Wickersheimer, *Anatomies*, 72.

¹⁵³ The bull reads: “Detestande feritatis abusum, quem ex quodam more horribili nonnulli fideles improvide prosequuntur, nos, pia intentionis ducti proposito, ne abusus praedicti saevitia ulterius corpora humana dilaceret mentesque fidelium horrore commoveat et perturbet auditum, digne decrevimus abolendum. Praefati namque fideles hujus suae improbandae utique consuetudinis vitio intendentes, si quisquam ex eis genere nobilis vel dignitatis titulo insignitus, praesertim extra suarum partium limites debitum naturae persolvat, in suis vel aliis remotis partibus sepultura electa, defuncti corpus ex quodam impio pietatis affectu truculenter exenterant ac illud membratim vel in frustra imaniter concidentea ea subsequenter aquis immersa exponunt ignibus decoquenda. Et

where the legislation was not enforced, and was clearly indifferent to the papal ban, bragging cavalierly that he had performing the prohibited act “many many times.”¹⁵⁴

Faced, however, with new legal obstacles in the north, Guido offers his suite of illustrations as substitutes for the body, which demonstrated anatomy effectively without directly violating Church prohibitions. As alternatives for the cadaver, the images in fact revealed anatomy “better than the body,” since they were permanent and did not subject the viewer to the direct abjection of the corpse.

Guido da Vigevano was not the first medical theorist to attempt to use images to circumvent papal legislation; some forty years prior Henri de Mondeville had created thirteen life-size images (now lost) as pedagogical aids in his medical school.¹⁵⁵ However, Guido’s *Anathomia* was even more ambitious, expanding the number of views of the body and simulating the physical processes that opened it. Displaying the body as “multiplies,” Guido experimented with the quantities of change, pattern, and surprise, what Edward Tufte has described as “the defining elements of in the idea of

tandem ab ossibus tegumento carnis excusso eadem ad partes praedictas mittunt seu deferunt tummulanda, quod non solum divinae majestatis conspectui abominabile plurimum redditur, sed etiam humanae considerationis obtutibus occurit vehementius abhorrendum. Quoted in: Dietrich Schäfer, “Mittelalterlicher Brauch bei der Überführung von Leichen,” *Sitzungsberichte der Preussischen Akademie der Wissenschaften* 26 (1920): 479–98.

¹⁵⁴ “Quia hoc fieri non potest propter frequentiam que habetur in corpore hominis in faciendo anothomiam ac eciam quia prohibitum est ab Ecclesia, coegi me ad declarandum anothomiam per figuras, et credatur mihi experto, cum pluribus et pluribus vicibus ipsam feci in corpore humano.” Guido da Vigevano, “Anothomia” (271r). Wickersheimer, *Anatomies*, 72. The effects of this bull on medical dissection varied considerably by location. In Italy, it seemed to have minimal consequence with the university statutes in Bologna allowing a yearly anatomical demonstrating by the mid fourteenth century. Even before this, however, the publication of Mondino de Luzzi’s *Anatomia* (1316), which provides a systematic instruction for dissection, shows that human cadavers were being opened by university anatomists only a few short years after Boniface issued the *detestande feritatis*. In France, however, the bull seemed to have a real effect at least in terms of anatomical demonstrations. See: Katherine Park, “The Life of the Corpse: Dissection and Division in Late Medieval Europe,” *Journal of the History of Medicine and Allied Sciences* 50 (1995): 111–32.

¹⁵⁵ Loren McKinney, “The Beginnings of Western Scientific Anatomy: New Evidence and a Revision in the Interpretation of Mondeville’s Role,” *Medical History* 6 (1962): 233–39.

information.”¹⁵⁶ Sequencing, Tufte continues, gives depth to vision, helping the viewers to analyze, compare, differentiate, and decide through visual thinking while simultaneously amplifying and reinforcing the meaning of images.¹⁵⁷ Dissecting through multiple sequences, Guido provided the most thorough and comprehensive visualization of the anatomy in the Middle Ages and expanded the technical capacity of the body’s image. His anatomical series was further enhanced by his own experiences with dissection during his studies at the University of Bologna as well as bodies he had autopsied in professional practice.¹⁵⁸ Relying on his evocative system of images, Guido newly demonstrated the body “openly and correctly” and critiqued certain anatomical errors committed by medical authorities. While his work was ultimately dampened by the limitations of medical illustration in the fourteenth century, Guido’s ambitious program reveals the impulse to visually document, analyze, and claim the body’s truth two hundred years before Vesalius.

i. Contents

The *Anathomia* is the last of ten treatises assembled and edited by Guido in a single volume titled *Liber notabilium illustrissimi principis Philippi septimi* (Book of Notable

¹⁵⁶ Edward Tufte, *Visual Explanations: Images and Quantities, Evidence and Narrative* (Cheshire: Graphic Press) 105.

¹⁵⁷ Ibid.

¹⁵⁸ While there are no records of Guido at Bologna, it was common for Pavia doctors to seek training at the university. In his *Liber de laudibus civitatis ticinensis*, Opicinus de Canistris boasts about the number of Pavian doctors who studied medicine at the University of Bologna. “Multi sunt in civitate peritissimi medici tam phisici quam cyrurgici; nam inter alias civitates illarum partium de ista plures mittuntur ad scolas Bononiam, que illinc minus quatuor dietis distat, de qua veniunt periti et docti in legibus, decretalibus et medicina multi et quidam in hiis conventati.” See: Rodolfo Maicchi and Ferruccio Quintavalle, eds., *Anonymi Ticinensis Liber de laudibus Civitatis ticinensis* (Città di Castello: Tipi dell’editore S. Lapi, 1903), 30. Aldo Settia does note that Pavia also had its own small medical college so it is possible that Guido studied there rather than Bologna. This *scuola superiori* does not seem to be a leading center of medicine and was supplanted in 1363 by foundation of the University of Pavia. See: Aldo Settia “Guido da Vigevano,” *Dizionario biografico degli italiani* 61 (2004): 432–33.

Things of the Illustrious Prince Philip VI). As the concluding pendant to this compendium, Guido presents his anatomical study as the capstone to these various works, which represented the latest vogues in medical practice in the mid-fourteenth century. The first group of texts represents “new” works by the classical author Galen of Pergamum (d. 216 CE) whose theories asserted increasing dominance over medical practice in the fourteenth century.¹⁵⁹ These eight treatises, all unillustrated, (fols. 17r–257v) comprise the largest portion of the manuscript and include: *De ingenio sanitatis* (on phlebotomy), *De interioribus* (on diagnosis and pathology), *De accidenti et morbo* (on illness and symptoms), *De crisi* (on crisis), *De diebus criticis* (on the critical days of an illness), *De complexionibus* (on complexions), *De malicia complexionis diverse* (on illness of diverse complexion), and *De simplicibus medicinis* (on simple medicines). Collectively, these works advanced Galen’s theory of “complexions”—i.e. that each part of the body is composed of a unique mixture of four elemental qualities (hot, cold, dry, wet).¹⁶⁰

Following these Galenic treatises comes a fourteen-folio health manual (fols 224r–238v) titled *Liber conservacionis sanitatis senis* (a book for preserving the health of the old).¹⁶¹ This work, also unillustrated, is a copy of a health manual Guido composed

¹⁵⁹ Roger French, *Medicine Before Science*, 101–2; Louis García-Ballester, “The New Galen: A Challenge to Latin Galenism in Thirteenth-Century Montpellier,” in *Text and Tradition: Studies in Ancient Medicine and its Transmission: Presented to Jutta Kollesch*, ed. Klaus-Dietrich Fischer, 55–83 (Leiden: Brill, 1998); Nancy Sirasi, *Medieval and Early Renaissance Medicine: An Introduction to Knowledge and Practice* (Chicago: University of Chicago Press, 1990), 70–72. This group of texts was used by Arnold of Villanova to revise the curriculum at the university of Montpellier in 1309. In Bologna, Taddeo Alderotti and his disciple William of Brescia introduced new Galenism to the medical curricula in the late thirteenth century. In Paris, Johannes de Sancto Amando is credited with advancing these same works between 1285 and 1290.

¹⁶⁰ Sirasi, *Medieval and Early Renaissance Medicine*, 101–4.

¹⁶¹ On this genre of health literature see: Antònia Carré, “Del Regiment de sanitat a la literatura: El cas d’Arnau de Vilanova,” *Anuario de Estudios Medievales* 45 (2015): 233–63; Melitta Weiss Adamson, “Bernard de Gordon and Arnald de Villanova: A tale of Two Regimes,” in *Eine Topographie historischer Gleichzeitigkeit*, ed. Andreas Speer and David Wirmer, 419–35 (Berlin: De Gruyter, 2010); Marilyn

for King Philip ten years prior as part of a crusading manual, *Texaurus regis Francie*, extant today in three fifteenth-century copies.¹⁶² Having explained physiology, pathology, and diagnosis through Galen and prescribing his lord a health regimen, Guido's short *Anothomia* was likely intended as a substitute for Galen's missing work on anatomy *De usu partrium*, which was known but not widely available before the sixteenth century.¹⁶³ Lacking this source, Guido turned to his personal experience to demonstrate Galen's theories, "so that these notable things drawn forth from Galen's books by me will be made useful."¹⁶⁴

Guido's anatomical coda concludes the codex with a punch. The manuscript's crowded, double-columned pages of gothic text suddenly open into a hallucinatory sequence of images. Eighteen full-page scenes show an uncanny assortment of medical and anatomical procedures, commencing with studies of de Luzzi's three *venters* of the

Nicoud, *Les régimes de santé au Moyen Âge: Naissance et diffusion d'une écriture médicale en Italie et en France (XIIIe-XVe siècle)*, 2 vols. (Rome: École Française de Rome, 2007).

¹⁶² See Giustina Ostuni, *Le machine del re: Il Texaurus regis Francie di Guido da Vigevano* (Guido: Diakronia, 1993); Bert S. Hall, "Guido da Vigevano's *Texaurus regis Franciae*, 1335" in *Studies on Medieval Fachliteratur*, ed. William Eamon, 33–44 (Vrijheidslaan: Scripta, 1982). Ibid, "Giovanni de' Dondi and Guido da Vigevano: Notes Toward a Typology of Medieval Technological Writings," in *Machaut's World: Science and Art in the Fourteenth Century*, ed. Madeline Perner Cosman and Bruce Chandler, 127–44 (New York: New York Academy of Science, 1978). Manuscript numbers: Bibliothèque de France, Paris: *MS. lat. 1115*; Yale Center for British Art, Paul Mellon Collection, New Haven: *Mil. MS (49)*; Biblioteca Nazionale Universitaria, Turin: *Cod. G.V.9*. Full title: *Texaurus regis Francie adquisicionis terre sancte de ultra mare nec non sanitatis corporis eius et vite ipsius prolongacionis ac etiam cum custodia propter venenum* [Treasury of the King of France for the recovery of the Holy Land beyond the sea, and of the health of his body, and of the prolongation of his life, together with a safeguard against poisons].

¹⁶³ While this text was translated into Latin in the fourteenth century, it was too long and difficult for university criteria; a truncated Arabic paraphrase was also available but not widely read. Galen's other major anatomical work, *De anatomicis administrationibus* (on anatomical procedures) was not translated until the sixteenth century. See: Nancy Siraisi, *Medieval and Early Renaissance Medicine*, 7; French, *Medicine Before Science*, 114.

¹⁶⁴ "Ut hic liber horum notabilium a libris Galieni per me extractorum sit utilior." Guido da Vigevano, "Anothomia" (271r).

body—abdomen, chest, skull—in three distinct visual sequences (fols. 273r–280r).¹⁶⁵ Each of these demonstrations begins with the image of a physician in academic attire cutting open a suspended body, while the proceeding images present the underlying regions of flesh and organs, layer-by-layer, as they would be encountered during dissection. Each scene is drawn against a blank background of parchment and decorative embellishments are kept to a minimum. The figures are accompanied by brief captions relegated to short blocks of text in the upper left corner of the page. These legends provide concise summaries of longer texts in the *Anothomia*'s prologue, mnemonically cueing this information as the viewer investigates the image. Sequentially numbered, the images form the main focus of the treatise while, the texts serve as auxiliary aids to the viewer's experience of the body. This uncluttered design is far removed from the cramped integration of text and image common in the Sitting Figure Series, and anticipates an image-driven approach to the body that places visual experience above the authoritative weight of written tradition.

Guido's sequence of dissection is loosely based on de Mondino's system of anatomy, which divided the body into three regions or *venters*: the abdomen, chest, and head. Guido begins his work with an image of a *homo vivo*, (**fig. 27**), a cross-eyed man whose skin is labeled with the various locations of the internal organs to which the ensuing dissection will penetrate. Turning the page, the viewer encounters the first scene of dissection in which the titular body (*homo vivo*) has expired into an ashen corpse (**fig. 28**). This cadaver is oddly cradled in the arms of a physician who leans his face uncannily

¹⁶⁵ On de Luzzi's methods of dissection see: Faith Wallis, ed., *Medieval Medicine: A Reader* (Toronto: University of Toronto Press, 2010), 231–47; Andrea Carlino *Books of the Body*, 9–20. Piero P. Giorgi, "Introduzione" in *Anothomia*, by Mondino de Luzzi, 1–8.

close to the cadaver in a strange moment of intimacy. Ensuing penetrations of the corpse occur in scenes three through six (275r–277v) (**pl. 8**), which detail the opening of the first *venter* (the abdomen) and its three layers of flesh (*mirac, sifac, zirbus*). Following these scenes, the physician opens a second corpse (**see fig. 26**), this time incising the thoracic wall in an exploration of the second *venter*. The following two scenes (**pl. 9**), detail the contents of the chest and the abdomen. Next, scene ten (**fig. 29**) shows the cadaver of a woman in a rare exploration of Galen’s seven-chambered uterus. Following this, Guido turns to the third *venter*, the anatomy of the brain, which commences with a scene of the physician chiseling open the skull of a living man (**fig. 30**). Like the first two dissections, this image is followed by deeper penetrations into the body through a series of severed heads placed precariously on the edge of a table (283v–284r) (**pl. 10**) A study of the spine (**fig. 31**) (285v) imaged through a fissure in the back completes the anatomical portion of the *Anothomia*, and from here the treatise concludes with two prognostic illustrations showing a physician palpating the stomach (**fig. 32**) and taking the pulse (**fig. 33**) (286r–286v).

The final, eighteenth figure of the pulse-taker was a late addition to the image program. This is clear from Guido’s caption for the prior scene of palpitation, which reads: “This is the seventeenth and final anatomy of living man, which shows us how the physician should touch the human body... and thus concludes the anatomy of Philip.”¹⁶⁶ It is hard to say exactly when it was added; bound into the quire it was obviously not a last

¹⁶⁶ “Hec est septimadecima et ultima anothomie hominis vivi, in qua nobis ostendit qualiter medicus debet tangere corporis hominis et specialiter ventrem, et debet tangere corpus ejus duabus manibus equaliter positus, cum ipocondria debent esse equalia, et sic isto modo tangendo cognoscet duriciam seu dolorem in quo membro erit. Et sic complete sunt figure anothomie Phillipi.” Guido da Vigevano, “Anothomia” (286r).

second addition but since it is not mentioned with the other images in the rubrics on folio thirteen, we can assume it was not included in Guido's original program. The first seventeen figures have also been clearly executed by one artist, while the pulse-taker is the work of a second hand. Modeled with chiaroscuro, and a cooler color palate, the figures exhibit long elegant limbs and swaying *contrapposto* typical of the "mannerist" style of mid-century Parisian illuminators.¹⁶⁷ As the pulse-taker was a common medical illustration, most book illustrators would have been able to execute the image with ease and perhaps this "bonus" image was added to further embellish Guido's oeuvre.¹⁶⁸

ii. Contexts

The addition of the pulse-taking scene also shows that Guido's work remained reliant on the visual conventions of his time. While unique in its own terms, Guido's powerful portrayal of the body was inspired by a new wave of anatomical images and visual theories, which spread from their monastic enclaves of the twelfth century to the classrooms and textbooks of fourteenth-century medical schools. As Taylor McCall has shown, this migration was mediated primarily through surgical writers, who used images of the body to advance the technology of their craft.¹⁶⁹ Illustrations proved especially useful in Northern Europe, where dissection was officially forbidden, and images served as medical props for classroom instruction. Some forty years before Guido, Henri de Mondeville, royal surgeon to both Philip the Fair and Louis X, used thirteen life-size

¹⁶⁷ Richard H. Rouse and Mary A. Rouse, *Manuscripts and their Makers: Commercial Book Producers in Medieval Paris 1200–1500*, 2 vols. (Turnhout: Harvey Miller, 2000); François Avril, *Manuscript Painting at the Court of France: The Fourteenth Century, 1310–1380*, trans. Ursule Molinaro (New York: G. Braziller, 1978).

¹⁶⁸ On images of pulse-taking see: Peter Murray Jones, *Medieval Medicine in Illuminated Manuscripts* (London: British Library, 1998), 45–47.

¹⁶⁹ Taylor McCall, "Illuminating the Interior," 134–53.

pictures of human anatomy in his school at Montpellier and gave detailed instructions in his *Chirurgia* (1312) on how to fabricate pedagogical props such as an artificial skull.¹⁷⁰ Echoes of these large-scale figures are recorded in thirteen miniatures in two early fourteenth-century manuscripts now held in the Bibliothèque nationale (*MS. fr. 2030*) and Trinity College, Cambridge (*MS O.2.44*) (pls. 11–12).¹⁷¹ Like Guido’s prologue, Mondeville states that these figures sufficiently and clearly demonstrate the anatomy of the human body, both male and female, as seen from front to back and “diversely presented to the human intellect.”¹⁷² The surgeon, Mondeville explains, “will make various incisions according to the diverse members in the body and the anatomical doctrine from the text.”¹⁷³ The dissection plays out in the remaining figures of anatomy whose performances visualize Mondeville’s treatise for the viewer: (1.) bones (2.) vertebrae; (3.) veins (4.) skin; (5.) brain/compound organs; (6.) spine; (7.) cranium; (8.) skeleton; (9.) compound organs; (10.) eyes; (11.) compound organs (from reverse); (12)

¹⁷⁰ “Quiconque veut démontrer l’anatomie interne et externe de la tête, sensiblement et complément, doit, s’il ne peut se procurer une vraie tête humaine, avoir un crâne artificiel qu’on puisse ouvrir, dentelé aux commissures, divisé en quatre partis, afin que, lorsqu’il aura démontré l’anatomie externe, il puisse l’ouvrir, pour que l’on voie par les sens l’anatomie des membranes et du cerveau. Ce crâne être muni à l’extérieur de choses qui tiennent lieu de cheveux, de peau, de chair lacerteuse et de la membrane qui relie les os. De meme à l’intérieur, on doit figurer quelque chose qui représente, d’une façon sensible, la forme des membranes et du cerveau.” Henri de Mondeville, *Chirurgie de maître Henri de Mondeville chirurgien de Philippe le Bel, composée de 1306 à 1320*, ed. Edouard Nicaise (Paris: Felix Alcan, 1893), 26; On Mondeville see: McCall, “Illuminating the Interior,” 237–38; Marie-Christine Pouchelle, *The Body and Surgery in the Middle Ages*. (Cambridge: Polity, 1990); François-Olivier Touati, “Les traités sur la lèpre des médecins montpelliérains: Bernard de Gordon, Henri de Mondeville, Arnaud de Villeneuve, Jourdain de Turre et Guy de Chauliac,” in *L’Université de médecine de Montpellier et son rayonnement (XIIIe–XVe siècles*, ed. Daniel Le Blévec, and T. Granier, 205–31 (Turnhout: Brepols, 2004); Philippe Castan, Pierre Rabischong, and Mourad Chaabane, 1985. *Naissance de la dissection anatomique deux siècles à l’apogée du Moyen-Age autour d’Henri de Mondeville et Gui de Chauliac: Intérieur et extérieur du corps humain à l’apogée du Moyen-Age: Essai* (Montpellier: Sauramps médical, 1985); Loren McKinney, “The Beginnings of Western Scientific Anatomy,” 233–39.

¹⁷¹ McCall, “Illuminating the Interior,” 140–43.

¹⁷² “Première des 13 figures qui suivent, lesquelles suffisent pour pouvoir démontrer très clairement toute l’anatomie et l’histoire du corps humain, aussi bien de l’homme que de la femme, aussi bien entier au’ouvert, aussi bien de la partie antérieure que de la postérieure...diversement présenter à l’intellect humain” Henri de Mondeville, *Chirurgie*, 18.

¹⁷³ “...diverses incisions, selon la diversité de ces membres, et selon la doctrine donnée dans l’anatomie qui suit.” Ibid.

male organs and (13) a views of the uterus.

In miniature, these images provide only the faintest echoes of what must have been the impressive sequence of Mondeville's large-scale pictures.¹⁷⁴ Stylistically, the figures resemble the elongated, elegant bodies of the era, popularized by Master Honoré, which suggests the illuminator was not copying original designs but simply executed a basic figure and filled it with rough estimates of the anatomical systems discussed.¹⁷⁵ The evidence provided by this manuscript shows that their successors were little more than approximations of Mondeville's art. Perhaps this is why his figures were met with a cold reception by some of his colleagues, including his own student Guy de Chauliac who declared in his *Grand chirurgie* that anatomy could only be understood through human dissection "and not pictures like those made by Henri [de Mondeville], which only *appear* to demonstrate anatomy."¹⁷⁶

It seems likely that Guido was familiar with Mondeville's work, and patterned his own series of anatomical figures after Mondeville's program.¹⁷⁷ A number of similarities exist; for instance the opening miniature from *MS. fr. 2030* (**fig. 34**), which like Guido's treatise, also commences with a surgeon carving open a naked figure with a razor.¹⁷⁸

¹⁷⁴ McCall has also suggested that these models might have been three-dimensional. See: McCall, "Illuminating the Interior," 139.

¹⁷⁵ Robert Branner, *Manuscript Painting in Paris during the Reign of Saint Louis: A Study of Styles* (Berkeley: University of California Press, 1977).

¹⁷⁶ In his *Chirurgia magna*, de Chauliac states that anatomy should be learned by reading the works of qualified physicians and observing human dissection first hand; a student should learn exclusively from dissection "et non par les peintures, comme a fait le susdit Henric, qui avec treize peintures a semblé monstrier l'Anatomie." See: Guy de Chauliac, *La grande chirurgie de Guy de Chauliac: Chirurgien, maistre en médecine de l'université de Montpellier*, ed. Edouard Nicaise (Paris: Ancienne Librairie Germer Baillière, 1890), 30–31.

¹⁷⁷ McCall, "Illuminating the Interior," 143.

¹⁷⁸ "un chirurgien debout, tenant à la main un rasoir...et un homme qui se tient nu devant lui." Henri de Mondeville, *Chirurgie*, 18.

Other treatments of the body are present in Guido's work—for instance the dorsal view of the spine recalls Mondeville's emphasis on showing the body "from front to back."

Guido took an even bolder stance than Mondeville in his view of the anatomical image, however, claiming that his designs showed the interior "better than the body itself." Relying on the image's authority, Guido revised canonical works such as Avicenna's *Cannon medicinae*, "which contains errors in certain places, especially the description of the spleen, which [Avicenna] says is long, but in fact is round with two or three knots underneath."¹⁷⁹ A corresponding image in scene eight verifies the claim, showing a rounded spleen on the right side of the body (**fig. 35**) This correction seems to have been culled from Guido's own experiences, not only dissecting the body but also inspecting it through palpitations to the stomach, such as those depicted in scene seventeen (**see fig. 32**).¹⁸⁰

These personal claims were authenticated by the broader image program, which presented Guido's experience "making anatomies" through detailed meditations on the body's strata. Scenes three through six especially demonstrate this process, focusing on the three flanks of skin—*mirach*, *siphac*, and *zirbus*—that guarded the abdomen (**see pl. 8**).¹⁸¹ Following the initial incision in scene two, the next three figures differentiate each membrane with artistic skill, rendering the *mirach*'s venous fiber and depicting the *zirbus* as a gauzy ribbon of flesh, which thinly veils the organs of the abdomen. The articulation

¹⁷⁹ "in certis locis erravit et maxime de splene, cum dict splenem esse longum, immo est quasi totaliter rotundum cum duobus vel tribus nodulis desubtus." Guido da Vigevano, "Anothomia" (271r); Wickersheimer, *Anatomies*, 72.

¹⁸⁰ "hoc manifeste apparet in homine vivo, quia cum spleen est in ventre tumefactum, tangimus ipsum quasi rotundum, et quis dubitat querat et veriatem invenit." Guido da Vigevano, "Anothomia" (271r); Wickersheimer, *Anatomies*, 72.

¹⁸¹ On these membranes see: Roger French, *Dissection and Vivisection*, 42–49. Of Arabic origin, this terminology can be found as early as the eleventh century in Salernite anatomy. See: George Corner, *Anatomical Texts of the Earlier Middle Ages* (New York: AMS Press, 1978).

between these layers gives the viewer the impression that he/she is excavating the body through an orderly rational, guided by the experienced voice of Guido in the brief captions to the upper right of the image.

A similar sensation is present in figures seven through nine (see pl. 9), which likewise begin with an incision in the chest and move progressively deeper into the thoracic cavity from the “spiritual organs” of the heart and lungs to a focused meditation on the esophagus. Like the entry to the abdomen, these figures “correctly visualize” a progressive evacuation of the organs through sequence, showing first the full contents of the open torso in figure eight and then extracting these members in figure nine to facilitate greater visibility of the stomach and esophagus.¹⁸² Observation is thus the ordering principle of the *Anothomia*. While schemes of the Sitting Figure Series, arrange the body into systems, Guido optimized the body for the viewer’s gaze as a simulacrum of dissection, elevating observation to the primacy of authentication.

These progressive excavations into the human body halt at scene ten (see fig. 29), which details the “seven chambered” *matrix* described in pseudo-Galen’s *De semine*.¹⁸³ Here Guido asserts the falsity of the so-called “wandering womb,” a longstanding Hippocratic etiology, which was thought to provoke a host of female maladies including “hysteria” (womb suffocation).¹⁸⁴ The image presents the womb as an oblong honeycomb of cells firmly affixed to the woman’s abdomen and “shows that it is not possible to

¹⁸² “Figura erunt omnia membra corporis visibilia et apparencia recte... ideo coegi me ad notificandum meri solum positum in una figura, cum valde sit necessarium hoc membrum meri actualiter demonstrare, cum a parte posteriori sit proquinquior meri quam a parte anteriori, propter altitudinem toracis et pulmonis.” Guido da Vigevano, “Anothomia” (272r); Wickersheimer, *Anatomies*, 74.

¹⁸³ Park, *Secrets of Women*, 110–11.

¹⁸⁴ Green, *The Trotula*, 22–30; Joan Cadden, *Meaning and Sex Difference in the Middle Ages*, (Cambridge: Cambridge University Press, 1995), 25; Helen King, “Once Upon a Text: Hysteria and Hippocrates,” in *Hysteria Beyond Freud*, 3–90 (Berkeley: University of California Press, 1993).

ascend to the diagram nor induce suffocation.”¹⁸⁵ Anchoring the womb, Guido demonstrates the latest knowledge in Galenic anatomy and its theories of gestation. The chambers on the right (the hotter side of the body) engendering male children, while those of the left (colder) female. The seventh chamber in the center produced intersex children as its position maintained complete balance of hot and cold.¹⁸⁶ This mediation on the matrix provides further elucidates Guido’s visual arguments against outmoded or erroneous anatomical theories.

The details added by Guido’s drawings to the study of the uterus also underscore the increasing surveillance of female reproduction in the fourteenth century, identified by Katherine Park, which was levied through both textual studies and visual analytics.¹⁸⁷ Like many of his contemporaries, Guido’s depiction of the “secrets of women,” condensed the female body to a core principal of reproductive anatomy, but his detailed treatment was especially reductive, isolating the *matrix* from all other internal members.¹⁸⁸ Cast in relief against the hollow abdominal cavity, the woman’s uterus is cut off from the rest of her body—its connective tendrils, the “horns of the uterus,” reaching in vain into a blank anatomical void.¹⁸⁹ Visceral absence stages the woman’s body as a ready receptor of masculine engagement, and the female cadaver’s fleshy and evocative appearance, distinguishes it from the emaciated male bodies in the preceding figures as though its fertility wards off the specter of decay.

¹⁸⁵ “...hec designavi ne credatur quod possit ascendere usque ad diafragma, nec inducer sufacionem...” Guido da Vigevano, “Anothomia” (272r); Wickersheimer, *Anatomies*, 74–5.

¹⁸⁶ Karl Wittington, “Medieval Intersex in Theory, Practice, and Representation,” *Postmedieval* 9 (2018): 231–47.

¹⁸⁷ Park, *The Secrets of Women*, 77–120.

¹⁸⁸ *Ibid.*, 110–13.

¹⁸⁹ See Faith Wallis, ed., *Medieval Medicine: A Reader*, 238; Mondino de’ Liuzzi da Bologna, *Anothomia*, ed. Piero P. Giorgi and Gian Franco Pasini (Bologna: Istituto per la Storia dell’Universita di Bologna, 1992), 237–57.

Guido concludes his dissection of the body with a truly bizarre image of the anatomist chiseling open the head of a living man (see fig. 30). This scene in all likelihood was replicated from Mondeville's anatomy (see fig. 34), which likewise shows a physician incising the scalp of a living figure at the opening to its anatomical series. Again, however, Guido adds more detail, showing the method of trephination as well as the tools of the anatomist, a lenticular chisel-knife and mallet.¹⁹⁰ In this final demonstration of human anatomy, Guido focuses on the membranes of the *dura* and *pia* matter, beginning with the removal of the cranial vault in figure twelve and the exposure of the *dura* matter in figure thirteen. Figure fourteen shows the deeper penetration to the *pia* matter while figure fifteen concludes the anatomy of the skull with a fully exposed brain. Antonio Di Ieva et al., have recognized a number of details in this final image, including *sulci* and *gyri* (furrows and ridges) and five orifices representing the olfactory nerves and the three ventricles.¹⁹¹ The systematic penetration of the skull is reminiscent of Guido's dissection of the first *venter*, especially his focus on the casing membranes of *dura* and *pia* matter, which once again recognize the body as a delamination of flesh exposed through anatomical precision.

As dissection was often conducted on the bodies of decapitated criminals, these heads are likely representative of the actual conditions of the anatomist's studio and may denote real models preserved for pedagogy. A severed head currently in a private collection (pl. 13), carbon dated between 1240–90, provides one example of these

¹⁹⁰ Antonio Di Ieva et al., "The Neuroanatomical Plates of Guido da Vigevano," *Neurosurgical Focus* 23 (2007): 1–4.

¹⁹¹ *Ibid.*, 3.

medical props.¹⁹² Like Guido's figures, the top portion of the head has been trephined, the membranes removed, and the now dehydrated brain exposed for inspection.

Remarkably, this human bust has been preserved with a mixture of beeswax, lime, and cinnabar mercury, which have been injected by unknown means into the veins.¹⁹³

Such props were essential to anatomical study as Mondeville writes, "whoever sets himself to intelligently and completely demonstrate the anatomy of the head should have in hand a human head; lacking that, he should have a man-made model, that can be opened so you can see the notched commissures, which divide it in four parts, and where you can see and feel the anatomy of the membranes and of the brain."¹⁹⁴ Guido's studies are, of course, limited to two-dimensional representation but still manage to represent the details of trephination, the *dura* and *pia* matter, and certain details of the brain's grey matter. The final anatomical scene is an extension of the brain's anatomy, showing the bilateral extension of the nerves through the vertebral foramina which "give sensation and motion to the entire body."¹⁹⁵

iii. Creation

Collectively, Guido's scenes of dissection appear to be an intricate mix of contemporary anatomical illustration, drawing especially from Mondeville's figures, coupled with more

¹⁹² Pierre Charlier, et al., "A Glimpse into the Early Origins of Medieval Anatomy through the Oldest Conserved Human Dissection (Western Europe, 13th c. A.D.)," *Archives of Medical Science* 10 (2014): 366–73.

¹⁹³ *Ibid.*, 370.

¹⁹⁴ Quiconque veut démontrer l'anatomie interne et externe de la tête, sensiblement et complètement, doit, s'il ne peut se procurer une vraie tête humaine, avoir un crâne artificiel qu'on puisse ouvrir, dentelé aux commissures, divisé en quatre partis, afin que, lorsqu'il aura démontré l'anatomie externe, il puisse l'ouvrir, pour que l'on voie par les sens l'anatomie des membranes et du cerveau. Ce crâne doit être muni à l'extérieur de choses qui tiennent lieu de cheveux, de peau, de chair lacerteuse et de la membrane qui relie les os. De même à l'intérieur, on doit figurer quelque chose qui représente, d'une façon sensible, la forme des membranes et du cerveau. Mondeville, *Chirurgia*, 26.

¹⁹⁵ "...portantes sensum et motum toti corpori." Guido da Vigevano, "Anothomia" (285v); Wickersheimer, *Anatomies*, 76.

detailed arguments crafted from Guido's personal experience of dissecting the body. On the manner of their creation, Guido provides a hint in his prologue where he states: "I include anatomical figures from traced designs, but it will be hard for any doctor to transcribe these anatomical drawings, both because of the expense, and because they cannot easily find knowledgeable painters to paint such pictures, so they need only look readily at these anatomical figures and incorporate them into their memory."¹⁹⁶ This comment indicates that Guido had traced his figures from an unknown template and retrofitted each to fit his progressive tour through the body. The basic scheme employed is full-length, front-facing figure standing with arms hanging to the side and finished by a loose application of color, which often spills outside the underdrawing. The artist, however, either used multiple templates or loosely followed the archetype, since the outlines of his figures vary significantly in size and proportion.

Who the artist was also remains a mystery. Guido notes the difficulty of finding illuminators with the ability to execute his design, and a handful of errors attest to an artist working with unconventional material. On folio 282 verso, for example, the illuminator made a crucial mistake. Attempting to draw one of the tables used to display the embalmed heads, the preliminary sketch throws one table leg wildly out of perspective (**fig. 36**). Realizing the error, the artist attempted to scratch out the offending table leg, but ultimately abandoned the attempt and left the drawing unfinished. Gross anatomical errors are also present in the manuscript, most notably in scene eight, which shows three lungs in the thoracic cavity (**see fig. 35**). A physician of Guido's training and

¹⁹⁶ Ponam anothomiam figuratam per figuras designates, sed quia durum erit cuilibet medico transcribi facere hanc anothomiam, tum propter expensas, tum quia non de levi inveniuntur pictores scientes ipsas figuras designare, ideoque sufficit eis solum ipsas figuras anaothomie sepe videre et mente incorporari. Guido da Vigevano, *Anothomia* (17r).

pedigree would have never have committed this error, and this colossal mistake is indicative of an illuminator unfamiliar with human anatomy. As the manuscript itself was produced in a Parisian shop, it seems most likely that Guido supplied his “traced designs” to an illuminator who had difficulty interpreting elements of the physician’s compositions.¹⁹⁷

The designs, however, do seem to follow a basic pattern of anatomical imagery circulating his native Lombardy, such as a mid-fourteenth-century surgical book now held at the Biblioteca Marciana in Venice (**fig. 37**).¹⁹⁸ Produced in Guido’s native Lombardy, this book contains two different surgical treatises: a translation of Albucasis’s (Abū al-Qāsim Khalaf ibn al-‘Abbās az-Zahrāwī) *Chirurgia magna* and a copy of the *Chirurgiae tractatus quinque* by the Italian surgeon Guglielmo da Saliceto. Filled with various illustrations, this manuscript features a lone anatomical figure inserted midway between the two works (folio 40v). The figure resembles Guido’s basic template: a naked male body, standing erect with its center slit open. Two large incisions have been made in the abdomen and the hanging skin has been folded down towards the pelvis. Inside, the man’s stomach and intestines are visible, though it is difficult to make out further details.

Likely, this picture was of little use to an aspiring surgeon trying to learn the body’s interior and served more generally as a frontispiece to Saliceto’s treatise, preparing the reader for its fascinating and frequently gruesome subject matter. Its similarity to Guido’s figures—the standing, full-frontal posture, and naturalistic details

¹⁹⁷ McCall makes a similar suggestion but also doesn’t rule out the possibility that Guido might have been the artist, citing his access to illuminated works in the royal library. See: McCall, “Illuminating the Interior,” 147.

¹⁹⁸ Biblioteca Marciana, Venice: *Cod. 58, lat. VII, XXXII*, 40r. See: Giuseppe Valentinelli, *Bibliotheca manuscripta ad S. Marci Venetiarum: codices MSS. Latini*, vol. 5. (Venice: Typ. commercii, 1872), 132–33.

such as the articulation of the body through subtle shading—are unlikely to be a coincidence. Saliceto’s text was widely read in Italian universities like Bologna, where Guido studied, and he would have been quite familiar with the writings and illustrations of this Italian master surgeon.¹⁹⁹ He might have even acquired such a book and brought it with him from Italy when he migrated north, but the exact relationship between Guido’s images and its Italian exemplars remains obscure.

Whatever the sources, it is obvious that Guido was not live-sketching records of dissection but rather was retrofitting pre-established designs with anatomical features that he had gathered from personal study and experience. These exemplars, which were meant more for ornament than instruction, were repurposed by Guido into a systematic engagement with the human interior in a simulation of university anatomies. His program was especially innovative in its methodical opening of the body, which closely resembles the methods of his mentor Mondiono and demonstrates evidence of Guido’s experience handling the cadaver. This familiarity buttressed his remarkable claim that images, when mediated by experts, were superior to dissection for they stabilized the transient and ultimately gruesome encounter of the corpse into a sanitized account that could be repeatedly consulted and explored. While historians of anatomy, such as Roberts and Tomlinson have long asserted that his figures were “text based” and not drawn from experience, it is apparent that they were in fact created from visual templates of

¹⁹⁹ On Saliceto see: Jole Agrimi and Chiara Crisciani, “The Science and Practice of Medicine in the Thirteenth Century According to Guglielmo da Saliceto, Italian Surgeon,” in *Practical Medicine from Salerno to the Black Death*, ed. Luis Garía Ballester, 60–87 (Cambridge: Cambridge University Press, 2010); Nancy Siraisi, “How to Write a Latin Book on Surgery: Organizing Principles and Authorial Devices in Guglielmo da Saliceto and Dino del Garbo,” in *ibid.*, 88–109.

contemporaneous imagery and refined through the authority and expertise of the author.²⁰⁰

**THE ROYAL BODY:
ANATOMIA AND THE RELICS OF STATE**

While Guido da Vigevano's anatomies provided an innovative approach to the body and its visualization, his project also aligned with the contemporary politics of the French court at which he served. As a royal physician, Guido would have been tasked with the dissection of aristocratic bodies following the French tradition of "bodily division," known as *mos tutonicus* or simply *gallicus* because of its popularity north of the Alps.²⁰¹ Practiced as early as the tenth century, the division of the corpse became particularly vital to French aristocratic identity by the thirteenth century and, as Brown has demonstrated, enabled the monarchy to disperse their bodies as relics of political authority as well as maximize their proximity to various holy sites and family graves.²⁰² Despite the papal ban, *detestende feritatis* issued in 1299, the French aristocracy continued the practice of dissection and embalming as the century wore on.²⁰³ And while medical dissection was "officially" forbidden in French universities until the fifteenth century, "anatomies"

²⁰⁰ See: note 12; Park likewise describes his images as "text-based." See: Park, *Secrets of Women*, 113.

²⁰¹ One of the earliest recorded instances of post-mortem dissection is Emperor Otto I who died on May seventh, 973 in Memleben but was buried nearly two weeks later on the twentieth of May in Magdeburg Cathedral. To preserve the cadaver for this period of time, the body was opened the night of his death, the viscera were removed, and the corpse filled with aromatics. Theitmar of Merseberg reports that, "Seqenti vero nocte viscera ejus soluta in ecclesia sancte Mariae sunt tumulata; corpus autem ejusdem aromatibus conditum ad Parthenopolim translatum est ibique honorabiliter atque lacrimabiliter susceptum marmoreoque inpositum sarcophago sepultum est." Quoted in: Dietrich Schäfer, "Mittelalterlicher Brauch bei der Überführung von Leichen," 478.

²⁰² Elizabeth Brown. "Authority, the Family, and the Dead," 803–32.

²⁰³ When Pope Boniface VIII forbade the French custom in 1299, declaring the practice "abhorrent," French monarchs moved quickly to secure exemptions from the Papal bull. Philip the Fair, for instance, appealed the decree for several years until receiving permission in 1305 from the newly elected French Pope, Clement V, to divide his body and have it buried in whatever church the king wished. See *ibid.*, 830.

where typically conducted by royal physicians in less formal settings.²⁰⁴ While these autopsies had different objectives than pedagogical dissection, their techniques overlapped significantly and shared much of the same nomenclature. As Park has observed, *anatomia* merely signified “correct division” and made no distinction between medical and mortuary practices.²⁰⁵ Thus when Guido discusses “making an anatomy” he could have been referring to any number of events, including bodily division and embalming.

i. Bodily Division

A fifteenth-century illustration from a copy of the *Chirurgia magna* (1363) of Chauliac demonstrates the overlap between the arts of dissection and division (**fig. 38**).²⁰⁶

Purporting to show “an anatomy,” the image displays a woman’s naked body, splayed on a table surrounded by a physician, his assistant, and host of specters dressed in finery.

Opened only moments before, the woman’s body exhibits an immense incision, running from throat to her pelvis. Hovering above the wound, the assistant stares at his

handiwork, his knife still perched at her throat. Pools of blood form gently around her head, and her interior glows with an arresting crimson.

²⁰⁴ For example, following the death of King John of England, Ralph of Coggeshall described the division of the king’s body as an “*anathomia*” in his *Chronicon Anglicanum*. In France, medical dissection and bodily division began to occur simultaneously. In 1407 the medical faculty at the University of Paris performed a private autopsy on the body of Jean Cannard bishop of Arras. After describing the contents of his body in remarkable detail the faculty then removed and preserved his heart and viscera. His body was later transported to a Celestine convent while his heart was carried back to Arras and buried in the cathedral choir. See: Ernest Wickersheimer “Les premières dissections a la faculté de médecine de Paris,” *Bulletin de la société de l’histoire de Paris et de l’Ile-de-France* 37 (1910): 159–69, 162–3; Park, “The Life of the Corpse,” 111.

²⁰⁵ Katherine Park, “The Life of the Corpse.” *Anatomia* is often defined as “correct division” within the prologue of medieval anatomical treatise, such as the twelfth-century *Anatomia Magistri Nicolai Physici*, which explains: “The word is derived from *ana*, meaning straight, and *thomos*, meaning division; whence *anatomia*, that is to say, correct division of the members.” Quoted in: George Corner, *Anatomical Texts of the Earlier Middle Ages*, 67.

²⁰⁶ Musée Atger, Bibliothèque de la Faculté de Médecine, Montpellier: *Ms. fr. 184*, 14v. See: Park, *Secrets of Women*, 127–29.

This scene shows what would become a generic depiction of academic dissection in the later Middle Ages, as seen for instance the popular *De proprietatibus rerum* of Bartholomaeus Anglicus (**fig. 39**), but the artist has added a detail, which suggests that this is actually a scene of royal division and embalming. On the left side of the table, a young assistant holds a canopic jar (*cadus*) in preparation for the reel of intestines scooped out of the woman's body by the physician. According to the custom, these entrails would be sealed in a jar of lead or silver and whisked away for burial to a designated church, monastery, or convent.²⁰⁷ Here they would become relics of royalty, absorbing prayers and radiating political power much like the holy bodies of saints, which were similarly "anatomized" to multiply their power.²⁰⁸ Once the sacred organs were properly stowed, the body itself would be prepared for embalming: first, with heavy applications of salt, then flowers, herbs and spices to mask the stench of decay.²⁰⁹ The spectators in the background likely represent, professors, court officials, and family members, who records show were often present to witness the mortuary rites.²¹⁰ Thus

²⁰⁷ Mondeville instructs that, "S'il faut conserver longtemps les viscères extraits, on les saupoudrera abondamment avec le poudre susdite, puis on les déposera dans un vase scellé d'argent ou de plomb ou dans une urne (*cadus*) choisie entourée d'un grand nombre de toiles cirées." Mondeville, *Chirurgie*, 573.

²⁰⁸ Park, *Secrets of Women*, 39–76.

²⁰⁹ An impressive list of embalming ingredients is provided in Mondeville's *Chirurgia* (1312) "Rp. Myrrhe, Mumie, Aloès, et autres épices empechant la corruption et réprimant la puanteur, telles que Roses, Violettes, Camphre, Santal, Muse, en qualities que l'on voudra, du Sel autant que tout le reste; on remplira d'herbes odoriférantes toute la cavité don't on a extrait les viscères, Camomille, Melilot, Pouliot, Menthe, Mentastre, Balsamite, Mélisse, etc., jusqu'à rétablir la forme habituelle et décente du corps: ensuite on recoudra et on procédera comme il est dit plus haut. S'il faut conserver longtemps les viscères extraits, on les saupoudrera abondamment avec la poudre susdite, puis on les déoïsera dans un vase scellé d'argent ou de plomb ou dans un urne choisie entourée d'un grand nombre de toiles cirées." Mondeville, *Chirurgie*, 572–73.

²¹⁰ After the Death of King Charles VI in 1422, for instance, the anonymous chronicler of the *Regne de Charles VI* recounts that a number of lords, counselors, and members of the university went to see the king on his bed where they apparently witnessed the removal of his heart and liver. "Et tantost après sa mort l'allèrent voir en son lit les seigneurs de son conseil, de la chambre de parlement, des comptes, de l'Université de Paris, le prévost et college de Chastelet, le prévost des marchands, sechevins, bourgeois, manans et habitans d'icelle ville et plusieurs aultres officiers et serviteurs d'icelui roy. Et fut trouvé qu'il avoit le cuer et le foye net." Quoted in: L. Douët d'Arcq, ed., "Chronique anonyme du règne de Charles

while demonstrating “anatomy” the images show the broader spectrum of activities that operated under performance of *anatomia*, which included bodily division and the embalmer’s art.

In Guido’s *Anothomia*, a similar stroke is used to open the chest wall in scene seven (see fig. 26). Here the body seems to be suspended, a position not used in Mondino’s anatomy, and the anatomist embraces the corpse in his arms, slicing downward from the top of the throat through the thoracic wall into the abdominal cavity and halting at the pelvis.²¹¹ While this maneuver was described in in Mondino’s *Anatomia* (1316) it was also utilized in Mondeville’s descriptions of embalming written four year’s prior (1312).²¹²

When the body must be preserved for longer than four nights, and when granted dispensation by the Church of Rome, open the abdominal wall with an incision from the neck to the pubis in men and with a double incision from the substernal notch along both flanks in women, and then fold back the flap connected to the pubis. Through those incisions, remove all the abdominal viscera down to the anus.²¹³

Mondeville’s instructions are specific to embalming—a task he had personally performed on two French kings²¹⁴—but his process is mirrored in Guido’s *Anothomia*, which relied on the same maneuver to open the cadaver and remove its contents. Like

VI,” in *La chronique d’Enguerran de Monstrelet: En deux livres, avec pièces justificatives, 1440–1444*, 6 vols. (Paris: Mme ve J. Renouard, 1857–62) 6:324.

²¹¹ “Situato itque homine vel corpore mortuo per decollationem vel suspensionem supine, primo notititia totius debemus habere, secundo partium. Mondino de Luzzi, *Anothomia*, 98.

²¹² “Hiis expedites incipe excoriare ventrem medium usque ad principium colli, quia usque ibi sunt membra spiritualia.” Ibid, 278.

²¹³ “Si les cadavres doivent être conservés plus de quatre nuits et qu’on ait un privilège spécial de l’Église romaine, on incisera la paroi antérieure du ventre du milieu de la poitrine au pubis s’il s’agit d’un homme, chez les femmes on incisera de la fourche ou orifice de l’estomac en descendant suivant la forme d’un bouclier renversé jusqu’aux deux flancs ou ilions; puis on renversera sur les parties sexuelles toute la paroi comprise entre les deux incisions et on extraira tous les viscères jusqu’à l’anus.” Mondeville, *Chirurgie*, 572–73.

²¹⁴ While Mondeville doesn’t specify which kings he embalmed, the most likely candidates are Philip the Fair (d. 1314) and Louis X (d. 1316) Since Henri’s treatise was likely written around 1316 this precludes Philip V who died in 1322. See: *ibid*, 569, note 2.

Mondeville, Guido may have even employed the art of *anatomia* in an autopsy of a former patron, Emperor Henry VII of Luxembourg for whom he briefly doctored during the emperor's ill-fated Italian campaign.²¹⁵ He had apparently obtained his prestigious position 1311 after staging a bloodless coup that turned the castle of Vigevano over to an envoy of the emperor and then accompanied his new master south until the emperor's death in 1313.²¹⁶ According to the *Gestis Henrici* of Albertino Mussato, Henry fell ill after crossing a river and deteriorated rapidly, dying suddenly at a small Dominican monastery in the village of Bonconvenuto. As his troops transported the body toward Pisa, the stench of the corpse became unbearable. The army stopped at Pagnanicum where physicians dismembered the corpse and boiled the remaining flesh off the bones for easier transport. An autopsy was also performed that named three causes of death: an ulcer under his knee "which physicians named as anthrax"; blisters within his bladder "which had caused constant suffering"; and a "pleurisy" which the emperor had vomited out as he died.²¹⁷ As imperial physician, Guido would have been involved in both the autopsy and the division of the body, and this episode perhaps illustrates one of the "many" instances that he claims to have anatomized a cadaver.

These overlapping techniques and experiences demonstrate that "anatomy" could be performed for a variety of reasons and desires, and as the Chauillac illustration shows, were often visualized under the same mantle of *anatomia*. In this wider frame, Guido's *Anothomia* is performed through various strata of overlying practices and traditions.

²¹⁵ Settia "Guido da Vigevano," 432–33. Settia provides the most comprehensive biography of Guido to date. For English biography see George Sarton, "Guido de Vigevano," in *Introduction to the History of Science III* (Baltimore: William and Wilkins, 1947), 846–847.

²¹⁶ Settia, "Guido da Vigevano" 432.

²¹⁷ Mussato states that: "Triplex illi interitus causa deprehensa est: una in nate sub genu lethalis ulceris, quod physici antras vocat; alterta scisse abe stringuria vesice, quod morbo assidue laborabat; tertia pleuresi, quam misso iam spiritu vomuisse constitit." Albertino Mussato, *De Gestis Henrici VII Cæsar* (Venice: Ex Typographia Ducali Pinelliana, 1636), 93.

While some of his images alluded to “illicit” dissections performed in Italy, Guido’s royal audience would have additionally understood *anatomia* as a mortuary practice integral to the French aristocracy. Rendering the latest’s medical technologies through an experimental mode of visualization, Guido also invoked the mortuary rites for the king’s body and its apotheosis to a relic of the French state. Crafted in the aegis of the court, I would argue that the *Anothomia Philippi septimi* is not simply an anonymous anatomy but rather a preview of the king’s cadaver, opened and divided by his royal physician. This metonymy is personified by the ominous depiction of the corpse in the opening eight scenes of dissection, whose exaggerated decay recalls familiar *memento mori* from the devotional manuscripts of the French elite. Invoking this specter, the personification of death shadows the viewer from page to page, reflecting the king’s fate in a mirror image.

**THE MACABRE BODY:
THE ANOTHOMIA AND THE CADAVER**

Guido introduces his *Anothomia* with an image of a *homo vivo*, (see **fig. 27**), a living man whose indexical body housed the functioning anatomical systems humming just below the skin. In the very next image (see **fig. 28**), however, the living body has expired; the *homo vivo* is now an ashen corpse, cradled in the arms of a physician who leans his face close to the cadaver as if to impart a kiss. Locked in this embrace, the living and the dead share a strange moment of intimacy; however emotional tension grows as the anatomist simultaneously splits open the belly, wounding the body he holds close. Violence and tenderness are thus balanced in the anatomy of the corpse, soliciting both pathos and horror from the viewer. While transformed into an object of dissection, the corpse

maintains an enduring sense of being, neither living nor dead but suspended in a blank afterlife of parchment.

As the introduction to the following scenes of dissection, this image stages confrontations with the corpse unlike anything yet encountered in medieval anatomical art. Rather than following conventional modes of depiction, which showed a “living” anatomy, Guido’s artist employed a familiar late medieval icon, the *transi*-corpse—a decaying body midway between flesh and skeleton—culled from religious and moralistic literature, such as the so-called “Tale of the Three Living and the Three Dead,” that were popular among the French elite.²¹⁸ Rendering the body through this recognizable motif, Guido’s artist conjured the potency of the corpse as a *memento mori*, and emblazoned the study of anatomy as the study of the dead. Relying on this familiar *topos* of death, the *Anathomia* bridged what Jonathan Sawday has defined as the fundamental confrontation of anatomy “between an abstract idea of knowledge and the material reality of a corpse.”²¹⁹ This confluence between art and the cadaver, however, appraised the dead body through new visual strategies, mollifying death by presenting an anatomical subject that was forced to reveal its mysteries.

i. The Anatomical Corpse

While Guido’s detailed engagement with the corpse was a new element in fourteenth-century anatomy, it expanded, in all likelihood from preexisting medical illustrations, such as Mondeville sketches, four of which featured fleshless skeletons. These were

²¹⁸ Ashby Kinch, *Imago mortis: Mediating Images of Death in Late Medieval Culture* (Leiden: Brill, 2013), 109–44. Paul Binski, *Medieval Death: Ritual and Representation* (Ithaca, NY: Cornell University Press, 1996), 134–40.

²¹⁹ Sawday, *The Body Emblazoned*, 3.

seemingly culled from popular literature. For example, figure eight, which allegedly illustrates the bones of the head and the face, but shows rather two figures confronting an animated skeleton that leans toward the living figures for analysis (**fig. 40**).²²⁰ Offering no medical information, the scene is instead reminiscent of confrontations between the living and the dead such as the Psalter and Hours of Robert De Lisle, which illustrates a similar confrontation of figures in an illustration of the Tale of the Three Living and the Three Dead (**fig. 41**).²²¹ But while Mondeville's figures of death are locked in the *mise en scène* of the page, Guido has moved the encounter beyond the image plane, to directly confront the viewer. In this way, he stages a series of confrontations between viewer and corpse that would become commonplace in the sixteenth century, exemplified famously in the frontispiece of Vesalius's *De fabrica*, which depicts a skeleton presiding over a scene of dissection in an anatomical "temple of mortality"²²² (**fig. 42**). As Sawday notes, the *memento mori* here is designed specifically for the viewer's gaze, being of no interest to the witnesses in the scene who refuse to acknowledge their own mortality.²²³ "Only for Vesalius, still living and gesturing toward the skeleton, and ourselves, who gaze at the scene from the world outside the picture plane, is the full significance of the skeleton apparent."²²⁴ Anatomical reflections on the body's transience, as Michael Sappol has explored, "became something of a death cult," in Renaissance medicine whose

²²⁰ Mondeville's caption simply states: "Figure (8) dans laquelle on voit l'ensemble, la composition et les articulations des 6 os de la tête et des 6 os de la face, et de quelle façon il's s'articulent ensemble et quell figure ils prennent, lorsqu'on les regarde par le côté." Mondeville, *Chirurgie*, 34.

²²¹ Lucy Freeman Sandler, *The Psalter of Robert de Lisle in the British Library* (London: Harvey Miller, 1983).

²²² Sawday, *The Body Emblazoned*, 66.

²²³ *Ibid.*, 71.

²²⁴ *Ibid.*

iconography was cast from a host of artistic traditions—*memento mori*, martyrologies, and the emerging *vanitas* of still-life painting.²²⁵

In the mid-fourteenth century, however, these conventions were merely undercurrents in the emerging systems of anatomy, and death was largely encountered outside the medical field in religious and moralistic images. Guido's scenes draw especially from one such specter, the so-called "*transi*-corpse," an icon of bodily retrograde that was featured in popular literatures of the elite, such as the Three Living and the Three Dead, which emphasized virtuous living as an antidotal preparation for death.²²⁶ An illustrated copy made for the Hours of Bonne of Luxembourg (**fig. 43**) shows three such cadavers confronting their courtly doppelgangers pictured on the opposite page with a warning: "*hodie mihi cras tibi*" (today me, tomorrow you).²²⁷ The illuminator has arranged the corpses in variations of decay from left to right. The newly dead on the far left, gazes forlornly at his body unwilling to concede its loss. The second two corpses, however, are more unnerving in both appearance and behavior; displaying aggressive decomposition, they rasp out warnings in the torment of decay to all who might hear.

As Christine Kralick has shown, the return of the dead in this scene spotlights a

²²⁵ Michael Sappol, "Art, Science, and the Changing Convention's of Anatomical Representation," In *Death: A Graveside Companion*, ed. Joanna Ebenstein, 50–52 (London: Thames & Hudson), 51.

²²⁶ Phillippe Ariès, *The Hour of Our Death* (New York: Vintage, 2008), 113.

²²⁷ Work produced by Jean Le Noir, his daughter Bourgot, and his workshop in Paris before 1349. Metropolitan Museum of Art. The Cloisters Collection, 1969 (69.86), 321v-322r. See: Christine Kralick, "Dialogue and Violence in Medieval Illuminations of the Three Living and the Three Dead," in *Mixed Metaphors: The Danse Macabre in Medieval and Early Modern Europe*, ed. Sophie Oosterwijk and Stefanie Knöll, 133–154 (Newcastle-upon-Tyne: Cambridge Scholars Publishing, 2011); Elina Gertsman, *The Dance of Death in the Middle Ages: Image, Text, Performance* (Turnhout: Brepols, 2010), 23; Paul Binski, *Medieval Death: Ritual and Representation* (Ithaca: Cornell University Press, 1996), 134–40. Pavel Chihaiia, *Immortalité et décomposition dans l'art du Moyen Age* (Madrid: Fondation Culturelle Roumaine, 1988), 43–70. Florens Deuchler, "Looking at Bonne of Luxembourg's Prayerbook," *The Metropolitan Museum of Art Bulletin* (February 1971): 267–78.

popular medieval belief that the body could not truly die until it had fully decayed.²²⁸ An individual's presence remained bound within the flesh and was only released to eternity following decomposition.²²⁹ As the body putrefied, its alteration was thought to simultaneously mirror the cleansing of the individual's soul within purgatory, an idea that ultimately envisioned decay as a form of purification.²³⁰ A quick decline was thus highly preferable, and in some cases, as Jakov Dordevic has observed, decomposition was hastened through burial in miraculous earth imported from the Holy Land said to decompose a body in only a few days time.²³¹

Guido's first eight scenes of dissection mimic the *transi*-corpse, showing a cadaver at an equidistant moment between the binaries of flesh and bone and thus precariously balanced between being and nothingness. In this state it retains an uncanny presence, neither living nor "dead." Its brittle, sagging exterior is paradoxically juxtaposed with a "living" interior, which subverts the decay of the body. Under normal conditions, as Guido notes, the body's interior liquefies after death and the internal organs are the first to disintegrate—typically beyond recognition in three weeks.²³² In no circumstance could cadavers like these—showing months of active decay—be successfully dissected. While most contemporary anatomical illustrations like the Saliceto figure (see **fig. 37**) masked the cadaver with "living" figures, the *Anathomia* bisects this visage in a paranormal tension between the living and dead.

²²⁸ Kralik, "Dialogue and Violence," 138.

²²⁹ Nancy Caciola, "Wraiths, Revenants, and Ritual in Medieval Culture," *Past and Present* 152 (1996): 3–45.

²³⁰ Jakov Dordevic, "Made in the Skull's Likeness: Of *Transi* Tombs, Identity and *Memento Mori*," *Journal of Art Historiography* 17 (2017): 1–19.

²³¹ *Ibid.*, 3–4.

²³² Jarvis Hayman and Marc Oxenham, *Human Body Decomposition* (London: Academic Press, 2016), 77–78.

In this regard Guido's *Anothomia*, cultivates a different affect from the skeletal *memento mori* of Mondeville, which could be read as both an anatomical structure as well as an "emblem of the fleeing vanity of fleshly appearance" in Camille's words.²³³ This form of skeleton was an ascending motif in surgical treatises and coined by Karl Sudhoff as the so-called "skeleton with the black abdomen."²³⁴ Read both practically and metaphorically, these figures all possess a dark void at their center.²³⁵ An example, from the early fourteenth-century medical miscellany (**fig. 44**) juxtaposes one such skeleton next to a fleshy figure of Adam, who grasps the forbidden fruit—the conduit of human mortality—in his left hand. With his other hand, Adam gesticulates in address to the skeleton. His speech remains anonymous, however, for the text that surrounds him are simply notes on veins and bones from the *Chirurgia* of Albucasis. It is intriguing, however, to imagine what he may be saying to Death who stands attentively listening to his living double. Regrettably, the forbidden fruit held by Adam reminds us that this information, although mortally tempting, is illicit. Death awaits Adam in eerie silence, its ribs opening like a veil, revealing only a glimpse of its shadowy interior. Squaring off in the closing pages of the *Chirurgia*, Adam and Death form the greater boundaries of the ego, marking the terminal points between divine origin and abject decay.

While taking a similar interest in the dead body as an emblem of identity, however, Guido's figures do not obscure the interior but instead probe its contents in systematic detail. While the skeleton extolled the ominous mode of death, empowered by

²³³ Michael Camille, "The Image and the Self," 87.

²³⁴ Karl Sudhoff, "Die graphische Weiterbildung der anatomischen Fünfbilderserie aus Alexandrinerzeit und eine anatomische Serie aus Stockholm," *Archiv für Geschichte der Medizin* 1 (1914): 36–37.

²³⁵ Sudhoff, "Die graphische Weiterbildung," 36–37. In order to understand this connection between popular and medical depiction, Sudhoff advocated for a "most exhaustive study" of the human skeleton in medieval art. Unfortunately, this study has yet to be performed.

mystery and fear, Guido's study of the corpse engages the body as a natural object, composed of rational pieces, which could be named and articulated. This unyielding, clinical penetration of the body illuminated the hidden recesses of the corpse, normally shielded by darkness and obscurity. Offering this picture to his royal patron, Guido presented the king with a new look at the dead body pronounced through anatomical rationality.

In its apprehension of the corpse, Guido's figures thus activate the kinetic potential of the corpse to frame the thresholds of identity and self. "Death transforms the body into a sign that is directed toward the gaze of the living," Joseph Koerner writes, "and this spectacle, the cadaver, mediates certain fundamental knowledge about the nature of our *postlapsarian* existence. . . . It is the sight of the corpse that enables us to regard life in its proper relation to death."²³⁶ As exhibitions staged for the viewer, the corpse offers "the capacity for self-examination," in Paul Binski's words, activated through the body's performance of decay. The cadaver is a mirror, which reveals the mimetic shades of mortality emended in the body "and so contributes to the construction of the subject's sense of self."²³⁷ Juxtaposing living body and corpse, illustrated tales such as the Three Living and the Three Dead or "the skeleton with the black abdomen" interpolated the viewer's gaze in a ternary model of identity, in which the audience perceives their "self" fractured between each terminus. These dueling expressions of the body form a circuit that resists closure, for as Elina Gertsman has shown, the living and dead each refract the gaze into a "hall of mirrors" where the viewer's identity ricochets in

²³⁶ Joseph Leo Koerner, "The Mortification of the Image: Death as a Hermeneutic in Hans Baldung Grien," *Representations* 10 (1985): 52–101, 53.

²³⁷ Paul Binski, *Medieval Death*, 138.

regress.²³⁸

Guido's scenes, however, bring the confrontation between the living and the dead into the direct proximity of the viewer, whose own body alternates as the living persons pictured within the frame. In this direct encounter with the corpse, the king's gaze is mediated through a slow series of incisions that reduce his body to fragments.²³⁹ The enthralling abjection of this event underscores the anxious loss of the body as a signifier of identity. The fragmented corpse is the border of the living being, in Julia Kristeva's terms, from which the living body must extricate itself to prove that it is alive; but death is persistent and the living move from "from loss to loss" until the "entire body falls beyond the limit—*cadere*, cadaver."²⁴⁰

Guido's slow reduction of the corpse also reconfigures the relationship between knowledge and death through a program of rational observation. Split, sorted, and displayed, Guido's images of the corpse examined death through the theoretical exercise of *anatomia*, which was also a symbol of royal power, an assurance of the king's transcendence wrought through bodily division and embalming. The corpse thus mirrors the "king's two bodies" and the competing fates for Guido's lord: an individual loss of identity personified in the rotting symbols of the corpse, but also the continuing maintenance of personhood administered through the preservation of the "living" relics of the royal body dissected and preserved by the state. Guido's anatomical sequences thus mapped both the abjection of the corpse as well as its continuing stasis in the embalmed

²³⁸ Ibid.

²³⁹ Ibid.

²⁴⁰ Julia Kristeva, *Powers of Horror: An Essay on Abjection*, trans. Leon S. Roudiez (New York: Columbia University Press, 1982), 3.

afterlife. The ultimate affect empowers the viewer over the cadaver. While contemporary scenes of the macabre presented the corpse as a sign of warning and even terror, Guido's *Anothomia* subdues the body through anatomical authority. Held by the gaze, the corpse does not move, speak, or sermonize but instead is paralyzed in the arms of the physician. As the pages turn, the viewer performs as dissector, sequentially dividing the innermost regions of the cadaver through the cutting precision of the gaze.

While his methods remained unrefined, Guido's illustrated treatise presaged the alliance between knowledge, image, and observation that would facilitate the "empirical verification of anatomical knowledge," in the sixteenth-century.²⁴¹ His method also signals what Sappol terms "the anatomical image of self," an internalized projection "that divides us into regions and territories, with internal place names and borders and topographical features."²⁴² But in the fourteenth century this image of the self remained possible only through analysis of the dead. Though the spectacle of the corpse was a grim memento mori to Philip VI, its dissection only affirmed the ideology of his own body and its exquisite organs destined for sacred burials. Cast within the familiar terminology of bodily division, the images promised a measure of apotheosis for the royal body through the rational authority of *anatomia*. Cutting open the *transi*-corpse the images momentarily placed death into the power of the royal gaze and promised that the king's mortal body, still bound to the transcendent nature of his office, would live on—dissected, displayed, and dispersed.

Philip VI died at Nogent-le-Roi, one 22 August 1350, a mere five years after

²⁴¹ Carlino, *Books of the Body*, 1.

²⁴² Michael Sappol, *Dream Anatomies* (Bethesda: National Library of Medicine, 2006), 6–8.

Guido da Vigevano produced his treatise. His corpse was carried to the Cathedral of Notre-Dame in Paris, and on the following Thursday buried in the royal necropolis of Saint-Denis on the left of the great altar. Before burial, however, his body was divided. His bowels were interned at the Jacobins in Paris and his heart sent to a Carthusian convent in his native Valois.²⁴³ Who performed these tasks remains unknown, but in any case, we might say that Guido did embalm his patron in another way by crafting a book of cadavers bearing Philip's name. His images are thus another kind of mummy maker, which—like the resins, salts, and spices used by the physician—suspended the corpse in time.

²⁴³ As reported by Jean Froissart, *Chronicles of England, France, Spain and the Adjoining Countries*. trans. Thomas Jones (London: William Smith, 1844), 20.



CHAPTER THREE

GENESIS: THE ANATOMICAL BODY IN THE EARLY AGE OF PRINT

INTRODUCTION

A figure welcomes the viewer with open arms, standing on a riverbank before the turrets of a walled garden (**fig. 45**). Down his torso runs a long incision, exposing a coil of intestines, an arrow-shaped heart, and host of other more amorphous organs, which hide in the shadowy recesses. Despite his wound, the figure is magically alive—his eyes shining with animation—and apparently feels no pain from his vivisection. The incision itself seems to be the result of a wound suffered in a second scene above, which unfolds in a castle garden looming in the background. Here a sleeping Adam “gives birth” to Eve who is conjured from Adam’s side by God, a *deus artifex* raising his right hand in a sign of benediction. Eve emerges in profile with her gaze locked on her creator, but her left leg is still frozen in Adam’s body—its profile creased against the skin of his stomach.

Juxtaposed between these two male bodies Eve is suspended between her origin and her ruler, incarcerated within a walled castle on a steep cliff. Implicated within this Genesis narrative, the figure in the foreground becomes a new actor in the creation story, revealed as the body of Adam, which still bares the trace of its miraculous labor above; its labial folds of skin open into an anatomical “womb” fleetingly housed in the male body, whose naked genitals stand poised below the orifice.

This remarkable scene of creation prefaces Books Three and Four of a popular encyclopedia printed in the shop of Jacob Bellaert of Haarlem on Christmas Eve, 1485.²⁴⁴ It was one of eleven illustrations created for the book by a mysterious woodcutter known simply as “the Bellaert Master.” The work itself was the first Dutch translation of a “classic” volume written centuries earlier (ca. 1220) by a Franciscan schoolmaster named Bartholomaeus Anglicus.²⁴⁵ Titled *De proprietatibus rerum* (on the nature of things), the encyclopedia provided a broad introduction to the study of natural philosophy in both its range of subjects (from celestial hierarchies to mining) and its principle philosophers (Aristotle, Plato...etc.). The hybrid scene of Eve’s birth and anatomical figure opens the encyclopedia’s study on the nature of the human soul and body, the first in a series of five books on the various “properties” of humans. Though originally devised for university curricula, this work gained immense popularity among lay audiences in the fifteenth century and became one of the most widely published works in the early era of print.²⁴⁶

²⁴⁴ James Snyder, “The Bellaert Master and *De proprietatibus rerum*,” in *The Early Illustrated Book: Essays in Honor of Lessing J. Rosenwald*, ed. Sandra Hindman, 41–62 (Washington, D.C.: Library of Congress, 1982), 42.

²⁴⁵ M. C. Seymour, *Bartholomaeus Anglicus and His Encyclopedia* (Aldershot: Ashgate, 1992).

²⁴⁶ According to the British Library *Incunabula Short Title Catalog*, at least fourteen different presses produced twenty-one editions in Latin, French and English between 1471 and 1501. At least 1,115 of these publications are still extant in holding institutions with many more on the private market. See: (https://data.cerl.org/istc/_search?query=bartholomaeus%20anglicus&size=10&mode=default&from=0).

As this chapter will demonstrate, the Bellaert Master's choice to illustrate this book with an anatomical figure was an unconventional move, since creation scenes and cosmological symbols had conventionally introduced Bartholomaeus's study on the properties of humans. Intended for a lay market rather than professional, clerical, or aristocratic audiences, I argue that this image was part of a growing diaspora of anatomical imagery, made accessible through vernacular translations in new print media, which inspired a broadening reception of the body as an anatomical subject. These "vernacular" images have received limited study, cataloged primarily as objects of limited importance. But as I will argue, these early anatomical prints in fact reveal fascinating portraits of the body in a moment of cultural transition.

As one of the earliest adopters of vernacular anatomy, the Bellaert Master trafficked the anatomical emblem through the tradition of Genesis and returned to the idea that the body was created in the "image and likeness" of God. In particular, the image emphasizes the male body as the progeny of the Creator and constructed a hegemonic authority over women by appropriating the powers of birth. Created first by God, the male body was presented as the zenith of creation and endowed with uncanny abilities of reproduction. The print also takes cues from Christological images found in books and broadsides of lay piety, which likewise configured Christ's body as an engendering and birthing subject through mediations on his side-wound. This holy incision inspired prolific devotional encounters with Christ's body and its recognizable "mandorla" shape was interpolated into the Bellaert Master's image, casting the anatomical figure as quasi-divine entity. Collectively, these Adamic and Christological

frames presented anatomy in recognizable forms that acknowledge its material lineage, spiritual potency, and ascendant position at the head of the created world.

As we have already seen in Chapter One, the birth of Eve and the anatomical body have a long history, interweaving the heterodoxy of William of Conches with the tradition of the Sitting Figure Series. And as discussed in Chapter Two, the figure of Adam was a powerful emblem set against the mirror of human mortality, confronting the shadow of death that penetrates every living body. Bellaert's print offers a third interaction between Adam and the anatomical body but here emphasizing the hierarchy of created matter and its reproductive organization. Engaging Genesis once again, I argue that the Bellaert Master used the anatomical figure as a proxy for the body of Adam, which gestated and birthed the human archetype in its form.

i. Historiography

Few studies have actively explored the early printed works of Bartholomaeus's *De proprietatibus rerum*, although it was published and purchased in great quantities in the final quarter of the fifteenth century. The primary work on Bellaert's 1485 edition remains James Snyder's study of a copy held by the Library of Congress (*Rosenwald Collection no. 488*), which sketches out important details concerning the book's creation, but provides little analysis of the anatomical body or its provocative juxtaposition with the scene of Eve's birth.²⁴⁷ Snyder rightly recognizes the similarities between this figure and other "zodiac men" of the late fifteen-century, but stops short of any comparisons to the Genesis scene placed directly above, noting only the figure's ability to signal the

²⁴⁷ James Snyder, "The Bellaert Master," 41–62.

body's corporeal makeup.²⁴⁸ Snyder's brief analysis also gives no appraisal of the sudden emergence of anatomical figures within the published works of *De proprietatibus rerum*, which first appeared in Bellaert's edition but are also known in French manuscripts from the mid-fifteenth century onward.

The broader artistic evolution of the *De proprietatibus rerum* has been plotted out primarily by Sue Ellen Holbrook, who traces its origins from unillustrated Latin textbooks in the thirteenth century to lavishly illustrated books for the wealthy in the late fourteenth century, following vernacular translations.²⁴⁹ These newly-formed picture cycles, Holbrook finds, drew their inspiration extensively from bestiaries and other compendia as well as religious scenes taken primarily from Genesis. These sequences received further modification in the fifteenth century, when they were adapted to incunabula. To accommodate new publishing formats, the pictures were standardized using a specific layout that systematized the "proprieties of things" into an organized hierarchy: God, Humans, and Nature.²⁵⁰ Anatomical pictures, Holbrook contends were drafted from textbook illustrations, for they provided an indexical preview of the encyclopedia's material on the body, arranged hierarchically and beginning with the head.²⁵¹ On Bellaert's creation of Eve, however, Holbrook has only a footnote observing "the striking but curious illustration...in which Eve is created from Adam as a naked man whose heart and intestines are detailed in the opening of his torso."²⁵² While Holbrook

²⁴⁸ Ibid, 46.

²⁴⁹ Sue Ellen Holbrook, "The Properties of Things and Textual Power: Illustrating the French Translation of *De proprietatibus rerum* and a Latin Precursor," in *Patrons, Authors and Workshops: Books and Book Production in Paris around 1400*, ed. Godfried Croenen and Peter Ainsworth, 367–403 (Louvain: Peeters, 2006).

²⁵⁰ Sue Ellen Holbrook, "A Medieval Scientific Encyclopedia 'Renewed by Goodly Printing': Wynkyn de Worde's English *De proprietatibus rerum*," *Early Science and Medicine* 3 (1998): 119–55.

²⁵¹ Ibid, 141.

²⁵² Ibid, 145, no. 75.

does not pursue these implications further, the evocative juxtaposition of the two scenes transformed the anatomical figure into more than a textual index, enlisting the anatomical body as icon of creation.

Like most anatomical figures designed for popular works, Bellaert's anatomical figure has also been overlooked within the history of medicine. Karl Sudhoff briefly invoked the Bellaert Master's scene as a "delightful" (*köstlich*) illustration of the literal birth of Eve from Adam, but treats the conflation as a kind of "folk art" derived from more complex medical drawings.²⁵³ As fifteenth-century anatomical prints, like the Bellaert Master's fall between academic and temporal disciplines (art history and medical history; the Renaissance and the Middle Ages) they have rarely enjoyed detailed research. Found primarily in surveys of anatomical history, such as Roberts and Tomlinson's *Fabric of the Body* (1992), these early printed anatomies are largely understood as "pre-scientific" images awaiting the full enlightenment of Vesalius's *De fabrica*.²⁵⁴ In 2012 Kusikawa explored several "pre-Vesalian" print types of the early sixteenth century, noting their innovative attempts to "counterfeit" the natural body as a new visual epistemology that would bloom further in works like *De fabrica* and Leonhart Fuchs's *De historia stirpium* (published simultaneously in 1453).²⁵⁵ Highlighting the important role these images played in shaping a new technological conception of nature, Kusikawa explores how such "counterfeits" were primarily applied to the body and botanical subjects. While she traces this phenomenon to the early sixteenth-century, its prefiguration in fact extends back to images such as the Bellaert Master's print, not as an

²⁵³ Karl Sudhoff, "Anatomische Zeichnungen (Schemata) aus dem 12. und 13. Jahrhundert," 57

²⁵⁴ Roberts and Tomlinson, *The Fabric of the Body*, 30–52.

²⁵⁵ Sachiko Kusikawa, *Picturing the Book of Nature*, 1–25.

attempt to counterfeit nature but as an iconic technology to control its order and anatomize the natural powers of the body.

Depictions of the creation of Eve were also undergoing significant cultural and artistic shifts in the fifteenth century, transitioning from traditional iconographies to more naturalistic depictions, which emphasized the corporeality of Eve.²⁵⁶ While the Bellaert Master's creation scene bends toward more traditional forms of iconography it also placed greater emphasis on the emergence of Eve from Adam's body. Interpretations of this "birth" have been contested. In 1981, Roberto Zapperi argued that the sudden popularity of Eve in creation iconography was part of a broader reorganization of power around city-states, which operated on rigid patriarchy. In Zapperi's view, picturing Eve's creation as a "birth" was a political tool used to enforce the domestic orthodoxy of man as the head of his family.²⁵⁷ Zapperi expanded his thesis into a major work *The Pregnant Man* (1991), which analyzed the birth of Eve against a backdrop of medieval folkloric beliefs concerning male pregnancy.²⁵⁸ Examining the iconographic tradition of Eve's birth, Zapperi argues that these images transmute her creation into an act of "procreation" in which the role of the creator passes to Adam, the male agent of God. This inverted birth champions the "masculine faculty of creation" over women's agency to produce children and stakes out the broader social and familial hierarchies of medieval society.²⁵⁹

Zapperi's work was controversial at the time and was later questioned by Jérôme Baschet, who pointed out that established medieval theology claimed that "Eve was never

²⁵⁶ Jack M. Greenstein, *The Creation of Eve and Renaissance Naturalism: Visual Theology and Artistic Invention* (Cambridge: Cambridge University Press, 2016).

²⁵⁷ Roberto Zapperi, "Potere politico e cultura figurative: La rappresentazione della nascita di Eva," in *Storia dell'arte italiana* 3: 377–442.

²⁵⁸ Roberto Zapperi, *The Pregnant Man* (New York: Harwood, 1991).

²⁵⁹ *Ibid.*, 4–12.

born.”²⁶⁰ Artistic depictions, he finds, shied away from the subject, showing Eve emerging from behind Adam’s body or separately from a detached rib. In Baschet’s view, the order of creation (Adam then Eve) was the iconographic point of emphasis for medieval creation scenes, for it provided the “formula for the myth” supporting the Christian conception of social and familial order.²⁶¹ Thus while Zapperi and Baschet disagree over the iconographic interpretation of Eve’s creation, they both read the scene as evidence of a broader gendering of social hierarchies in the Middle Ages.

The Bellaert Master’s print is thus caught among a constellation of ideologies and forms of image-making, from interpretations of Genesis to the latest technologies of the press. Advancing from these various avenues, this chapter inspects the genesis of the anatomical print in *De proprietatibus rerum* by first examining the creation of the work itself and the visual formulas that the Bellaert Master appropriated and revised. It argues that the artist incorporated the anatomical figure from medical publications but reframed the body as an Adamic archetype set at the pinnacle of God’s creation. Like the numerous psalters, books of hours, almanacs, and other “popular” works that began to feature anatomical images in the late fifteenth century, the Bellaert Master appropriated the medical image, in part, as a foil to explore the potential of Adam’s “birthing” body, which ultimately advanced the hierarchy of social power presented in Bartholomaeus’s encyclopedia. While Genesis imagery tended to veil the opening in Adam’s body, I argue that both scenes from the Bellaert Master’s print intentionally witness Eve’s creation and use the anatomical figure as proxy for Adam’s body. This chapter then explores the

²⁶⁰ Jérôme Baschet, “Ève n’est jamais née: Les représentations médiévales de l’origine du genre humain,” in *Ève et Pandora: La création de la première femme*, ed. By Jean-Claude Schmitt, 115–62 (Paris: Gallimard, 2001).

²⁶¹ *Ibid.*, 161.

nature of the incision itself through the totemic parallel of Christ's side wound, whose cult was, thriving in the late fifteenth century and was linked through longstanding typologies to the body of Adam. Together, the wounds of Adam and Christ conferred the presence of the sacred upon the anatomical interior and appropriated its opening in the divine order of wounds and incisions.

GENESIS AND GENERATION:

JACOB BELLAERT'S *BOECK VAN DE PROPRIETEYTEN DER DINGHEN*

On Christmas Eve 1485 ("op Kerstavont, 1485") Jacob Bellaert began a print run of the first Dutch edition of *De proprietatibus rerum* [*Boeck van de proprieteyten der dinghen*] presumably as special "Christmas edition" for the hungry book market of Haarlem.²⁶²

Using a striking new typeface developed in house, Bellaert commissioned eleven woodcuts from his talented woodcutter, the "Bellaert Master," to preface selected books of *De proprieteyten der dinghen*. The images reveal an ambitious and experienced artist, who tested his craft with full-page woodcuts featuring elaborate but well-balanced compositions. While many of these scenes drew from traditional iconographic subjects, the artist combined more familiar tropes with newly created landscapes and natural scenes, which catered to the local tastes of the Haarlem clientele.²⁶³

i. Contents

Blending new imagery with established templates, The Bellaert Master used an image program to taxonomize the diverse contents of *De proprieteyten der dinghen*. Beginning

²⁶² Snyder "The Bellaert Master," 41–43; Lotte Hellinga and Wytze Hellinga, *The Fifteenth-Century Printing Types of the Low Countries*, trans. D. A. S. Reid, 2 vols. (Amsterdam: M. Hertzberger, 1966), 1:73.

²⁶³ Snyder, "The Bellaert Master," 43.

with the spiritual subjects, the artist created a striking image for Book One on the nature of God, who is pictured enthroned in an aureole of light, which dazzles against the dark void surrounding the majesty (**fig. 46**).²⁶⁴ For Book Two on the nine orders of angels (**fig. 47**), the Bellaert Master depicts four dragon-like demons being cast from the heavenly sphere toward the created earth shown, as a rocky landscape with a river at its center.²⁶⁵

With the conclusion of these spiritual subjects, the next illustration shows Eve and the anatomical figure (**see fig. 45**), commencing a five-part analysis on the properties of man. The folio presents these two images as joint figureheads of books three on the soul and four on the body in an apparent attempt to reduce the required number of illustrations. Likewise Books Five through Seven (**fig. 48**) on medicine and age assemble an iconic roster of scenes that typically would have been presented as individual chapter heads: a physician with a flask, a surgeon administering phlebotomy, and a throng of seven figures representing the “seven ages of man.”²⁶⁶ At the center of the image lies a *transi*-corps, partially obscured by a pitched roof, whose presence discloses the mortal body hidden among these collective activities of life.²⁶⁷

Following this series on man, the encyclopedia turns to the abstract expressions of space, time, matter, and form. This series commences with a full-page cosmological

²⁶⁴ Snyder notes how this image was especially popular in North-Netherlandish Bibles. See: Snyder, “The Bellaert Master,” 44–45. M. J. Schretlen has also attributed a nearly identical Christ in Majesty from an Utrecht Bible to the Bellaert Master. See: M. J. Schretlen, *Dutch and Flemish Woodcuts of the Fifteenth Century* (London: E. Benn, 1925), 22.

²⁶⁵ While Bartholomaeus’s texts details the the Nine Orders of Angels, discussed in Pseudo-Dionysius’s Celestial Hierarchy, the Baellert Master chose to illustrate the fall of the rebel angels, perhaps signal the books transition from celestial to terrestrial spheres. On celestial hierarchies see: Steven Chase, ed., *Angelic Spirituality: Medieval Perspectives on the Ways of Angels* (New York: Paulist Press, 2002); Denys Rutledge, *Cosmic Theology, the Ecclesiastical Hierarchy of Pseudo-Denys: An Introduction* (London: Routledge and K. Paul, 1964).

²⁶⁶ On these medical figures see Peter Murray Jones, *Medieval Medicine in Illuminated Manuscripts* (London: British Library, 1998).

²⁶⁷ The corpse was sometimes featured as the frontispiece of Book Four. See Michael Camille, Michael Camille, *Master of Death*, 172.

diagram for Book Eight (**fig. 49**), showing the rings of the firmament encircling a T-O map populated by cities and landscapes.²⁶⁸ Book Nine on time (**fig. 50**) illustrates the abstract topic with the performance of labor captured in twelve medallions, illustrating the “labors of the month.”²⁶⁹

From here *De proprieteyten der dinghen* opens its next group of books on the four elements and their various “ornaments.” Book Ten (unillustrated) on fire is followed by a full-page print for Books Eleven and Twelve on air and its “ornaments” (**fig. 51**), a densely populated landscape of various fowl, many of which carried Christological metaphors.²⁷⁰ Book Thirteen on water, is graced by a similar treatment of fish (**fig. 52**), while Books Fourteen through Seventeen focus on the element of earth with three different meditations: a landscape populated with cities and towns amid a network of coastal channels²⁷¹ (**fig. 53**); a forest clearing filled with plants and precious stones²⁷² (**fig. 54**); and the final print in the Bellaert Master’s series, a menagerie of beasts, ranging from camels to unicorns to a surprisingly naturalistic elephant (**fig. 55**).²⁷³ The final book

²⁶⁸ Miniaturized landscapes and cities placed in the center T-O map look ahead to the frontispiece for books fourteen and fifteen on the earth and its divisions.

²⁶⁹ These scenes illustrate the manorial activities associated with each month (sowing crops, harvesting, banquets, falconing, etc.).

²⁷⁰ Snyder notes especially the phoenix and the pelican, but also marks the presence of an owl, a symbol of evil. Snyder, “The Bellaert Master,” 52.

²⁷¹ The cities and towns within this impressive panorama were perhaps inspired by the *Peregrinationes* by Bernhard von Bredydenbach. See: Snyder, “The Bellaert Master,” 55. However, the print is also reminiscent of

a T-O map found in British Library *MS, Royal 15 E III* (Bruges, 1482), executed by the Assistant of the Master of the Flemish Boethius and the Master of Edward IV. Clearly Bellaert’s image is also a cartographic reference to the T-O map from book six.

²⁷² This image seems to fully indulge the Bellaert Master’s skill in landscape. Most plants seem to be completely fanciful, suggesting they were copied from other images or invented in the artist’s imagination. “Gems” are barely discernable and Snyder suggests they were added last minuet to represent books seventeen on stones and metals. Snyder, “The Bellaert Master,” 57.

²⁷³ In bestiary tradition elephants, symbolized Adam and Eve through its unending wandering. See Terence White, *The Book of Beasts, Being a Translation from a Latin Bestiary of the Twelfth Century* (New York: Putnam, 1960), 27. Snyder suggests that the elephant might have been rendered from life in 1484 from an elephant that was toured through the Low Countries. Snyder, “The Bellaert Master,” 60.

of *De proprieteyten der dinghen* (unillustrated) examines immaterial “accidents” such as “color” and “music.”

As a collection, these nineteen books organize the known universe into five basic categories: spiritual bodies (bks. 1–2); human bodies (bks. 3–7); the dimensions of space and time (bks. 8–9); the four elements and their ornaments (bks. 10–18); and finally immaterial phenomena (bk. 19).²⁷⁴ This range of content can be seen as a literary expansion of the microcosmic diagrams discussed in Chapter One, especially the “Isidoran Wheel” (see fig. 19), which positions the human body at the confluence of time, space, and elemental matter. In *De proprieteyten der dinghen*, the human body is likewise treated as the epicenter of the cosmos, the first offspring in the likeness and image of God, created from elemental subsidies, and existing in a material world governed by the laws of time and space.

This general ontology is a carryover from the thirteenth century when encyclopedias of natural philosophy were produced at an impressive rate. Originally composed in the 1220s by Bartholomaeus, who briefly lectured at the University of Paris before moving to the Franciscan school at Magdeburg, the work anticipated even more ambitious compendia such as Vincent de Beauvais *Speculum maius* (1244) and Thomas de Cantimpré’s *De natura rerum* (ca. 1235).²⁷⁵ While these later works outpaced *De proprietatibus rerum* in detail and content, Bartholomaeus’s encyclopedia was easy to navigate and could be manageably reproduced in a single volume. It’s size, coupled with

²⁷⁴ This list differs slightly from Holbrook who lists book three on the soul within “spiritual bodies.” However, the Bellaert Master’s conflation of books three and four signal that the material on the soul was considered part of the suit on the human body. See Holbrook, “The Properties of Things and Textual Power,” 368.

²⁷⁵ Seymour, *Bartholomaeus Anglicus and His Encyclopedia*, 1–10, 29–35; Walter Cahn “Medieval Landscape and the Encyclopedia Tradition” *Yale French Studies*, special ed. (1991): 11–24.

the relative straightforwardness of language, ensured its popularity even into the early twentieth century when the antiquarian publisher Alexander Moring republished *De proprietatibus rerum* as a compendium of medieval curiosities.²⁷⁶ By the early fifteenth century, however, the work was already considered “one of the most notable books” by Christine de Pizan, and its proliferation and translation into numerous vernaculars attest to its broadening popularity over the century.²⁷⁷ Bellaert’s press provided the first (and only) Dutch translation of *De proprietatibus rerum*, which joined the popular prose encyclopedia of Jacob van Maerlant’s *Der Naturen Bloeme* (1287) as the only Dutch-language encyclopedias on the market.²⁷⁸ Clearly Bellaert’s press intended to cash in on the popularity of the *De proprietatibus rerum*, providing a richly illustrated Christmas special that surpassed its rivals, published by presses in Lyon, Strasbourg and Cologne.²⁷⁹

Little is known about Jacob Bellaert or his press, which briefly operated between 1483 and 1486 in Haarlem.²⁸⁰ However, he was seemingly well connected with other printers in the Low Countries, borrowing both woodcuts and typeface from Gerard Leeu of Gouda for his first publication, *Lyden ons Heeren*, in 1483.²⁸¹ From 1484–86 he

²⁷⁶ Robert Steele, ed. *Medieval lore from Bartholomaeus Anglicus* (London: Alexander Moring, 1905). The publication includes a posthumous preface by William Morris who defends the earnestness of the book and rightly points out the dedicated commitment to learning of its medieval audience. “The Properties of Things of Bartholomew the Englishman is but one of the huge encyclopedias written in the early Middle Age for the instruction of those who wished to learn, and the reputation of it and its fellows shows how much the science of the day was appreciated by the public at large, how many there were who wished to learn. Even apart from its interest as showing the tendency of men’s minds in days when Science did actually tell them ‘fairy tales.’” (p. xii).

²⁷⁷ Christine de Pizan, *Le livre de fais et bonnes meurs du sage roy Charles V*, ed. Suzanne Solente, vol. 2 (Geneva, 1977), iii: ch. xi, 43.

²⁷⁸ Amand Berteloot and Detlev Hellfaier, *Jacob van Maerlant’s ‘Der naturen bloeme’ und das Umfeld: Vorläufer, Redaktionen, Rezeption* (Münster: Waxmann, 2001); Marcel van der Voort, *Dat seste boec van serpentes: Een onderzoek naar en een uitgave van boek VI van Jacob van Maerlants Der naturen bloeme* (Hilversum: Verloren, 2001).

²⁷⁹ See: Bartholomaeus Anglicus. *Les propriétaires des choses*, trans. Jean Corbichon, ed Pierre Farget (Lyon: Mathias Huss, 1482); *ibid* (Lyon: Johannes Siber, 1484).

²⁸⁰ Snyder, “The Bellaert Master,” 41.

²⁸¹ *Ibid*; M. J. Shretlen, *Dutch and Flemish Woodcuts*, 22; William Martin Conway, *The Woodcutters of the Netherlands in the Fifteenth Century* (Cambridge: Cambridge University Press, 1884), 60.

employed an anonymous woodcutter, the so-called “Bellaert Master” to design and execute all of his editions.²⁸² Although we have practically no information about this woodcutter, the Bellaert Master has been recognized by historians of early print as one of the most prolific and innovative of the fifteenth century.²⁸³ The prints seem to be especially on trend with contemporary Dutch manuscript painting, emphasizing landscape details and elaborate architectural sets, which has led M. J. Schretlen, to speculate that the Bellaert Master was a miniaturist as well as a woodcutter.²⁸⁴ Following the dissolution of Bellaert’s shop, the Master went on to work for Leeu and perhaps other presses in the Low Countries.

²⁸² The Bellaert Master’s oeuvre consists primarily of six translations of popular religious and literary works: Jacobus Palladinus de Theramo, *Consolation peccatorum* (15 feb. 1484); Otto von Passau, *Die vierundzwanzig Alten* (25 October 1484); [Raoul Lefèvre], *Le roman de Jason et Medée* (before 5 May 1485); Raoul Lefèvre, *Le Recueil de histoires de Troyes* (5 May 1485); Bartholomaeus Anglicus, *De proprietatibus rerum* (24 December 1485); and Guillaume de Deguilleville, *Le Pèlerinage de vie humaine* (20 August 1486).

²⁸³ Snyder, “The Bellaert Master,” 42.

²⁸⁴ Schretlen, *Dutch and Flemish Woodcuts*, 5, 49.

ii. Iconography and Invention

Although printed editions of *De proprietatibus rerum* had been in circulation since William Caxton's 1471 publication, Bellaert's edition was one of the earliest illustrated copies.²⁸⁵ The Bellaert Master seems to have based much of his work on manuscript cycles produced in the contemporary shops of northern France and the Low Countries.²⁸⁶ The woodcuts for the first seven books of *De proprieteyten der dinghen* especially follow a consistent iconography that had circulated since Jean Cabochon's French translation made for Charles V in 1372.²⁸⁷ Especially emblematic are the image of God enthroned, the fall of the rebel angels, the birth of Eve, the physician examining a urine glass, and the ages of man, which can all be found in numerous redactions of the French *Les propriétés des choses*.²⁸⁸ However, other scenes have also been substantially modified to update *De proprieteyten der dinghen* to popular tastes, with special emphasis placed on natural vignettes and landscapes. The prints showing birds (Bk. 12) (see fig. 51), fish, (Bk. 13) (fig. 52), gems and plants (Bk. 17) (see fig. 54), and animals (Bk. 18) (see fig. 55), especially disclose interesting confluences of older iconographies with naturalistic panoramas. The illustration of fowl, for example places its brood of birds within a landscape that recedes toward the horizon. While many of the birds, such as the ducks and swans, recede within this three-dimensional space, others, like the griffin and peacock, sit flatly on the surface of the page in violation of the laws of perspective. The visual tension between the two- and three-dimensional planes creates a fascinating effect,

²⁸⁵ Bartholomaeus Anglicus. *De proprietatibus rerum* (Cologne: Johann Schilling for William Caxton, 1471). The earliest illustrated incunabulum was printed in 1482: Bartholomaeus Anglicus. *Les propriétés des choses*, trans. Jean Corbichon, ed. Pierre Farget (Lyon: Matthias Huss, 1482).

²⁸⁶ Snyder, "The Bellaert Master," 43.

²⁸⁷ See: Bernard Ribémont, Bernard. *Le livre des propriétés des choses: Une encyclopédie au XIVe siècle* (Paris: Stock, 1999).

²⁸⁸ Snyder, "The Bellaert Master," 43.

emphasizing the illusionistic recess of the image while simultaneously acknowledging the flat materiality of the page. These combined perspectives reveal the general strategy employed by the Bellaert Master, who seems to have first created illusionistic landscapes, which were then populated by iconic tropes from manuscript illustration (**fig. 56**).

The anatomical figure, however, stands apart as a distinctive and unexpected feature of *De proprieteyten der dinghen*. Although the anatomy of the human body was detailed at length in Book Four of Bartholomaeus's work, manuscript tradition typically introduced this episode with alternative symbols, including: a diagram of the microcosm and the four elements (**fig. 57**); a generic scene of a university lecture (**fig. 58**); an image of a naked figure being inspected by physicians (**fig. 59**), or occasionally a corpse (**fig. 60**). This final subject functioned similarly to Guido da Vigevano's figures, examining human mortality as an uneasy shadow of the living but, but sets the corpse within an elemental landscape emphasizing its return to nature.²⁸⁹ The Bellaert Master also included this trope of death but moved the cadaver to plate four where it anchored the medical scenes and ages of man.

iii. Emerging Anatomies

Collectively, these manuscript illuminations (microcosm, the elements, university lectures, etc.) represent the various icons of the anatomical body as it circulated within the lay cultures of the first half of the 1400s. While anatomical imagery had been the employ of monks, physicians, and surgeons for centuries, these images rarely circulated

²⁸⁹ Michael Camille, *Master of Death*, 172.

beyond the religious or professional class.²⁹⁰ In the final quarter of the century, however, the anatomical image began to take on new currency in both the professional sphere and in the imagination of the broader public. A new iconography emerged, first in illustrated French manuscripts of *Livre des propriétés de choses*, which was quickly multiplied and embellished by the press.

Around 1480, Évrard d’Espinques executed a lavish copy of the encyclopedia for his patron Jean du Mas, a counselor and chamberlain to the king.²⁹¹ For book four, d’Espinques, ignored the standard scenes, of elements, microcosm, or university lecture, and executed a bust-length anatomical miniature (**fig. 61**). The striking figure headlines the chapter on anatomy (“the principle members of the body”) with an alluring crimson gash in his torso that radiates against the soft white palate of his skin. Within the aperture, a coil of intestines descends out of view and three amorphous lumps, possibly the heart, liver, and stomach, represent the general presence of the internal organs. This nebulous anatomy did not have any medical function but served rather as a totem of the inner world of the body. The scene was likely drafted from medical textbooks or physician’s calendars (**fig. 62**) and repurposed by d’Espinques’s to reframe man as an anatomical subject.

Five years later, Bellaert’s press struck out its own anatomical reading of the body, enlarging its scale and prominence as the frontispiece to chapters three and four.

²⁹⁰ Cases of lay ownership are of course known to exist, but anatomical works in the thirteenth and fourteenth century were developed primarily as a branch of surgical education and commissioned for the professional market. See McCall, “Illuminating the Interior,” 134–53.

²⁹¹ On d’Espinques see: Antoine Thomas, “Un bibliophile français et un enlumineur allemand à la fin du xv^e siècle: Jean du Mas, seigneur de L’Isle, et Évrard d’Espinques,” *Comptes Rendus des Séances de l’Académie des Inscriptions et Belles-Lettres* 39 (1895): 74–78; Louis Guibert, *Ce qu’on sait de l’enlumineur Évrard d’Espinques* (Guéret: P. Amiault, 1895); Susan Amato Blackman, “The Manuscripts and Patronage of Jacques d’Armagnac, Duke of Nemours, 1433–1477,” Ph.D diss., University of Michigan, Ann Arbor, 1993.

The Bellaert Master's print was likely based on models similar to d'Espinques manuscript such as *BnF Fr. MS 2253*, a redaction of mid-century date. This manuscript illustrates the creation of Eve for Book Three (**fig. 63**) and what appears to be an anatomical figure for Book Four (**fig. 64**) although this miniature has been badly damaged.²⁹² The Bellaert Master must have had access to, or at least familiarity with an analogous manuscript, or as Schretlen supposed may have even illuminated a similar work himself.²⁹³ What is clear, however, is the Bellaert Master perceived a relationship between these two scenes and combined them playfully in the broader reordering of the encyclopedia's program.

Like d'Espinques's illumination, the anatomical figure cut by the Bellaert Master, was based on an increasingly common figure that circulated in a variety of publications and broadsides in the late fifteenth century. This was the so-called "zodiac-man," which combined astrological schemes with anatomical display. A xylograph now in the Arbittier Museum of Medical History (**pl. 14**) provides the general matrix of this figure: a naked man—mature but still youthful—with flowing locks of hair and wide, engaging eyes. Standing confidently, the man steps forward slightly with his left leg while spreading his arms "akimbo" in the traditional pose of the microcosm. Inside the figure, a tangled mass of organs coils into nearly incomprehensible shapes, which connect by lines to zodiacal symbols organized into a lattice on either side of the figure.

²⁹² See Henri Omont, *Bibliothèque nationale: Catalogue général des manuscrits français: Anciens petits fonds français. I. N^{os} 20065-22884 du fonds français* (Paris: Leroux, 1898), 561.

²⁹³ Schretlen, *Dutch and Flemish Woodcuts*, 5, 49.

iv. “Vernacular” Anatomy

By the late fifteenth-century, anatomical paintings, prints, and broadsheets of this sort were being avidly collected and displayed by doctors, surgeons, and bibliophiles.²⁹⁴

Single-sheet *Aderlaßtafel* (phlebotomy charts) such as the “Zodiac man” (1483) from the workshop of Knoblochtzer in Strasbourg (see **fig. 22**) were sold individually to a diverse clientele and often pasted into pre-owned books or displayed as broadsheets.²⁹⁵ Much like the elaborate “flap anatomies” of the sixteenth century, they served, as Suzanne Karr Schmit has shown to emblemize the physician’s studio and advertise service and expertise.²⁹⁶ Zodiac men were also familiar from portable physician’s charts, or *vade mecums*, used as handy “field manuals” for in-home consultations (**fig. 65**).²⁹⁷ Like the broadside, the zodiac man of the *vade mecum* was partially a diagnostic tool and partially an authenticating symbol of the practitioner’s authority. Worn from the belt of their owner, they provided an especially visible badge of expertise and became a familiar component within the doctor’s regalia.²⁹⁸

Figures of zodiacal anatomy were also increasingly produced for non-medical works, especially devotional literature. For instance, *Bodleian MS Douce 311*, an illuminated book of hours from 1488, prefaces its contents with a *grisaille* zodiac man on

²⁹⁴ For example Hartmann Schedel of Nuremberg who owned three copies of Richard Helain’s *Anathomia ossium corporis humani* (1493), two of which he glued into his medical manuscripts. Helain who was dean of the medical faculty at the university of Paris and physician to Charles VII from 1491–96, likely designed this single leaf woodcut as pedagogical aid. See Peter Parshall and Rainer Schoch, eds., *The Origins of European Printmaking: Fifteenth Century Woodcuts and their Public* (New Haven: Yale University, 2005), 216–17, no. 61.

²⁹⁵ Robert Herrlinger, *History of Medical Illustration: From Antiquity to 1600* (New York: Medicina Rara, 1970), 27, 54 and Roberts and Tomlinson, *The Fabric of the Body*, 35; Karl Sudhoff, “Die Mittlere Zeit von Tode des Galenos bis zu Bacon von Verulam” in *Illustrierte Geschichte der Medizin*, ed. Robert Herrlinger and Fridolf Kundlien (Stuttgart: Gustav Fischer, 1965), 175.

²⁹⁶ Suzanne Karr Schmidt, “Printed Scientific Objects,” in *Altered and Adorned: Using Renaissance Prints in Daily Life*, ed. Kimberly Nichols and Suzanne Karr Schmidt (New Haven: Yale University Press, 2011), 73–91, esp. 73.

²⁹⁷ See John Murdoch, *Album of Science*, 318–19.

²⁹⁸ Schmidt, “Printed Scientific Objects,” 73.

fol. 2v (**fig. 66**).²⁹⁹ The opened torso of the figure is painted with an arresting orange, whose contrast with the ashen body gives the interior an ethereal glow. Personifications of the four temperaments—cholera, blood, melancholy, and phlegm—are pictured in the corners and the body itself is offset with banderole inscriptions in French, which explain its relationships to the celestial lords.³⁰⁰ A jester crouches between the zodiac’s legs with a finger raised to his mouth, marking the *carnavalesque* nature of the dissected body. The reproduction of such images accelerated in printed hours such as Simon Vostre’s *Horae beatissimae Mariae Virginis* (1497) (**fig. 67**), Guillaume Anabat’s *Hore intemerate Virginis Marie* (1505) (**fig. 68**), and Jean Pichore’s influential woodcuts (ca. 1500) (**fig. 69**), which replaced the fleshy zodiacal body with a *macbre* skeleton in an act of *memento mori*. In the early sixteenth-century, calendrical-anatomical figures gained enough popularity to inspire their own spin off, the so-called *Calendrier de bergers* (shepherd’s calendars), a short compendium of devotional and astrological information designed “to teach the science of the shepherds, which is science of the soul, the body, the stars, life and death”³⁰¹ (**fig. 70**).

These many designs reveal a widening market for the anatomical body within devotional and encyclopedic works where they were expressing both its cosmic and mortal limits. At the forefront of this “vernacular” anatomy, the Bellaert’s press helped to popularize this traditional medical iconography through the publication of *De*

²⁹⁹ On this manuscript see: Anne Margreet W. As-Vijvers, “The Missing Miniatures of the Hours of Louis Quarré” *Journal of Historians of Netherlandish Art* (2018): online publication.

³⁰⁰ *Ibid.*, 47.

³⁰¹ Denis Hüe, “Le *Calendrier et compost des bergers*, un vade-mecum populaire,” in *Lire, choisir, écrire: La vulgarisation des savoirs du Moyen Âge à la Renaissance*, ed. Violaine Giacomotto-Charra et François Laurent (Paris: École des chartes, 2014), 71–96; Dominique Leclerc and Alain Leclerc, “Pour une bibliographie des éditions troyennes du *Calendrier des bergers*,” *Nouvelle Revue des Livres Anciens* 2 (2009): 3–17; Charles Nisard, *Histoire des livres populaires ou de la littérature de colportage* (Paris, 1854), 107–150.

proprieteyten der dinghen, relying on an authoritative emblem recognizable to his clientele.

v. Rival Anatomies

Interestingly, the Bellaert Master did not illustrate a scene of dissection, the other emerging iconography for book four of *De proprietatibus rerum*, as some of his contemporaries chose to do. Three years before (1482), an illustrated French translation of *De proprietatibus rerum* was printed by Matthias Huss in Lyon.³⁰² In Book Four (**fig. 71**), Huss illustrated a corpse splayed horizontally on a table with five physicians in academic garb gathering behind the body. Like the Bellaert Master, the Huss woodcutter must have felt the market pressure to update the older picture cycle with a more relevant and recognizable image of medicine. His scene was likely a reproduction of images found in academic literature, as exemplified in the slightly later publication of Johannes de Ketham's *Fasciculus medicinae* (1491), "a little bundle" of works, which collected popular medical writings into a single volume (**fig. 72**).³⁰³ Like Huss's woodcut, the *Fasciculus* shows a cadaver lying prone on a table top with a crowd gathered around, but adds details showing the division of labor exercised in the *quodlibertarian* dissections regularly practiced in the south. While relying on conventional medical illustrations, these touches show that Ketham's scene drew its impulse from the natural world, and like Guido before him, attempted to document or "counterfeit" the dissected body as it

³⁰² See Snyder, "The Bellaert Master," 43; Library of Congress, *Lessing J. Rosenwald Collection: A Catalog of the Gifts of Lessing J. Rosenwald to the Library of Congress, 1943 to 1975* (Washington D.C.: Library of Congress, 1977), 78, no. 394.

³⁰³ On the *Fasciculus* see: Taylor McCall, "The Fasciculus Medicinae: An Introduction to the Images and Texts." *The New York Academy of Medicine* (online publication). Christian Coppens, *De vele levens van een boek: De Fasciculus medicinae opnieuw bekeken* (Brussels: Koninklijke Academie voor Geneeskunde van België, 2009).

became known in the early sixteenth century.³⁰⁴ Similarly, Huss's illustration lacks direct knowledge of actual anatomical procedures, and shows that its creator was more interested in presenting an iconic approximation.³⁰⁵

The difference between the Bellaert and Huss editions can perhaps be explained by medical education in the north where pictures were used in lieu of dissection; rather than featuring a dissection, as was more common in southern Europe, the Bellaert Master, relied on the more recognizable "zodiacal" figure whose anatomy embodied the microcosm.³⁰⁶ This figure was an iconic image from the repertoire of medical illustration, which helped Bellaert to gain traction in the popular market where it joined works ranging from almanacs to devotional literature. This widening dispersal of anatomical images suggests a shifting perception of the body from a composition of elemental matter to an anatomical subject that could be opened and penetrated. As one of the earliest exemplars of this phenomenon, the Bellaert Master's print transported the anatomical body into the encyclopedic order of creation, where it was freed from its zodiacal lords but now subject to the regulation of Genesis.

³⁰⁴Kethem's *Fasciculus* shows the scene of dissection near the end of the work, indicating that this was a more advanced form of training that proceeded from the theoretical introduction of the body through images. It details the rituals of *quodlibertarian* anatomy, as practiced in Italian universities. A *sector*, or cutter; stoops over a body with knife; an *ostensor*, or exposer, stands directly behind the sectoring providing direction; finally in a pulpit above the two men, a *lector*, or reader, narrates the dissection with the reading of an anatomical work, likely by Avicenna or Mondino dei Liuzzi. See: Andrea Carlino, *Books of the Body*, 11–13.

³⁰⁵ Carlino, *Books of the Body*, 33–39.

³⁰⁶ The difference between anatomical images in Northern and Southern Europe can perhaps be attributed to the difference in medical curricula; while dissection was regularly taught in southern universities, northern schools employed visual aids. See Katherine Park "The Life of the Corpse," 111–32.

**ANATOMY AND GENESIS:
ICONOGRAPHIES OF THE PROPERTIES OF MAN**

While updating *De proprieteyten der dinghen* with a new aura of medical knowledge, the Bellaert Master retained a more familiar, century-old iconography for the analogous scene of Eve's birth in the upper register. Set within the walled confines of a castle, the scene is recessed within the picture plane, positioned directly above the head of the anatomical figure (**fig. 73**). Adam reclines on his side in the torpor of sleep, his head cushioned on his left arm. Eve seems to spring from Adam's body with her left foot still caught in the niche of Adam's chest. The combined poses of the two humans form the "fallen Y" pattern in Zapperi's terminology, a typography composed by the stem of Adam's body and the ascending branch of Eve form.³⁰⁷ Her arms extend open in the same pose as the anatomical figure below, but instead of facing the viewer, her gaze is fixed on the *Deus artifex* who has seemingly conjured her from Adam's side with a sign of benediction. The image of God, mirrors the *Majestas* picture in book one (**see fig. 46**) and links the creation scene to the larger narrative cycle of the encyclopedia. This order positions humans as the second tier of created matter, following the spiritual bodies of angles and demons.

i. The Icons of Creation

The detailed emergence of Eve from Adam's body in the Bellaert Master's print, however, is unusual in one respect to the creation iconography that populated earlier copies of *De proprietatibus rerum*. These scenes typically prefaced Book Three on the human soul as seen for example in *BnF MS fr. 22533* (**see fig. 63**). Here a newly-created

³⁰⁷ Roberto Zapperi, "Potere politico e cultura figurative," 402.

Adam reclines unconscious in a similar pose to the Bellaert Master on a tuft of grass, while the Creator conjures the body of Eve out of his side. Eve stands confidently over her sleeping companion and faces her God without any visible sense of fear or shame. Unlike the Bellaert Master's print, no opening is visible in Adam; rather Eve seems to materialize from behind, and Adam's arm modestly covers the birthing wound.

Curiously, the Bellaert master chose this scene over the creation of Adam, which found equal representation in illustrative cycles of *De proprietatibus rerum* in both manuscript and print.³⁰⁸ A manuscript dating from the first quarter of the fifteenth-century from the Îls-de-France (**fig. 74**) for example, shows a lifeless Adam, lying under a tree in a grassy field. Reminiscent of the elemental corpse sometimes used to illustrate Book Four (see **fig. 60**), this figure represents the base matter of the body, lacking its animating principle of spirit. Stooping over Adam's figure, the Creator imparts the final component to his creation, the *anime rationalis*, into Adam's upturned mouth. This soul—"an unbodied intellectual substance" in Bartholomaeus's words—is visualized as a *homunculus* diving from the Creator's aureole toward Adam.³⁰⁹

Though the creation of Adam was not referred to anywhere in Book Three of *De proprietatibus rerum*, this scene undoubtedly presented the artist with a simple way to visualize the soul through the form of a *homunculus*. However, in the cosmic order of Bartholomaeus's encyclopedia, the image also underscores man's place within creation, "for man's spirit," Bartholomaeus writes, "follows the luminescence of God next after

³⁰⁸ The iconographic reliance on Eve's creation may have resulted from Genesis cycles that did not include scenes of the creation of Adam. These in fact were more common in art of the period, as Johannes Zahlten has tallied, suggesting that the Birth of Eve was perhaps more readily available as a source of illustration. See: Johannes Zahlten, *Creatio mundi: Darstellungen der sechs Schöpfungstage und naturwissenschaftliches Weltbild im Mittelalter* (Stuttgart: Klett-Cotta, 1979), 195; See also: Jack Greenstein, *The Creation of Eve and Renaissance Naturalism*, 34–35.

³⁰⁹ Bartholomaeus Anglicus, *De proprietatibus rerum*, III, xix.

angels.”³¹⁰ The soul of man thus originates from the light of his creator. Embodying these properties the *homunculus* dives toward Adam’s upturned mouth in a pose reminiscent of contemporary scenes of the annunciation, such as Robert Campin’s well-known *Annunciation Triptych* (ca. 1427–32) (**fig. 75**).³¹¹ Here the Christ-child, in the form of a *homunculus*, glides downward on a ray of light whose point fixes directly on the Virgin womb, spotlighting the essential subject of Campin’s painting. Suggestively visualizing the moment of conception, Christ-*homunculus* illustrates the passage from Luke: “The Holy Spirit will come upon you, and the power of the Most High will overshadow you; therefore the child to be born will be called holy, the Son of God.”³¹² Like Christ, the *homunculus* diving toward Adam in *BnF MS fr. 22531* visualizes another moment of divine conception, showing the *anime rationalis* as the offspring of the *Majesta*, issuing from a passage of light to the unfertilized matter of the body.

The Bellaert Master, must have certainly been aware of this scene as it was frequently illuminated in familiar French cycles as the miniature to Book Three.³¹³ However, in featuring the creation of Eve, the Bellaert Master chose to explore the generative capacity of Adam rather than his divine origin and resemblance. While illustrations such as that of *BnF MS fr. 22533* (**see fig. 63**) tend to conceal the opening in Adam’s body, the Bellaert Master provocatively reveals this orifice, adding the outline of

³¹⁰ Ibid, III: xx.

³¹¹ Felix Thürlemann, *Robert Campin: A Monographic Study with Critical Catalogue* (Munich: Prestel, 2002); Erwin Panofsky, *Early Netherlandish Painting: Its Origins and Character*, vol. 1 (Cambridge: Harvard University Press, 1953), 124–43, 164–67, 304–5; Meyer Schapiro, “‘Muscipula Diaboli,’ the Symbolism of the Merode Altarpiece,” *Art Bulletin* 27 (1945): 182–87; Millard Meiss, “Light as Form and Symbol in Some Fifteenth-Century Paintings,” *Art Bulletin* 27 (1945): 178–79. See also: Elina Gertsman, “The Pilgrim’s Progress: Devotional Journey Through the Holy Womb,” In *Push Me, Pull You: Physical and Spatial Interaction in Late Medieval and Early Renaissance Art*, ed. Sarah Blick and Laura D. Gelfand, 2 vols. (Leiden: Brill, 2011), 235.

³¹² Luke 1:35. “et respondens angelus dixit ei Spiritus Sanctus superveniet in te et virtus Altissimi obumbrabit tibi ideoque et quod nascetur sanctum vocabitur Filius Dei” (vulgate).

³¹³ Holbrook, “The Properties of Things and Textual Power,” 385.

Eve's leg within Adam's torso to reinforce the birth-like emergence of Eve's body from Adam.

Expanding further on the scene of creation, the artist suggestively links the physical features of Adam to those of the anatomical figure—flowing, shoulder-length blond hair, a long and elegant nose, a diamond-shaped jawline, and a thin, delicate mouth. These touches frame a mutual identity between each figure and encourage the viewer to see the anatomical body as Adam's doppelganger, whose incised torso reveals the surgical craft of the *Deus artifex*. The wound itself is drawn with a noticeably vaginal shape; its twin ribbons of flesh on either side evoke labial folds guarding the opening. The engendering apparatus, however, is further anchored by a penis and testicles, which hang firmly at the base of the incision and remain an intimate member of the larger orifice. Jointly representing each sex, the anatomical body is invested with a totalizing power of reproduction, becoming Adam and birthing Eve.

The perceived reproductive potency of Adam's body, as Zapperi has argued, was often marshaled in the Middle Ages to assert men as head of domestic, social, and ecclesiastical bodies, both in theological speculation and "folkloric" belief.³¹⁴ Church leaders, he argues developed complex typological structures between Adam and Christ, Eve and Ecclesia, to advance what he sees as the patriarchal agendas of the medieval church and its levers of political and religious power. At the same time popular tales, such as the "Pregnant Man of Monreale," "The Pregnant Lieutenant" and "The Pregnant Priest" underscored domestic hierarches, descending from father to mother to sons and

³¹⁴ Zapperi, *The Pregnant Man*, 3–51.

finally daughters and enveloping a widening subjection of the female body in both public and private space.³¹⁵

However as Baschet has pointed out, scenes showing an actual “birth” of Eve from Adam’s body are rare (only one out of five in his tally); instead the opening in Adam’s body was more often denied to the viewer.³¹⁶ Early encyclopedias like Herrad of Hohenberg’s *Hortus deliciarum* show Eve morphing from a crescent-shaped rib held by God (**fig. 76**), and these images, Baschet has argued, follow an especially literal interpretation of Genesis, which denied the possibility that Eve had been “born” from Adam’s body.³¹⁷ Hiding any sign of the wound that gave birth, these scenes focus on the most literal aspects of the story, showing a sleeping Adam whose missing ribbed is cloaked by new flesh according to Genesis (*Cumque obdormisset, tulit unam de costis eius, et replevit carnem pro ea*).³¹⁸ The absent wound in Adam’s side, Baschet finds, responded to lingering debates over the literal truth of Genesis, which continued to problematize the Aristotelian formulae concerning form, matter, and likeness.³¹⁹ Created from the same substance, Adam and Eve shared a physical bond that raised potential issues for their relationship. If Eve was formed from Adam’s body, did this act of creation constitute an act of “birth” and thus a hereditary relationship as between a father and a daughter?³²⁰ The potential for incest between the first humans led Thomas Aquinas to delineate a theory that explained away the contradiction through the workings of divine agency. Aquinas admits that, “a certain affinity arises from natural generation, and

³¹⁵ Ibid, 17.

³¹⁶ Baschet, “Ève n’est jamais née,” 141.

³¹⁷ Ibid, 122.

³¹⁸ Genesis 2:21 (Vulgate).

³¹⁹ Baschet, “Ève n’est jamais née,” 118–20; Zapperti, *The Pregnant Man*, 10.

³²⁰ Greenstein, *The Creation of Eve and Renaissance Naturalism*, 62–63.

this is an impediment to matrimony,” but continues that “Woman, however, was not produced from man by natural generation but by the Divine Power alone. Wherefore Eve is not called the daughter of Adam.”³²¹ Eve’s creation was thus not a process of nature, but a supernatural intervention akin to the conception of Adam or the Annunciation of Christ.

The unease Baschet highlights over the “birthing” wound of Adam makes the Bellaert Master’s anatomical figure all the more striking. Operating under the *topos* of a zodiacal figure, the anatomical body discursively meditates on the entry to Adam’s body, which was routinely denied in both word and picture. In this regard, however, it is not completely alone in the iconography of Eve’s creation but rather seems related to a limited number of devotional depictions that *do* show Adam’s orifice as an agent of birth.³²² One example (**fig. 77**), a manuscript of the *Speculum humanae salvationis* (ca. 1450) includes an image of Eve’s creation with Adam in the traditional reclining pose on a grassy hillock. Instead of materializing from a rib or emerging from the ground behind, Eve is drawn from mandorla-shaped opening at the center of Adam’s body by the Creator who cradles the woman in his arms. Adam’s left arm partially obscures the aperture in a nod to modesty, but the dark incision from which Eve emerges is clearly configured as a site of parturition. While the four lines of text placed next to the figure of God, remind the reader of the literal words of Genesis 2:1, the scene obfuscates scripture, showing a birth reminiscent of contemporary illustrations of cesarean section (**fig. 78**). These scenes, which predominantly illustrate the birth of Julius Caesar or occasionally the birth

³²¹ Thomas Aquinas, *Summa theologiae*, I, 92 art. 2, reply 3.

³²² Baschet suggests that these images do not show a birth, but rather are a mystical reference to the wound of Christ. Baschet, “Ève n’est jamais née,” 146–47.

of the anti-Christ, render the incision with same mandorla shape, marking it as a new site of birth rendered through the trauma of incision.³²³

In the latter case, birth through caesarian section was configured as a birth against nature and the orifice itself was perceived as an entity of evil.³²⁴ A copy of the *Seelenwurzgarten*, a block book printed in Nuremburg in 1484, contains a defaced image of the anti-Christ's birth (**fig. 79**); however, the offended viewer did not target the child anti-Christ but rather the incision in his mother's stomach. The female body is thus attacked as the source of evil, absorbing the blame for the monstrous child birthed against the order of nature.

The narrative of Caesar, as Katherine Park and Janet Adelman observe, involves a different kind of fantasy "for the dead mother," championing the narrative of "a man not born of woman, the man who can carve his own passage out, the man whose maleness is the mark of his exemption from the maternal original and the vulnerabilities that are its consciousness."³²⁵ In his scene of birth, Caesar "solved the problem of masculinity by eliminating the female as a generative force; although the mother is not altogether absent, she functions primarily as a receptacle and incubator, living only long enough to receive her husband's seed and bring her son to term in line with kingship and generation that minimized the mother's contribution to their children."³²⁶

The story of Adam's birth of Eve provided the antipodal half of this desire, retrofitting the male body with the powerful organ of the womb. Eve's birth signals the

³²³ On medieval caesarian section see: Renate Blumenfeld-Kosinski, *Not Of Woman Born: Representations of Caesarean Birth in Medieval and Renaissance Culture* (Ithaca: Cornell University Press, 1990).

³²⁴ *Ibid.*, 120–42.

³²⁵ Katherine Park, *Secrets of Women*, 154–55; Janet Adelman, *Suffocating Mothers: Fantasies of Maternal Origin in Shakespeare's Plays, Hamlet to Tempest* (New York: Routledge, 1992), 143.

³²⁶ Park, *Secrets of Women*, 154.

desire to create rather than kill the mother, freeing men from the bonds of birth while taking power from the female body. Like the scene from the *Speculum humanae salvationis* (see fig. 77), the print by the Bellaert Master shows Adam's body as a kind of womb, but amplifies the desire through the emblem of the anatomical body. This figure invoked the authority of medical and anatomical knowledge that was increasingly surveying the female body and targeting its reproductive power.³²⁷ In the Bellaert Master's creation, this knowledge was mobilized in preparation for the dichotomy of sexual difference and its socio-cultural implications.

iii. Gender, Order and the Body:

Bartholomaeus's formulation of sexual difference is rendered primarily through anatomical and physiological theories, and establishes, essentially, a theory of gender, which always favored the male body. In terms of reproduction, the male body was seen as the potent symbol, reigning over procreation, whereas females were merely vehicles for man's offspring. "The father is the origin of conception," writes Bartholomaeus in Book Six, "He produces a child similar to himself in species and appearance."³²⁸ As Joan Cadden has observed, Bartholomaeus's formula unfolded from a long trajectory of medical and philosophical discourse, which quantified sexual difference largely through the theory of complexions and the Aristotelian studies of matter and form.³²⁹ These discourses asserted that male semen provided the "active" ingredient for procreation,

³²⁷ Ibid. 13–38.

³²⁸ Bartholomaeus Anglicus, *De proprietatibus rerum*, VI, xii.

³²⁹ Joan Cadden, *Meanings of Sex Difference*, 194–95.

giving form and agency to the base matter of the female ova, often described derivatively as “sperm.”³³⁰

The sexual potency of the male body is especially pervasive, in the Bellaert Master’s anatomical figure, who presents his virile, sculpted form to the viewer with confidence; a well-modeled penis hangs suggestively below the orifice in his torso, asserting the male organ over its reproductive power; and the figure greets the viewer with a confident, beguiling gaze. In contrast, as Park has emphasized, images of female anatomy stress a sense of passiveness and focus primarily on the reproductive organs awaiting male engagement.³³¹ A figure from the *Fasciculus medicinae* shows a woman sitting demurely in a chair—a pose reminiscent of the Sitting Figure Series—within a frame of textual glosses, her head turned away from the viewer and eyes cast to the side (**fig. 80**). Much like Guido da Vigevano’s mediation on the seven-chambered womb, the contents of her body have been greatly reduced in order to highlight the features of the uterus, pictured as a ballooning sack between her thighs. The organ is ensnared by a web of radiating lines that lead to the glossed descriptions of the *matrix*, vulva, and vagina located in the frame. The eliminated elements of this woman’s body effectively reduce female anatomy to its organs of reproduction. By contrast, the Bellaert figure is standing not sitting, with active pose and engaging eyes, his sexual organs at the ready.

These perceived differences inscribed a hierarchy of reproduction that fed into broader categorizations of sexual difference in *De proprietatibus rerum*. Following the standard medical authorities (all male), Bartholomaeus likewise treats the male body as

³³⁰ Katherine Park, *Secrets of Women*, 141–50; Päivi Pahta, *Medieval Embryology in the Vernacular: the Case of De Spermate* (Helsinki: Société Néophilologique, 1998). Cadden, *Meaning and Sex Difference*, 121–24. Jacquart, Danielle and Claude Thomasset, *Sexuality and Medicine in the Middle Ages* (Cambridge: Polity Press, 1988).

³³¹ Park, *Secrets of Women*, 106–114.

the anatomical prototype *par excellence*, whereas the female body is discussed primarily in terms of its reproductive organs. From these features, the author draws a number of conclusions concerning the general makeup and temperament of the sexes. Males are hot and dry, females cold and wet; males active and bold, females docile and menstruating.³³² After presenting the natural distinction between male and female, Bartholomaeus concludes by reciting the Apostle Paul: “A man is before a woman in dignity and worthiness of the image and likeness of God. In this dignity a man passes a woman in authority and sovereignty.”³³³

These conventions are expressed typologically in the Bellaert Master’s print, which uses reproduction to frame male hegemony; man descends from a celestial prototype whereas woman is the offspring of man. Though sharing in the divine essence, woman’s contact with divinity is mediated through the male body from which it first emerged through a divine incision. The anatomical body is thus appropriated within this broader schema of creation as the decisive human archetype, a male primogenitor whose supernatural birth of Eve established universalizing structures of power. Through these representations, the Bellaert Master transformed the medical emblem of the body into a symbol of reproductive dominance through the sign of the wound itself.

INTO THE WOUND: ADAM AND THE ANATOMY OF CHRIST

Thus far, this chapter has remained largely outside the wound in Adam’s torso, considering its metaphorical significance as generative symbol pushing forth the created forms of the world. But what actually lies inside this potent space? What secrets powers

³³² Bartholomaeus Anglicus, *De proprietatibus rerum*, VI, xii.

³³³ *ibid.*

does it conceal from the external world? Gazing into the anatomical incision, the viewer encounters a tangled, shadowy space: a *rota* of intestines coiled at the navel, a thrice-lobed liver suspended directly above, and perhaps—although it is difficult to make out—the bottom half of the left kidney peaking from behind the flap of skin. This imaginative space has no textual guide, lacking both the astrological data that originally accompanied the figure and the description of human anatomy found many pages later in Book Four. Moving into this space the viewer is thus left to experience anatomy through the play of the imagination.

i. The Wound of Christ

A similar wound presents itself in a book of hours of Flemish origin from the early fifteenth-century (**fig. 81**). This one, however, radiates with a sacred power for it belongs to Christ and represents the fatal wound received in his heart from the lance of Longinus. Disembodied from the savior, the aperture seems to tear open the flesh of the page itself revealing the wounded heart of Christ, which is pierced again at its center in a mirror image of the larger orifice. Four other wounds perforate the heart, representing the nail holes driven through the hands and feet of Christ and transform the organ into a symbolic representation of Christ's body. These wounds-within-a-wound engender a Christological microcosm whose mirror might cast endless reflections. Perhaps inside the wounded heart of Christ there lies another heart perforated by wounds, and through these apertures another still. The viewer can't be sure, but the image presents the possibility of endless tears within the body of Christ, and countless experiences penetrating these openings.

This image of course is one of numerous totems of Christ's wound, which were circulating with great frequency in the fifteenth century.³³⁴ Its double aspect of heart within wound was a combination of two visual traditions, the five wounds of Christ's passion (**fig. 82**) and solo meditations on the wound itself, pictured as a bleeding slit with an obscured interior (**fig. 83**).³³⁵ This formula, however, allows the viewer to penetrate the recesses of Christ's torture and death and epitomizes what Flora Lewis has called, "the desire to encompass and anatomize the Passion," within the totality of a single totem.³³⁶ While produced in a number of different contexts, longstanding devotion to the wound of Christ, provided a foil through which viewers might approach the body through increasingly anatomic modes.³³⁷

ii. The Anatomy of Christ

As devotion to the Passion body increased in fervor and detail, a phenomenon of *Christus anatomicus* gained currency in devotional circles, especially in the sixteenth and seventeenth centuries. Wax and ivory crucifixes (**fig. 84**), which opened to reveal the anatomy of Christ, were especially produced as centers of devotional focus for Christ's humanity and suffering.³³⁸ While little is currently known about these objects, they likely emerged as hybrids of early sixteenth-century anatomical studies of the crucified body

³³⁴ David S. Areford, *The Viewer and the Printed Image in Late Medieval Europe* (Aldershot: Ashgate, 2010), 228–67.

³³⁵ Nancy Thebaut, "Bleeding Pages, Bleeding Bodies: A Gendered Reading of British Library MS Egerton 1821," *Medieval Feminist Forum* 45 (2009): 175–200.

³³⁶ 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*, ed. Lesley Smith and Jane H.M. Taylor, 204–229 (Toronto: University of Toronto Press, 1997), 204.

³³⁷ Ann Derbes, *Picturing the Passion in Late-Medieval Italy: Narrative Painting, Franciscan Ideology, and the Levant* (Cambridge: Cambridge University Press, 1996).

³³⁸ Liselotte Hermes da Fonseca, "The Anatomy of Holy Transformation." In *Death: A Graveside Companion*, ed. Joanna Ebenstein 86–88. London: Thames and Hudson, 2017).

and popular devotional mediations on Christ's passion. Jacomo Berengario da Capri, for instance, included one such study in his *Commentaria* on Mondino's *Anatomia* (1521), a "crucified man" (fig. 85) flayed to the muscles below the skin.³³⁹ A caption in the frame of the image claims that this study was produced to explore the positions of the muscles under the arms in order to provide physicians a better understanding for certain medical operations. But while the figure is not identified as Jesus, the woodcut was clearly executed in his image: a bearded Zeus-like god hanging in the classic pose of crucifixion. This uncanny Christ hovers at the moment of death, his head slumped forward in final agony, yet his muscles still ripple with vitality, recalling the brawny figures of Michelangelo and engendering the dying body with an eerie sense of vigor. In effect, this is not simply a medical study of the *biceps brachii* but also a general dissection of Christ, suspended and frozen in his final torture.³⁴⁰

In a similar way, devotional literature was also borrowing anatomical imagery to explore the body of Christ in his closing agony. James of Milan's popular *Stimulus amoris*, for example takes a truly bizarre descent into the crucified body through the bleeding side wound.³⁴¹ Extolling first "the most loved wound of our lord Jesus Christ," James imaginatively penetrates the puncture in a state of ecstasy.³⁴² Blinded by blood (*ipsi oculi sanguine sunt replete*) the author is forced to feel his way through Christ's

³³⁹ Nateale Gaspare De Santo, Allen Touwaide, et al., "Berengario da Carpi," *American Journal of Nephrology* 19 (1999): 199–212; R. L. Lind, *Studies in Pre-Vesalian Anatomy: Biography, Translations, Documents* (Philadelphia: The American Philosophical Society, 1975).

³⁴⁰ Anatomical experiments with the crucifixion continued into the nineteenth century. In 1801, three artists from the Royal Academy of London commissioned a crucifixion of a recently executed man, James Legg, whose corpse was flayed and then cast in a mold in order to settle a dispute about whether artistic depictions of the crucifixion were accurate. See Eleanor Crook, "Anatomical Expressionism," in *Death: A Graveside Companion*, ed. Joanna Ebenstein, 55–56 (London: Thames & Hudson, 2017), no. 79.

³⁴¹ Jose M. Canal, "El 'stimulus armoris' de Santiago de Milan y la 'meditatio in salve regina'" *Franciscan Studies* 26 (1966): 174–88.

³⁴² "O amatissima vulnera Domini nostril Jesu Christi." See: A. C. Peltier, *Opera omnia Sixti V: Jussu diligentissime emendata, accedit sancti doctoris vita, una cum diatriba historico-chronologico-critica* (Paris: L. Vivès, 1864–71), 12:634.

innards (*ad intima viscera caritatis sue*), until finding shelter in the holy bowels. There he waits gestating, just as Christ dwelled in the uterus of the Virgin (*in utero virginali*), until “at least he gave birth to me, and like a mother gave me milk, lifted me with his hands, carried me in his arms, kissed me with his lips.”³⁴³ This process of penetration, gestation, and birth, could be repeated indefinitely in James’s account, recalling the loop of visual engagement from the Netherlandish book of hours (see fig. 81).

iii. Typological Wounds and Gendered Hierarchies

Once again themes of gestation and birth coincide with the anatomical body, but rather than Adam, it is Christ who births. James of Milan’s emergence from the holy bowels maps onto broader legends of the birthing body of Christ during the Passion, which claimed that Christ engendered *Ecclesia* from his side just as Adam had “birthed” Eve in the Genesis story. As Caroline Walker Bynum has shown, this typology provided a powerful metaphor for the claims of the Church, which traced their sacramental lineage directly to the dying body of Christ.³⁴⁴ As Augustine wrote, “Adam, while he slept, was found worthy to receive the wife whom God had formed from his side, because the Church was to be born from Christ as he lay asleep on the cross, so that from the rib of him who hung upon the Cross pierced by the lance, would flow the Sacraments of the Church.”³⁴⁵ In a similar mode, the body of Eve was traced back to its primogenitor, Adam, and established orders of power and labor through the wound in the side.

³⁴³ “Sed certe, etsi me pepererit, debet sicut mater me lactare uberibus, levare minimis, portare brachiis, osculari labiis” *ibid.*

³⁴⁴ Caroline Walker Bynum, *Fragmentation and Redemption: Essays on Gender and the Human Body in Medieval Religion* (New York: Zone Books, 1992), 93, 95, 98.

³⁴⁵ Augustine of Hippo, *Commentary on the Gospel of John*, 15:8. Quoted in: Zapperi, *The Pregnant Man*, 5.

According to Aquinas, had God created Eve from Adam's head, it would have given women dominion over man; had he used Adam's foot, Eve would have been no better than a slave.³⁴⁶ The rib, a mid-point in the hierarchy of Adam's body, maps female position within the natural order, subordinate, but not enslaved to man.³⁴⁷

Occasionally these twin male births were paired in "moralizing bibles" and other exegetical literature, which picture an expiring Christ "birthing" *Ecclesia* from his bleeding side with scenes of Eve's creation (**fig. 86**).³⁴⁸ In a thirteenth-century example, each subject is presented in neighboring medallions for comparative analysis. The upper scene shows a familiar iconography of Eve's creation, with the first man and woman placed in the iconic "fallen-Y" pattern. This vignette mirrors the lower scene of the crucifixion in which *Ecclesia* emerges from Christ's body. Together these scenes form a tautology with Adam prefiguring Christ and Eve the body of *Ecclesia*. Both figures are "delivered" by a Creator-*obstetrix* who rules as patriarch to the typological relation. Through these male "births" a hierarchy is thus born: woman subject to man; man to the church; and the church to Christ and the Creator.

Yet, as Bynum has shown, the reproductive agency of Christ's body sometimes problematized this order, gendering it female and thus blending it with the figure of *Ecclesia*. The concept of "Jesus as Mother" was wrought especially through images,

³⁴⁶ Thomas Aquinas, *Summa theologiae*, I, 92 art. 3. "for the woman should neither 'use authority over man,' and so she was not made from his head; nor was it right for her to be subject to man's contempt as his slave, and so she was not made from his feet."

³⁴⁷ Surprisingly, Aquinas sees subjection and inequality as part of the natural order, present in fact in the *prelapsarian* Garden. His view of subjection is distinct from slavery (which he views negatively) and reflects on the positive subjection of familial structures: wife, subjected to husband, children to parents, etc. See Joan Cadden, *Meaning of Sex Difference*, 193.

³⁴⁸ Bynum, *Fragmentation and Redemption*, 99.

which often placed the wound of Christ suggestively at his breast.³⁴⁹ Yet the symbol itself as Karma Lochrie has argued was a queering totem, which exposed the holy body to an “an open mesh of possibilities.”³⁵⁰ In her view, then, the metaphorical identification of Christ’s wound (*vulnus*) with the vulva was not necessarily an ascription of sexuality but rather a motif of power, which could be by worn by the male body. Through this motif, the powers of gestation and birth could be appropriated by the greater edifice of the church and deployed as icons. In the later fifteenth century, printed images of the wound would even become talismans, as David Areford has explored, containing apotropaic powers to protect its owners from disease and misfortune.³⁵¹ This perceived agency made the wound one of the most widely reproduced images in the Middle Ages and can be found in a broad range of printed subjects and media.

While anatomical images, like the Bellaert Master’s figures were fairly new to non-professionals, the visual culture of devotion already possessed a steady tradition of exploring the interior through pictures. The mandorla wound in the center of the anatomical figure would not have been perceived as a new phenomena but rather a familiar symbol, which opened the miraculous core of the body. Entering this wound, the viewer penetrated into an imaginary realm, where passion gestated and knowledge was born. Against the backdrop of the sacred wound and its holy births, the Bellaert Master’s anatomical figure resonates with a religious aura, its dark center recalling the mysterious opening of Christ’s wound and its divine secrets. The anatomical opening also allowed

³⁴⁹ Bynum, *Fragmentation and Redemption*, 102–117; *ibid*, *Jesus as Mother: Studies in the Spirituality of the High Middle Ages* (Berkeley: University of California Press, 2007), 113–24.

³⁵⁰ Karma Lochrie, “Mystical Acts, Queer Tendencies.” In *Constructing Medieval Sexuality*, ed. Karma Lochrie, Peggy McCracken, James A. Schultz, 180–200 (Minneapolis: University of Minnesota Press, 1997), 189.

³⁵¹ David Areford, *The Viewer and the Printed Image in Late Medieval Europe* (Aldershot: Ashgate, 2010), 229–35.

for the contemplation of another miraculous event, the birth of Eve from a divinely opened wound in the body of Adam. From this fissure sprang the order of the created world: Man, then Woman and the remaining elements of Bartholomaeus's *De proprietatibus rerum*.

These properties were projected onto the anatomical body transforming it into a sacred and reproducible symbol in a growing range of publications from devotional material to calendars, and other broadsides. Bellaert's exact scene would in fact be reproduced eleven years later in the first printed edition of John of Trivisa's English translation, published in 1496 by the press of Wynken de Wyrde in London, which continued the Bellaert Master's expansion and popularization of the anatomical image.³⁵² While employing the new media of print, the Bellaert Master, however, was still creating in the medieval fashion, editing, modifying, and combining pre-established image types into new orders. Yet these early figures would ultimately engender a technological revolution for the body made possible by the mechanical reproduction of the image. "Rebirthed" in the sixteenth-century Renaissance, the matrix of the body continued to expand the anatomical form, opening new channels of creation and reproduction for its image.

³⁵² Bartholomaeus Anglicus. *De proprietatibus rerum*, trans. John Trevisa (Westminster: Wynkyn de Worde, 1496); Holbrook, "A Medieval Scientific Encyclopedia," 119–55.

EPILOGUE

At the bottom of a deep arena lies a corpse splayed atop a table and modestly covered by a mantel. Standing cautiously next to the body, an anatomist gingerly grips the blanket in his outstretch fingers, peeling back the cover from the corpse and unveiling its hollow, dissected belly. The presentation is viewed by a fascinated audience of living persons and animate dead, both human and animal, who serve as the acolytes of the anatomical rituals performed below. New technologies are on display as well; a cabinet of anatomical utensils (*archivum instrument[orum] anatomicor[um]*) appears directly above the dissected cadaver, replacing the lector's podium known from earlier scenes of dissection (see fig. 72). These instruments or tools of anatomy claim the body's identity through the methodologies of observation and measurement and suggestively replace the authority of the written word.

Engraved by Willem van Swanenburg after Jan Cornelis van 't Woud and published in 1610 by Andries Cloucq in Leiden, this image seems far removed from its medieval predecessors, advertising the anatomical achievements at the University of Leiden and its famed anatomical theatre.³⁵³ Importantly, this is not technical manual for professionals but rather an image marketed to laypersons. Crafted for a diverse audience, it was one of four *collegium illustre* that recorded various scenes of university life, including its library, botanical gardens, and fencing hall. Its title, *Vera anatomiae*

³⁵³ Ilja M. Veldman, *Images for the Eye and the Soul: Function and Meaning in Netherlandish Prints (1450–1650)* (Leiden: Primavera Press, 2006), 227–3; R.E. O. Ekkart, “De Leidse Bibliotheek in 1610,” *De Boekenwereld* 1 (1984–85): 13–17. On the university of Leiden see: R. E. O. Ekkart, *Athenae Batavae: De Leidse universiteit, 1575–1975* (Leiden: Universitaire Pers Leiden, 1975).

Lugduno-Batavae cum selectis et reliquis quae ibi extant delineato, promotes the “true anatomy” performed at the university by its medical faculty and was widely collected by both the residents of Leiden and its international visitors.³⁵⁴

But while asserting a generalized rationality of the body, Swanenburg’s print frames the scene through familiar motifs of medieval origin: the icons of Genesis, the relics of death, the schemes of self-knowledge, and the mirrors of the microcosm. Skeletal bodies encircle the corpse and provide its *mementos*, brandishing banners in declaration of mortality: “The origin of death is born”,³⁵⁵ “We are dust and shadows”,³⁵⁶ “know yourself”,³⁵⁷ “death is the limit.”³⁵⁸ Stationed directly before the corpse, a skeletal pairing of Adam and Eve pluck fruit from a Tree of Knowledge guarded by a medical serpent—the joint symbol of Satan and Asclepius—and foreground the anatomical body within the emblems of creation, knowledge, and decay. Ambulating indifferently among these specters, groups of living figures gaze in wonder at the anatomical body from the railings above, whose seven spheres recall the planetary orbits of the microcosm with an anatomical body at its center.

Thus while professing the observational truth of the anatomical body, the engraving continues to interpret the cadaver through “medieval” icons, and, I argue, reveals a deeper continuity between the allegedly “modern” and “premodern” body. Like the Bellaert Master’s woodcut, the *Vera anatomiae* evokes the figures of Adam and Eve to authorize an anatomical Genesis; like Guido’s “true” figures, the *Vera anatomiae* mobilizes the corpse as a mortal frame for the body’s identity; and like the Prüfening

³⁵⁴ Veldman, *Images for the Eyes and the Soul*, 229.

³⁵⁵ “Principium moriendi natalis est.”

³⁵⁶ “Pulvis & umbra sumis.”

³⁵⁷ “Nosce te ipsum.”

³⁵⁸ “Mors ultima linea rerum.”

Series, the *Vera anatomiae* frames the study of anatomy under the aegis of *scio te ipsum*. The persistence of these motifs against shifting anatomical and artistic visions of the body demonstrates that there was no “liberation” of anatomy from the medieval symbol; if anything these motifs were enshrined as the essential priests of the body’s temple and deployed with renewed vigor and dedication. Swanenburg’s print, I contend, ultimately shows that these iconic tenets of birth, knowledge, and death created an enduring framework for the anatomical body, which continued well into the early-modern age.

As I have shown in this project, the modern anatomical image would not have been possible without the innovation and experimentation of the Middle Ages, which engendered its preliminary form and display. Developed first in the twelfth century in monastic houses like the monastery of Prüfening, the Sitting Figure Series served the joint study of body and soul, attached to medicine but ultimately concerned with the body’s divine schematic. Its diagrammatic form contained the minor world of the individual but also mirrored the greater body of the universe. The Series also revealed the sacred formula of the body, created in the image of God, which was quantified even to its number of ribs. Emerging first from the world of the monastery, anatomy and its visual schemes were not the products of medical epistemologies but rather the designs of a monastic heuristic that studied and theorized the world through image, word, and diagram.

This initial experimentation with the anatomical image, was joined in the fourteenth century by new efforts from medical professionals like the royal physician Guido da Vigevano who rendered the body as a subject of dissection rather than a schematic archetype. This move was partially a response to legal prohibitions against the

practice of *anatomia* in France, which withheld the body from anatomical inquiry. Using figures to proxy the absent body, Guido's *Anothomia* reimagined the function and design of the anatomical image, offering the French king an intimate view of dissection enacted through visual technology. His treatise was closely allied with the interests of the French court, which envisioned the royal body as a political relic requiring division and preservation to maintain its continuing dissemination of power. As royal physician, Guido was ultimately responsible for these tasks, and retrofitted the *Anothomia* into a *memento mori* for his royal audience. Thus while devising new epistemologies for the image and offering anatomy as a political token, Guido also acknowledge death as the patron of anatomical body and reimagined the cadaver as a subject of *scientia*.

These professional developments of the anatomical image were ultimately exported to public markets in the fifteenth century through vernacular translations such as Jacob Bellaert's publication of *De proprietatibus rerum*. Illustrated by an inventive program devised by the Bellaert Master, this book reframed the body as an anatomical being placed at the apex of created order. Combing the new image with more traditional iconography from the "Birth of Eve," the Bellaert Master recast the male body as creator—an Adamic primogenitor who exercised power through hereditary order. In this regard the anatomical body imitated that of Christ, which was also pictured birthing *Ecclesia* through his side-wound. Appropriating religious and anatomical symbols of the womb, the Bellaert Master's woodcut thus exalted the reproductive potency of the male form while simultaneously downplaying the role of Eve as mother. Dispersed through the new media of print, woodcuts like that of the Bellaert Master deployed the anatomical

body through established hierarchies of knowledge, power, and gender and valorized the male body as the defining principle of anatomical order.

As I have argued in this study, the anatomical image was an invention of the Middle Ages and reveals an important episode in the history of the body, laying groundwork for future revolutions that were powered by its art and visual technologies. In their medieval context, these images were equally salient and afforded a new visual accessibility to the body's hidden sanctum. As an artistic aperture, the image opened the body to an interdisciplinary array political, religious, and anatomical agendas but ultimately provided an intimate view of the self and its physical and spiritual agency. Whether created for medical or artistic purposes, the anatomical image resolved central questions of identity, bringing the intimate yet invisible *minor mundus* into focus.

This essential quality continues in the present; whether illumination, engraving, or CT scan, the anatomical image retains the power to address our origin, reveal our composition, and prognosticate our death. Mediated by different modes of display and quantification, the body can be envisioned in both schematic and virtual form but each mode ultimately negotiates between the curiosities and perils of self-discovery. Seeing into the body is an exciting yet risky maneuver; we may encounter good or bad omens, and we expose ourselves to powerful systems of visual analysis, knowledge, and judgment. Yet the image itself is ultimately too gripping to refuse, for it provides a rare reflection on an identity unknown even to the self. While *scientia* and art provide ever-changing perspectives on the *minor mundus*, its magnetism was first formalized in the medieval body, born through systems of self-knowledge, made vulnerable to death, yet immortalized in the anatomical image.

APPENDIX

LIBER NOTABILIVM ILLUSTRISSIMI PRINCIPIS PHILIPPI SEPTIMI
MUSÉE CONDÉ, CHANTILLY: MS. 334 (AKA. 569)

MANUSCRIPT DESCRIPTION

287 folios. Double columns. Thirty-six lines per column. Rubricated in red ink.

Illuminated initials with gold leaf set at the incipit of each treatise. Emblazoned with the arms of the Bourbon-Condé. Portrait initial (Galen?) on 19v. Anatomical illustrations beginning on folio 273r.

The manuscript is bound in quires of eight. A letter has been written on the bottom of the first folio of each quire beginning with quire “A” at the beginning of *De complexionibus* 159r and reaching quire “Q” on 279r. The alphabetical system then continues into the first half of the manuscript, reaching quire “Z” on folio 155r, which contains only four folios. Quires in the rubrics, *De ingenio sanitatis*, and *De interioribus* sometimes coming in groups of four.

The *Liber notabilium* has been mispaginated by Ernest Wickersheimer, and this mistake has carried over into subsequent publications. For reasons unknown, Wickersheimer did not tally the first fourteen folios containing the rubrics in his pagination; as a result, nearly all pagination given in secondary literature is (–14) folios. (e.g. the incipit to the *Anothomia Philippi Septimi*, typically given as 257r, is actually 271r). The description provided below follows the original pagination as provided by the catalog and re-tallied by myself.

The *Liber notabilium* is frequently cited by the shelf no: Ms. 569. This is an old catalog number as I was informed by the library staff. The work should always be cited by the new number: Ms. 334 as given in the catalog: Musée Condé and Henri d'Orléans Aumale, *Chantilly, le cabinet des livres: Manuscripts*, 2 vols (Paris: Plom and Nourri, 1900), 1:271–74.

CONTENTS

1. Rubrics

1r–16v.

2. *De ingenio sanitatis*

Galen of Pergamum

17r–59v.

3. *De interioribus*

Galen of Pergamum

60r–93v.

4. *De accidenti et morbo*

Galen of Pergamum

94r–122v.

5. *De crisi*

Galen of Pergamum

123r–147v.

6. *De diebus criticis*

Galen of Pergamum

148r–158v.

7. *De complexionibus*

Galen of Pergamum

159r–185v.

8. *De malicia complexionis diverse*

Galen of Pergamum

186r–190v.

9. *De simplicibus medicinis*

Galen of Pergamum

191r–254v.

10. Regimen sanitatis

Guido da Vigevano.
255r–270v.

Anothomia Philippi Septimi

Guido da Vigevano.
271r–287v.

THE ANOTHOMIA PHILIPPI SEPTIMI

HEC EST ANOTHOMIA PHILIPPI SEPTIMI, FRANCORUM REGIS, DESIGNATE PER FIGURAS PER GUIDONEM, MEDICUM SUPRASCRIPTI REGIS.

271r–272v: **Prologue**

- 271r: *Quia prohibitum est ab Ecclesia facere anothomiam in coropore humano...*
- 272v. *...Unde post hanc anothomiam memborum, ponam sex figuras anothomie de uvula et catarro descendentente ad palatum et cum hoc ponendo ejus curam.*

273r–286v: **Figures**

- 273r: figure 1
- 273v: <blank>
- 274r: <blank>
- 274v: figure 2
- 275r: figure 3
- 275v: <blank>
- 276r: <blank>
- 276v: figure 4
- 277r: figure 5
- 277v: figure 6
- 278r: figure 7
- 278v: <blank>
- 279r: <blank>
- 279v: figure 8
- 280r: figure 9
- 280v: <blank>
- 281r: <blank>
- 281v: figure 10

- 282r: figure 11
- 282v: <underdrawing>
- 283r: <blank>
- 283v: figures 12 and 13
- 284r: figures 14 and 15
- 284v: <blank>
- 285r: <blank>
- 285v: figure 16
- 286r: figure 17
- 286v: figure 18

287r: <Blank>

287v. **Explicit**

- 287v: ...*Ad evitacionem periculi suffocacionis uvule et catarri descendentis a cerebro ad palatum...Et sic isto modo curabitur de uvula et catarro.*

FIGURES BY TOPIC

- Figure 1 (273r): The living body; *Hec est prima figura anothomie facta in homine vivo...*
- Figure 2 (274v): Incising the abdomen; *In secunda figura anothomie sicut scinditur venter...*
- Figure 3 (275r): The first layer of flesh (*mirac*); *Hec est tercia figura anothomie sicut scisso ventre...*
- Figure 4 (276v): The second layer of flesh (*sifac*); *Hec est quarta figura anothomie in qua aparet secundus paniculus ventris qui vocatur sifac...*
- Figure 5 (277r): The third layer of flesh (*zirbus*); *Hec est quinta figura anothomie in qua aparet tercius paniculus ventris qui vocatur zirbus...*
- Figure 6 (277v): Contents of the abdomen; *Hec est sexta figura anothomie in qua apparent Omnia membra interiorum ventris...*
- Figure 7 (278r): Incising the chest; *Hec est septima figura anothomie in qua aperitur totum corpus...*

- Figure 8 (279v): First layer of thoracic and abdominal cavities; *Hec est figura octava anothomie in qua demonstrantur Omnia membra corporis composita...*
- Figure 9 (280r): Esophagus, stomach, and intestines; *Hec est nona figura anothomie de meri...*
- Figure 10 (281v): The uterus; *Hec est decimal figura anothomie in qua demonstrantur matris et ejus ventriculi...*
- Figure 11 (282r): Opening the head; *Hec est undecima figura anothomie in qua amovetu os capitis...*
- Figure 12 and 13 (283v): Removing the cranium; *Hec est duodecima figura anothomie ossis capitis...Hec est quartadecima figura anothomie capitis...*
- Figure 14 and 15 (284r): Dura and pia matter; *Hec est quartadecima figura anothomie capitis...Hec est quintadecima figura anothomie capitis...*
- Figure 16 (285v): Anatomy of the spine; *Hec est sextadecima figura anothomie hominis scissi de retro...*
- Figure 17 (286r): A physician inspecting the abdomen; *Hec est septimadecima [figura] et ultima anothomie hominis vivi...*
- Figure 18 (286v): Pulse-taking; *In hac ultima figura ostenditur sicut debet tangi pulsus...*

BIBLIOGRAPHY

- Adelman, Janet. 1992. *Suffocating Mothers: Fantasies of Maternal Origin in Shakespeare's Plays, Hamlet to Tempest*. New York: Routledge.
- Agrimi, Jole, and Chiara Crisciani. 2010. "The Science and Practice of Medicine in the Thirteenth Century According to Guglielmo da Saliceto, Italian Surgeon." In *Practical Medicine from Salerno to the Black Death*, ed. Louis García Ballester, 60–87. Cambridge: Cambridge University Press.
- Albertino Mussato. 1636. *De Gestis Henrici VII Cæsar*. Venice: Ex Typographia Ducali Pinelliana.
- Alverny, Marie-Térèse d'. 1976. "L'homme comme symbole: Le microcosme." In *Simboli e simbologia nell'alto medioevo*, 2 vols., 1:123–83. Spoleto: Centro di Studi sul'Alto Medioevo.
- Areford, David S. 2010. *The Viewer and the Printed Image in Late Medieval Europe*. Aldershot: Ashgate.
- Ariès, Philippe. 2008. *The Hour of Our Death*. New York: Vintage.
- As-Vijvers, Anne Margreet W. 2018. "The Missing Miniatures of the Hours of Louis Quarré" *Journal of Historians of Netherlandish Art*. Online publication.
- Avril, François. 1978. *Manuscript Painting at the Court of France: The Fourteenth Century, 1310–1380*, trans. Ursule Molinaro. New York: G. Braziller.
- Baader, Gerhard Baader. 1973. "Mittelalterliche Medizin in bayerischen Klöstern." *Sudhoffs Archiv* 57: 275–96.
- Banham, Debby. 2014. "Medicine at Bury St. Edmonds in the Time of Abbot Baldwin" In *Bury St Edmunds and the Norman Conquest*, ed. Tom Licence. Woodbridge: The Boydell Press.
- Bartholomæus Anglicus. 1482. *Les propriétés des choses*, trans. Jean Corbichon, ed Pierre Farget. Lyon: Mathias Huss.
- Bartholomæus Anglicus. 1484. *Les propriétés des choses*, trans. Jean Corbichon, ed Pierre Farget. Lyon: Johannes Siber.
- Bartholomæus Anglicus. 1496. *De proprietatibus rerum*, trans. John Trevisa. Westminster: Wynkyn de Worde.

- Baschet, Jérôme. 2001. "Ève n'est jamais née: Les représentations médiévales de l'origine du genre humain." In *Ève et Pandora: La création de la première femme*, ed. Jean-Claude Schmitt, 115–62. Paris: Gallimard.
- Becker, Gustav. 1885. *Catalogi bibliothecarum antiqui*. Bonn: M. Cohen et filium.
- Berteloot, Amand, and Detlev Hellfaier. 2001. *Jacob van Maerlant's 'Der naturen bloeme' und das Umfeld: Vorläufer, Redaktionen, Rezeption*. Münster: Waxmann.
- Bigg, Charlotte. 2016. "Diagrams." In *A Companion to the History of Science*, ed. Bernard Lightman, 644–60. New York: John Wiley & Sons.
- Binski, Paul. 1996. *Medieval Death: Ritual and Representation*. Ithaca: Cornell University Press.
- Blackman, Susan Amatto. 1993. "The Manuscripts and Patronage of Jacques d'Armagnac, Duke of Nemours, 1433–1477." Ph.D. diss., University of Michigan, Ann Arbor.
- Bliquez, Lawrence. 2015. *The Tools of Asclepius: Surgical Instruments in Greek and Roman Times*. Leiden: Brill.
- Blumenfeld-Kosinski, Renate. 1990. *Not Of Woman Born: Representations of Caesarean Birth in Medieval and Renaissance Culture*. Ithaca: Cornell University Press.
- Boeckler, Albert. 1924. *Die Regensburg-Prüfeninger Buchmalerei: Des XII. und XIII. Jahrhunderts*. Munich: Buch- und Kunstverlag A. Reusch.
- Bogen, Steffen, and Felix Thürlemann. 2003. "Jenseits der Opposition von Text und Bild: Überlegungen zu einer Theorie des Diagramms und des Diagrammatischen," in *Die Bildwelt der Diagramme Joachims von Fiore: Zur Medialität religiös-politisher Programme im Mittelalter*, ed. Alexander Patschovsky, 1–22. Ostfildern: Jan Thorbecke Verlag.
- Borchers, Renate Borchers. 1975. "Die ikonographischen Quellen des *Codex 12600* der Österreichischen Nationalbibliothek in Wien," BA diss., Wien.
- Bos, Gerrit, Charles Burnett, and Y. Tzvi Langermann. 2005. "Hebrew Medical Astrology: David Ben Yom Tov, *Kelal Qaṭan*." *Transactions of the American Philosophical Society* 95: 1–121.
- Branner, Robert. 1977. *Manuscript Painting in Paris during the Reign of Saint Louis: A Study of Styles*. Berkeley: University of California Press.
- Brown, Elizabeth A. R. 1990. "Authority, the Family, and the Dead in Late Medieval France." *French Historical Studies* 16: 803–32.

Brown, Elizabeth. 1999. "Royal Bodies, Effigies, Funeral Meals, and Office in Sixteenth-Century France," in *Il Cadavere/The Corpse*, 437–508. Florence: SISMEL–Edizioni del Galluzzo.

Brown, Elizabeth. 2014. "The French Royal Funeral Ceremony and the King's Two Bodies: Ernst H. Kantorowicz, Ralph E. Giesey and the Construction of a Paradigm." In *Le Corps du Prince*, ed. Agostino Paravicini Bagliani, 105–137. Florence: SISMEL–Edizioni del Galluzzo.

Brown Michelle P. 2007. "An Early Outbreak of 'Influenza'?": Aspects of Influence, Medieval and Modern." In *Under the Influence: The Concept of Influence and the Study of Illuminated Manuscripts*, ed. John Lowden and Alixe Bovey, 1–10. Turnhout: Brepols.

Burnett, Charles. 1994. "The Chapter on the Spirits in the *Pantegni* of Constantine the African." In *Constantine the African and Alī Ibn Al-‘Abbās Al-Magūsī: The Pantegni and Related Texts*, ed. Charles Burnett and Danielle Jacquart, 99–120. Leiden: Brill.

Bynum, Caroline Walker. 1984. *Jesus as Mother: Studies in the Spirituality of the High Middle Ages*. Berkeley: University of California Press.

Bynum, Caroline Walker. 1991. *Fragmentation and Redemption: Essays on Gender and the Human Body in Medieval Religion*. New York: Zone Books.

Bynum, Caroline Walker. 1995. *The Resurrection of the Body in Western Christianity, 200–1336*. New York: Columbia University Press.

Bynum, Caroline Walker. 1995. "Why All the Fuss about the Body? A Medievalist's Perspective." *Critical Inquiry* 22: 1–33.

Bynum, Caroline Walker. 2007. *Jesus as Mother: Studies in the Spirituality of the High Middle Ages*. Berkeley: University of California Press.

Caciola, Nancy. 1996. "Wraiths, Revenants, and Ritual in Medieval Culture," *Past and Present* 152: 3–45.

Cadden, Joan. 1995. *Meanings of Sex Difference in the Middle Ages: Medicine, Science, and Culture*. Cambridge: Cambridge University Press.

Cahn, Walter. 1991. "Medieval Landscape and the Encyclopedia Tradition" *Yale French Studies*, special edition: 11–24.

Camille, Michael. 1994. "The Image and the Self: Unwriting Late Medieval Bodies." In *Framing Medieval Bodies*, ed. Sarah Kay and Miri Rubin, 62–99. Manchester: Manchester University Press.

- Camille, Michael. 1996. *Master of Death: The Lifeless Art of Pierre Remiet, Illuminator*. New Haven: Yale University Press.
- Canal, Jose M. 1966. "El 'stimulus armoris' de Santiago de Milan y la 'meditatio in salve regina.'" *Franciscan Studies* 26: 174–88.
- Carlino, Andrea. 1999. *Books of the Body: Anatomical Ritual and Renaissance Learning*, trans. John Tedeschi and Anne C. Tedeschi. Chicago: University of Chicago Press.
- Carré, Antònia. 2015. "Del regiment de sanitat a la literatura: El cas d'Arnau de Vilanova." *Anuario de Estudios Medievales* 45: 233–63.
- Castan, Philippe, Pierre Rabischong, and Mourad Chaabane. 1985. *Naissance de la dissection anatomique deux siècles à l'apogée du Moyen-Age autour d'Henri de Mondeville et Gui de Chauliac: Intérieur et extérieur du corps humain à l'apogée du Moyen-Age: Essai*. Montpellier: Sauramps Médical.
- Caviness, Madeline. 1998. "Hildegard as Designer of the Illustrations to her Works." In *Hildegard of Bingen: The Context of Her Thought and Art*, ed. Charles Burnett, Jill Krayer, and W. F. Ryan, 29–64. London: Warburg Institute.
- Charlier, Pierre, et al. 2014. "A Glimpse into the Early Origins of Medieval Anatomy through the Oldest Conserved Human Dissection (Western Europe, 13th c. A.D.)." *Archives of Medical Science* 10: 366–73.
- Chase, Steven, ed. 2002. *Angelic Spirituality: Medieval Perspectives on the Ways of Angels*. New York: Paulist Press.
- Chihaia, Pavel. 1998. *Immortalité et décomposition dans l'art du Moyen Age*. Madrid: Fondation Culturelle Roumaine.
- Christine de Pizan. 1977. *Le livre de fais et bonnes meurs du sage roy Charles V*, ed. Suzanne Solente, 2 vols. Geneva: Diffusion Champion.
- Chrobak, Werner. 2010. "Die Hirsauer Reform," In *900 Jahre Prüfening: Kloster, Schloss, Schule*. Regensburg: Dr. P. Morbach Verlag.
- Cohen, Adam. 2000. *The Uta Codex: Art, Philosophy and Reform in Eleventh-Century Germany*. Philadelphia: Pennsylvania University Press.
- Cohen, Adam. 2009. "Making Memories in a Medieval Miscellany." *Gesta* 48: 1–18.
- Conway, William Martin. 1884. *The Woodcutters of the Netherlands in the Fifteenth Century*.

- Coppens, Christian. 2009. *De vele levens van een boek: De Fasciculus medicinae opnieuw bekeken*. Brussels: Koninklijke Academie voor Geneeskunde van België.
- Corner, George W. 1978. *Anatomical Texts of the Earlier Middle Ages*. New York: AMS Press.
- Crook, Eleanor. 2017. "Anatomical Expressionism." In *Death: A Graveside Companion*, ed. Joanna Ebenstein, 55–56. London: Thames and Hudson.
- Cunningham, Andrew. 1997. *The Anatomical Renaissance: The Resurrection of the Anatomical Projects of the Ancients*. Aldershot: Scolar Press.
- Dale, Thomas. 2008. "Romanesque Sculpted Portraits: Convention, Vision, and Real Presence." *Gesta* 46: 103–107.
- Dale, Thomas. 2001. "Monsters, Corporeal Deformities, and Phantasms in the Cloister of St-Michel-de-Cuxa." *Art Bulletin* 83: 402–36.
- De Santo, Nateale Gaspare, Allen Touwaide, et al. 1999. "Berengario da Carpi." *American Journal of Nephrology* 19 (1999): 199–212
- Daston, Lorraine, and Peter Galison. 2015. *Objectivity*. New York: Zone Books.
- Derbes, Ann. 1996. *Picturing the Passion in Late-Medieval Italy: Narrative Painting, Franciscan Ideology, and the Levant*. Cambridge: Cambridge University Press.
- Deuchler, Florens. 1971. "Looking at Bonne of Luxembourg's Prayerbook." *Metropolitan Museum of Art Bulletin* (February): 267–78.
- Di Ieva, Antonio, et al. 2007. "The Neuroanatomical Plates of Guido da Vigevano," *Neurosurgical Focus* 23: 1–4.
- Dordević, Jakov. 2017. "Made in the Skull's Likeness: Of Transi Tombs, Identity and Memento Mori," *Journal of Art Historiography* 17: 1–19.
- Dossenbach, Daniel. 2011. "Heilzauber in der voruniversitären Klostermedizin." In *Universität, Religion und Kirche: Tagung 19. bis 23. Sept. 2007 im Kloster Weltenburg*, ed. Rainer Christoph Schwinges, 205–29. Basel: Schwabe.
- Douët d'Arcq, L., 1862. "Chronique anonyme du règne de Charles VI," In *La chronique d'Enguerran de Monstrelet: En deux livres, avec pièces justificatives, 1440–1444*, 6 vols., 6:191–327. Paris, Mme ve J. Renouard.
- Duits, Rembrandt. 2005. "Celestial Transmission: An Iconographical Classification of Constellation Cycles in Manuscripts (8th–15th Centuries)." *Scriptorium* 59: 147–202.

- Dutton, Paul Edward. 2006. *The Mystery of the Missing Heresy Trial of William of Conches*. Toronto: Pontifical Institute of Medieval Studies.
- Edsman, Carl-Martin. 1966. "Arbor inversa: Heiland, Welt und Mensch als Himmelpflanzen." In *Festschrift Walter Baetke*, 85–109. Weimar: Hermann Böhlaus Nachfolger.
- Ekkart, Rudolf E. O. 1975. *Athenae Batavae: De Leidse universiteit, 1575–1975*. Leiden: Universitaire Pers Leiden.
- Ekkart, Rudolf E. O. 1984–85. "De Leidse Bibliotheek in 1610." *De Boekenwereld* 1: 13–17.
- Finckh, Ruth. 1999. *Minor Mundus Homo: Studien zur Mikrokosmos-Idee in der mittelalterlichen Literatur*. Göttingen: Vandenhoeck and Ruprecht.
- Foucault, Michel Foucault. 1970. *The Order of Things: An Archaeology of the Human Sciences*. New York: Vintage Books.
- Foucault, Michel. 1990. *The History of Sexuality: An Introduction, Volume One*, trans. Robert Hurley. New York: Vintage Books.
- Frampton, Michael. 2008. *Embodiments of Will: Anatomical and Physiological Theories of Voluntary Animal Motion from Greek Antiquity to the Latin Middle Ages, 400 B.C.–A.D. 1300*. Saarbrücken: Muller.
- French, Roger. 1984. "An Origin for the Bone Text of the 'Five-Figure Series.'" *Sudhoffs Archiv* 68: 143–58.
- French, Roger. 1999. *Dissection and Vivisection in the European Renaissance*. Aldershot: Ashgate.
- French, Roger. 2009. *Medicine Before Science: The Rational and Learned Doctor from the Middle Ages to the Enlightenment*. Cambridge: Cambridge University Press.
- García-Ballester, Louis. 1998. "The New Galen: A Challenge to Latin Galenism in Thirteenth-Century Montpellier." In *Text and Tradition: Studies in Ancient Medicine and its Transmission: Presented to Jutta Kollesch*, ed. Klaus-Dietrich Fischer, 55–83. Leiden: Brill.
- Gameson, Richard. 1999. *The Manuscripts of Early Norman England (c. 1066–1130)*. Oxford: Oxford University Press.
- Gaspar, Gils. 2004. "'A Doctor in the House'? The Context for Anselm of Canterbury's Interest in Medicine with Reference to a Probable Case of Malaria." *Journal of Medieval History* 30: 245–261.

Gaspar, Giles, and Faith Wallis. 2004. "Anselm and the *Articella*." *Traditio* 59: 129–174.

Gertsman, Elina. 2010. *The Dance of Death in the Middle Ages: Image, Text, Performance*. Turnhout: Brepolis.

Gertsman, Elina. 2011. "The Pilgrim's Progress: Devotional Journey Through the Holy Womb." In *Push Me, Pull You: Physical and Spatial Interaction in Late Medieval and Early Renaissance Art*, ed. Sarah Blick and Laura D. Gelfand, 2 vols. Leiden: Brill.

Giorgi, Piero, P. 1992. "Introduzione." In *Anathomia di Mondino de' Liuzzi da Bologna, XIV secolo*, ed. Piero P. Giorgi, Gian Franco Pasini, and Albertina Cavazza, 1–8. Bologna: Istituto per la Storia dell'Università di Bologna.

Gil-Sortes, Pedro. 1996. "Introduction." In *Regimen sanitatis ad regem Aragonum* by Arnold de Villanova, ed. Luis García Ballester and Michael R. McVaugh. Barcelona: Fundació Noguera.

Givens, Jean. 2005. *Observation and Image-Making in Gothic Art*. Cambridge: Cambridge University Press.

Glaze, Florence Eliza. 1998. "Medical Writer: 'Behold the Human Creature.'" In *Voice of the Living Light: Hildegard of Bingen and Her World*, ed. Barbara Newman, 125–48. Berkeley: University of California Press.

Glaze, Florence Eliza. 2005. *The Perforated Wall: The Ownership and Circulation of Medical Books in Medieval Europe, ca. 800–1200*. Ann Arbor: University of Michigan Press.

Glaze, Florence Eliza. 2009. "Gariopontus and the Salernitans: Textual Traditions in the Eleventh and Twelfth Centuries." In *La "Collectio Salernitana" di Salvatore De Renzi: Convegno internazionale, Università degli studi di Salerno, 18–19 giugno 2008*, ed. Danielle Jacquart and Agostino Paravicini Bagliani, 149–90. Florence: SISMEL–Edizioni del Galluzzo.

Gottlieb, Theodor. 1890. *Über Mittelalterliche Bibliotheken*. Leipzig: Otto Harrassowitz.

Green, Monica, ed. 2002. *The Trotula: A Medieval Compendium of Women's Medicine*. Philadelphia: University of Pennsylvania Press.

Green, Monica. "Salerno on the Thames: The Genesis of Anglo-Norman Medical Literature." In *Language and Culture in Medieval Britain: The French of England, c. 1100–c. 1500*, ed. Jocelyn Wogan-Browne, 220–32. York: York Medieval Press.

Greenstein, Jack M. 2016. *The Creation of Eve and Renaissance Naturalism: Visual Theology and Artistic Invention*. Cambridge: Cambridge University Press.

Gregory, Tullio. 1955. *Anima mundi: La filosofia di Guglielmo di Conches e la Scuola di Chartres*. Florence: G. C. Sansoni.

Griffiths, Fiona. 2007. *The Garden of Delights: Reform and Renaissance for Women in the Twelfth Century*. Philadelphia: University of Pennsylvania Press.

Guibert, Louis. 1895. *Ce qu'on sait de l'enlumineur Évrard d'Espinques*. Guéret: P. Amiault.

Guillaume de Saint-Thierry. 1998. *De la nature du corps et de l'âme*, ed. and trans. Michel Lemoine. Paris: Société d'Édition "Les Belles Lettres.

Guthrie, W. K. C. 1967. "Man's Role in the Cosmos: Man the Microcosm, the Idea in Greek Thought and its Legacy to Europe." In *The Living Heritage of Greek Antiquity*, 56–73. The Hague: Mouton.

Guy de Chauliac. 1890. *La grande chirurgie de Guy de Chauliac: Chirurgien, maistre en médecine de l'université de Montpellier*, ed. Edouard Nicaise. Paris: Ancienne Librairie Germer Baillière.

Hall, Bert S. 1978. "Giovanni de' Dondi and Guido da Vigevano: Notes Toward a Typology of Medieval Technological Writings." In *Machaut's World: Science and Art in the Fourteenth Century*, ed. Madeline Perner Cosman and Bruce Chandler, 127–44. New York: New York Academy of Science.

Hall, Bert S. 1982. "Guido da Vigevano's *Texaurus regis Franciae*, 1335." In *Studies on Medieval Fachliteratur*, ed. William Eamon, 33–44. Vrijheidslaan: Scripta.

Hamburger, Jeffery. Forthcoming. "Mindmapping: The Diagram Paradigm in Medieval Art—and Beyond," in *The Visualization of Knowledge in the Medieval and Early Modern Periods*, ed. Marcia Kupfer et al. Turnhout: Brepols.

Hayman, Jarvis, and Marc Oxenham. 2016. *Human Body Decomposition*. London: Academic Press.

Hellinga, Lotte, and Wytze Hellinga. 1966. *The Fifteenth-Century Printing Types of the Low Countries*, trans. D. A. S. Reid, 2 vols. Amsterdam: M. Hertzberger.

Henri de Mondeville. 1893. *Chirurgie de maitre Henri de Mondeville chirurgien de Philippe le Bel, composée de 1306 à 1320*, ed. Edouard Nicaise. Paris: Felix Alcan.

Hermes da Fonseca, Liselotte. 2017. "The Anatomy of Holy Transformation." In *Death: A Graveside Companion*, ed. Joanna Ebenstein, 86–88. London: Thames & Hudson.

- Hicks, James. 2017. *Composing the World: Harmony in the Medieval Platonic Cosmos*. Oxford: Oxford University Press.
- Hirth, Wolfgang. "Korpus der Klostermedizin." In *Die deutsche Literatur des Mittelalters. Verfasserlexikon*, ed. Burghart Wachinger, 321–25. Berlin: De Gruyter.
- Heiner, Felix. 2008. *Klosterreform und mittelalterliche Buchkultur im deutschen Südwesten*. Leiden: Brill.
- Herrlinger, Robert. 1970. *History of Medical Illustration: From Antiquity to 1600*. New York: Medicina Rara.
- Hildegard of Bingen. 1999. *On Natural Philosophy and Medicine: Selections from Cause et cure*, trans. Margret Berger. Rochester: D. S. Brewer.
- Hill, Boyd H. 1963. "The *Fünfbilderserie* and Medieval Anatomy" PhD diss., University of North Carolina at Chapel Hill.
- Hill, Boyd H. 1965. "The Grain and the Spirit in Mediaeval Anatomy" *Speculum* 40: 63–73.
- Holbrook, Sue Ellen Holbrook. 1998. "A Medieval Scientific Encyclopedia 'Renewed by Goodly Printing': Wynkyn de Worde's English *De proprietatibus rerum*." *Early Science and Medicine* 3: 119–55.
- Holbrook, Sue Ellen Holbrook. 2006. "The Properties of Things and Textual Power: Illustrating the French Translation of *De proprietatibus rerum* and a Latin Precursor." In *Patrons, Authors and Workshops: Books and Book Production in Paris around 1400*, ed. Godfried Croenen and Peter Ainsworth, 367–403. Louvain: Peeters.
- Holcomb, Melanie. 2009. "Strokes of Genius: The Draftsman's Art in the Middle Ages." In *Pen and Parchment: Drawing in the Middle Ages*, ed. Melanie Holcomb, 3–24 (New Haven: Yale University Press, 2009).
- Holmes, Brooke. 2010. *The Symptom and the Subject: The Emergence of the Physical Body in Ancient Greece*. Princeton: Princeton University Press.
- Hüe, Denis. 2014. "Le *Calendrier et compost des bergers*, un vade-mecum populaire." In *Lire, choisir, écrire: La vulgarisation des savoirs du Moyen Âge à la Renaissance*, ed. Violaine Giacomotto-Charra and François Laurent, 71–96. Paris, École des Chartres.
- Jacquart, Danielle. 2004. "Le soleil, la lune et les états du corps humain." *Micrologus* 12: 239–56.
- Jacquart, Danielle and Claude Thomasset. 1998. *Sexuality and Medicine in the Middle Ages*. Cambridge: Polity Press.

- Jaeger, Stephen C. 1994. *The Envy of Angels: Cathedral Schools and Social Ideals in Medieval Europe, 950–1200*.
- Jean Froissart. 1844. *Chronicles of England, France, Spain and the Adjoining Countries*, trans. Thomas Jones. London: William Smith.
- Jestice, Phyllis G. 1997. *Wayward Monks and the Religious Revolution of the Eleventh Century*. Leiden: Brill.
- Joyner, Danielle. 2016. *Painting the Hortus Deliciarum: Medieval Women, Wisdom, and Time*. University Park: Pennsylvania State University Press.
- Kantorowicz, Ernst. 1957. *The King's Two Bodies: A Study in Mediaeval Political Theology*. Princeton: Princeton University Press.
- Kealy, Edward J. 1981. *Medieval Medicus: A Social History of Anglo-Norman Medicine*. Baltimore: Johns Hopkins University Press.
- Kinch, Ashby. 2013. *Imago mortis: Mediating Images of Death in Late Medieval Culture*. Leiden: Brill.
- King, Helen. 1993. "Once Upon a Text: Hysteria and Hippocrates." In *Hysteria Beyond Freud*, 3–90. Berkeley: University of California Press.
- Klemm, Elisabeth. 1980. *Die romanischen Handschriften der Bayerischen Staatsbibliothek: Die Bistümer Regensburg, Passau und Salzburg*, 2 vols. Wiesbaden: Ludwig Reichert.
- Klemm, Elisabeth. 1987. "Die Regensburger Buchmalerei." In *Regensburger Buchmalerei: Von frühkarolingischer Zeit bis zum Ausgang des Mittelalters Ausstellung der Bayerische Staatsbibliothek München und der Museen der Stadt Regensburg*, ed. Karl Dachs and Florentine Mütherich. Munich: Prestel.
- Koerner, Joseph Leo. 1985. "The Mortification of the Image: Death as a Hermeneutic in Hans Baldung Grien" *Representations* 10: 52–101.
- Kralik, Christine. 2011. "Dialogue and Violence in Medieval Illuminations of the Three Living and the Three Dead." In *Mixed Metaphors: The Danse Macabre in Medieval and Early Modern Europe*, ed. Sophie Oosterwijk and Stefanie Knöll, 133–54. Newcastle-upon-Tyne: Cambridge Scholars Publishing.
- Krämer, Sybille. 2010. "'The Mind's Eye': Visualizing the Non-visual and the 'Epistemology of the Line.'" In *Image and Imaging in Philosophy, Science and the Arts*, ed. Richard Heinrich, Elisabeth Nemeth, Wolfram Pichler, and David Wagner, 275–93. Berlin: De Gruyter.

Kristeva, Julia. 1982. *Powers of Horror: An Essay on Abjection*, trans. Leon S. Roudiez. New York: Columbia University Press.

Kusukawa, Sachiko. 2012. *Picturing the Book of Nature: Image, Text, and Argument in Sixteenth-Century Human Anatomy and Medical Botany*. Chicago: University of Chicago Press.

Latour, Bruno. 1990. "Visualization and Cognition: Drawing Things Together," in *Knowledge and Society Studies in the Sociology of Culture Past and Present*, ed. Elizabeth Long and Henrika Kuklick, 1–40. Greenwich: Jai Press.

Lattin, Harriet Pratt. 1948. "The Eleventh Century *MS Munich 14436*: Its Contribution to the History of Co-ordinates, of Logic, of German Studies in France." *Isis* 38: 205–25.

Lawn, Brian. *The Salernite Questions: An Introduction to the History of Medieval and Renaissance Problem Literature* (Oxford: Clarendon Press, 1963).

Leclerc, Dominique, and Alain Leclerc. 2009. "Pour une bibliographie des éditions troyennes du *Calendrier des bergers*." *Nouvelle Revue des Livres Anciens* 2: 3–17.

Lewis, Flora Lewis. 1997. "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*, ed. Lesley Smith and Jane H. M. Taylor, 204–29. Toronto: University of Toronto Press.

Library of Congress. 1977. *Lessing J. Rosenwald Collection: A Catalog of the Gifts of Lessing J. Rosenwald to the Library of Congress, 1943 to 1975*. Washington, D.C.: Library of Congress.

Lind, R. L. 1975. *Studies in Pre-Vesalian Anatomy: Biography, Translations, Documents*. Philadelphia: The American Philosophical Society.

Lindberg, David C. 2007. *The Beginnings of Western Science: The European Scientific Tradition in Philosophical, Religious, and Institutional Context, Prehistory to A.D. 1450*. Chicago: University of Chicago Press.

Lochrie, Karma. 1997. "Mystical Acts, Queer Tendencies." In *Constructing Medieval Sexuality*, ed. Karma Lochrie, Peggy McCracken, James A. Schultz, 180–200. Minneapolis: University of Minnesota Press.

Longo, Umberto. 2011. "'Ut sapiens medicus': Il monastero e la medicina tra metafore celesti e pratiche terrene," in *Scritti di storia medievale offerti a Maria Consiglia de Matteis*, ed. Berardo Pio, Berardo, 313–36. Spoleto: Fondazione Centro italiano di studi sull'alto Medioevo.

Lorenz, Günter. 2009. *Kloster Prüfening*. Regensburg: Gerlach.

MacKinney, Loren. 1962. "The Beginnings of Western Scientific Anatomy: New Evidence and a Revision in the Interpretation of Mondeville's Role" *Medical History* 6: 233–39.

MacKinney, Loren, and Thomas Herndon. 1965. *Medical Illustrations in Medieval Manuscripts*. Berkeley: University of California Press.

Maicchi, Rodolfo, and Ferruccio Quintavalle, eds. 1903. *Anonymi ticinensis liber de laudibus civitatis ticinensis*. Città di Castello: Tipi dell'editore S. Lapi.

McCall, Taylor. 2016. "Illuminating the Interior: The Illustrations of the Nine Figures of the Body and Anatomical Knowledge in Medieval Europe." PhD diss., University of Cambridge.

McCall, Taylor. 2016. "*Reliquam dicit picture*: Text and Image in a Twelfth-Century Illustrated Anatomical Manual (Gonville and Caius College, Cambridge, MS 190/223)." *Transactions of the Cambridge Bibliographical Society* 16: 1–22.

McCall, Taylor. 2018. "Disembodied: Additional MS. 8785 and the Tradition of Human Organ Depictions in Medieval Art and Medicine" *Electronic British Library Journal*, article 8.

McCall, Taylor. 2018. "The Fasciculus Medicinæ: An Introduction to the Images and Texts." *The New York Academy of Medicine*. Online publication.

McGinn, Bernard. 1972. *The Golden Chain: A Study in the Theological Anthropology of Isaac of Stella*. Washington, DC: Cistercian Publications.

McGinn, Bernard. 1977. "Introduction." In *Three Treatises on Man: A Cistercian Anthropology*, ed. Bernard McGinn, 101–25. Kalamazoo: Cistercian Publications.

McQuillen, John T. 2013. "In Manuscript and Print: The Fifteenth-Century Library of Scheyern Abbey." PhD diss., University of Toronto, 2013.

McVaugh, Michael. 2006. *The Rational Surgery of the Middle Ages*. Florence: SISMEL.

Meiss, Millard Meiss. 1945. "Light as Form and Symbol in Some Fifteenth-Century Paintings." *Art Bulletin* 27: 178–79.

Mews, Constant J. 2000. "Monastic Educational Culture Revisited: The Witness of *Zwiefalten* and the Hirsau Reform." In *Medieval Monastic Education*, ed. George Ferzoco and Carolyn Muessig, 183–197. London: Leicester University Press.

- Mondino de Luzzi. 1992. *Anathomia*, ed. Piero P. Giorgi and Gian Franco Pasini. Bologna: Istituto per la Storia dell'Università di Bologna.
- Morris, Colin. 2004. *The Discovery of the Individual, 1050–1200*. Toronto: University of Toronto Press.
- Murdoch, John E. 1984. *Album of Science: Antiquity and the Middle Ages*. New York: Charles Scriber's Sons.
- Murray Jones, Peter. 1998. *Medieval Medicine in Illuminated Manuscripts*. London: The British Library.
- Murray Jones, Peter. 2006. "Image, Word, and Medicine in the Middle Ages." In *Visualizing Medieval Medicine and Natural History, 1200–1500*, ed. Jean A. Givens, Karen M. Reeds and Alaine Touwaide, 1–24. Aldershot: Ashgate.
- Musée Condé, and Henri d'Orléans Aumale. 1900. *Chantilly, le cabinet des livres: Manuscripts*, 2 vols. Paris: Plom and Nourri.
- Nemesius, Bishop of Emesa. 1975. *De natura hominis*, ed. Gerard Verbeke. Leiden: Brill.
- Nicoud, Marilyn. 2007. *Les régimes de santé au Moyen Âge: Naissance et diffusion d'une écriture médicale en Italie et en France (XIIIe-XVe siècle)*, 2 vols. Rome: École Française de Rome.
- Nisard, Charles. 1854. *Histoire des livres populaires ou de la littérature de colportage*. Paris: Librairie d'Amyot.
- O'Boyle, Cornelius. 2005. "Astrology and Medicine in Later Medieval England: The Calendars of John Somer and Nicholas Lynn," *Sudhoffs Archiv* 89: 1–22.
- O'Malley, Charles. 1965. *Andreas Vesalius of Brussels, 1514–1564*. Berkeley: University of California Press, 1965.
- O'Neill, Ynez Violé. 1977. "The *Fünfbilderserie*—a Bridge to the Unknown." *Bulletin of the History of Medicine* 51: 538–49.
- O'Neill, Ynez Violé. 1982. "Tracing Islamic Influences in an Illustrated Anatomical Manual." *Bulletin of Islamic Medicine* 2: 154–62.
- Omont, Henri. 1898. *Bibliothèque nationale: Catalogue général des manuscrits français: Anciens petits fonds français. I. Nos 20065-22884 du fonds français*. Paris: Leroux.
- Ostuni, Giustina. 1993. *Le machine del re: Il Texaurus regis Francie di Guido da Vigevano*. Vigevano: Diakronia.

Otto, Ritta. 1976–77 “Zu den gotischen Miniaturen einer Hildegardhandschrift in Lucca.” *Mainzer Zeitschrift* 71/2: 110–126.

Pahta, Päivi. 1998. *Medieval Embryology in the Vernacular: the Case of De Spermate*. Helsinki: Société Néophilologique.

Panofsky, Erwin. 1953. *Early Netherlandish Painting: Its Origins and Character*, vol. 1. Cambridge: Harvard University Press.

Park, Katherine. 1995. “The Life of the Corpse: Division and Dissection in Late Medieval Europe.” *Journal of the History of Medicine and Allied Sciences* 50: 111–32.

Park, Katherine. 2006. *Secrets of Women: Gender, Generation, and the Origins of Human Dissection*. New York: Zone Books.

Parshall, Peter and Rainer Schoch, eds. 2005. *The Origins of European Printmaking: Fifteenth Century Woodcuts and their Public*. New Haven: Yale University.

Paxton, Frederick S. 1985. “*Signa mortifera*: Death and Prognostication in Early Medieval Monastic Medicine.” *Bulletin of the History of Medicine* 67: 631–50.

Peltier, A. C. 1864–71. *Opera omnia Sixti V: Jussu diligentissime emendata, accedit sancti doctoris vita, una cum diatriba historico-chronologico-critica*, 15 vols. Paris: L. Vivès.

Pouchelle, Marie-Christine. 1990. *The Body and Surgery in the Middle Ages*. Cambridge: Polity.

Racinet, Philippe Racinet. 2004. “Les infirmeries monastiques: Perspectives de recherché.” *Histoire Médiévale et Archéologie* 17: 21–34.

Raciti, Gaetano. 1961. “L’autore del *De spiritu et anima*.” *Rivista di Filosofia Neoscolastica* 53: 385–401.

Rawcliffe, Carole Rawcliffe. 2002. “‘On the Threshold of Eternity’: Care for the Sick in East Anglian Monasteries.” In *East Anglia’s History: Studies in Honour of Norman Scarfe*, ed. Christopher Harper-Bill, Carole Rawcliffe, and Richard Wilson, 41–72. Woodbridge: Boydell Press.

Ribémont, Bernard. 1999. *Le livre des propriétés des choses: Une encyclopédie au XIV^e siècle*. Paris: Stock.

Roberts, K. B., and J. D. W. Tomlinson. 1992. *The Fabric of the Body: European Traditions of Anatomical Illustration*. Oxford: Clarendon Press.

- Ronca, Italo and Matthew Curr. 1997. "Introduction," in *A Dialogue on Natural Philosophy* (*Dragmaticon philosophiae*), by William of Conches, ed. Italo Ronca and Matthew Curr, xv–xxvi. Notre Dame: University of Notre Dame Press.
- Rouse Richard H., and Mary A. Rouse. 2000. *Manuscripts and their Makers: Commercial Book Producers in Medieval Paris 1200–1500*, 2 vols. Turnhout: Harvey Miller.
- Rutledge, Denys. 1964. *Cosmic Theology, the Ecclesiastical Hierarchy of Pseudo-Denys: an Introduction*. London: Routledge and K. Paul.
- Saif, Liana. 2011. "The Arabic Theory of Astral Influences in Early Modern Medicine." *Renaissance Studies* 25: 609–26.
- Sandler, Lucy Freeman. 1983. *The Psalter of Robert de Lisle in the British Library*. London: Harvey Miller.
- Sappol, Michael. 2006. *Dream Anatomies*. Bethesda: National Library of Medicine.
- Sappol, Michael. 2017. "Art, Science, and the Changing Conventions of Anatomical Representation." In *Death: A Graveside Companion*, ed. Joanna Ebenstein, 50–52. London: Thames & Hudson.
- Sarton, George. 1947. "Guido de Vigevano." In *Introduction to the History of Science III*, 846–47. Baltimore: William and Wilkins.
- Savage-Smith, Emilie. 2002. "Galen's Lost Ophthalmology and the *Summaria Alexandrinorum*." *Bulletin of the Institute of Classical Studies. Supplement*, no. 77: 121–38.
- Savage-Smith, Emilie. 2007. "Anatomical Illustrations in Arabic Manuscripts," in *Arab Painting: Text and Image in Illustrated Arabic Manuscripts*, ed. Anna Contadini, 147–59. Leiden: Brill.
- Sawday, Jonathan. 1996. *The Body Emblazoned: Dissection and the Human Body in Renaissance Culture*. London: Routledge.
- Saxl, Fritz. 1957. "Macrocosm and Microcosm in Mediaeval Pictures." In *Lectures*, 2 vols., 1:58–72. London: Warburg Institute.
- Schäfer, Dietrich. 1920. "Mittelalterlicher Brauch bei der Überführung von Leichen." *Sitzungsberichte der Preussischen Akademie der Wissenschaften* 26: 479–98.
- Schapiro, Meyer. 1945. "'Muscipula Diaboli,' the Symbolism of the Merode Altarpiece," *Art Bulletin* 27: 182–87.

- Schmidt, Suzanne Karr. 2011. "Printed Scientific Objects." In *Altered and Adorned: Using Renaissance Prints in Daily Life*, ed. Kimberly Nichols, and Suzanne Karr Schmidt, pages? New Haven: Yale University Press.
- Schmitt, Jean-Claude. 1990. *La raison des gestes à l'Occident médiéval*. Paris: Gallimard.
- Schnell, Bernhard Schnell. 1995. "Prolegomena to a History of Medieval German Medical Literature." In *Manuscript Sources of Medieval Medicine*, ed. Margaret R. Schleissner, 1–16. New York: Garland.
- Settia, Aldo. 2004. "Guido de Guido." *Dizionario biografico degli italiani* 61: 432–33.
- Seymour, M. C. 1992. *Bartholomaeus Anglicus and His Encyclopedia*. Aldershot: Ashgate.
- Siraisi, Nancy Siraisi. 2009. *Medieval and Early Renaissance Medicine*. Chicago: University of Chicago Press, 2009.
- Siraisi, Nancy. 2010. "How to Write a Latin Book on Surgery: Organizing Principles and Authorial Devices in Guglielmo da Saliceto and Dino del Garbo." In *Practical Medicine from Salerno to the Black Death*, ed. Louis García Ballester, 88–109. Cambridge: Cambridge University Press.
- Snyder, James. 1982. "The Bellaert Master and *De proprietatibus rerum*." In *The Early Illustrated Book: Essays in Honor of Lessing J. Rosenwald*, ed. Sandra Hindman, 41–62. Washington, D.C.: Library of Congress.
- Steele, Robert, ed. 1905. *Mediæval lore from Bartholomaeus Anglicus*. London: Alexander Morning.
- Strehlow, Wighard and Gottfried Hertzka. 1988. *Hildegard of Bingen's Medicine*, trans Karin Anderson Strehlow. Santa Fe: Bear and Co.
- Sudhoff, Karl. 1907. "Anatomische Zeichnungen (Schemata) aus dem 12. und 13. Jahrhundert und eine Skelettzeichnung des 14. Jahrhunderts." In *Studien zur Geschichte der Medizin, I: Tradition und Naturbeobachtung in den Illustrationen medizinischer Handschriften und Frühdrucke vornehmlich des 15. Jahrhunderts*, 49–65. Leipzig: Barth.
- Sudhoff, Karl. 1914. "Die graphische Weiterbildung der anatomischen Fünfbilderserie aus Alexandrinerzeit und eine anatomische Serie aus Stockholm." *Archiv für Geschichte der Medizin* 1: 36–7.
- Sudhoff, Karl. 1965. "Die Mittlere Zeit von Tode des Galenos bis zu Bacon von Verulam." In *Illustrierte Geschichte der Medizin*, ed. Robert Herrlinger and Fridolf Kundlien. Stuttgart: Gustav Fischer.

Thomas, Antoine. 1895. “Un bibliophile français et un enlumineur allemand à la fin du xv^e siècle: Jean du Mas, seigneur de L’Isle, et Évrard d’Espingues.” *Comptes Rendus des Séances de l’Académie des Inscriptions et Belles-Lettres* 39: 74–78.

Thebaut, Nancy. 2009. “Bleeding Pages, Bleeding Bodies: A Gendered Reading of British Library MS Egerton 1821.” *Medieval Feminist Forum* 45: 175–200.

Thürlemann, Felix. 2002. *Robert Campin: A Monographic Study with Critical Catalogue*. Munich: Prestel.

Touati, François-Olivier. 2004. “Les traités sur la lèpre des médecins montpelliérains: Bernard de Gordon, Henri de Mondeville, Arnaud de Villeneuve, Jourdain de Turre et Guy de Chauliac.” In *L’Université de médecine de Montpellier et son rayonnement (XIIIe–XVe siècles)*, ed. Daniel Le Blévec and T. Granier, 205–31. Turnhout: Brepols.

Trnek, Renate. 1979. “Die Darstellung der vier Elemente in *Cod. 12600* der Österreichischen Nationalbibliothek in Wien: Ein Beitrag zum Problem der Antikenrezeption in der ‘Kunst um 1200.’” *Jahrbuch der Kunsthistorischen Sammlungen in Wien* 75: 7–56.

Tufte, Edward. 2012. *Visual Explanations: Images and Quantities, Evidence and Narrative*. Cheshire: Graphic Press.

Urban, Wolfgang. 1991. *Wilhelm von Hirsau: Reformator und Klostergründer*. Ostfildern: Schwabenverlag.

Valentinelli, Giuseppe. 1872. *Bibliotheca manuscripta ad S. Marci Venetiarum: codices MSS. Latini*, vol. 5. Venice: Typ. Commercii.

Veldman, Ilja M. 2006. *Images for the Eye and the Soul: Function and Meaning in Netherlandish Prints (1450–1650)*. Leiden: Primavera Press.

Viard, Jules Marie Édouard, ed. 1899. *Les journaux du Trésor de Philippe VI de Valois, suivis de l’Ordinarium thesauri de 1338–1339*. Paris: Imprimerie Nationale.

Voort, Marcel van der. 2001. *Dat seste boec van serpente: Een onderzoek naar en een uitgave van boek VI van Jacob van Maerlants Der naturen bloeme*. Hilversum: Verloren.

Wallis, Faith, ed. 2010. *Medieval Medicine: A Reader*. Toronto: University of Toronto Press.

Wallis, Faith. 2016. “Medicine in Medieval Calendar Manuscripts.” In *Manuscript Sources of Medieval Medicine: A Book of Essays*, ed. Margaret R. Schleissner, 105–142. New York: Garland.

Weiss Adamson, Melitta. 2010. "Bernard de Gordon and Arnald de Villanova: A tale of Two Regimes." In *Eine Topographie historischer Gleichzeitigkeit*, ed. Andreas Speer and David Wirmer, 419–35. Berlin: De Gruyter.

Whittington, Karl. 2008. "The Cruciform Womb: Process, Symbol, and Salvation in Bodleian Library MS. Ashmole 399," *Different Visions* 1: 1–24.

Whittington, Karl. 2018. "Medieval Intersex in Theory, Practice, and Representation." *Postmedieval* 9: 231–47.

Wickersheimer, Ernest. 1910. "Les premières dissections a la faculté de médecine de Paris," *Bulletin de la Société de l'Histoire de Paris et de l'Ile-de-France* 37: 159–69.

Wickersheimer, Ernest. 1913. "L'anatomie de Guido de Vigevano, médecin de la reine Jeanne de Bourgogne (1345)." *Archiv für Geschichte der Medizin* 7: 1–25.

Wickersheimer, Ernest. 1926. *Anatomies de Mondino dei Luzzi et de Guido de Vigevano*. Paris: E. Droz.

Willehelmi Abbatis. 2010. *Constitutionum Hirsaugiensium*, ed. Candida Elvert and Pius Engelbert, 2 vols. Siegburg: Franz Schmitt, 2010.

William of Conches. 1974. *Philosophia mundi: Ausgabe Des. 1. Buchs Von Wilhelm Von Conches Philosophia Mit Anhang, Übersetzung Und Anmerkungen*, ed. Gregor Maurach. Pretoria: University of South Africa.

William of Conches. 1997. *A Dialogue on Natural Philosophy (Dragmaticon Philosophiae)*, trans. Italo Ronca and Matthew Curr, ed. John Van Engen and Edward D. English. Notre Dame: University of Notre Dame Press.

William of Saint Thierry. 1977. "The Nature of the Body and Soul," trans. Benjamin Clark. In *Three Treatises on Man: A Cistercian Anthropology*, ed. Bernard McGinn, 101–25. Kalamazoo: Cistercian Publications.

William of Saint Thierry. 2007. *Opuscula adversus petrum abaelarduum et de fide*. ed. Pauli Verdeyen. Turnout: Brepolis.

Zahlten, Johannes. 1979. *Creatio mundi: Darstellungen der sechs Schöpfungstage und naturwissenschaftliches Weltbild im Mittelalter*. Stuttgart: Klett-Cotta.

Zapperi, Roberto. 1981. "Potere politico e cultura figurative: La rappresentazione della nascita di Eva." *Storia dell'arte italiana* 3: 377–442.

Zapperi, Roberto. 1991. *The Pregnant Man*. New York: Harwood.

PLATES



(1)

(2)

PLATE 1.

OPENING AND DISSECTING THE BODY. (1) Guido da Vigevano, *Anothomia Philippi septimi*, Musée Condé, Chantilly: MS 334, 278r (1345). (2) Andreas Vesalius, *De humani corporis fabrica libri septem* (Basel: Ex Officina Joannis Oporini, 1543).

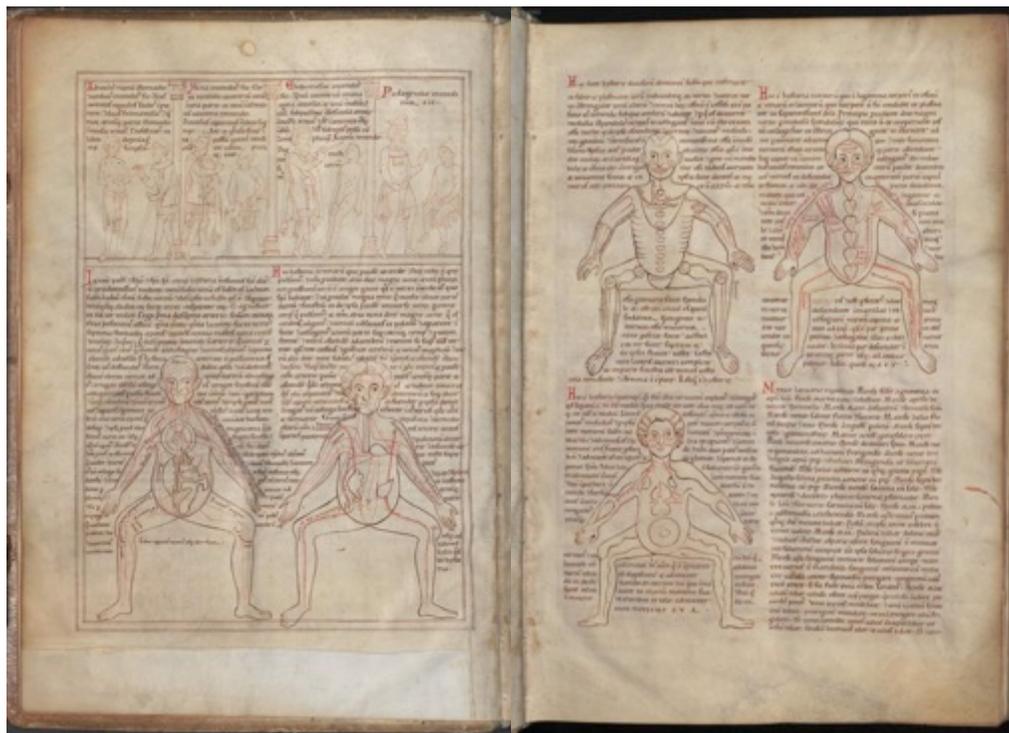


PLATE 2.
ANATOMICAL DIAGRAMS (SITTING FIGURE SERIES), Bayerische Staatsbibliothek,
Munich: *Clm. 13002*, fols. 2v–3r (1165).

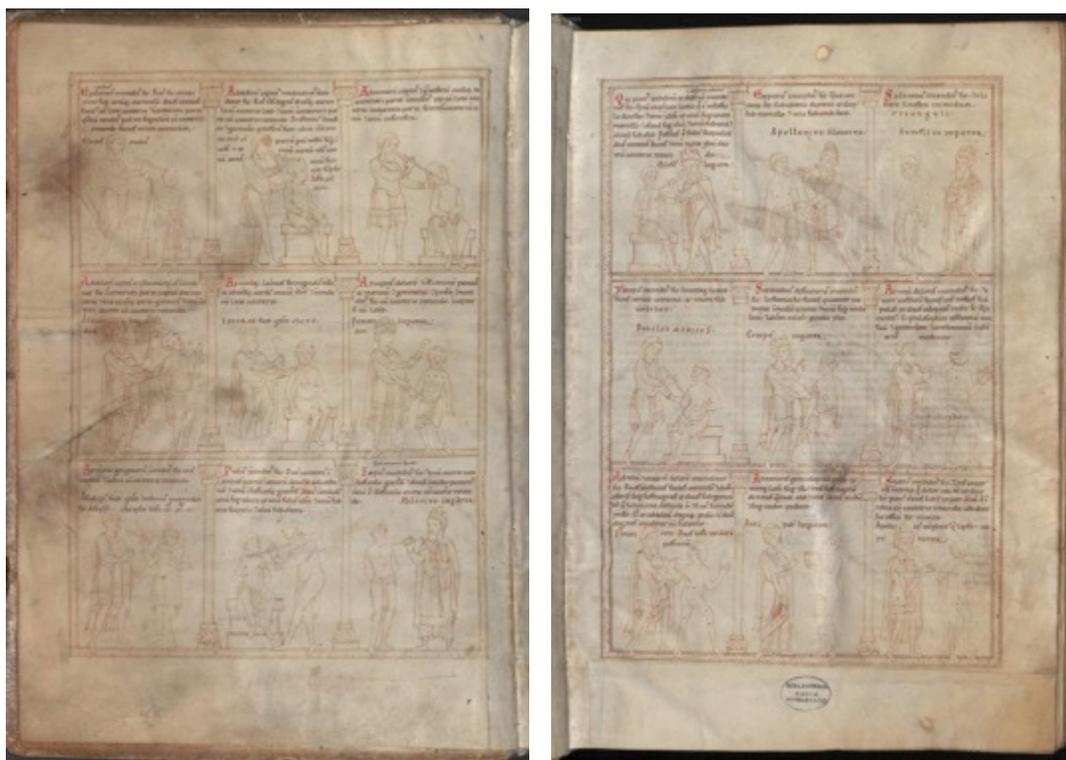


PLATE 3.
CAUTERY SERIES, Bayerische Staatsbibliothek, Munich: *Clm 13002*, fols. 1v–2r (1165).



PLATE 4.

VICES AND VIRTUES, Bayerische Staatsbibliothek, Munich: Clm. 13002, 3v-4r (1165).

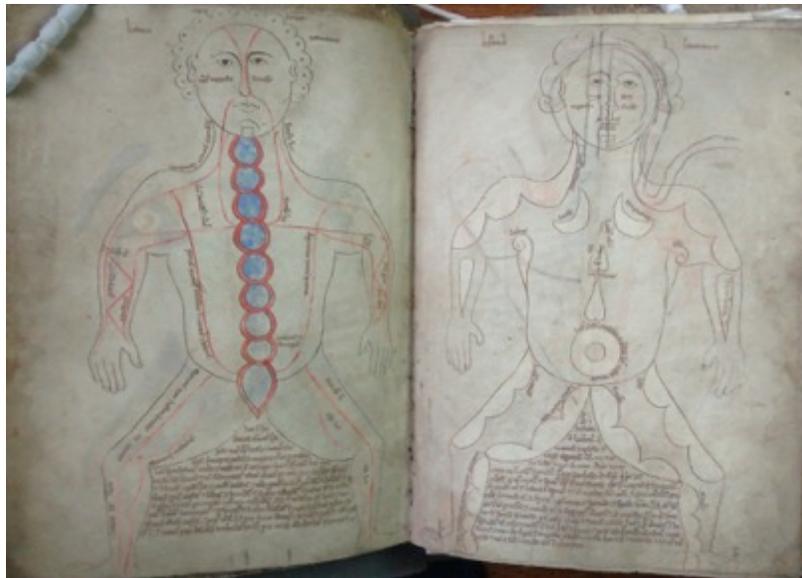
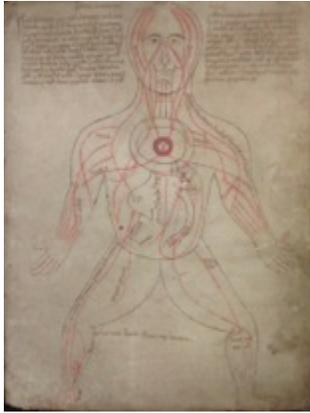


PLATE 5.
ANATOMICAL FIGURES (SITTING FIGURE SERIES), Gonville and Caius College Library,
Cambridge: *MS 190/223*, 2r-4r (late-12th c.).

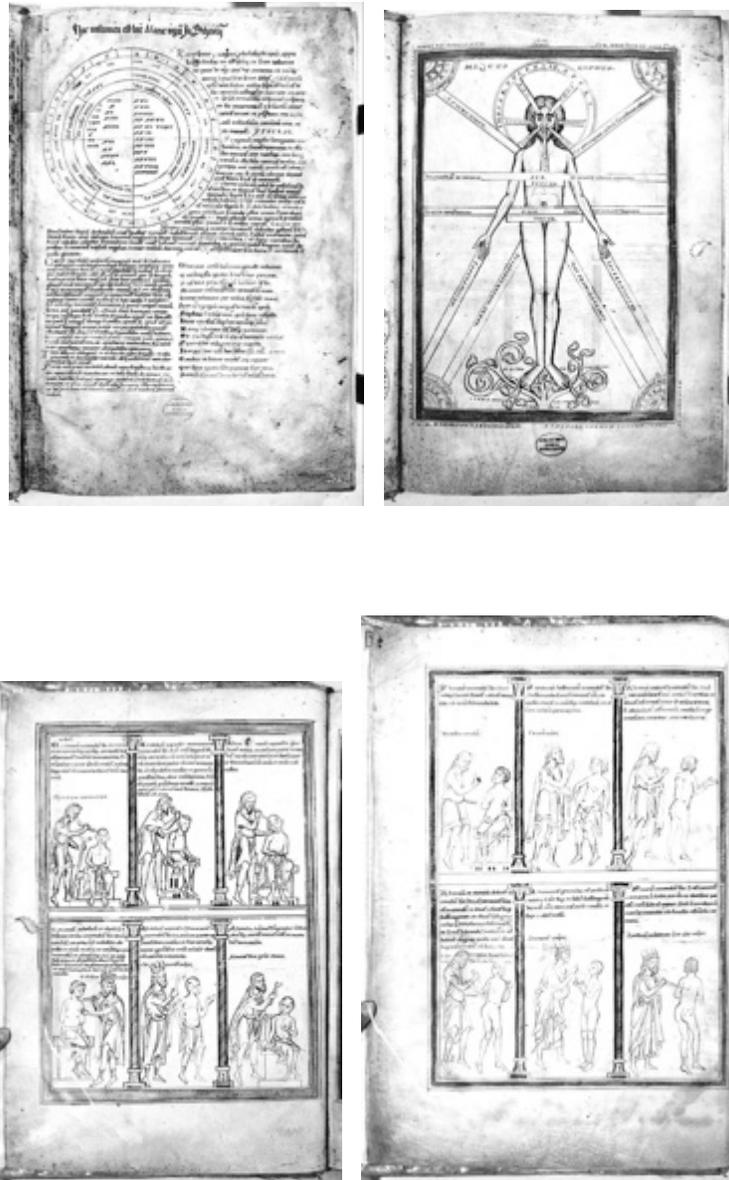


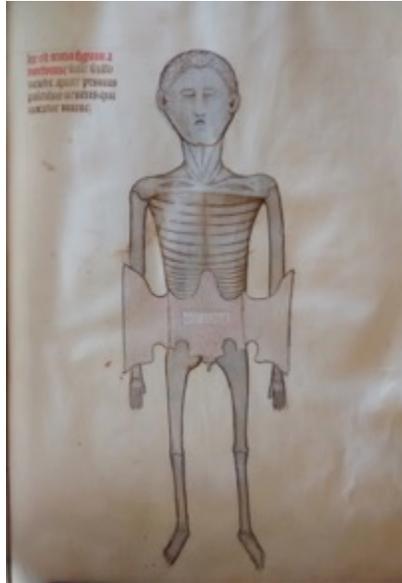
PLATE 6.

ASSORTED DIAGRAMS (from top left: Sphere of Apuleius; Labyrinth, T-Chart, Wind Chart, Element Chart; Microcosm. Bottom: Cautery Series). Bayerische Staatsbibliothek, Munich: *Clm. 17403*, 1r-4r (1241).



PLATE 7.

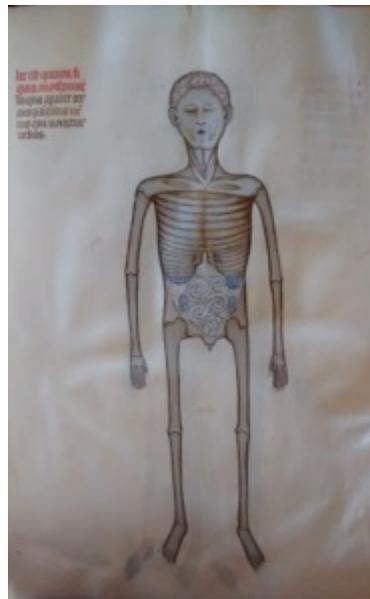
ASSORTED DIAGRAM (from top left: Cautery Series [continued]; Anatomical Diagrams; Jerusalem Map; Vices and Virtues). Bayerische Staatsbibliothek, Munich: *Clm. 13002*, fols. 4r–6r (1241).



(1.)



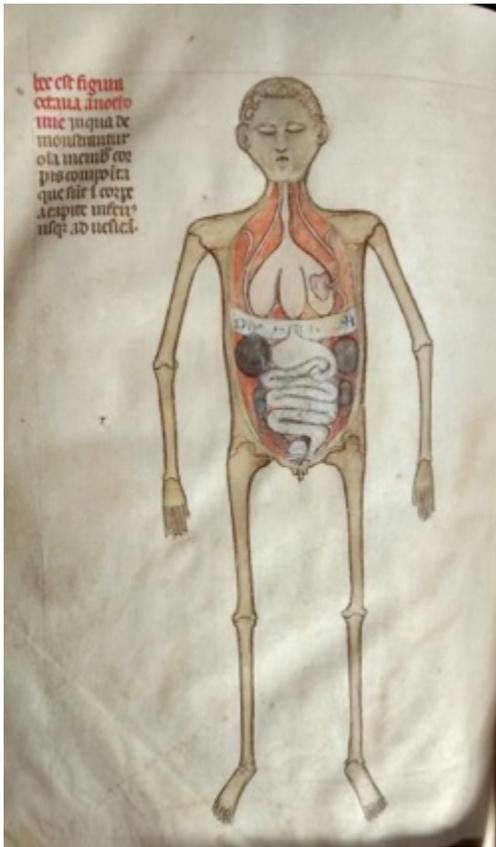
(2)



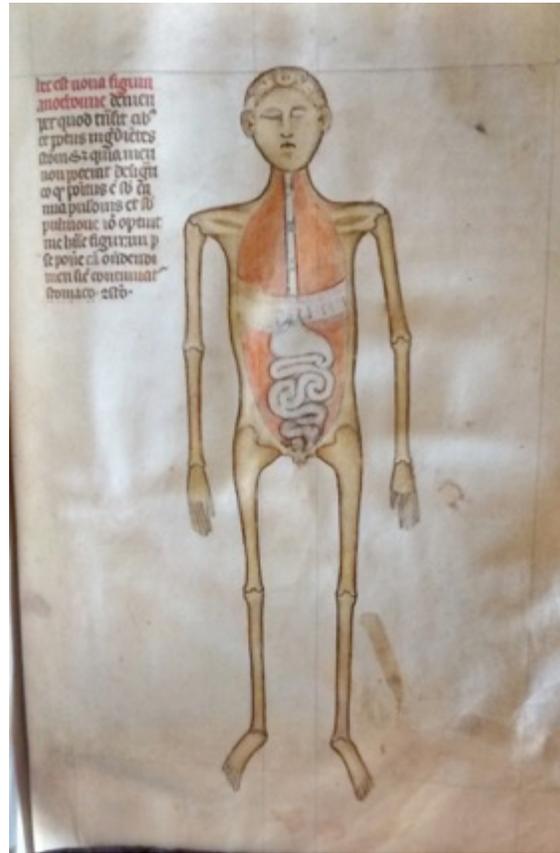
(3)

PLATE 8.

THE FIRST *VENTER* (1: *MIRAC*. 2: *SIPHAC*. 3: *ZIRBUS*). Guido da Vigevano, *Anothomia Philippi septimi*, Musée Condé, Chantilly: MS 334, 275r–277v (1345).



(1)



(2)

PLATE 9.

THE SECOND *VENTER* (1: *OMNIA MEMBRA*. 2: *MERI ET YSOFAGO*). Guido da Vigevano,
Anothomia Philippi septimi Musée Condé, Chantilly: MS 334, 275r–277v (1345).



(1-2)

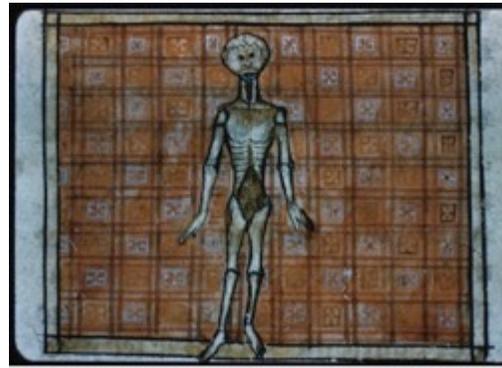
(3-4)

PLATE 10.

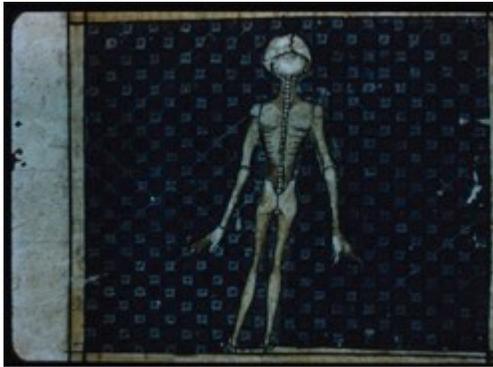
THE THIRD *VENTER* (1: *ANOTHOMIA OSSIS CAPITIS*. 2: *DURA MATER*. 3: *PIA MATER*. 4: *CEREBRUM PURUM ET DISCOPOPERTUM*). Guido da Vigevano, *Anothomia Philippi septimi* Musée Condé, Chantilly: MS 334, 275r-277v (1345).



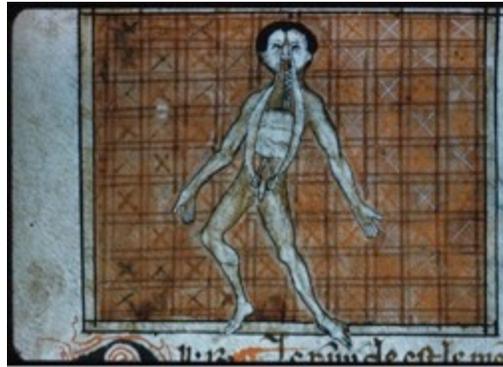
(1)



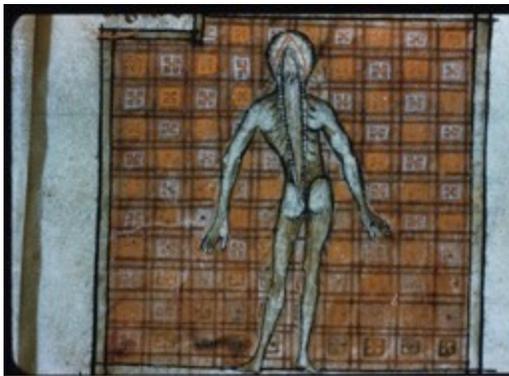
(2)



(3)



(4)



(5)



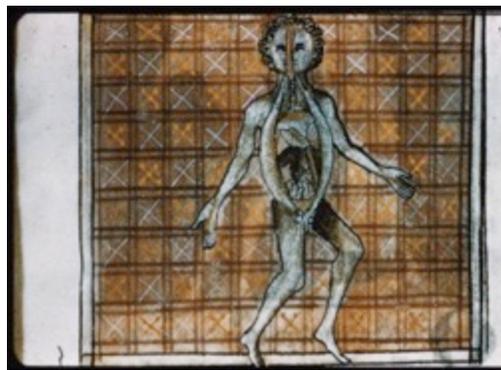
(6)

PLATE 11

ANATOMICAL FIGURES (1: SURGEON OPENING THE HEAD. 2: SKELTON [FRONTAL]. 3: SKELETON [REVERSE]. 4: FRONTAL INCISION 5: DORSAL INCISION 6: SEATED SKELETON).
 Henri de Mondeville, *Chirurgie*, Bibliothèque nationale de France, Paris: *MS fr. 2030*, 8r–15v (1320)



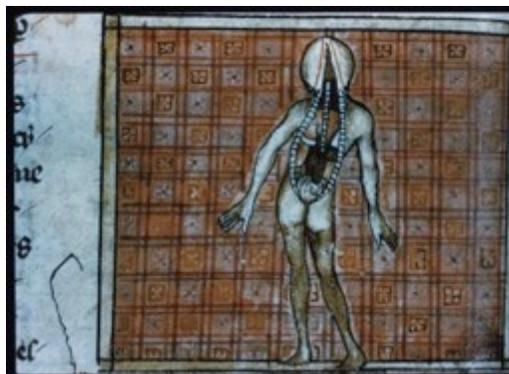
(1)



(2)



(3)



(4)



(5)



(6)

PLATE 12.

ANATOMICAL FIGURES (1: EXAMINING THE SKELETON. 2: ORGANS [FRONTAL]. 3: INCISING THE SKULL. 4: ORGANS [DORSAL]. 5: MALE ANATOMY WITH BLADDER. 6: FEMALE ANATOMY WITH UTERUS). Henri de Mondeville, *Chirurgie*, Bibliothèque nationale de France, Paris: *MS fr. 2030*, 15v–29r (1320).



PLATE 13.
PRESERVED ANATOMICAL MANNEQUIN (FRONT AND REVERSE). Private collection (ca.
1240–90).



PLATE 14.

“ZODIAC MAN” (XYLOGRAPH AND PRINT), Arbittier Museum of Medical History: York Township, block 36 (late 15th c.).

FIGURES



FIGURE 1.
 MAP OF JERUSALEM. Bayerische Staatsbibliothek, Munich: *Clm. 13002*, fol. 4v (1165).



FIGURE 2.
TREASURY CARTOUCHE. Bayerische Staatsbibliothek, Munich: *Clm. 13002*, fol. 5v (1165).



FIGURE 4.
 ORGAN SHEET. Gonville and Caius College Library, Cambridge: *MS 190/223*, 5r (late-12th c.).

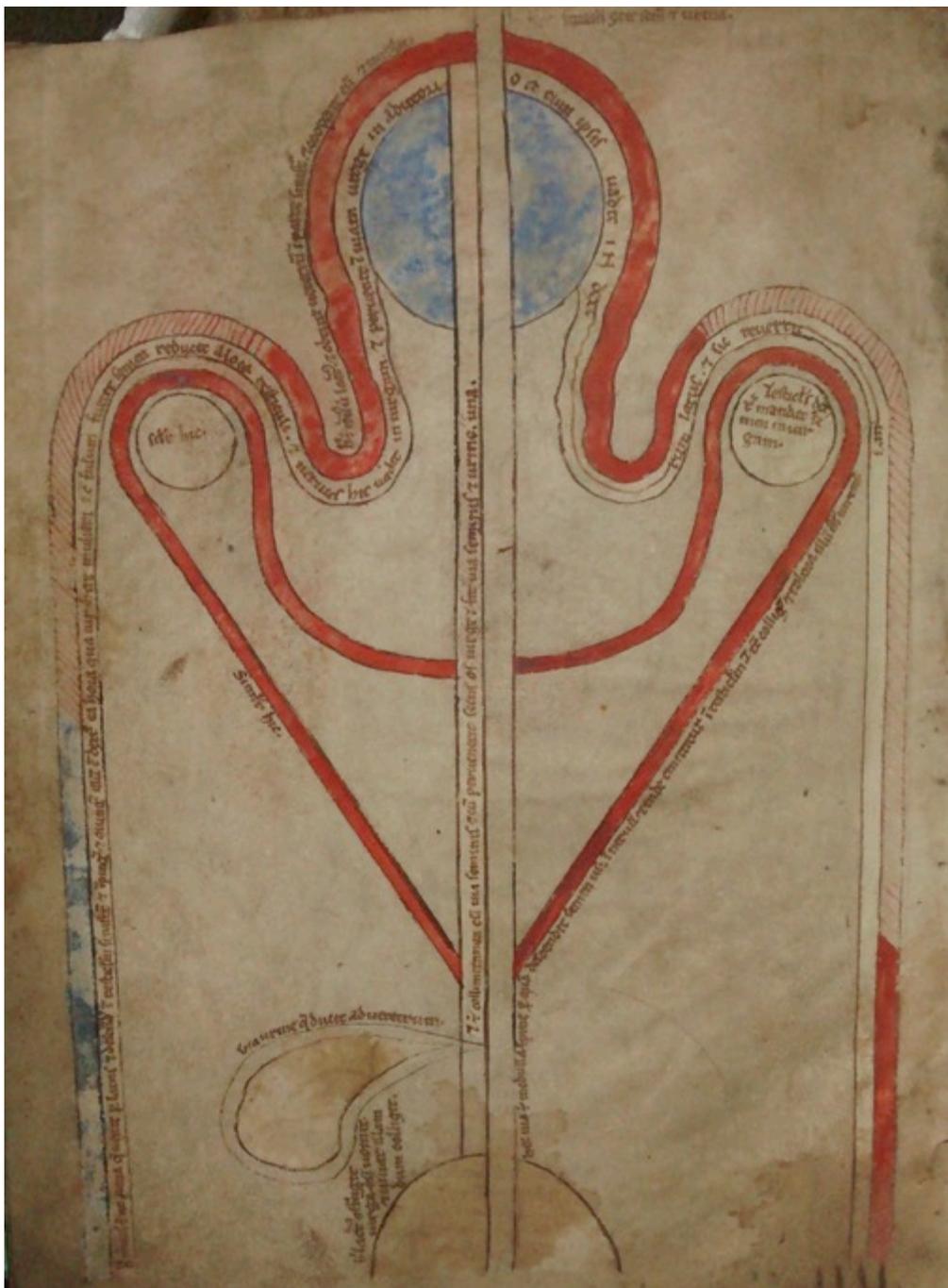


FIGURE 5.
 MALE REPRODUCTIVE SYSTEM. Gonville and Caius College Library, Cambridge: MS
 190/223, 4v (late-12th c.).



FIGURE 6.
FEMALE REPRODUCTIVE SYSTEM. Gonville and Caius College Library, Cambridge: *MS 190/223*, 5v (late-12th c.).



FIGURE 7.
NEURO-OCULAR SYSTEM. Gonville and Caius College Library, Cambridge: *MS 190/223*,
6r (late-12th c.).

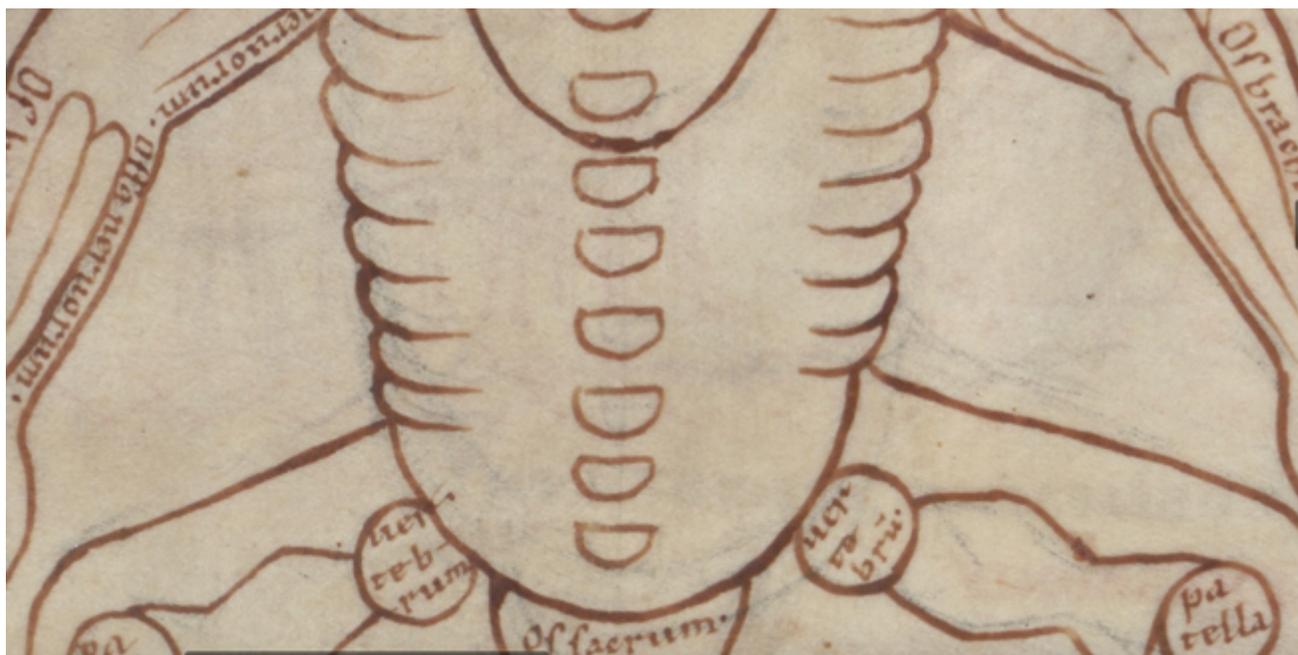


FIGURE 9.
 DETAIL OF PRÜFENING BONE FIGURE (showing underdrawing). Bayerische
 Staatsbibliothek, Munich: *Clm. 13002*, fol 3r (1165).



FIGURE 10.
VEIN FIGURE (?). Biblioteca Apostolica Vaticana, Vatican City: *MS Pal. lat. 1110*, fol.
dr (Late 14th century).

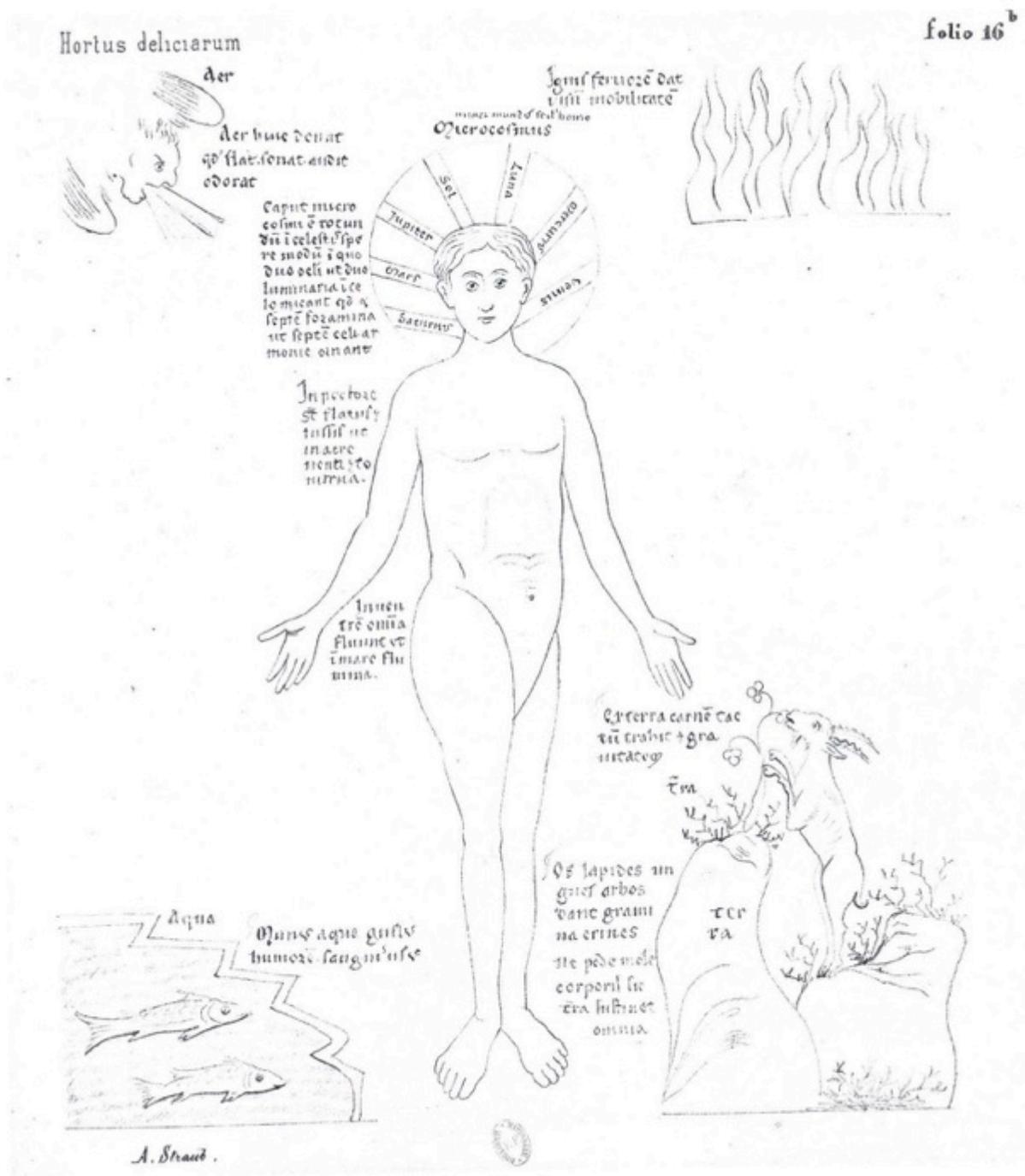


FIGURE 11.
MICROCOSM (facsimile). Herrod of Hohenberg, *Hortus deliciarum*, fol. 16v (ca. 1165).

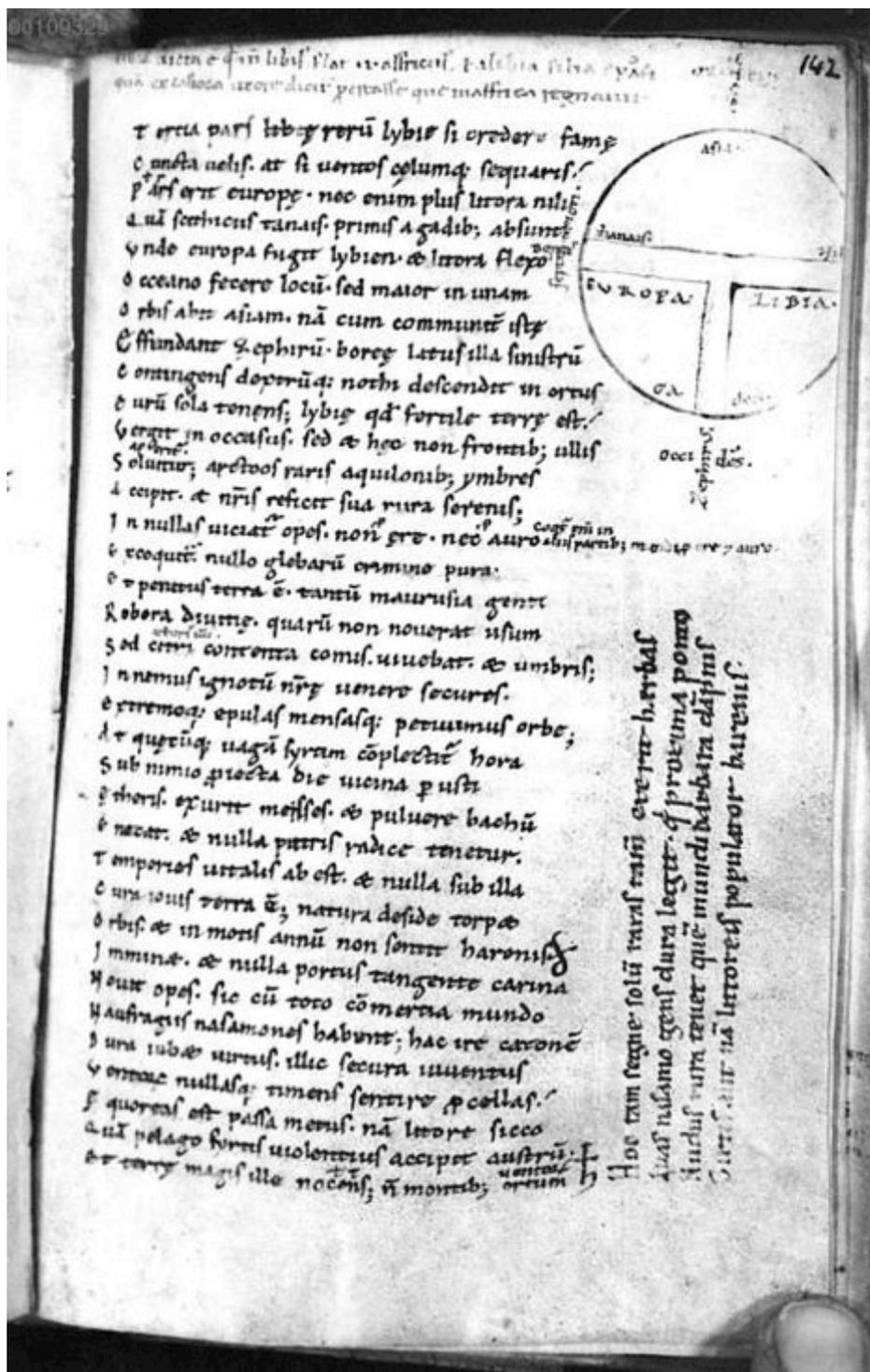


FIGURE 12.

T-O MAP. Bayerische Staatsbibliothek, Munich: Clm. 14781, 142r (12th c.).

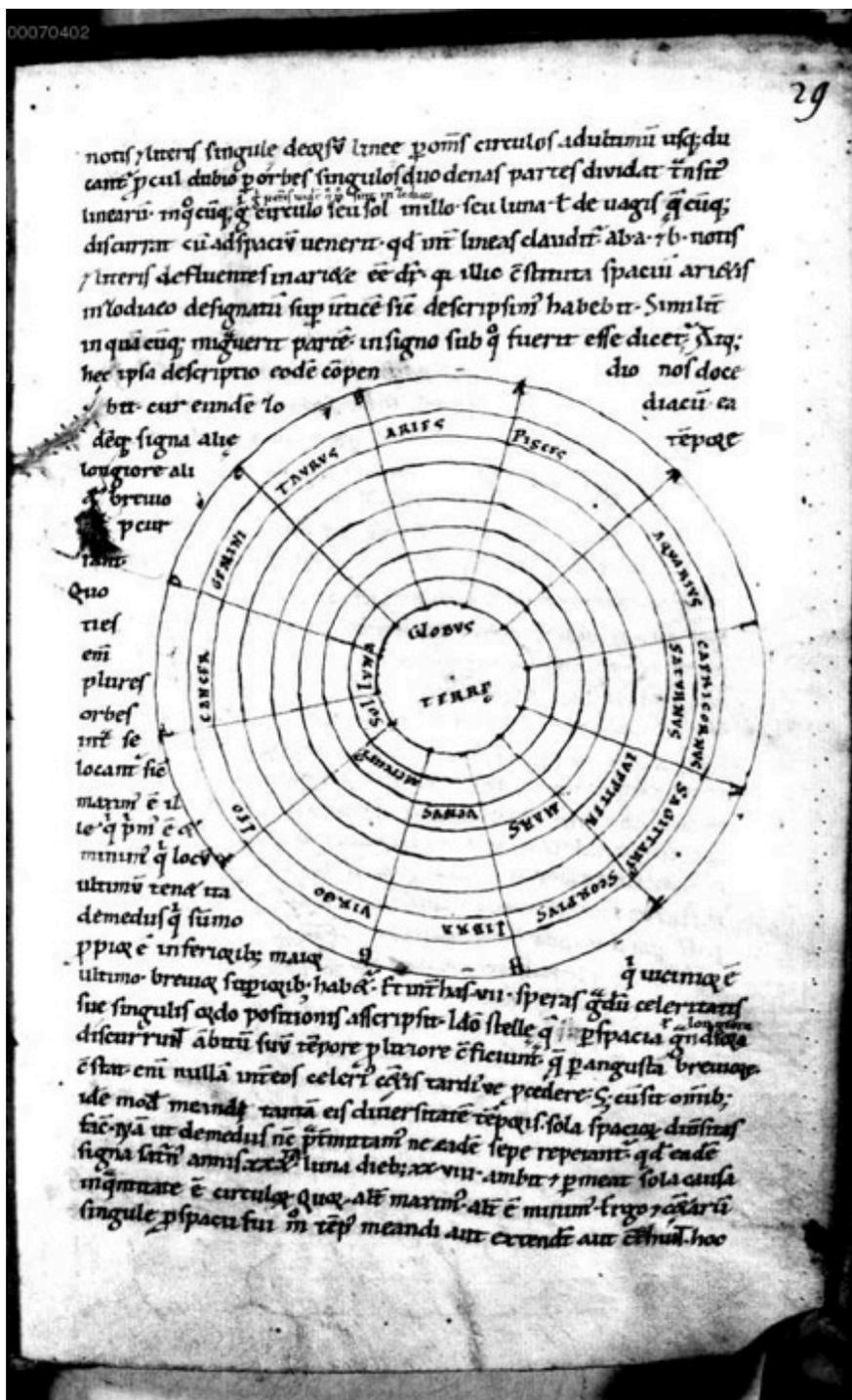


FIGURE 13.

ASTRONOMICAL SCHEMA. Bayerische Staatsbibliothek, Munich: *Clm. 14619*, 29r (12th c.).



FIGURE 16.
 SCEMATE HUMANO (illustration to medical tract by Helvius Vindicianus). Staatsbibliothek, Bamberg: Msc. Med. 6, 142v (12th c.).

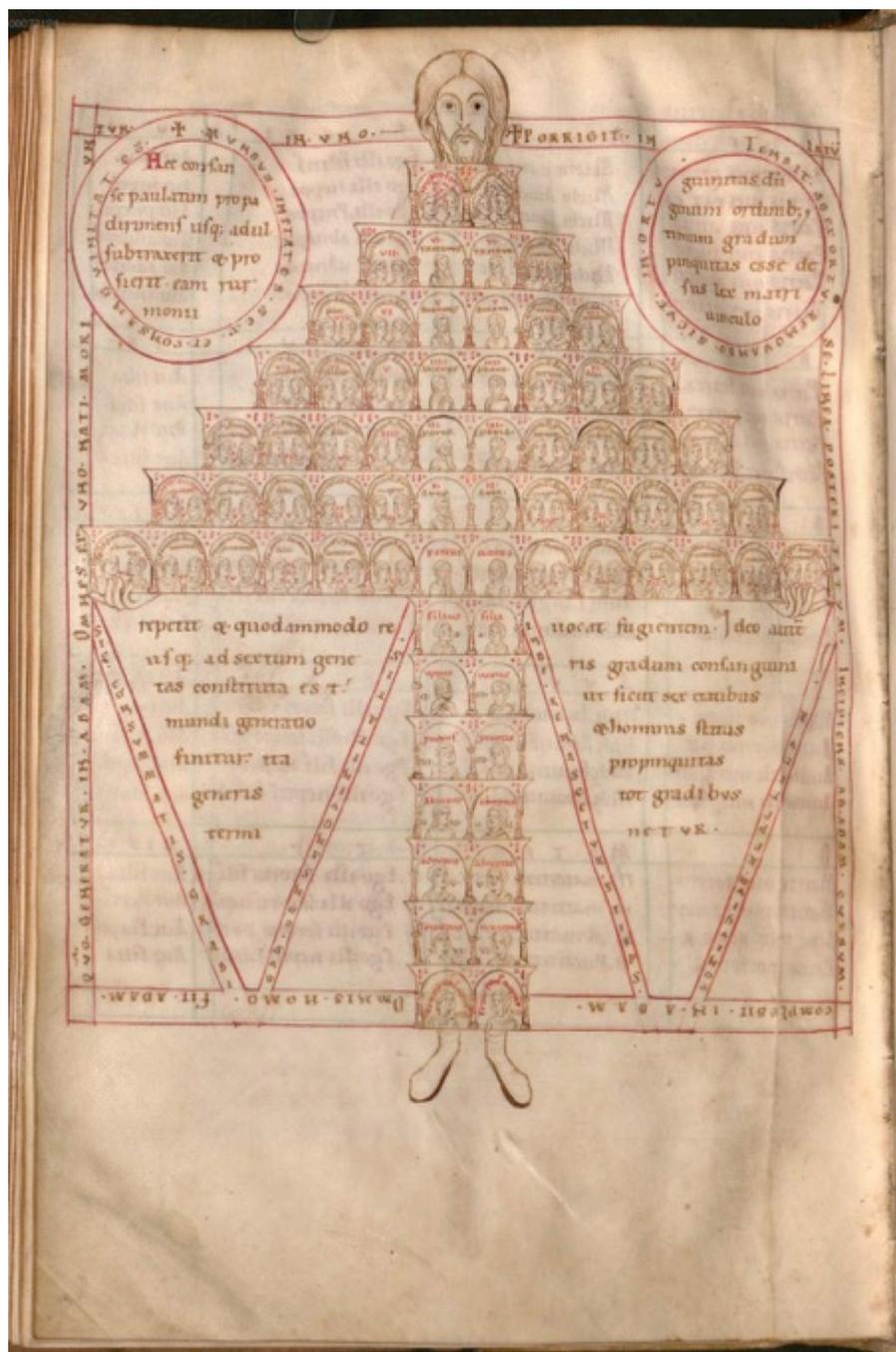


FIGURE 17.

CONSANGUINITY CHART. Bayerische Staatsbibliothek, Munich: *Clm. 13031*, 102v (1160–65).



FIGURE 18.

CAUTERY CHART. Bayerische Staatsbibliothek, Munich: *Clm. 13002*, 2v (1165).

Instructions are limited and sometimes non-existent throughout the treatise. The final caption, for instance, simply reads: “Podagricus burns like this” (*Podagricus incenditur sic*) giving no indication of the ailment.

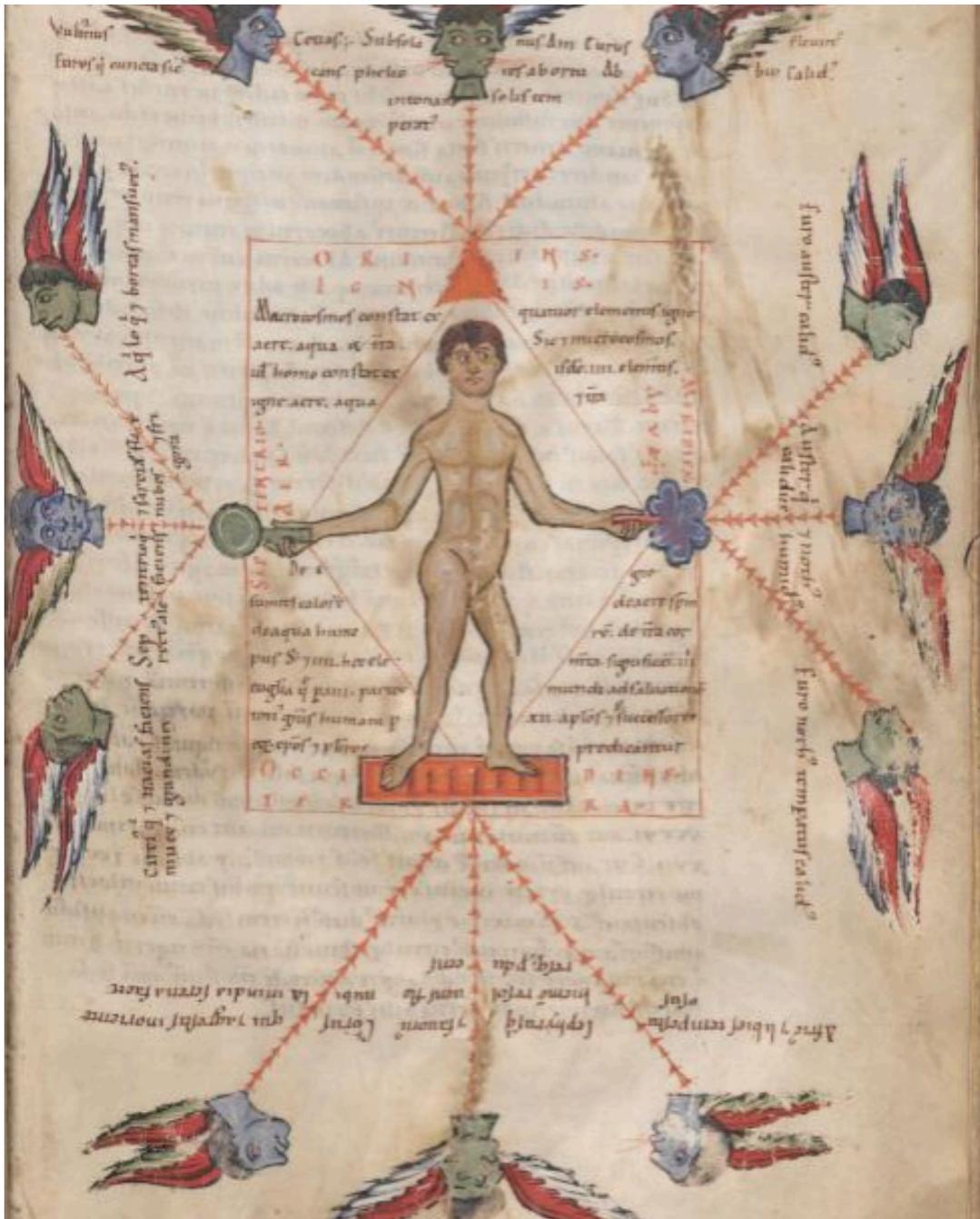


FIGURE 20.
MICROCOSM. Österreichische Nationalbibliothek, Vienna: *Cod. 12600*, 29r (ca. 1180).



FIGURE 21.
MICROCOSM. Hildegard of Bingen, *Liber divinorum operum* I.2, Biblioteca Statale di Lucca: MS 1942, fol. 9r (early 13th c.).

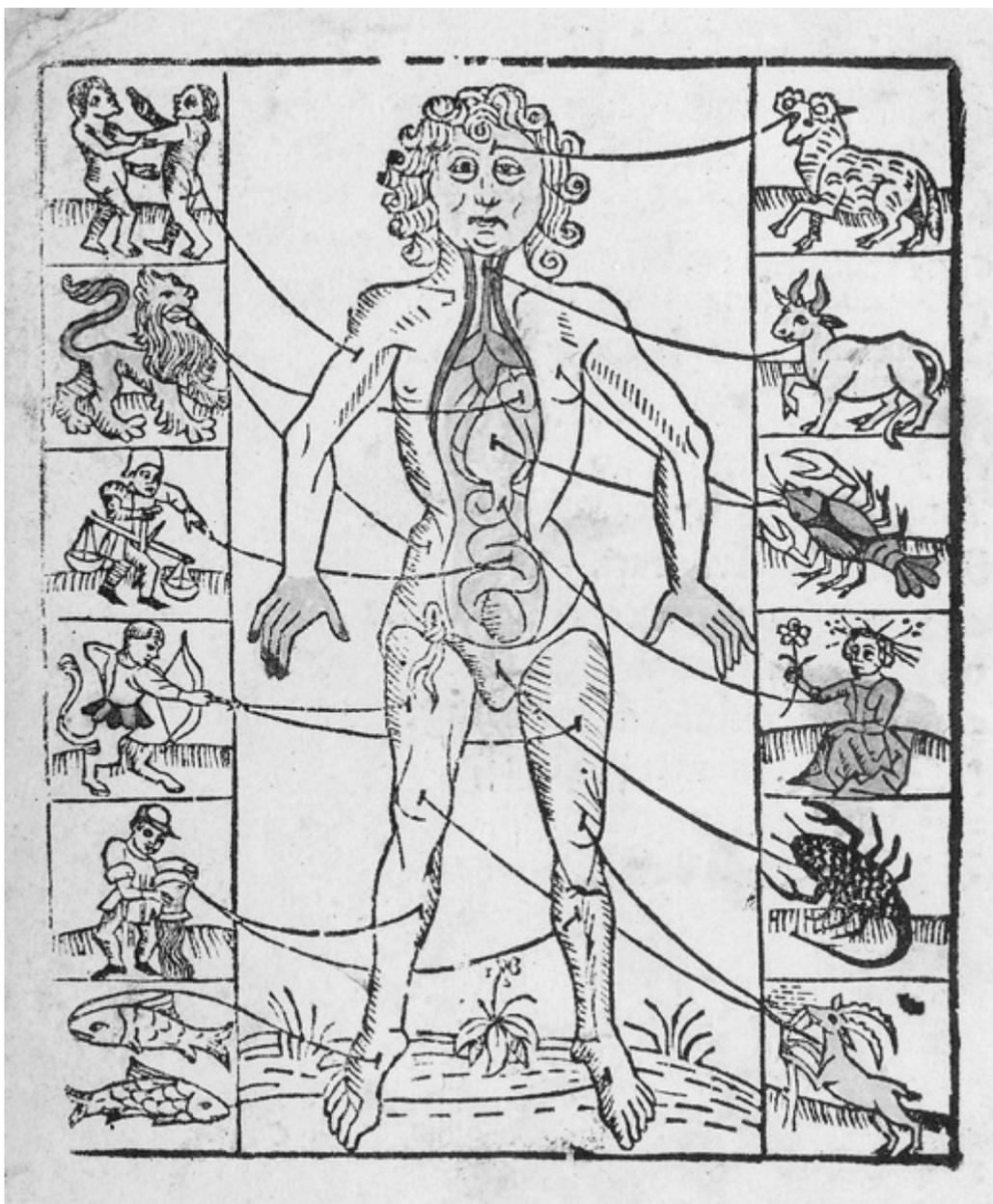


FIGURE 22.
 ZODIAC MAN. *Der 'Teutsch Kalender* (Broadside), (ca. 1480).

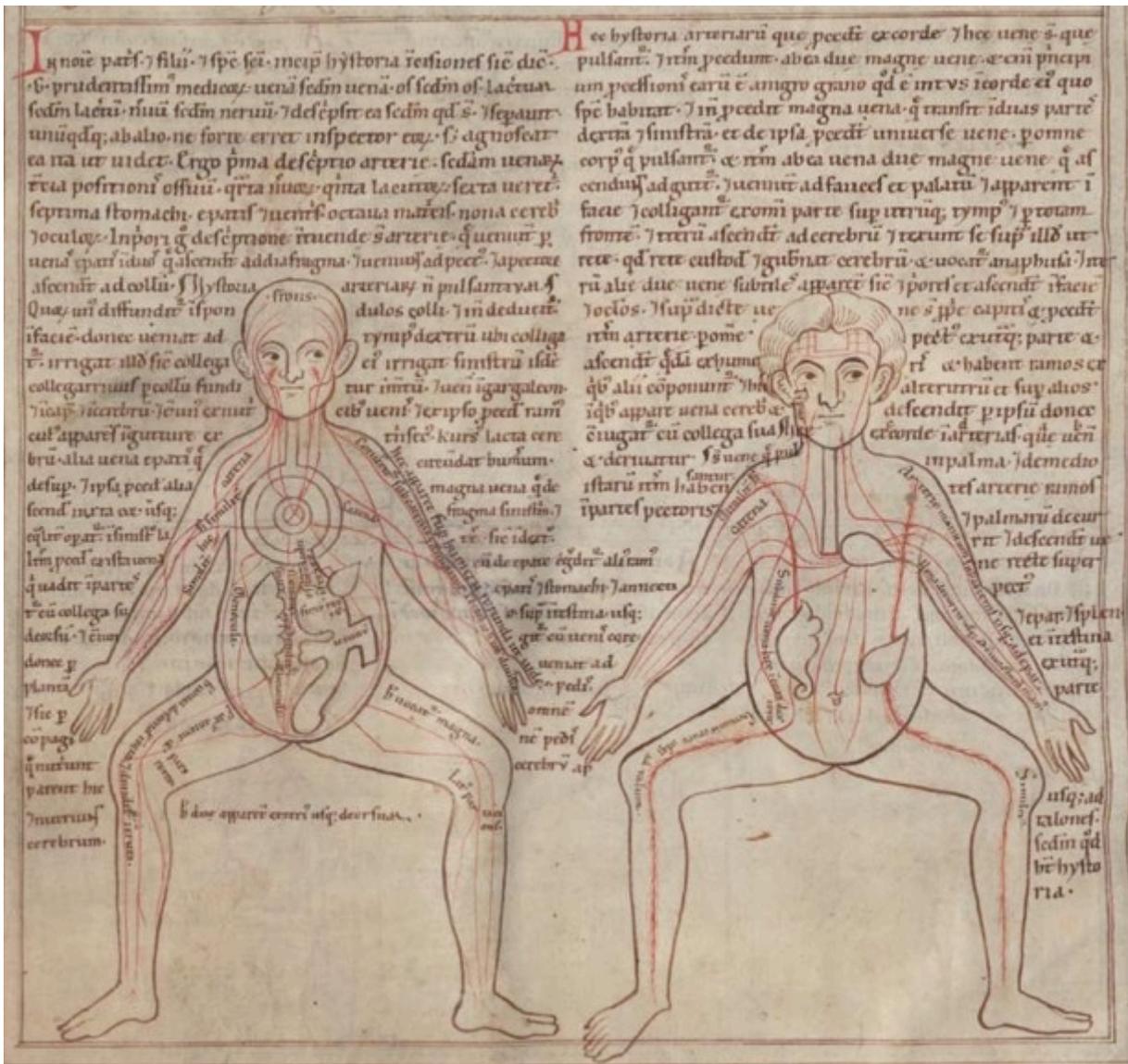


FIGURE 23. ARTERY AND VEIN FIGURES. Bayerische Staatsbibliothek, Munich: *Clm. 13002*, 2v (1165).

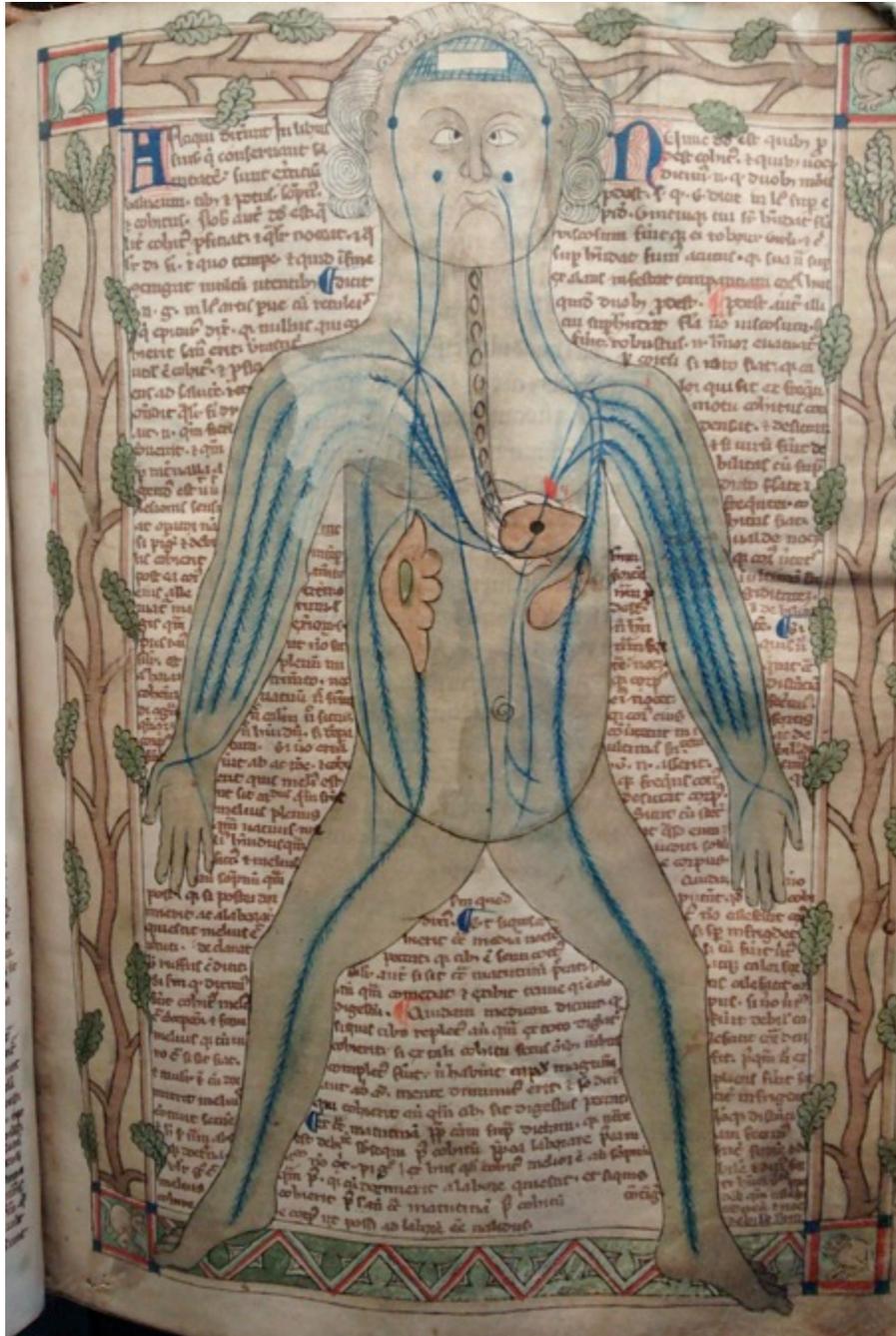


FIGURE 24.

ARTERY FIGURE (with mysterious “black grain”), Bodleian Library, Oxford: *MS Ashmole 399*, 18v (1292).



FIGURE 25.

BONE FIGURE. Bayerische Staatsbibliothek, Munich: *Clm. 13002*, 3r (1165).

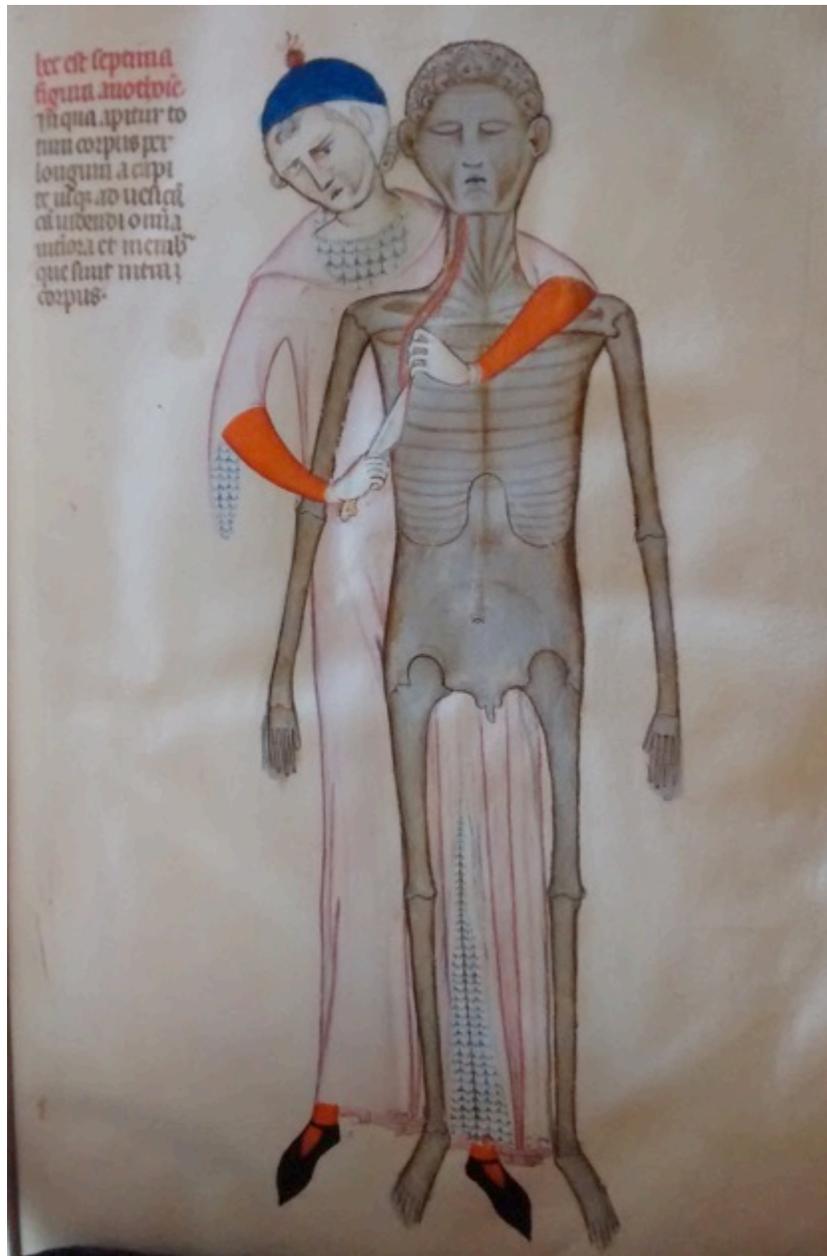


FIGURE 26.

TOTUM CORPUS PER LONGUM A CAPITE USQUE AD VESICAM. Guido da Vigevano, *Anothomia Philippi septimi*, Musée Condé, Chantilly: MS 334, 278r (1345).

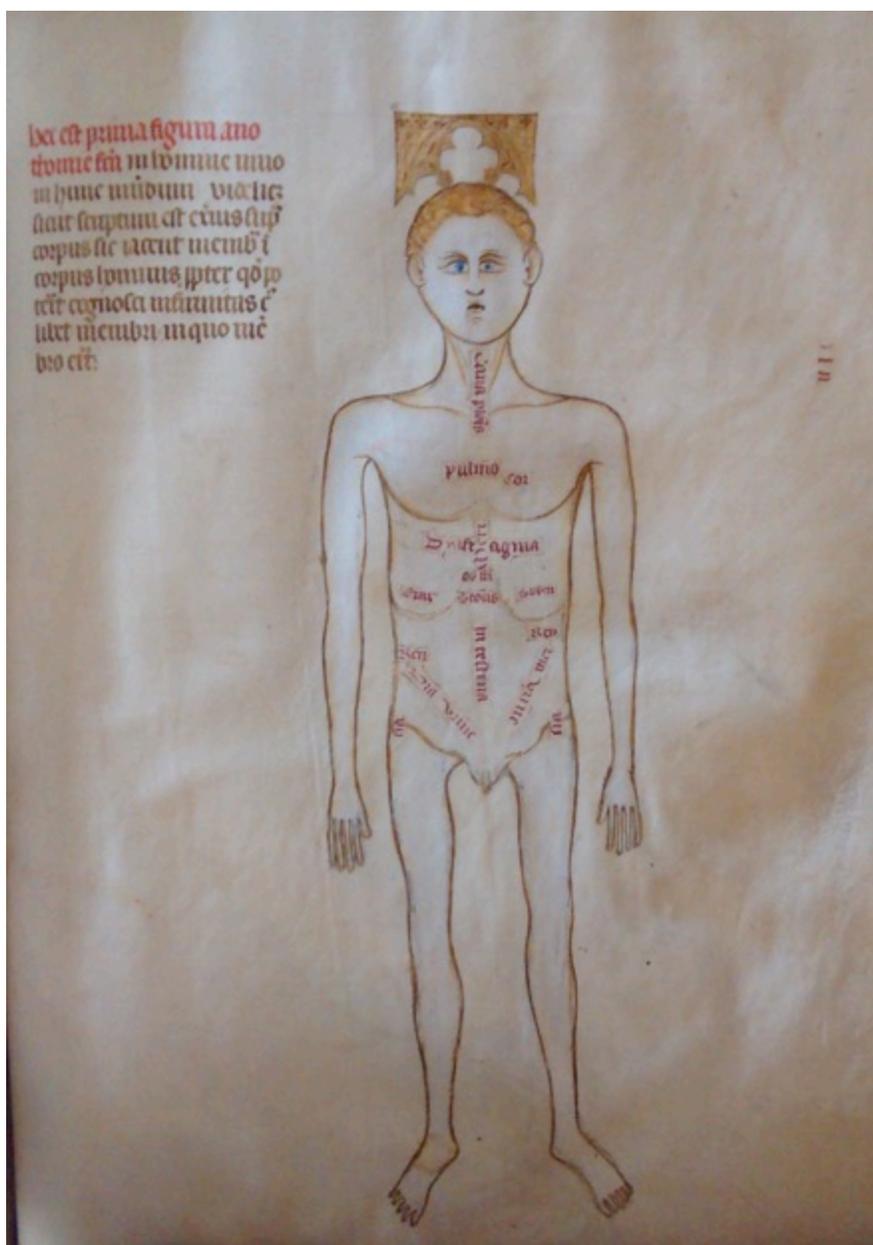


FIGURE 27.

HOMO VIVO. Guido da Vigevano, *Anothomia Philippi septimi*, Musée Condé, Chantilly: MS 334, 273r (1345).



FIGURE 28.

SCINDITUR VENTER CAUSA VIVENDI OMNIA MEMBRA. Guido da Vigevano, *Anothomia Philippi septimi*, Musée Condé, Chantilly: MS 334, 274v (1345).

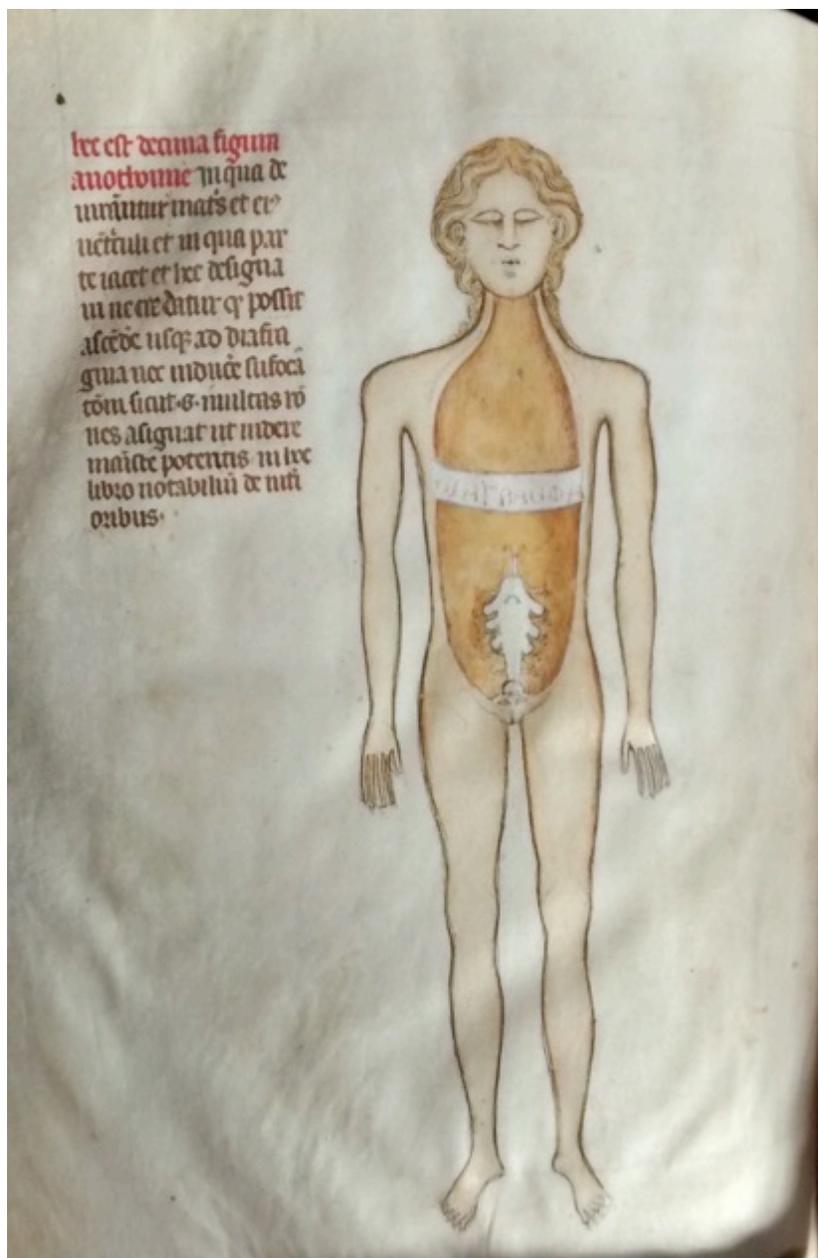


FIGURE 29.

MATRIS ET EJUS VENTRICULI. Guido da Vigevano, *Anothomia Philippi septimi*, Musée Condé, Chantilly: MS 334, 281v (1345).



FIGURE 30.

AMOVETUR OS CPITIS. Guido da Vigevano, *Anothomia Philippi septimi*, Musée Condé, Chantilly: MS 334, 282r (1345).

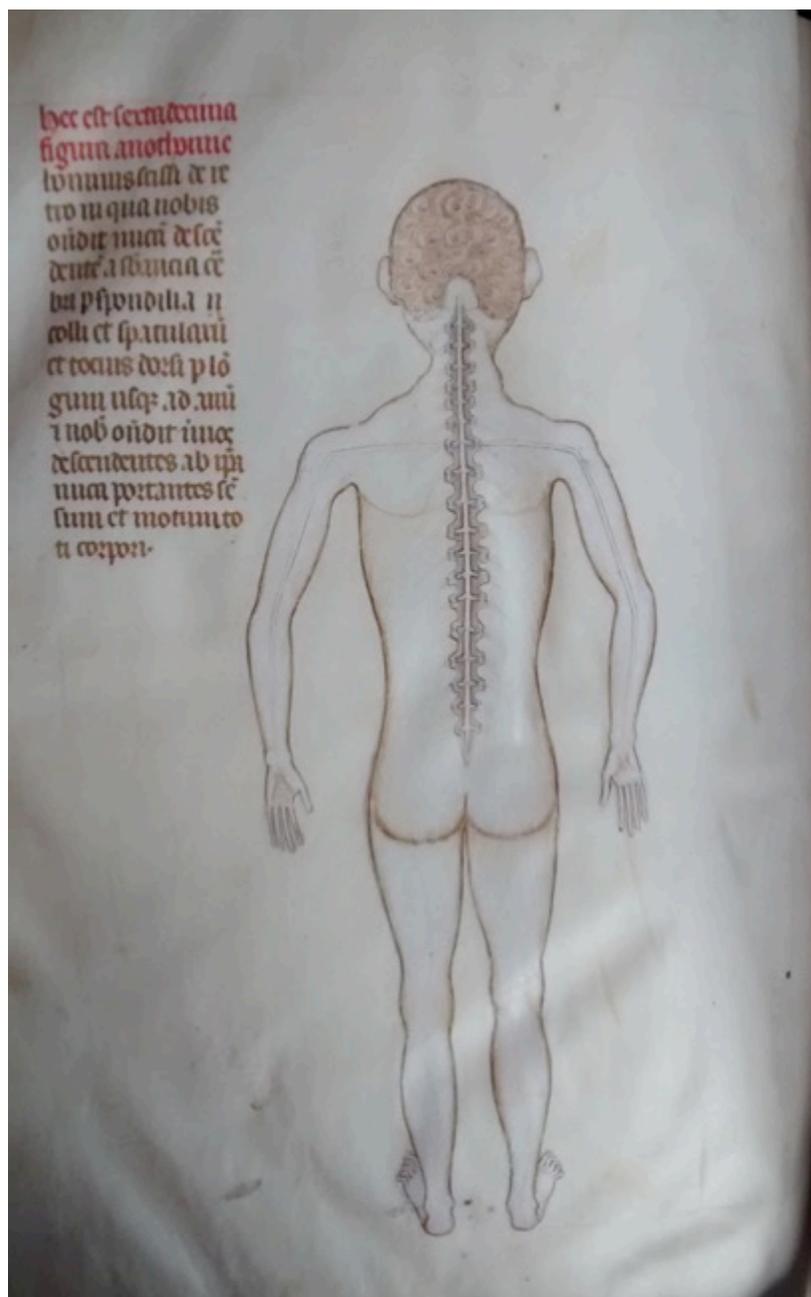


FIGURE 31.

ANOTHOMIE HOMINIS SCISSI DE RETRO. Guido da Vigevano, *Anothomia Philippi septimi*, Musée Condé, Chantilly: MS 334, 285v (1345).



FIGURE 32.

TANGERE CORPUS HOMINIS ET SPECIALITER VENTREM. Guido da Vigevano, *Anothomia Philippi septimi*, Musée Condé, Chantilly: MS 334, 286r (1345).



FIGURE 33.

DEBET TANGI PULSUS. Guido da Vigevano, *Anothomia Philippi septimi*, Musée Condé, Chantilly: MS 334, 286v (1345).



FIGURE 34.
INCISING THE SKULL. Henri de Mondeville, *Chirurgie*, Bibliothèque nationale de France,
Paris: *MS fr. 2030*, 15v–29r (1320).

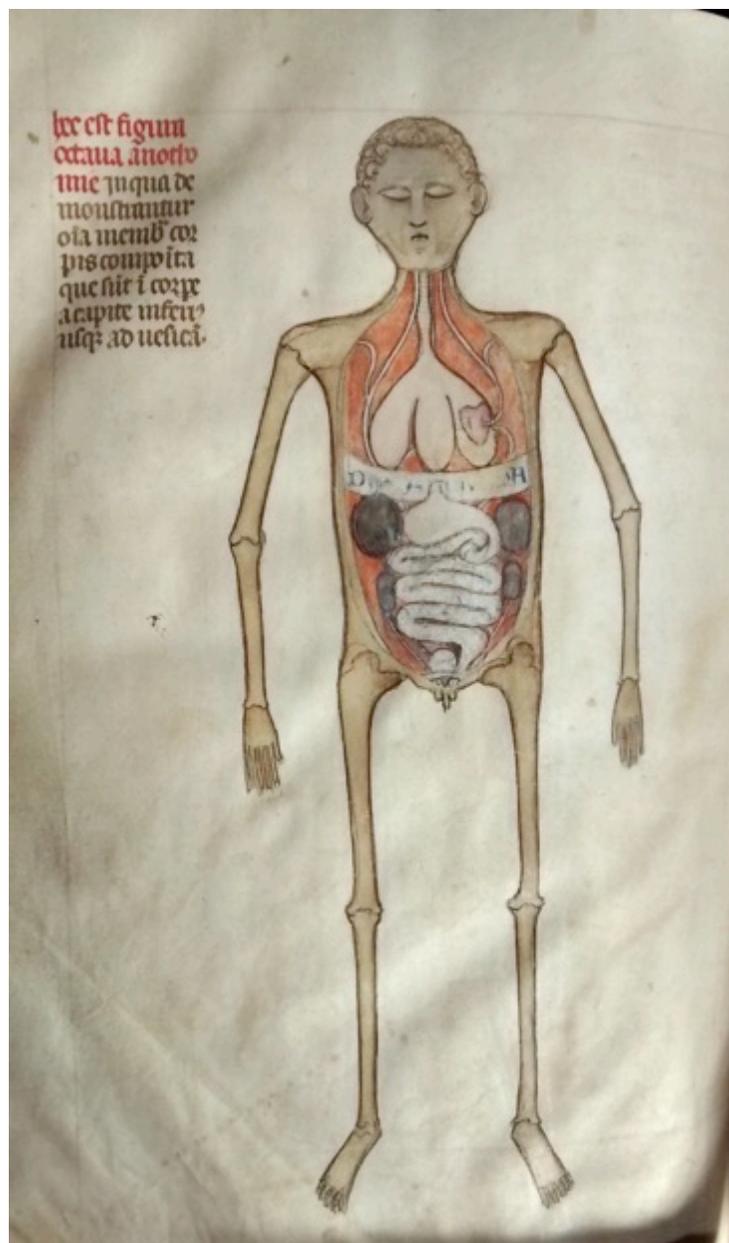


FIGURE 35.

OMNIA MEMBRA COROPORIS COMPOSITA. Guido da Vigevano, *Anothomia Philippi septimi*, Musée Condé, Chantilly: MS 334, 279v (1345).

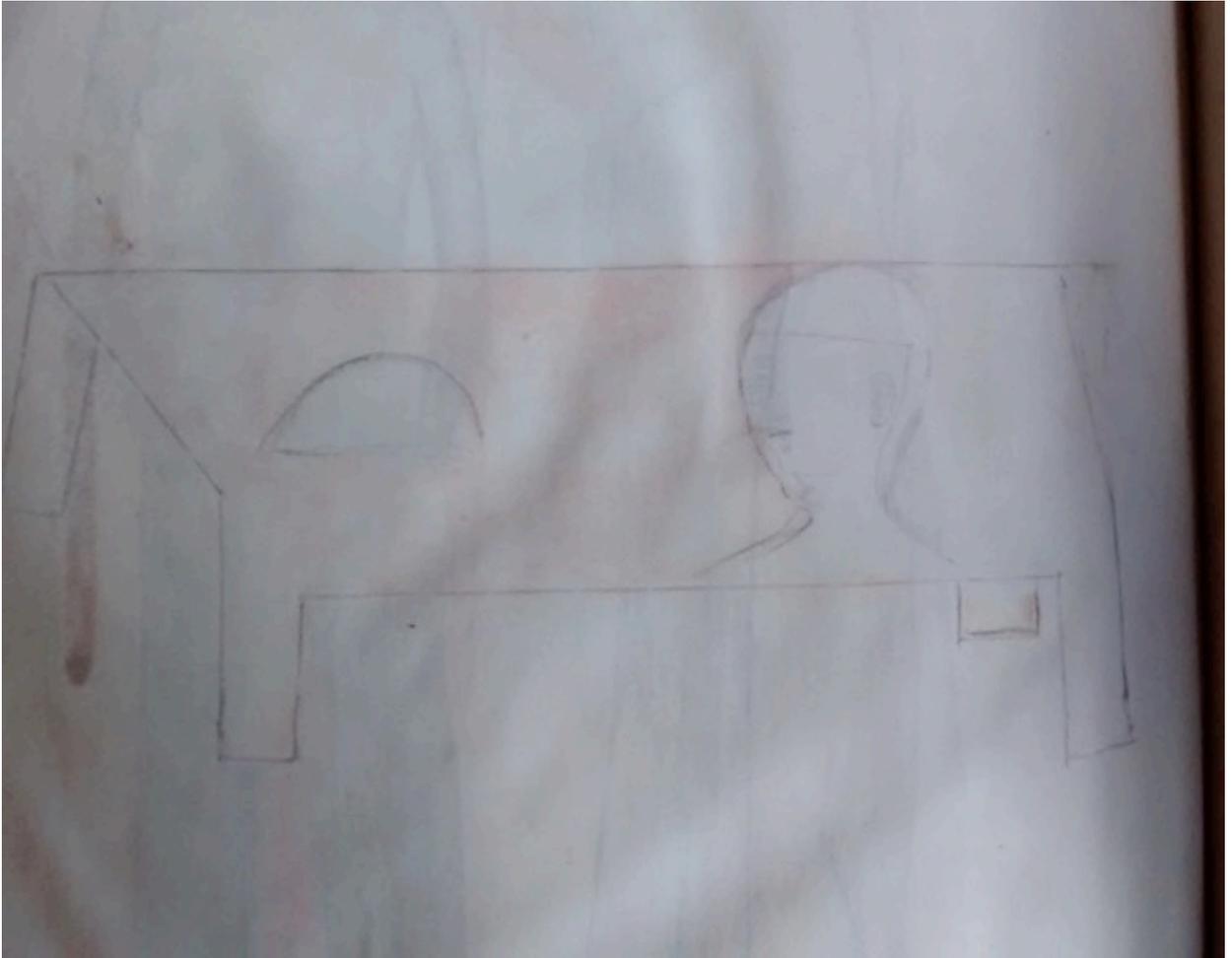


FIGURE 36.

UNDERDRAWING *ANOTHOMIA OSSIS CAPITIS* AND *DURA MATER* (DISCARDED). Guido da Vigevano, *Anothomia Philippi septimi*, Musée Condé, Chantilly: MS 334, 282v (1345).

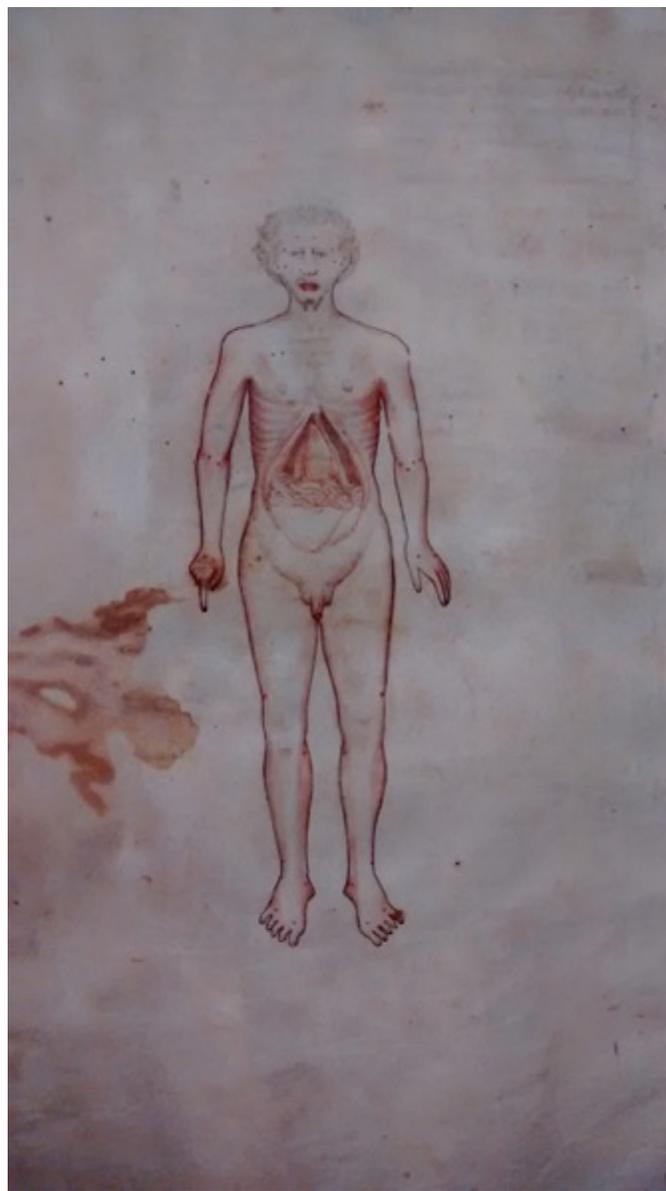


FIGURE 37.

ANATOMICAL FIGURE. Guglielmo da Saliceto, *Chirurgiae tractatus quinque*, Biblioteca Marciana, Venice: *Cod. 58 membr. lat. VII, XXXII*, 40 r. (mid-14th c.).



FIGURE 38.

ANATOMIA, Guy de Chauliac. *Le grande Chirurgie* (1363), Musée Atger, Bibliothèque de la Faculté de Médecine, Montpellier: Ms. fr. 184, 14v (early 15th c.).



FIGURE 39.

ANATOMIA, Bartholomaeus Anglicus. *Livre des propriétés des choses*, Bibliothèque nationale de France, Paris: *MS fr. 218*, 56r (1490).



FIGURE 40.
INSPECTING THE SKULL. Henri de Mondeville, *Chirurgie*, Bibliothèque nationale de France, Paris: *MS fr. 2030*, 15v (1320).



FIGURE 41.
 THE THREE LIVING AND THE THREE DEAD. *From the De Lisle Psalter, British Library, London: Arundel MS 83, 127v (c. 1308–40).*



FIGURE 42.
TITLE PAGE. Andrea Vesalius, *De humani corporis fabrica* (Basel: Johannes Oporinus, 1543)



FIGURE 43.
 THREE LIVING AND THREE DEAD. Jean Le Noir, his daughter Bourgot, and his workshop,
 "The Prayer Book of Bonne of Luxemburg," The Metropolitan Museum of Art, New
 York: *Cloisters Collection*, 1969 69.86, 321v–322r (ca. 1349).

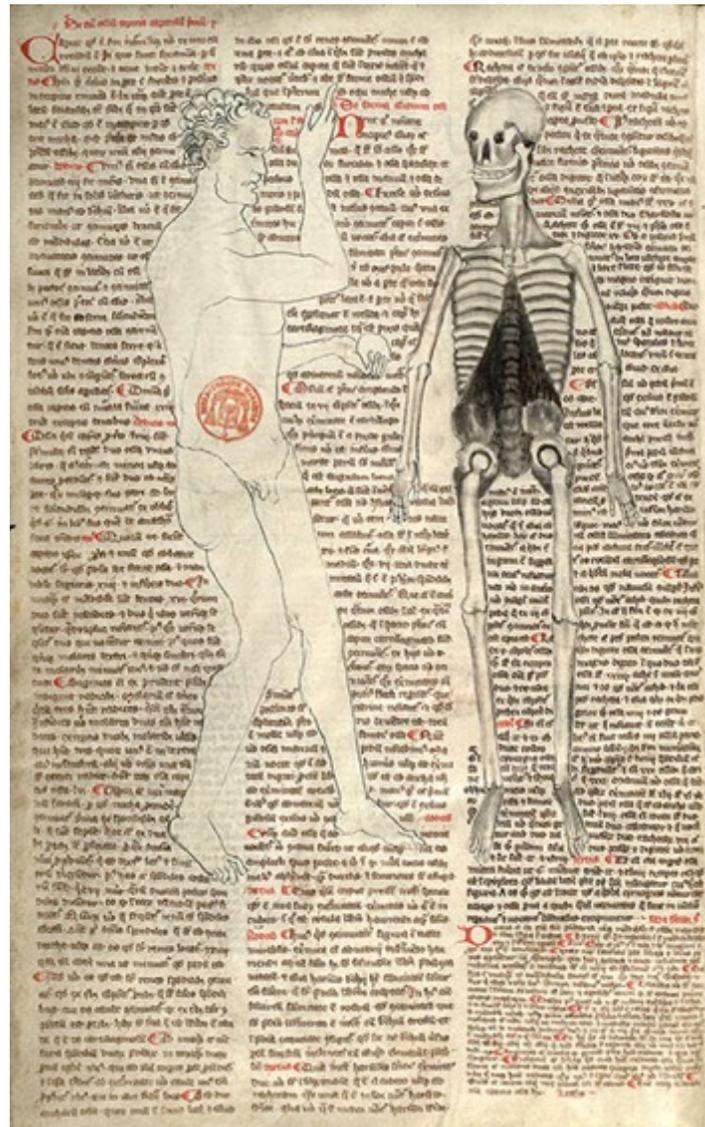


FIGURE 44.
 ADAM AND SKELETON. Bibliothèque Mazarine, Paris: MS 3599, 116v (mid 15th c.).

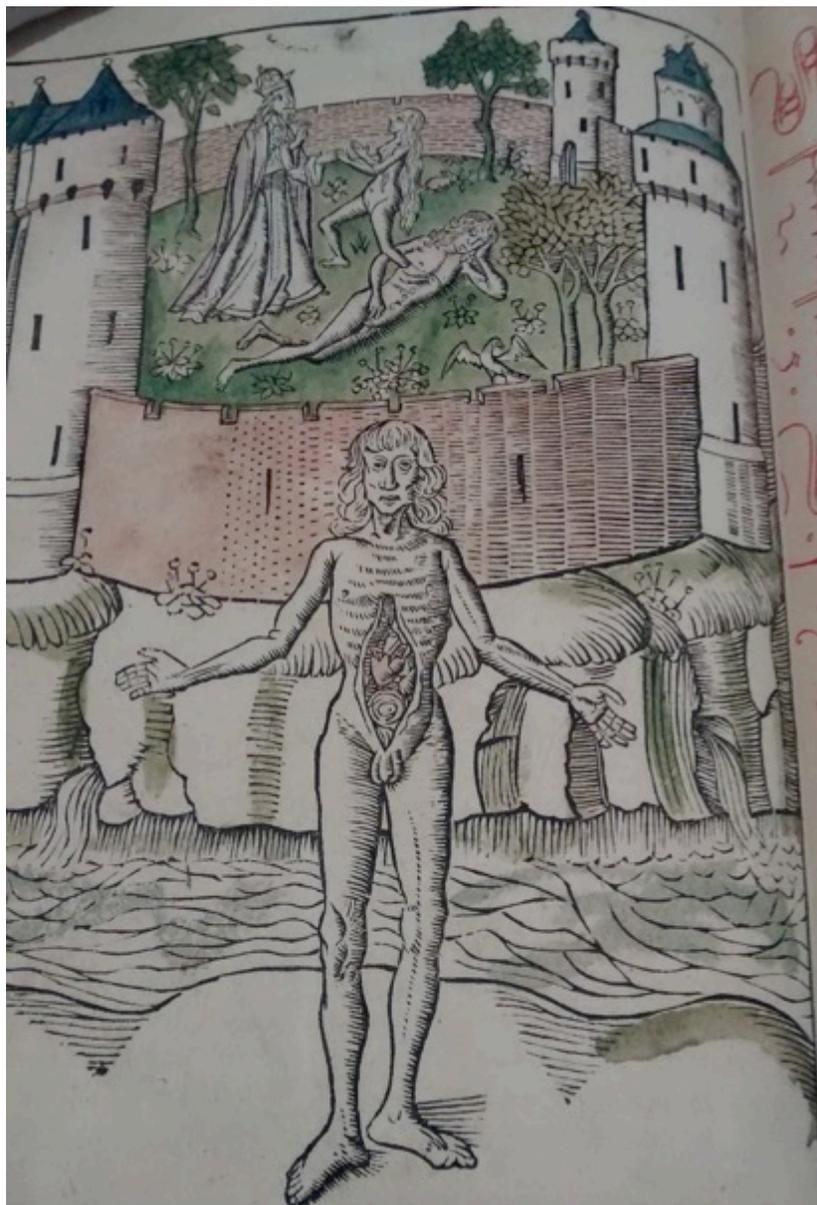


FIGURE 45.
THE CREATION OF EVE WITH ANATOMICAL FIGURE. The Bellaert Master, *Boeck van de proprieteiten der dinghen* (Haarlem: Jacob Bellaert, 1485), pl. 3.

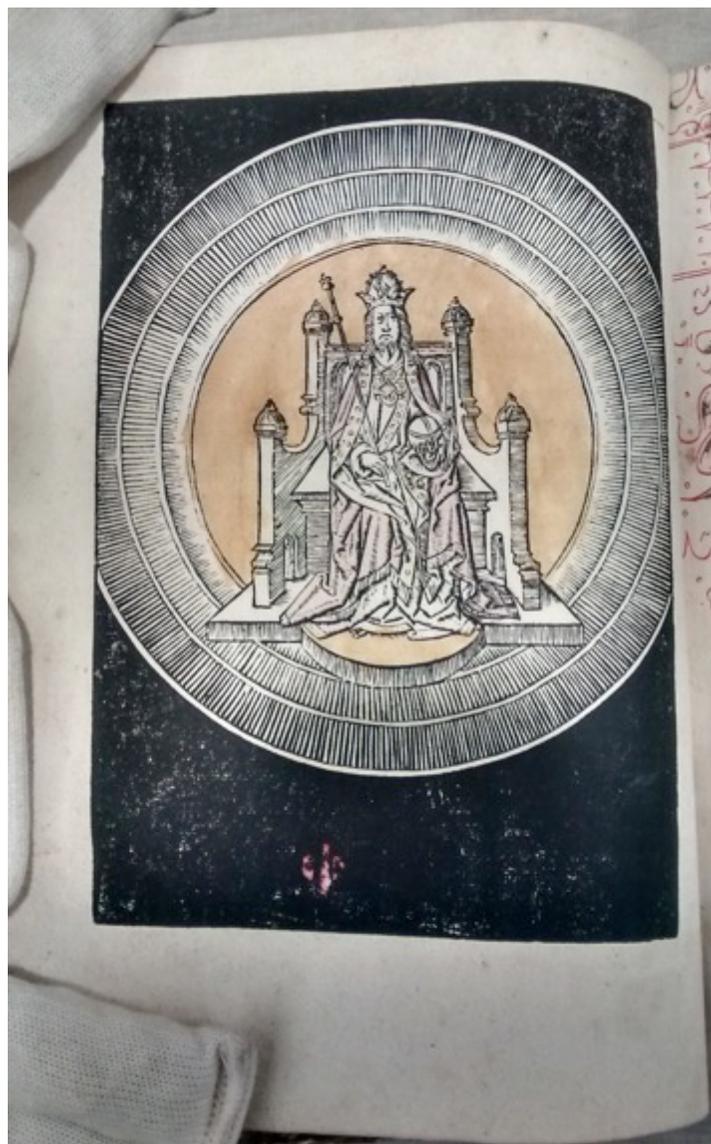


FIGURE 46.
GOD ENTHRONED. The Bellaert Master, *Boeck van de proprieteyten der dinghen*
(Haarlem: Jacob Bellaert, 1485), pl. 1.



FIGURE 47.
 THE FALL OF THE ANGELS. The Bellaert Master, *Boeck van de proprieteyten der dinghen* (Haarlem: Jacob Bellaert, 1485), pl. 3.



FIGURE 48.

MEDICAL FIGURES AND "THE AGES OF MAN." The Bellaert Master, *Boeck van de proprieteyten der dinghen* (Haarlem: Jacob Bellaert, 1485), pl. 4.



FIGURE 49.

THE MICROCOSM WITH T-O MAP. The Bellaert Master, *Boeck van de proprieteyten der dinghen* (Haarlem: Jacob Bellaert, 1485), pl. 5.



FIGURE 50.

THE LABORS OF THE MONTH. The Bellaert Master, *Boeck van de proprieteyten der dinghen* (Haarlem: Jacob Bellaert, 1485), pl. 6.



FIGURE 51.
THE BIRDS OF THE AIR. The Bellaert Master, *Boeck van de proprieteyten der dinghen*
(Haarlem: Jacob Bellaert, 1485), pl. 7.

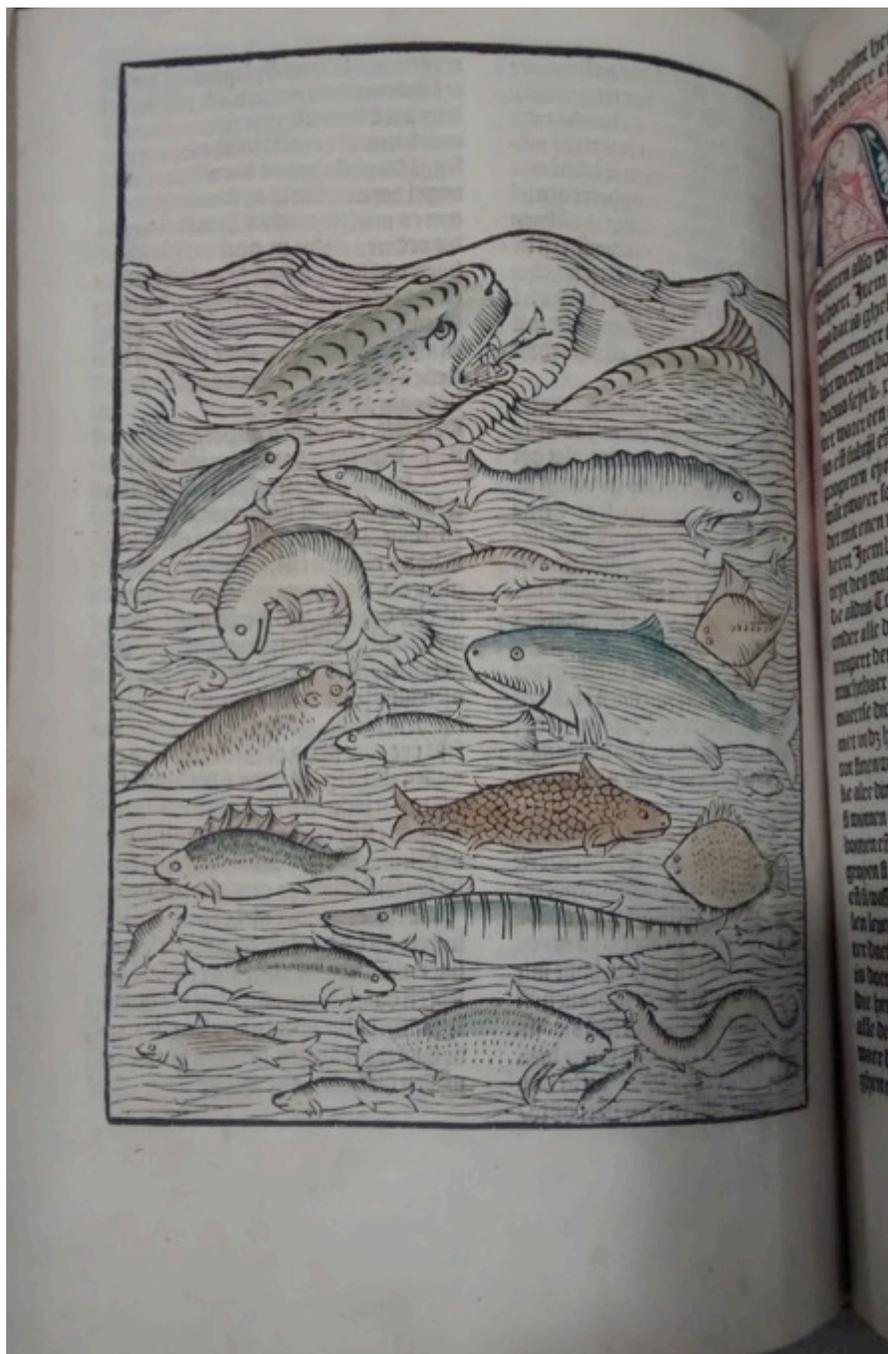


FIGURE 52.

THE FISH OF THE SEA. The Bellaert Master, *Boeck van de proprieteyten der dinghen* (Haarlem: Jacob Bellaert, 1485), pl. 8.



FIGURE 53.
THE EARTH AND ITS DIVISIONS. The Bellaert Master, *Boeck van de proprieteyten der dinghen* (Haarlem: Jacob Bellaert, 1485), pl. 9.

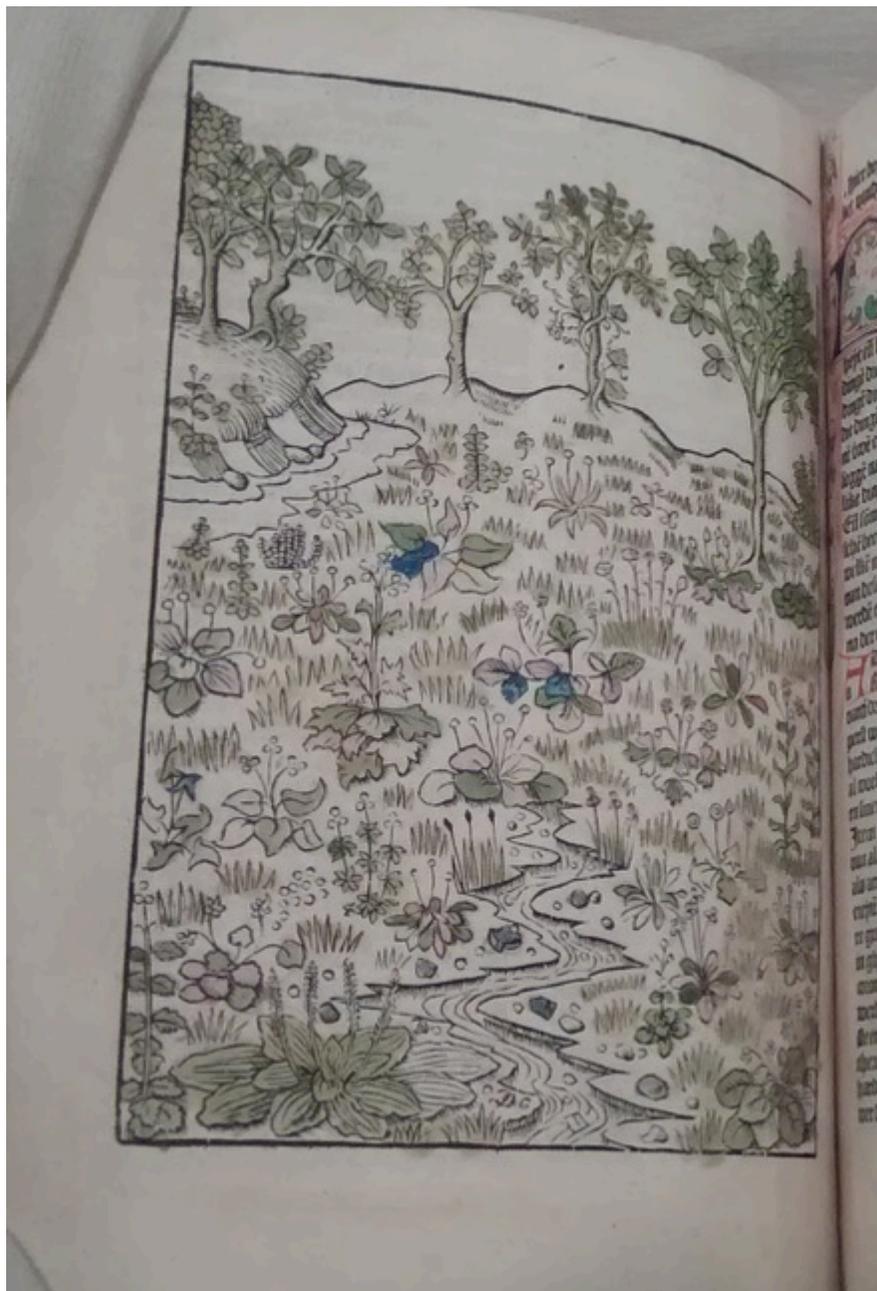


FIGURE 54.

PLANTS AND PRECIOUS STONES. The Bellaert Master, *Boeck van de proprieteyten der dinghen* (Haarlem: Jacob Bellaert, 1485), pl. 10.

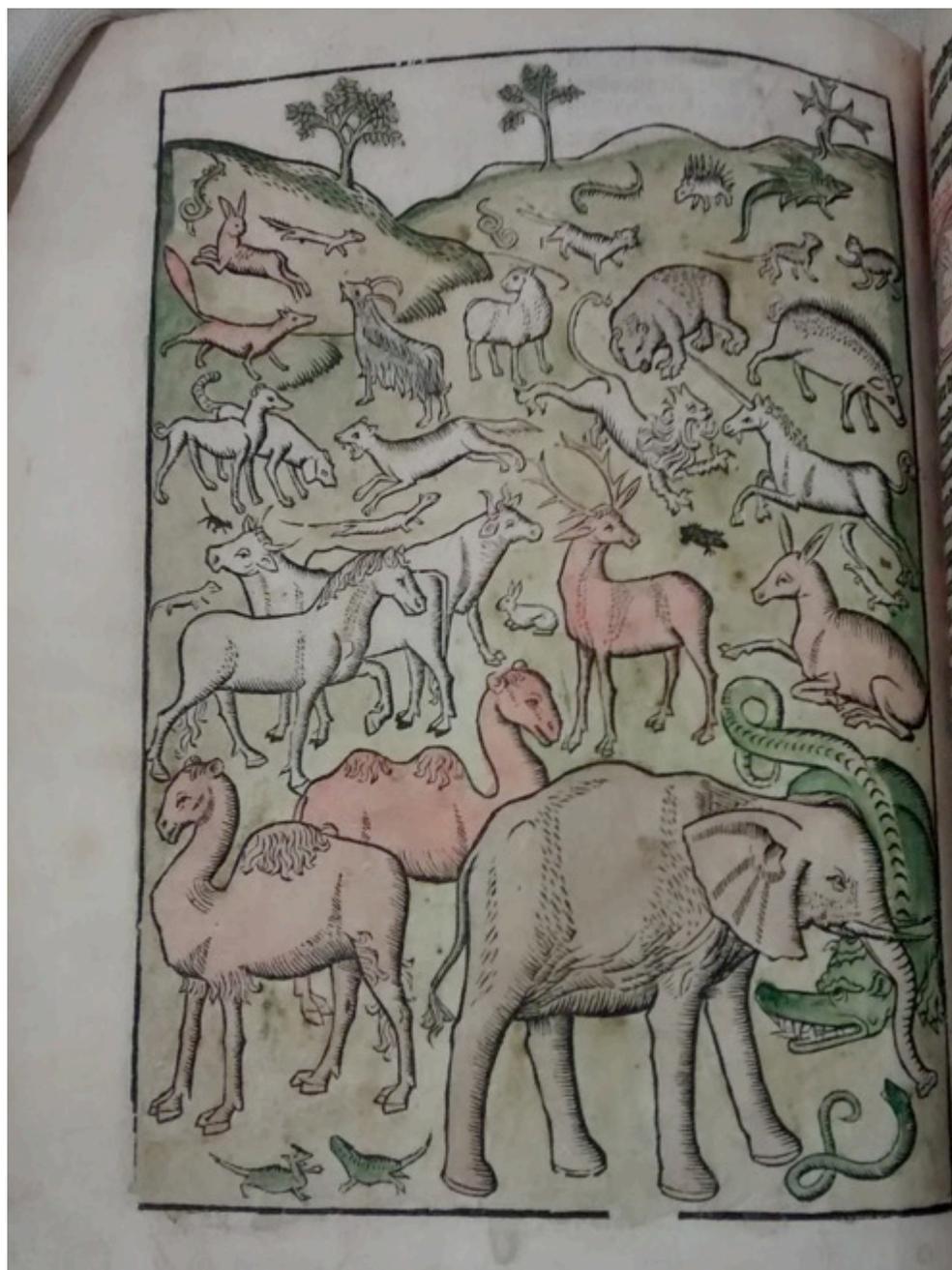


FIGURE 55.

THE BEASTS OF THE FIELD. The Bellaert Master, *Boeck van de proprieteyten der dinghen* (Haarlem: Jacob Bellaert, 1485), pl. 11.



FIGURE 56.
 THE BIRDS OF THE AIR, THE BEASTS OF THE FIELD. *Livre des propriétés des choses*,
 Bibliothèque municipale, Amiens: MS 399, 241r (1447).

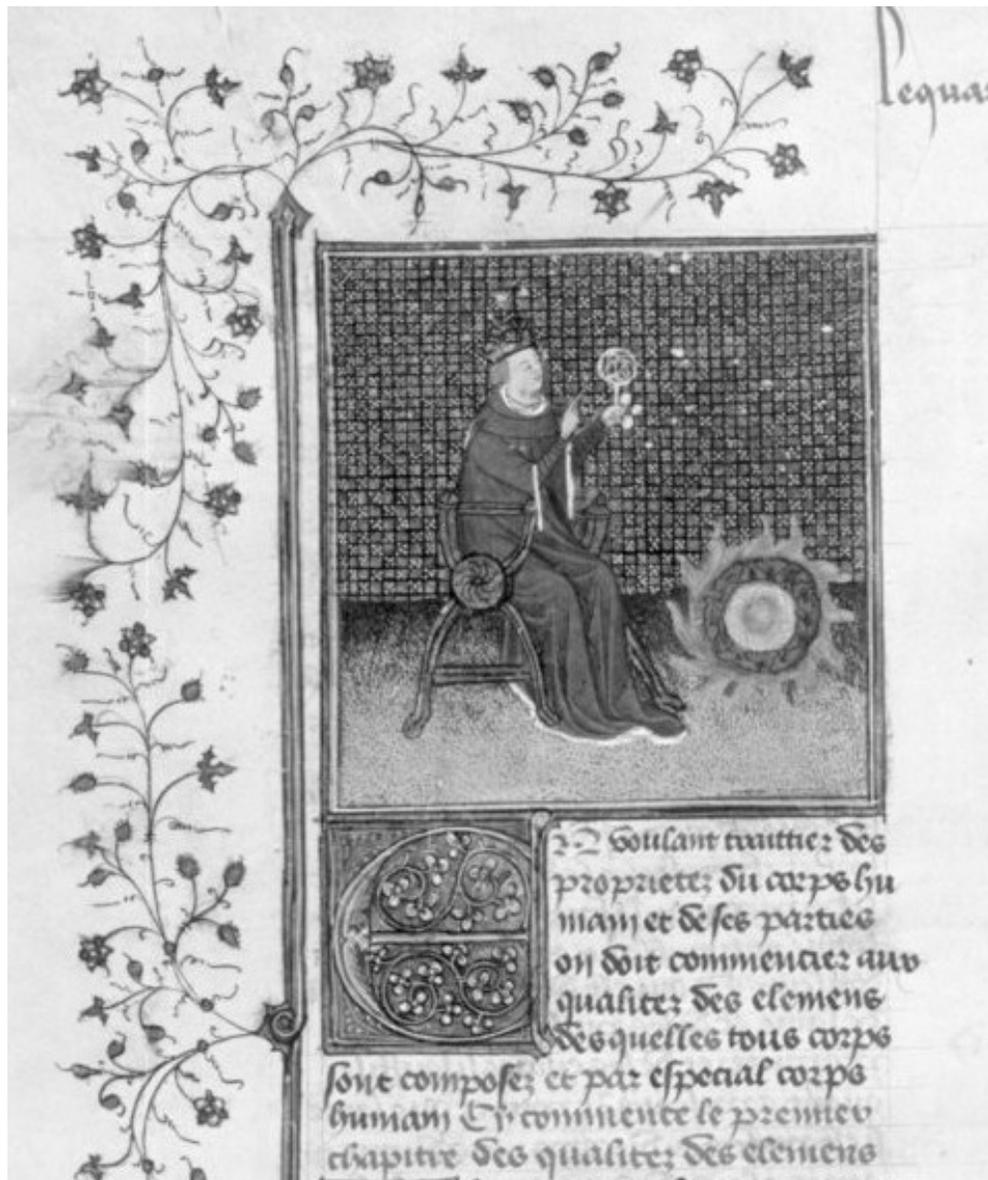


FIGURE 57.

THE MICROCOSM AND ROYAL FIGURE WITH ASTROLABE. *Livre des propriétés des choses*, Bibliothèque nationale de France, Paris: MS 22531, 47v (fifteenth Century).

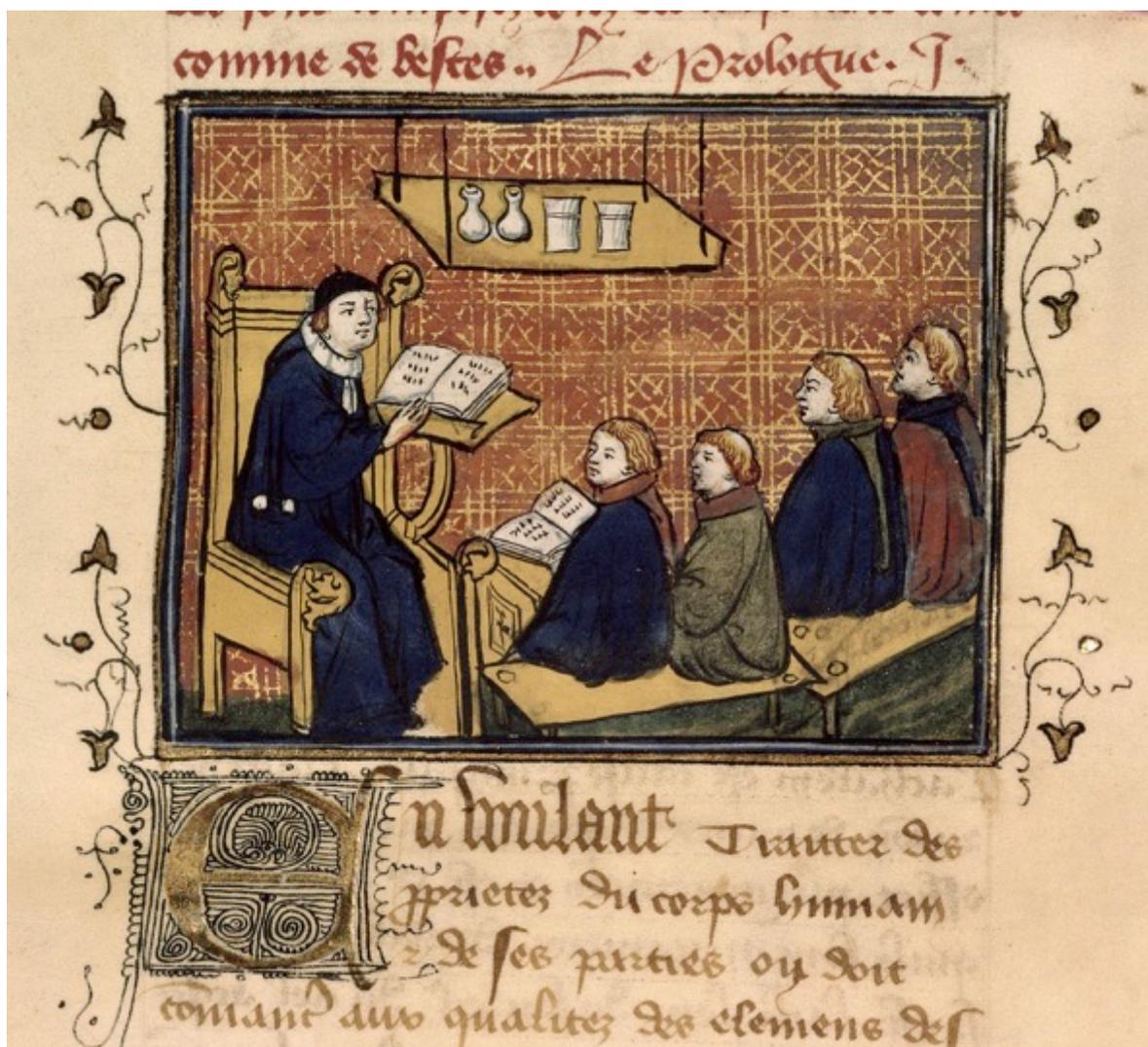


FIGURE 58.
 UNIVERSITY LECTURE ON THE NATURE OF THE BODY. *Livre des propriétés des choses*,
 British Library, London: *MS Royal 17 III*, 36r (15th c).

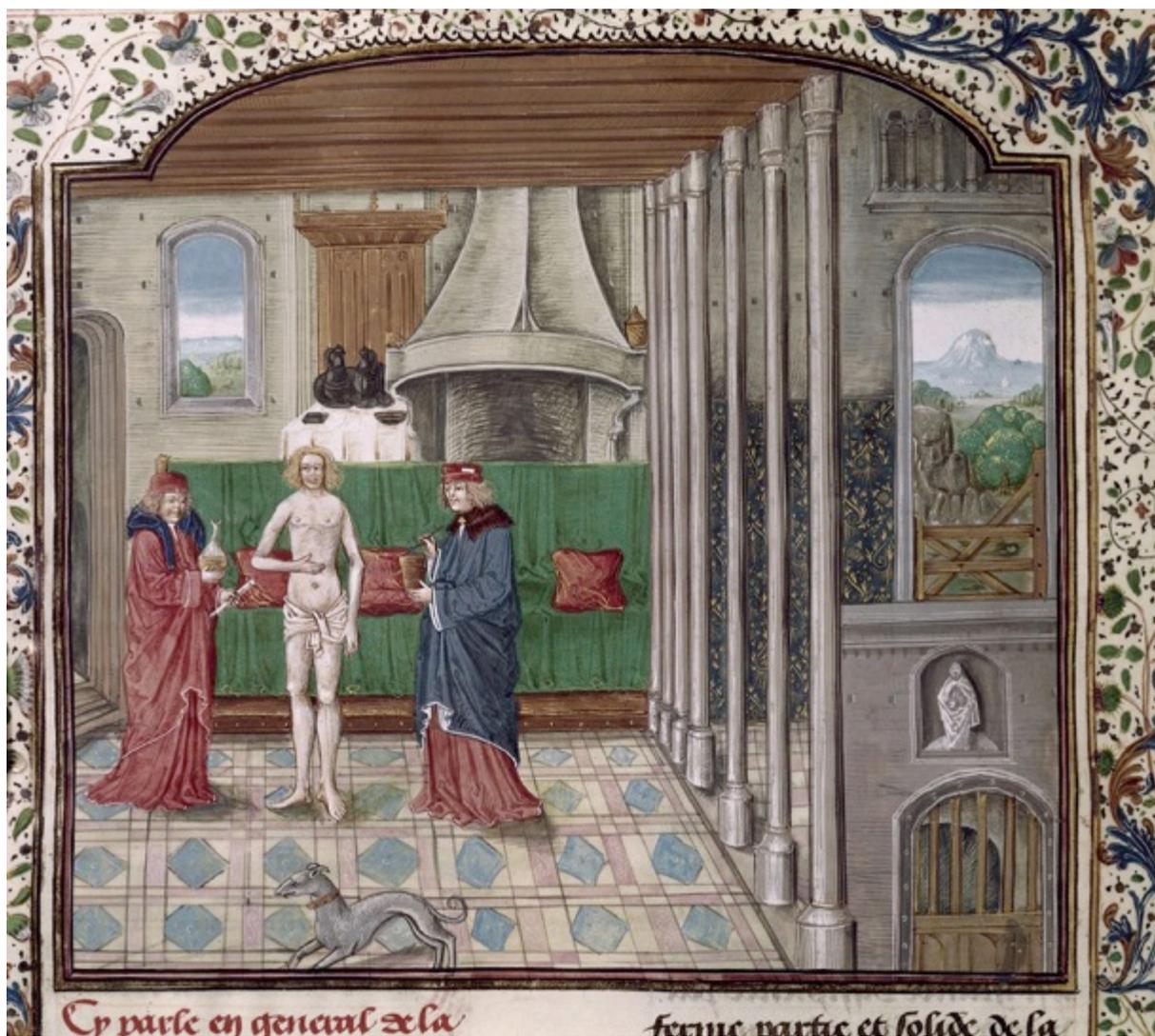


FIGURE 59.
 PHYSICIANS INSPECTING A PATIENT. *Livre des propriétés des choses*, British Library,
 London: *MS Royal 15 E II*, 77v (late 15th c.).



FIGURE 60.

A CADAVER AMONG THE ELEMENTS. Pierre Remiet, *Livre des propriétés des choses*, Bibliothèque Royale: Brussels: MS 9094, fol. 45r (1402).



FIGURE 61.
 ANATOMICAL FIGURE. Évrard d'Espinques, *Livre des propriétés des choses*,
 Bibliothèque nationale de France, Paris: MS 9140, 48r (1480).

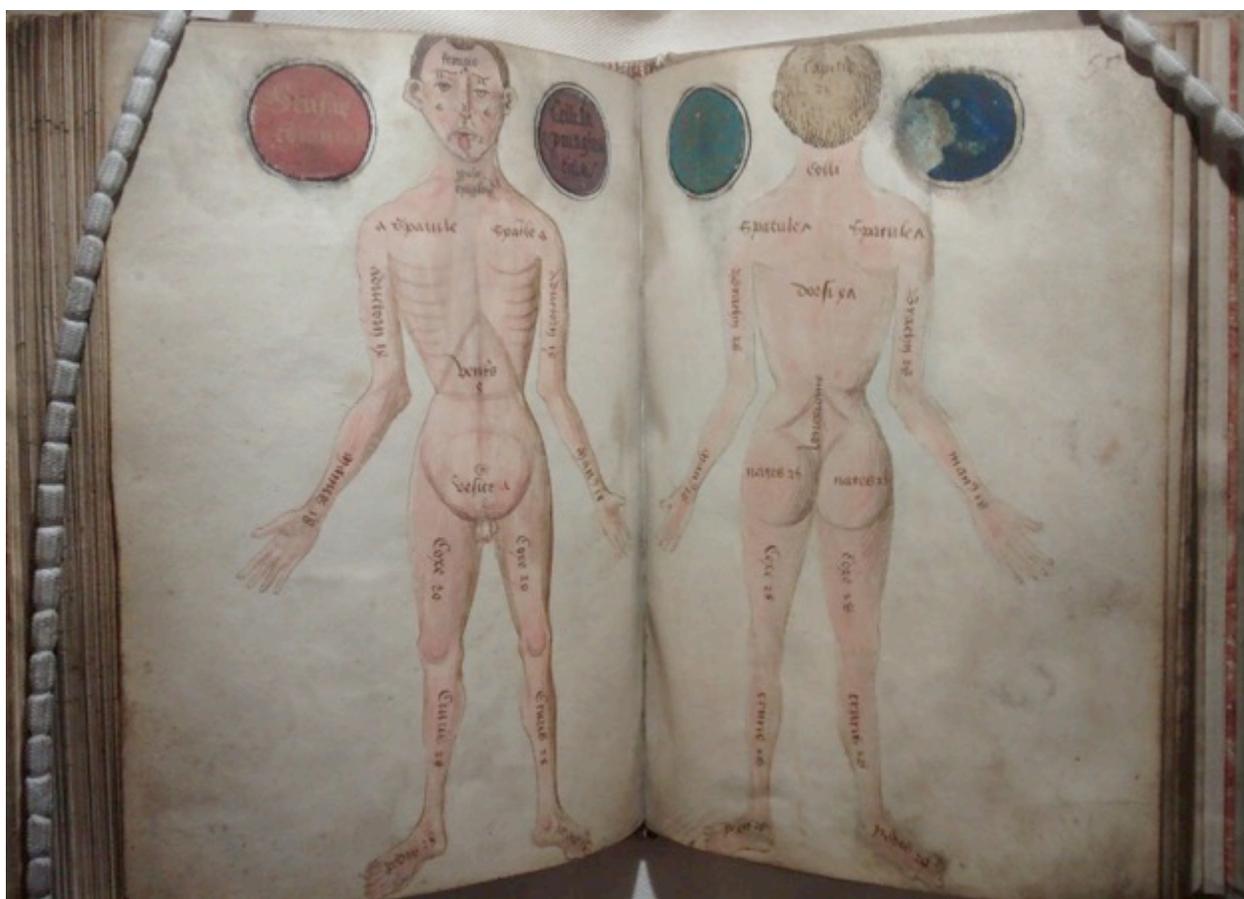


FIGURE 62.
 ANATOMICAL FIGURES. *Anatomia* (pseudo-Galen), Wellcome Library, London: MS 290, 49r–50v (mid 15th c.).



FIGURE 63.

CREATION OF EVE. *Livre des propriétés des choses*, Bibliothèque nationale de France, Paris: MS 22533, 20r (15th c.).

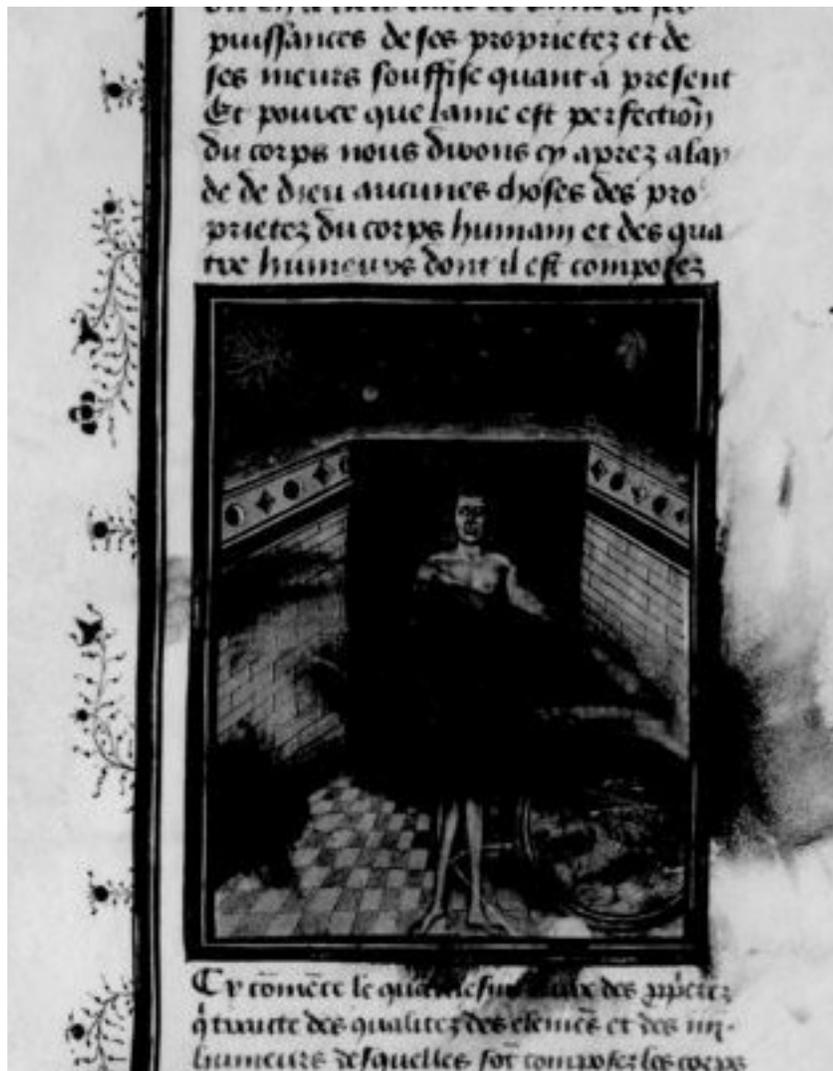


FIGURE 64.

ANATOMICAL FIGURE (?). *Livre des propriétés des choses*, Bibliothèque nationale de France, Paris: MS 22533, 34v (15th c.).



FIGURE 65.

“ZODIAC MAN.” Vade Mecum, Bodleian Library, Oxford: *MS Ashmole 395 (5)* (mid-15th c.).



FIGURE 67.

“ZODIAC MAN.” Philippe Pigouchet, *Horae beatissimae Mariae Virginis secundum usum Curiae Romanae* (Paris: Simone Vostre, 1497).



FIGURE 68.
 "ZODIAC MAN" AND ALMANAC. *Hore intemerate Virginis Marie* (Paris: G. Anabat, 1505).

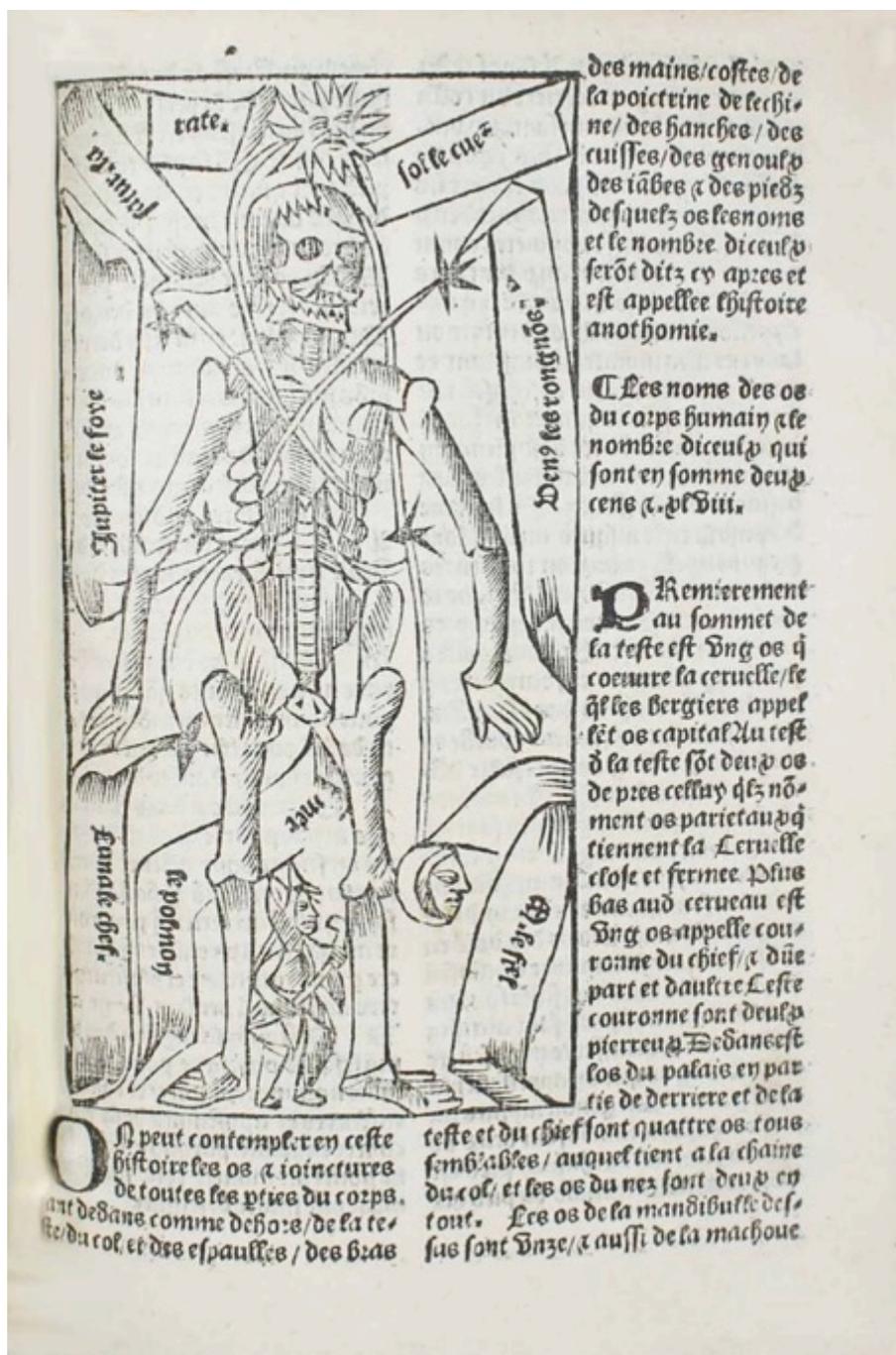


FIGURE 70.

“ZODIAC MAN” (SKELETON). *Calendrier de bergers* (Paris: Veuve Jehan Trepperel, 1518 or 1519).



FIGURE 71.
SCENE OF DISSECTION. *Livre des propriétés des choses* (Lyon: Matthias Huss, 1482), pl.
4.

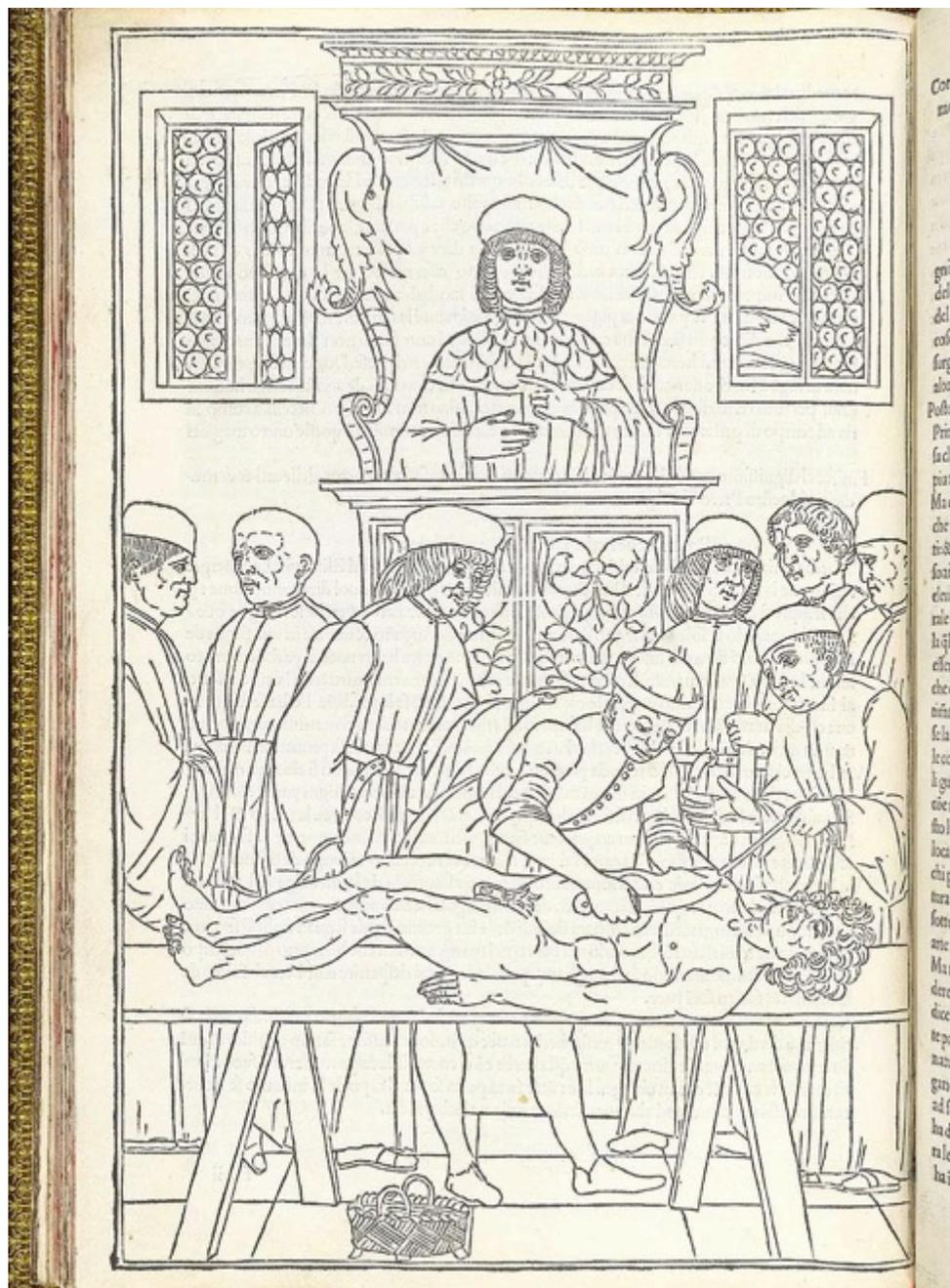


FIGURE 72.

SCENE OF DISSECTION. Johannes de Ketham, *Fasciculus Medicinae* (Venice: Gregorio de' Gregori, 1495), pl. 8.



FIGURE 73.
BIRTH OF EVE AND ANATOMICAL FIGURE (DETAIL). The Bellaert Master, *Boeck van de proprieteiten der dinghen* (Haarlem: Jacob Bellaert, 1485) pl. 3.



FIGURE 74.

CREATION OF ADAM. *Livre des propriétés des choses*, Bibliothèque nationale de France, Paris: MS 22531, 33v (15th c.).



FIGURE 75.
ANNUNCIATION TRIPTYCH (MERODE ALTARPIECE). Workshop of Robert Campin,
Tournai, South Netherlands, 1427–32. Christ-homunculus descend through the upper left
window.

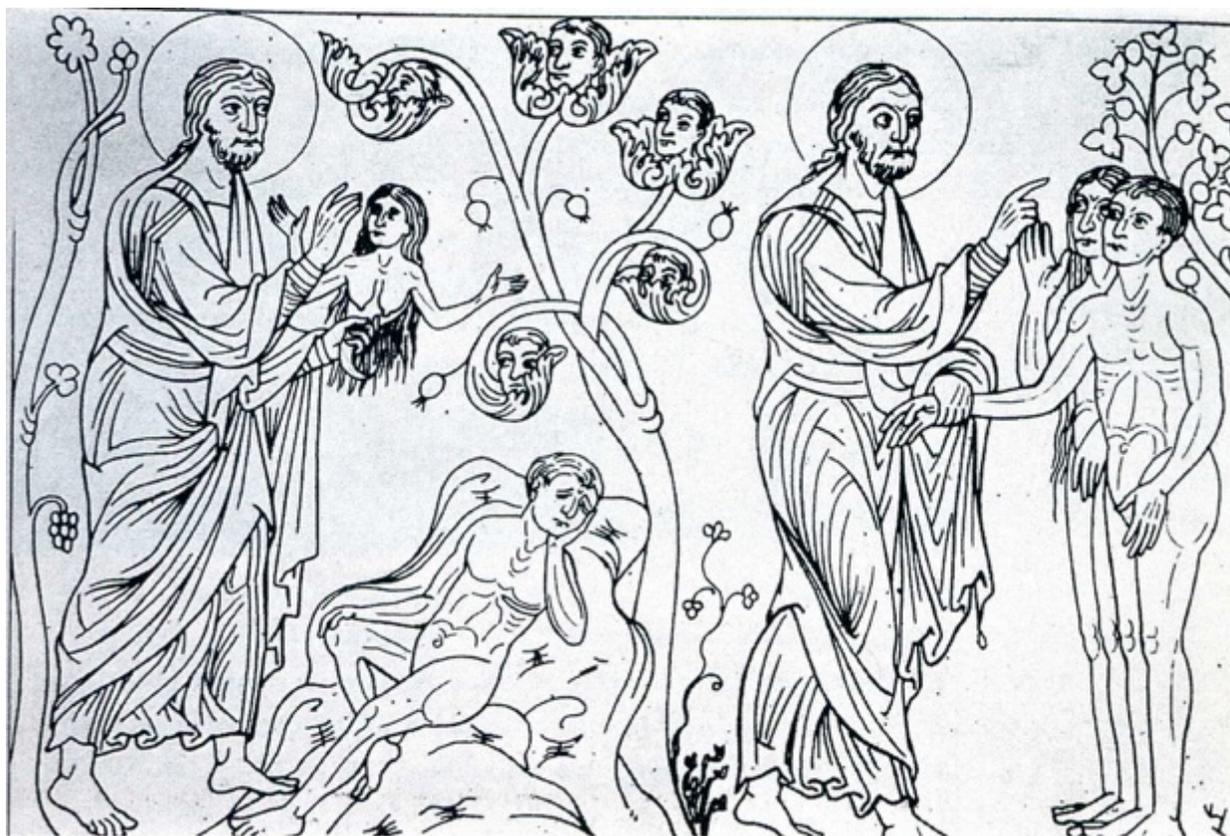


FIGURE 76.
CREATION OF EVE (FACSIMILE). Herrod of Hohenberg, *Hortus deliciarum*, (ca. 1165).

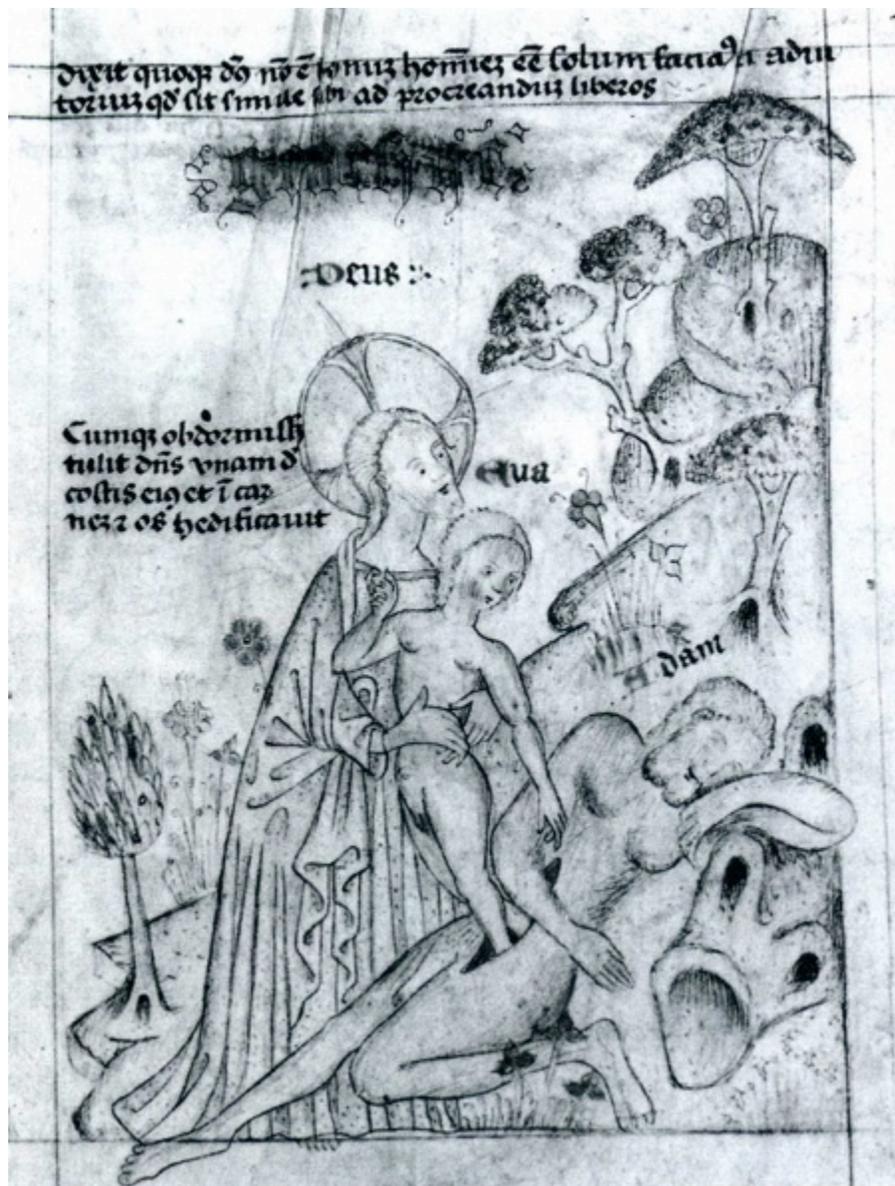


FIGURE 77.
 CREATION OF EVE. *Speculum humanae salvationis*, Catalonia or Rousillon, 1430–50.



FIGURE 78.

BIRTH OF JULIUS CAESAR. *Li Fet des Romains*. British Library, London: *Royal 16 G VII*, 219r (late 14th c.).



FIGURE 79.
BIRTH OF THE ANTI-CHRIST, *Seelenwurgarten*, (Augsburg: Schönsperger, 1484)
[Huntington Library, San Marino: RB 1010792].



FIGURE 81.

SIDE-WOUND OF CHRIST WITH HEART AND FIVE WOUNDS. Book of Hours (Use of Sarum), Bodleian Library, Oxford: *MS Lat. Liturg. F. 2, 4v* (late 14th–early 15th c.).

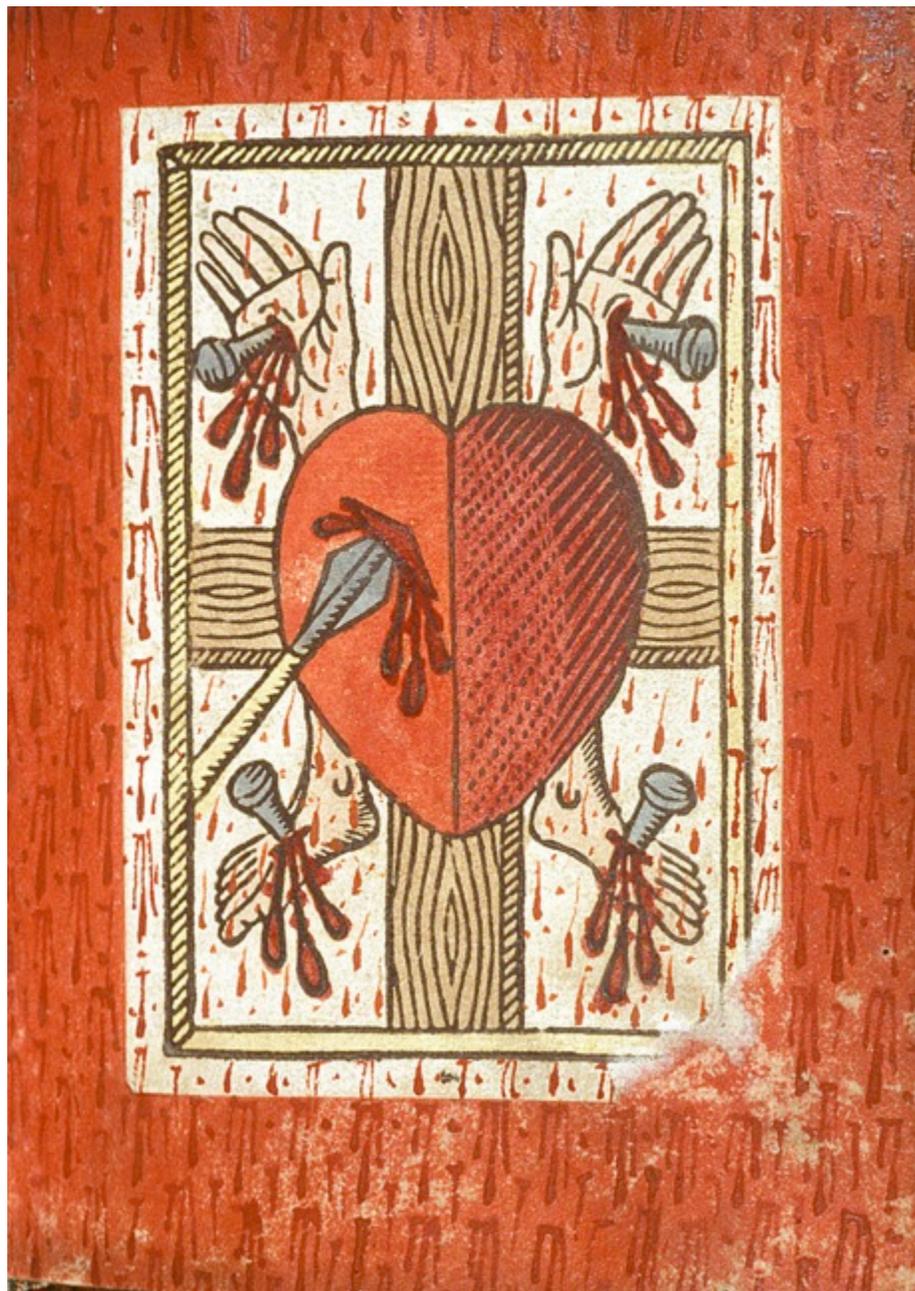


FIGURE 82.
SYMBOLS OF THE PASSION. Book of Hours (Sarum?), British Library, London: Egerton
1821, 9r, (1480–90).



FIGURE 83.

THE SIDE-WOUND OF CHRIST CARRIED BY AN ANGEL. *Arenberg Hours*, J. Paul Getty Museum, Los Angeles: *MS Ludwig IX 8*, fol. 139r (1460s).



FIGURE 84.
CHRISTUS ANATOMICUS. Deutsches Medezinhistoriches Museum, Ingolstadt (late 16th–
early 17th c.).

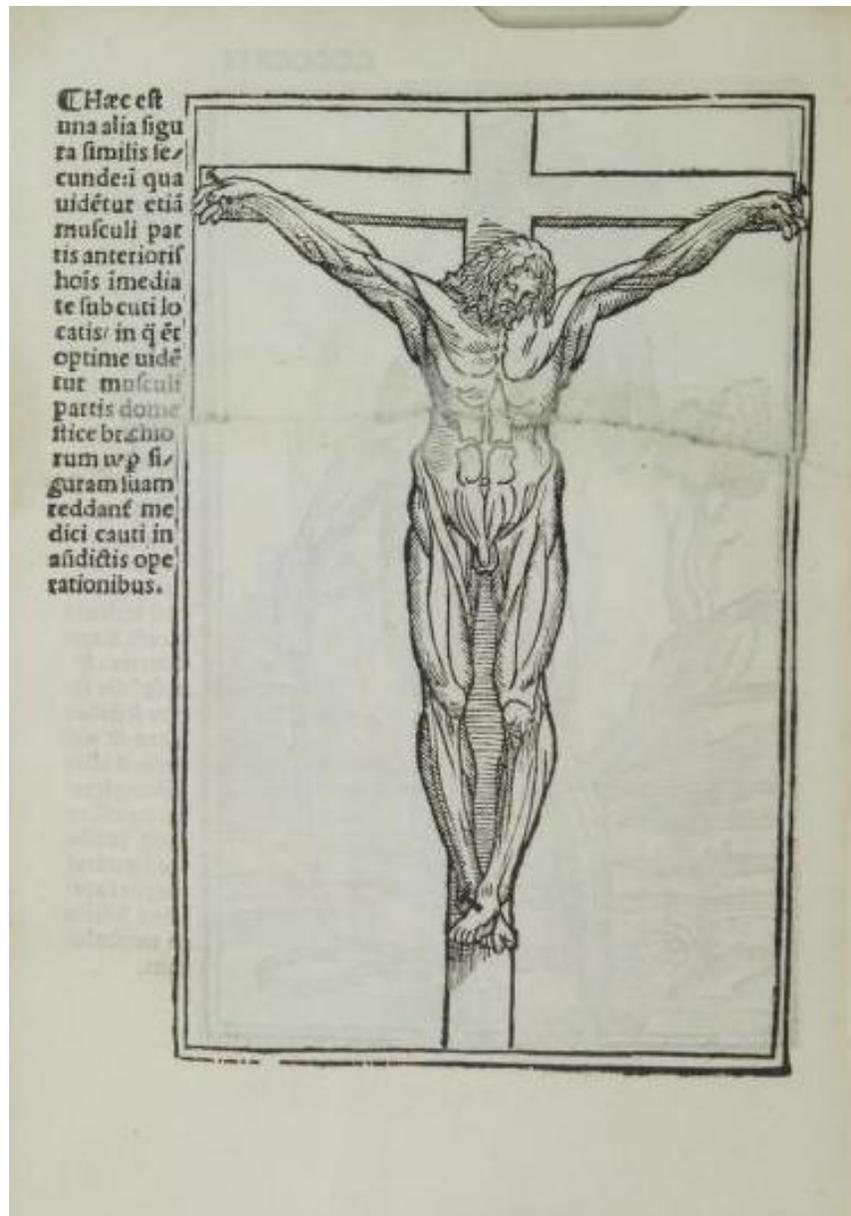


FIGURE 85.

ANATOMY OF CRUCIFIXION. Jacopo Berengario da Capri, *Carpi Commentaria cum amplissimis additionibus super anatomia Mundini vna cum textu eiusdem in pristinum et verum nitorem redacto* (Bologna: Girolamo Benedetti, 1521).



FIGURE 86.

CREATION OF EVE AND BIRTH OF *ECCLESIA*. *Bible moralisée*, Bodleian Library, Oxford: MS 270b, 6r (1226–75).

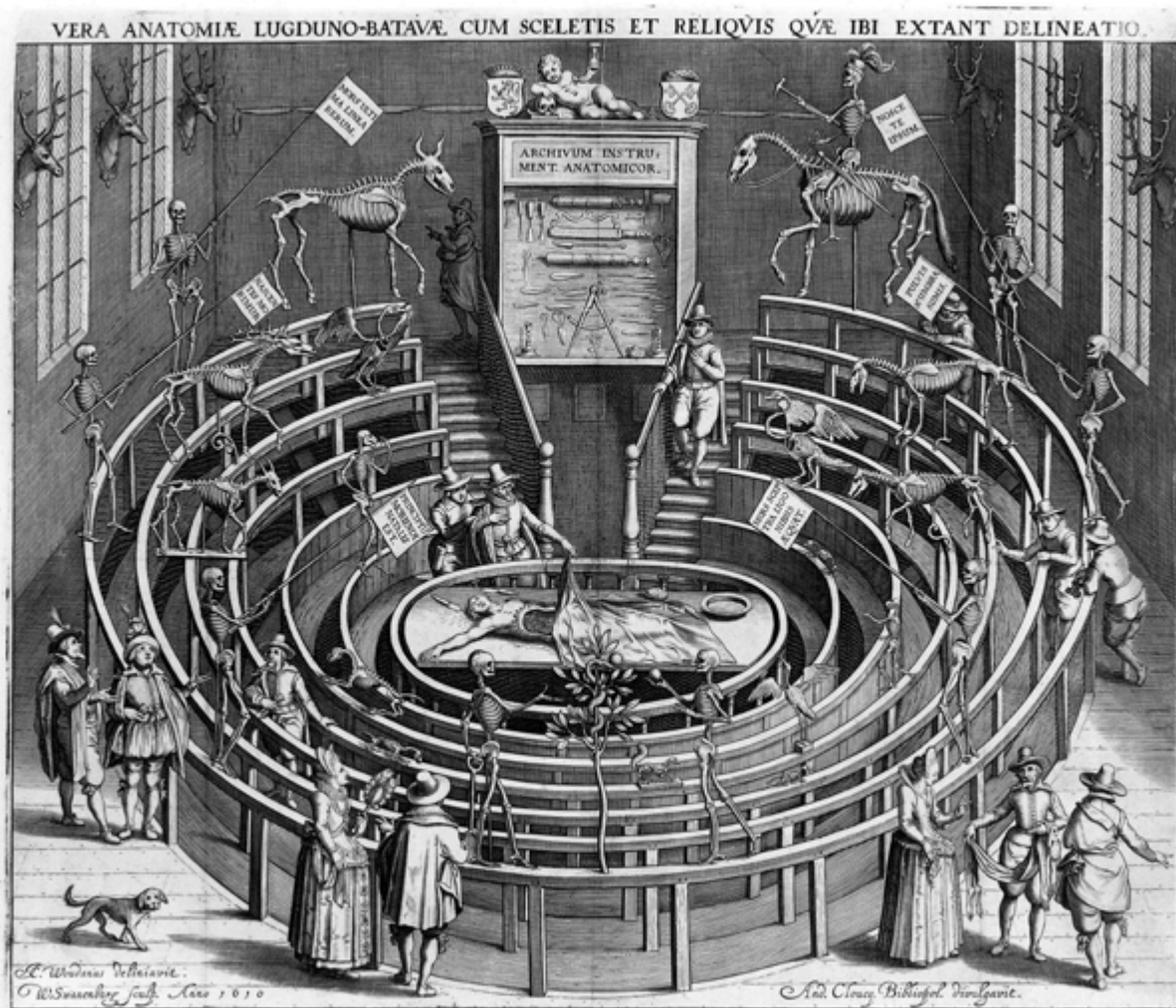


FIGURE 87.

VERA ANATOMIAE LUGDUNO-BATAVAE CUM SELECTIS ET RELIQUIS QUAE IBI EXTANT DELINEATO. Willem van Swanenburg after Jan Cornelis van 't Woud (Leiden: Andries Cloucq, 1610).