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RECONCILING MATTER AND SPIRIT:
THE GALENIC BRAIN IN EARLY MODERN LITERATURE

by

Erica Nicole Daigle

An Abstract

Of a thesis submitted in partial fulfillment of the
requirements for the Doctor of Philosophy degree
in English in
the Graduate College of
The University of Iowa

July 2009

Thesis Supervisor: Associate Professor Alvin Snider

ABSTRACT

This project asserts that in works by Edmund Spenser, William Shakespeare, John Donne and Aemilia Lanyer, early modern knowledge of Galenic brain physiology is an essential part of Renaissance formulations of identity. As the accepted residence of the soul, the Galenic brain is a place where important questions about subjectivity can be addressed, and my project reads references to the brain in early modern literature as confluences of anatomical knowledge and Christian theories of spiritual identity. These readings uncover a more nuanced picture of the early modern subject as a complex union of flesh and spirit.

I begin with an in depth overview of the legacy of Renaissance Galenism. I then read Galenic brain theories that are influential in the early modern texts in my study. This discussion progresses through my reading of the reconciliation of Galenic medicine with Christian doctrine that occurs over several centuries. Chapter two is a focused analysis of how Edmund Spenser constructs the character of Prince Arthur as a compromise between current medical and Christian ideas. I argue that in a critically popular passage in Book II of Spenser's *Faerie Queene,* contemporary theories of the brain ventricles contribute to an anatomical definition of Christian temperance that contributes to the complexity of Prince Arthur's behavior. In chapter three, I read Richard's famous prison speech in act 5, scene 5 of Shakespeare's *Richard II* as a theory of his cognition, or the process by which his behavior becomes manifest, and I argue that this reveals

the interdependent relationship between early modern personality and the physical body it inhabits. In my chapter on John Donne's poem *"The Crosse,"* I argue that Donne deliberately departs from accepted anatomies of the cranial sutures in order to assert spiritual causation that maintains and disciplines the passions. Finally, in my concluding chapter on Aemilia Lanyer's *Salve Deus Rex Judeaeorum*, I argue that Lanyer constructs a female brain that requires the masculine dominance of God's grace in a highly sexualized relationship, and that her model mirrors patriarchal physiological models of women.

Abstract Approved: ____
Thesis Supervisor

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Title and Department

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Date

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THE GALENIC BRAIN IN EARLY MODERN LITERATURE

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Graduate College
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CERTIFICATE OF APPROVAL

PH.D. THESIS

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INTRODUCTION

EARLY MODERN GALEN: BODY, BRAIN, AND SELF

> What the great philosopher hath observed of Mens Bodies, is, upon so much stronger reasons, true of their Mindes.
>
> Edward Reynolds, "A Treatise of the Passions and Faculties of the Soule of Man"

Galenic Medical Theory and the Renaissance Self

In the past twenty years or so, early modern science has become integral to our understanding of how Renaissance writers constructed cultural identity using a variety of discursive methods. Because the brain in particular was a space where the immaterial soul resided and drove physiological cognition according to contemporary medical theories, discussions of it in Renaissance literature are replete with both physiological and theological questions about human identity. The common thread among early modern writings, and a key with which to decipher Renaissance selfhood, is one particular body of medical knowledge that underlies references to the body, soul, and self. During the medieval and early modern periods, England's physicians were educated by ancient medical theory that had been filtered by the Roman physician Claudius Galenus, who provides a mesh of the anatomical reality of dissection and the dominant philosophical tenets of the time. Despite his constant references to the "spirits," Galen's writing, defined by his commitment to logic and reason, refused to acknowledge any deity's participation in disease and cure, a view that was politically comfortable but religiously abhorrent to later Christian physicians

during the Middle Ages and Renaissance. However, Galen's teachings united the body with what he called the "soul" in a circle of interdependence, and this theory was attractive to those Christian physicians and philosophers who recognized the fluid possibilities of Galen's medical theories.[1] In this project I argue for the centrality of Galenism to early modern constructions of identity, and I focus on the brain, as the seat of the soul, as an organ through which Edmund Spenser, William Shakespeare, John Donne, and Aemilia Lanyer approach particular aspects of human behavior and self-identification.

As an important strand of early modern cultural discourse, Galenic physiology is a rich source for the literary and dramatic study of human behavior, and this study highlights places where writers tap into this legacy in their complex attempts to represent people as they really are. The works of Renaissance writers are important sources of Galenic medicine and philosophy, and literary uses of these ideas can tell us quite a bit about contemporary attitudes toward them. I find that Galenism is an important thread in Renaissance cultural ideology because the physician's ancient theories, both medical and philosophical, heavily influence Renaissance perceptions of identity that are constructions of parts physiological and theological. The appropriation, interpretation, and reworking of the Galenic model of the brain, especially his theory of the spirits, is a fertile area of exploration for writers who embraced the malleability of Galen's cognitive theory because it offers an authoritative medical justification of the characters they create. It is important to note that Renaissance

medical theory is not purely Galenic, and in fact such a thing as pure Galenism does not exist after having been filtered by other cultures and philosophy for almost fifteen hundred years. But the quality of Galen's work and his attitude toward intellectual progress allows for the persistence of his ideas within the evolving fields of medicine, philosophy, and literary production. It is also important to note that not everyone agreed with Galen—he was not blindly worshiped or his theories accepted without reservation, especially by theologians. The evolution of his legacy in the Renaissace is complex, as are the cognitive theories of identity that evolve from his work.

I turn to the brain for this study of early modern identity because writers like Spenser, Shakespeare, Donne, and Lanyer recognize it as a space where the exciting interplay between the material and the spiritual takes place. It is, as Michael Schoenfeldt might argue, an example of the body and the soul actively conspiring to create an individual. The idea that the brain is the seat of the soul is an important topic of discussion for Renaissance thinkers largely because it is where the mysterious communion between God and man actually takes place. The Galenic brain, housing the most important and transcendent aspect of the soul, is a command center in Renaissance literature that rules the body because of God's presence there. And this special interplay of the human mind and the soul becomes the breeding ground of identity and agency for early modern writers. In one of the most comprehensive looks at early modern cognition to date, Mary Thomas Crane defines the Renaissance mind as "the conscious and

unconscious mental experiences of perception, thought, and language."[2] In *Shakespeare's Brain,* a reading of the cognitive processes actively employed by Shakespeare as he wrote, and whose traces she locates in many of his plays, Crane offers a useful model that dictates that the Renaissance subject comprises a special relationship between brain matter and its environment, arguing that "cognitive science offers the more radical idea that social and cultural interactions have materially altered the physical shape of the brain."[3] On this point my project agrees as early modern medicine acknowledges the material changes that the brain undergoes on a daily basis, changes that directly result in alterations in behavior or general health.

Scholars of Renaissance literature who are interested in body studies have enthusiastically pointed out that interrogating physiological presence in the period's writings exposes readers to important and unique perspectives as they investigate the discursive possibilities that the body provides within texts. Critics recognize that writers identified with a Galenic body image that, according to Michael Schoenfeldt, courses through early modern literature as "a vibrantly inconsistent but brilliantly supple discourse of selfhood and agency."[4] In early modern studies, the Galenic body has become, in the past two decades, an important locus not only of creation but also of self-awareness. Critics continue to argue that when addressing the human condition Renaissance writers habitually use the discourse of Galenism, most often including references to Galen's medical and philosophical writings, to address some of their most

profound questions about human identity and subjectivity. Gail Kern Paster notes that the Renaissance definition of selfhood in literature depends on the body's interaction with its environment through the rules of Galenic physiology, but that this is also a psychological and philosophical experience.[5] In line with these and other critics, I assert that Renaissance writers recognize that the Galenic body is the most immediate point of interaction with the external universe, and that they frequently investigate the specific physiological terms of these interactions in an effort to figure out what makes people different in personality, behavior, and appearance. Specifically, and where I depart from existing studies, I argue that many Renaissance writers express the simple yet sophisticated belief that the brain is the locus of personality because it is the residence of the soul, and it is this association between the brain described by Galen and identity that I wish to place at the forefront of my study of the early modern body.

What makes the Galenic brain so important to reading Renaissance literature is that his particular physiological concerns are an integral strand of the cultural discourse that attempts to define early modern identity. Specifically, discussions of the brain and cognitive processes, including the exercise of reason and will, are at the center of literary approaches to the idea of humanness. Shakespeare alone mentions the brain specifically eighty-two times across twenty-six plays, his sonnets, and three long poems, always in reference to behavior and even in particular references to cognitive processes, and when

called for, in reference to Galenic physiology. Macbeth realizes that "the heat-oppressed brain" produces hallucinations, particularly of daggers; Hamlet, in emotional turmoil, characterizes his thinking as substantive movement within his brain; Orsino, the lovesick fool, locates Olivia's rational soul within the brain that he wishes to overtake.[6] Despite evidence that writers were well-versed in Galen's cognitive physiology, the brain has been underemphasized in body studies to date, even thought it emerges again and again as the most important organ in determining identity, both externally and reflexively, as part of a larger unity of processes that contribute to a comprehensive theory of human expression and experience. I argue that in Renaissance literature, this specifically Galenic physiology of the brain offers more sophisticated ways to conceive of early modern subjectivity and provides new ways to read texts that contain thinking individuals engaged with their material environments, both internal and external. Using Galenic anatomy and physiology and literary works by Edmund Spenser, William Shakespeare, John Donne, and Aemilia Lanyer, I explore how these authors understand how and why cognition provides insight into early modern self conception and self presentation.

One of the keys to early modern physiology, and what connects all of these studies of Renaissance authors, is Galen's supple doctrine of the *pneuma*, a system that both retains a material exploration of behavior and acknowledges an underlying supernatural cause. Galen's support of the Alexandrian physicians' theory of the brain as the *hegemonikon*, the central ruling part of the

body, was one of his most important influences on later medicine largely because the Galenic brain provided legitimization of the immortal soul.[7] Galen's encephalocentrist theory depended upon his determination that the ventricles were the seats of all brain activity, both sensory and cognitive; his work is an expansion and refinement of Erasistratus' pneumatic system, of which Galen's own work is our primary source.[8] This famous theory of the way matter and spirit interact and merge in the human body is the most influential doctrine in the Renaissance, perhaps because it offers a physiological explanation of this mysterious phenomenon. The nature of the pneuma has always perplexed readers of Galenic theory, whose mystified ranks include Vesalius, Thomas Willis, Descartes, and other interested parties of the seventeenth century.[9] Quite simply, it is understood as a kind of substantial air that flows through the blood vessels and somehow causes cognition to occur. Its methods are beyond human comprehension, a perfect physiology for a universe ruled by a non-specific "primary mover." In his comprehensive study of Galen's neurology, Jules Rocca points out the usefulness of such a system:

> Either as a general or a specialized concept, pneuma is a good choice with which to underwrite a physiological system. It is indeterminate, invisible, and malleable. It can therefore be defined in several different ways.[10]

In effect, no theory of the pneuma can be incorrect. The Hippocratic corpus assumes that it is an air-like substance, drawn from the outside world as described by Diogenes of Apollonia and distributed with the blood.[11] The Stoics used the term to refer to the presence of the divine spirit in the human body, a

special compound of fire and air that was sometimes equated with vital heat. In this physiology, pneuma is a divine mover, directing the development of not just the body but of all things in the universe. Most important is the Stoic idea that the pneuma is not only subject to but depends upon change, and this malleability forms the basis of how Galen and later Renaissance thinkers imagined the coexistence of matter and spirit in the body.

Although the pneuma forms the center of Galen's physiology, his knowledge of it was inherited from Alexandrian pioneers who first hypothesized that the brain controlled the entire body through the nerves. The flexible pneumatic theory led Galen to later recognize, as the physician Herophilus of Chalcedon had confirmed in the third century B.C.E., the cognitive significance of the brain through his observation that the nerves connect the brain with the organs of sense.[12] Brief mentions by Galen suggest that Herophilus had conceived of a system through which the pneuma is responsible for both cognitive and motor processes. He certainly believed, in the tradition of the Platonists, that the soul resided in the brain, disagreeing with the Aristotelian notion that the brain merely cooled the body and kept it asleep. Most important, Herophilus asserted that *psyche*, or soul, was corporeal yet separate from the body in essence in the form of pneuma. Herophilus considered the special nature of sentience to be a product of this incredible combination and is thus able to postulate how the soul communicates with the body. So he argued that the nerves carry the pneuma like conduits, distinguishing also that voluntary

transmission comes from the soul and involuntary from nature or *physis*. The soul is superior to the material, but its power lies in the aggregate of matter and spirit that is always in motion. As he combined a precise, intuitive anatomy with a philosophical physiology, Herophilus put the soul and the brain into the same realm of inquiry, assuming the connections among body, identity, and a life-giving spirit that Galen continues to endorse.

It is certainly important in considering Galen's contributions to Renaissance science that his physiology of both body and soul depends upon the balance and control of physical substances, a concept which seems contrary to the belief that the soul is wholly immaterial. Galen's ideas were based on a popular view of nature and physiology that assumed that every part of the body is essential to the sound working of the whole, and that in turn that body is part of a larger universe that shares its physical qualities. The philosophical bases for Galen's theories about nature and human life were largely inherited from Plato and Aristotle, who did postulate a Reigning Soul or primary, life-giving spirit with which man shares his nature. The inclusion of such philosophy in Galen's theories made his approach to medical science very attractive to Christians and non-Christians alike; at different times he adhered to rival schools when postulating causes and cures for diseases.[13] For this reason, when Galen was translated into Latin in the eleventh century, his writings became wildly popular and introduced as major teachings in the new European medical schools. The Galenic theory of cause and cure is based on Hippocratic humoralism, which due

to Galen's influence remained the dominant theory of physiology until the late seventeenth century. This system unifies the body and its environs like no other medical theory, and it is the primary association later cultures have with Galen.[14] Early modern humoral theory was governed by the principles of balance and control; this balance, in all cases, had to exist between the passions and body *and* between the body and the world as well. The humors were always moving, maintaining the life-sustaining balance through their flow and constant repositioning just as the elements in the universe changed. The theory offers a way to connect human beings to their spiritual source while giving them the ability to exercise some level of control over their own bodies.

This idea that emotions and behaviors are physiologically determined is generally considered a recent notion, but Hippocrates taught this doctrine and Galen later picks it up, sending it into early modern discourse.[15] Hippocrates did believe in the soul, as did Galen, and their writings are not afraid to broach philosophical subjects. But the idea that man had a soul did not preclude the possibility that this soul could have something to do with physiological regulation, and the result of this thinking is the characterization of the body as a unique third material made of matter and spirit.[16] Most important to the way that early modern physicians and writers thought about the body is Galen's insistence on the simultaneous unity and pluralism of the body, a perspective largely inherited from Plato. The way that later physicians imagined the relationship between the soul and body, especially related to medicine, was taken directly from Hippocrates'

integration of Platonic philosophy and medical topics. The tripartite soul, Hippocrates asserted, resided within the fabric of the body in a mysterious way that could not easily be determined. Although he shied away from mystical diagnoses, Hippocrates successfully introduced the study of the brain to both medicine and philosophy when he deemed it the *hegemonikon*.

The persistence of the Galenic idiom in the Renaissance relies heavily on its attention to this relationship between body and soul, and this particular aspect of early modern body studies has demanded critical attention from scholars who have begun in the past twenty years to read with special attention to the ways in which medical philosophies and ideologies inform Renaissance identities. Most helpful to the theoretical setup of this study is scholarship that recognizes this important Galenic understanding of the universe and attends to the many ways in which the unraveling of dualistic conceptions becomes a critical problem. Michael Schoenfeldt's book *Bodies and Selves in Early Modern England: Physiology and Inwardness in Spenser, Shakespeare, Herbert, and Milton* delves into the question of how theories of physiology can shape the idea of the individual self, pointing out that Galenism encourages introspection and serious consideration of behavior. Schoenfeldt uses the body as a barometer of discipline, arguing that ethics are embodied to the point that "Galenic medicine and Christian ethics conspire to highlight the particular physiological and psychological makeup of the individual."[17] In arguing this, he acknowledges also that Galenism is a special tool used by writers to gauge the behavior, motives,

and choices of their characters. In his quest to discover at least one way in which the body could contribute to identity, Schoenfeldt analyzes the nuances of the dualistic relationship between flesh and spirit in the Renaissance, insisting that in order to understand the early modern body, we must read it materially, and that the regulation of that material is what constitutes individual power. He argues that people imagined themselves as physical bodies that ate and drank and then got rid of waste, and whatever else went on in between was the mysterious part of who they were. Schoenfeldt's emphasis on the importance of Galenic physicality in the Renaissance is a crucial beginning to studying early modern subjects, but I complete this picture through the consideration of the special construction of the Galenic brain that, as a unique combination of spirit and matter, Renaissance writers recognized as the basis of human identity. It is far more useful not to read the body "materially" or "spiritually" but as what Spenser, Donne, Shakespeare, and Lanyer conceived, a complex and ever-changing system explained in detail by Galen's writings and controlled by an equally complex cognitive center.

Galen's clear acknowledgement of the human body's dual state is crucial to our understanding of early modern views of the body and soul. In the opening of *Humoring the Body: Emotions and the Shakespearean Stage*, Gail Paster hits upon a central issue in considering the special meeting between flesh and spirit in the Renaissance body, one that is immediately applicable to considerations of the brain.[18] She points out that the picture of the early modern subject is colored

by the ways in which theological and Galenic discourses interact, and the negotiation of these two things is a central concern in Renaissance texts that has been widely discussed by literary critics. The body permeates early modern literature as a representation of the everyday experience of a human being, and so far scholars have asserted that all this talk of the body must mean that early modern identity was largely material. She argues that it is difficult for twenty-first century readers to imagine a substance being both spirit and matter at the same time, and it is important to reorient our perspective from time to time. Paster says that when considering humoral theory, we must recognize a subtle but important idea in the Renaissance: that the relationship between the humors and their influence on the body is one of equation, not of cause and effect. Paster points out that the mistake scholars make is in thinking that the humors are substances whose imbalance causes a particular state and vice versa, such as too much choler causing anger, or a change in mental state causing the humors to become imbalanced. Instead, she argues, the humors must be read as embodied emotion, i.e. that choler *is* anger, and that mental imbalance *is* humoral imbalance. What is immaterial is material at the same time; they are properties of each other and are thus inseparable. This view espouses a degree of sympathy between the physical and the spiritual that is central to my project. This is the most important and most difficult concept for modern readers, and it is the only perspective that can help us read thoughts and belief as the physical entities they are in the literature. For when Richard says that his brain and his

soul beget thoughts that people his mind and body, he does mean that they take up physical space in his head.

Schoenfeldt's and Paster's studies rightly address an important theoretical problem that emerges in extant studies of Renaissance medicine, and that is how early modern Christians dealt with Galen's reluctance to discuss the source of the soul's powers.[19] Galen indicated in his writings that he did not wish to speculate about the soul's immortality out of piety, but some later Christian commentators were troubled by such ambiguity. One of the earliest and most documented cases of Christian reception of classical medical theory is Bishop Nemesius' *De Natura Hominis*, a fourth-century treatise that famously incorporates both Biblical teachings and Hellenistic philosophy in a comprehensive anthropology of human life. Considered one of the most famous attempts to reconcile Christian and pagan ideas, *De Natura* became a favorite of medieval scholastic philosophers whose dedication to Aristotle's logical sophistication informed their theological writings.[20] In it, Nemesius proclaims that Galen is his favorite writer and that he considers him "that most admirable of physicians," engaging him at every turn even to the point of challenging his theories on what he thinks is the most difficult problem in Galen's physiology.[21] He writes that Galen:

> Inclines to identify [the soul] with temperament. For he says that differences of behaviour are consequent upon temperament, constructing his argument with the help of Hippocrates. But if he thinks that the soul is a temperament, it is clear that he also thinks it to be mortal. … The soul is not perceptible, but is intelligible.[22]

Nemesius' work identifies the primary issue that Christian philosophers encountered when wrestling with the Galenic view of body and soul: that of materiality, most clearly expressed in Galen's theory of the soul as a temperament of the body that influences and is influenced by the physical environment. When Galen says that the soul is a temperament, he means that it, like the rest of the body, consists of the balanced and proper mixture of physical qualities necessary for health. Such a theory implies that goodness or badness depends on this physical state, a position that later Christians could not agree with. In an attempt to circumvent this problem, the one thing that these Christians also point out is that Galen refuses to explicitly state whether the soul is material or not.

While Nemesius' interrogation reveals the biggest challenge that Galen presented to later Christian thinkers, one that medieval readers of Galen eagerly take up, later commentators did find ways to use his theories despite this hiccup. In fact, Galen refused to speculate about just how the immortal soul works or even what it is, and his ambiguity may actually have been useful to later Christian reinterpretations of brain physiology. In a moment of humility and introspection, he writes:

> I think that I can state so much only about the [soul] that art and supreme wisdom are inherent in it … But by what kind of principles I have not dared to declare, as I made distinctly clear in many writings and above all in the one "On the Species of the Soul," having nowhere dared to state the essence of the soul. For as I related … I have not come upon anybody who geometrically demonstrated whether is it altogether incorporeal, or whether any is corporeal, or whether it is completely everlasting, or perishable.[23]

This equivocation is precisely what makes Galen so accessible to later readers. And even though many scholastics like Aquinas agreed that Aristotle was accurate in placing the soul in the heart as a central life force that could then be spread throughout the body, and especially to the brain for cognitive processes, the medieval philosophers did appreciate Galen's authority on the faculties of the soul. One problem Aquinas faced was that Aristotle does not elaborate on the role of the *hegemonikon* as Galen does, and although Galen's scheme lends much more importance to the brain instead of the heart, scholastics championed his emphasis on judgment and will as the highest faculties of the soul.[24] If early modern discourses were amalgamations of classical and Christian conceptions of the world and the body, medical theory was certainly no exception, and Renaissance physicians enthusiastically continued to attempt to reconcile Aristotle's heart and Galen's brain.

Later readers of Galen picked up on his reverence for a benevolent world spirit whose influence could be seen not just in the things it created but also in the strong moral sense that it inspired. A fuller picture of Galen from his writings reveals a sincere humanitarian, philosopher, and philanthropist whose theories could be reconciled with Christian physicians who were looking for a scientific authority. In fact, Galen's writings were of particular interest to early modern Christians because of his commitment to exploring the genius of the Creator that he believed was evident at the interface of body and spirit. In the third book of *De Usu Partium*, he censures those who would misuse their bodies:

> How wantonly he uses all the openings of his body! How he maltreats and ruins the noblest qualities of his soul, crippling and blinding that godlike faculty by which alone Nature enables a man to behold the truth, and allowing his worst and most bestial faculty to grow huge, strong, and insatiable of lawless pleasures and to hold him in a wicked servitude![25]

At points like this Galen reads much like a tract on morality, and his writing becomes quite amenable for later Christians. The argument that Christian philosophers appropriated Galenic medical theory for their own purposes is imprecise and misleading; it is more correct to say that they inherited his ideas as an undeniable authority throughout the longstanding association between medicine and philosophy, and that it was an authority that they could feel ethically comfortable with. In fact, Galen's purpose in writing *De Usu Partium* is consistently overlooked, even as he explains it clearly after his diatribe on immorality:

> But if I should speak further of such fatted cattle, right-thinking men would justly censure me and say that I was desecrating the sacred discourse which I am composing as a true hymn of praise to our Creator. And I consider that I am really showing him reverence not when I offer him unnumbered hecatombs of bulls and burn incense of cassia worth ten thousand talents, but when I myself first learn to know his wisdom, power, and goodness, and then make them known to others.[26]

To say that medieval and early modern Christians rejected Galen for his paganism is an oversimplification of the relationship that later readers enjoyed with him. Strictly speaking, Galen was not opposed to different theoretical approaches and seriously considered any circulating ideas he had read or heard of, including those of the new religious movement. Rather than focusing on the blanket term "paganism," it is more useful to note that his everyday mission to

stay true to the teachings of Hippocrates, honor the legacies of Plato and Aristotle upon which he heavily relied, and maintain piety toward the benevolent world spirit in which he believed mirrors the intellectual endeavors of Renaissance thinkers.

Renaissance humanists were attracted to Galen's view of the soul and the remarkably fluid pneumatic system, and their new translations and interpretations of his works in the sixteenth century reintroduced his doctrines afresh. Galen's methods were primarily Aristotelian, but he was also heavily influenced by Plato's questions about the nature of sensory interpretation in the brain and the exact location of the immortal soul.[27] His use of the two great philosophers, as well as his reliance on Hippocrates as a medical authority, translated well in the Renaissance as these works regained central importance in both natural philosophy and medical practice. In summarizing Galen's conception of what the brain does, Juan Huarte writes:

> Galen writ a booke, wherein he prooveth, That the maners of the soule, follow the temperature of the body, in which it keepes residence, and that by reason of the heat, the coldnesse, the moisture, and the drouth, of the territorie where men inhabit, of the meats which they feed on, of the waters which they drinke, and of the aire which they breath: some are blockish, and some wise: ... And to proove this, he cites many places of Hippocrates, Plato, and Aristotle. … [28]

Like medieval and early modern Christian writers, Galen's ideological pursuits were dominated by varying strands of the most important philosophies known to him, and because of his variability, his work provided several theories to which early modern Christians could adapt. For example, Galen admired Aristotle's

approach to research, his theory of the elements and of the universe, and his insistence upon the causal workings of Nature, although he disagreed with Aristotle's most famous physiological claims. Aristotle's model of the universe, his reliance on structured methods of investigation, and his complex rhetorical strategies were ideal to scholastics in the middle ages, especially Aquinas, whose work on cognition is important to Renaissance conceptualizations of the brain.

Instead of being confused by these variations, sixteenth-century commentators such as Huarte welcome this approach to the brain and soul. He claims Galen's flexible expertise boldly:

> Finally, all that which Galen writeth in this his booke, is the groundplot of this my Treatise, albeit he declares not in particular, the differences of the habilities which are in men, neither as touching the sciences which everie one requires in particular. Notwithstanding, he understood that it was necessarie to depart the sciences amongst yoong men, and to give ech one that which to his naturall habilitie was requisit, in as much as he sayd.[29]

According to Huarte's assessment, Galen wrote with the full realization that his theories would be received by people in innumerable stations and at varying levels of intelligence and refused to compromise his knowledge by altering it according to his readership. Huarte recognizes that even though Galen's topics are at times difficult, pupils at every stage of learning may find them useful. Galen's flexibility does not dictate that his reception by all later writers was wholly positive or that everyone found his theories so adaptable. Just as important as

what later philosophers agreed with were what Galenic theories they rejected, and among Christians, Galen's materialism was a hotly discussed topic.

The Dual yet Homogenous Nature of Humans

In recent criticism, Mary Thomas Crane presents a materialist reading of Renaissance embodied cognition in *Shakespeare's Brain,* a study of how rhetorical clues correspond to the playwright's neural pathways in Shakespeare's works. Crane's particular approach to Shakespeare becomes problematic, however, due to a misreading of Renaissance cognitive theory that results from an insufficient consideration of Galenic physiology. In her reading and application of modern cognitive science, Crane assumes that what she calls "culture" is wholly separate from Renaissance cognitive theories, a distinction that I believe is misleading. She separates them:

> Cognitive theory similarly recognizes the powerful role of culture in forming the subject but insists that there is an interaction between the biological subject and its culture. Meaning is not just the product of an exterior system of signs but is fundamentally structured by human cognitive processes.[30]

As part of the postmodern understanding of how the brain is affected by the world outside of the body, this estimation is certainly plausible; however, within the scheme of macrocosm and microcosm that Galen expounds, the relation becomes problematic. Crane's application of contemporary cognitive theory to Shakespeare's texts in a quest for particular mental associations assumes that the Renaissance view of man's relationship with the universe mirrors that which she uses, a mistake that I believe leads her to erroneously assume a remarkably

separate "inside" and "outside" of the early modern body. And while it is certainly true that Shakespeare recognized the difference between "inside" and "outside," he may not have separated them so starkly if they were made of the same thing. My method differs from Crane's in that I do not intend to fit the works I discuss into the theoretical framework of Galenism. On the contrary, I begin with the text itself, listening to what it says about its involvement with Galenic discourse and the ways in which it interprets itself thereby.

The preponderance of Galenism in Renaissance everyday life, in both high and low literature, and in common language is proof of the ideological bond between physiology and self perception, and the regular mention of the period's most comprehensive view of the human body indicates that it cannot be ignored when considering Renaissance notions of identity. Early modern writers use examples of the body's materiality to describe emotional and cognitive states because they equate them, and the best way to show such equation is through visceral imagery. Looking at the brain then becomes a more focused way to answer questions about Renaissance subjectivity. Spenser, Shakespeare, Donne, and Lanyer express some of the most important parts of an early modern thinking subject—such as personality, choice, and moral behavior—through explorations of Galenic cognitive processes that emphasize the close relationship of matter and pnuema in the brain. What I add to studies like Mary Crane's is the important idea that Galen's basic physiological theory reflects his view of the body as a unified object dependent upon intimately connected and interactive

parts and particularly upon the external environment that it was a part of. In doing this, I consider that Galenism is a crucial ideology in what Debora Shuger calls a reading of "barely articulated assumptions and feelings about how the pieces of the world fit together" that existed during the Renaissance.[31] One of the most important relationships that Shuger recognizes in her work is that between the Galenic body and the soul, and she identifies in Renaissance literature questions ranging from their substance and provenance to their coexistence, their differences and similarities, and most controversially, their unity. Critics continue to point out that part of the problem of body and soul dualism is the assumption that early modern identity is rooted in Galenism as a primarily material experience that contradicts the overwhelming spirituality of the period. However, like Shuger, I offer a reading of Galenism that reveals its flexibility and practical effectiveness in addressing both physical and spiritual concerns.

In the dominant Christian culture, arguing that the material is important at all has been framed as a problematic endeavor, but Renaissance thinkers were in some instances able to philosophically reconcile the importance of the body with the supremacy of the soul. Two major principles important to the consideration of materialism in Renaissance literature are underlying theories of microcosm and macrocosm, which Galen wrote about, and the strict beliefs in resurrection and a supernatural union between the body and soul. Caroline Bynum has most usefully and thoroughly examined medieval and early

Renaissance ideas toward the body in her attempt to construct and analyze a history of the body. In all of her work Bynum takes on what she calls “the stereotype, common in textbooks, of the Middle Ages as ‘dualistic’—that is, as despising and fleeing ‘matter’ or ‘the body.’”[32] She means to argue against the idea that medieval thinkers thought little of flesh and set the spirit above all else. Instead, she suggests, the body was the central locus of salvation, and she argues that “the extravagant attention to flesh and decay characteristic of the period is not ‘flight from’ so much as ‘submersion in.’”[33] Christianity afforded no other possibility; its belief system depends on the idea that the divine can become flesh. When Christian humanists translated Galen at the outset of the English Renaissance, they forced these rediscovered medical theories he propounded to engage directly with these medieval ideas. Because Galenism offered a way for people to situate themselves within the larger world through its Platonic constructions of identity, the medical theory retained its philosophical importance through the early modern period.

Like medieval thinkers later did, Galen took from the works of Plato the idea that the theory of man as microcosm provided a concrete explanation for the physical conditions of humans’ return to nature at death. In the *Philebus*, Socrates provides the first literary mention that Galen could have known of the human body’s similarity to the universe. After making Protarchus admit that the human body is composed of the four elements, air, water, earth, and fire, he makes this philosophical connection. Plato presents the discussion:

> Socrates: Now, realize that the same holds in the case of what we call the ordered universe. It will turn out to be a body in the same sense, since it is composed of the same elements.
> Protarchus: What you say is undeniable.[34]

According to Socrates, what regulates the body's processes is the soul, and thus the universe must possess an equivalent property. This Soul of the World, further discussed in the *Timaeus*, has wisdom (*sophia)* and intelligence (*nous*), just as the human soul does. Later Christian theologians and philosophers struggled with this idea, as they began to particularly identify the cosmos with God. In the first century Philo of Alexandria was willing to entertain the idea that man and God shared certain properties, for he had certainly read "Let us make man in our image, after our likeness."[35] However, he writes in *De opificio mundi*:

> Moses says that man was made in the image and likeness of God. And he says well; for nothing that is born on the earth is more resembling God than man… but the resemblance is spoken of with reference to the most important part of the soul, namely, the mind: for the mind which exists in each individual has been created after the likeness of that one mind which is in the universe as its primitive model, being in some sort the God of that body which carries it about and bears its image within it.[36]

Philo sticks with the Platonic interpretation that the universe, as well as man, is ruled by reason and intelligence. Likewise, in *De usu partium,* Galen acknowledges the superiority of man's intellect as a sign of the larger universe:

> Who could be so stupid, then, or could there be anyone so hostile and antagonistic to the works of Nature as not to recognize immediately…the skill of the Creator? Who would not straightaway conclude that some intelligence possessed of marvelous power was walking the earth and penetrating its every part? … Thus, when anyone looking at the facts with an open mind sees that in such a slime of fleshes and juices there is yet an indwelling intelligence and sees too the structure of any animal whatsoever—for they all give evidence of a wise Creator—he will understand the excellence of the intelligence in the heavens.[37]

Such logical piety meshed well with the reasoning of the medieval scholastics and melded somewhat comfortably with the Renaissance Christian worldview. His obvious belief in a higher intelligence, although not specifically named, and the reverence with which Galen presented his physiological models are two of the most accessible points of his doctrine for later readers of his work.

An ambitious aim of this project is to determine how Renaissance authors conceptualized the production of behavior and personality from physiological brain function in real time, and in this attempt I rely upon Galen's theory of how the humors become the temperaments. One of the most important ways in which Renaissance writers utilize Galenic theory in their characterizations is the continual use of this theory that Arab physicians and their Christian successors developed from Galen's texts. The Salernitan tracts, works drawn directly from Galen in the Middle Ages by physicians at the famous medical school at Salerno, Italy, define this famous formulation in the twelfth century:

> The humours cause variation in mood as follows: blood makes men benevolent, jolly, simple, moderate, bland, and sleepy or fat; yellow bile makes man unperturbed, just, lean, a thorough masticator, and of good digestion; black bile makes man wrathful, grasping, envious, sad, sleepy, and critical; phlegm makes a man vigilant, thoughtful, prudent.[38]

During Shakespeare's time, these conditions were more commonly called the complexions, as Levinus Lemnius's very popular work *Touchstone of Complexions* indicates in 1565 on first publication. The moral philosopher Thomas Wright states more clearly in 1604 that "Passions ingender Humours, and humours breed Passions," tying emotion and intention with physical expression. Very simply, happiness, hope, and lascivious desire force the

production of blood; boldness and anger are the passions that breed choler; the melancholy passions, sorrow, fear, and despair, cause a contraction of the heart by increasing black bile; and a lack of emotions, often called a phlegmatic state, increases the production of phlegm. Shakespeare demonstrates his knowledge of this system when King John remarks to Hubert that “if that surly spirit, melancholy, / Had baked thy blood, and made it heavy, thick, / Which else runs tickling up and down the veins” he may be able to kill Arthur.[39] Shakespeare is constantly aware of his characters’ shifting humors, and he rightly attributes changes in mood and behavior to the chaotic motion of the humors. What results is a relation of material and immaterial states that is much more an equation than a cause and effect relationship.

Inside the Renaissance Brain

Discussions of the brain in Renaissance literature contain a confluence of both physiological and theological questions about human identity and are indicative of the ideological problem faced by writers of the period. In order to create a comprehensive human character—one with emotions, religious faith, free will, and corporeality—all of these things had to be combined and made to work together. Thus, the problem of how to put it all together surfaces when authors try to reconcile the idea that a human being is a special combination of matter and spirit with the belief that the spiritual trumps the material. I discuss passages in the *Faerie Queene*, *Richard II*, Donne’s poetry, and *Salve Deus Rex Judaeorum* that ask just these questions in an attempt to complete the picture of

the way men think, decide, believe, and feel. In a much larger sense, it is at these moments that I observe the evolving relationships among literature, science, religion, and philosophy that emerge in early modern literature. The human being that these discursive interactions produce is complex, malleable, and sometimes contradictory, just as the inquiries that inspire them. Thus, reading these works in the context of contemporary physiology of the brain is not to devise a static definition of Renaissance identity, but rather to discover a cultural context that shapes literature with the same movement, contradiction, and unpredictability that the literature contains.

In discussing the brain itself, it is important to consider the evolution of Galen's theories of cognitive function and behavior. The Galenic brain achieves anatomical and physiological legitimization in the comprehensive and ingenious studies performed by two of the most influential early neurologists who were greatly admired during the Renaissance, the famous duo of Herophilus and Erasistratus. Herophilus of Chalcedon was a pupil of the Hippocratic school in the second century B.C.E. who, like his predecessors, subscribed primarily to environmental causes and natural remedies. But unlike Hippocrates, who could only observe anatomical features on the battlefield or in the butcher's shop, Herophilus was lucky enough to perform his own public and private dissections, and the knowledge he gained is astonishing.[40] Most important to the purposes of this work, and perhaps to neurology in general, is his discovery that the nerves originate in the brain. This suggested to Herophilus that the brain was in fact the

command center for the body, and not the heart, as Aristotle had asserted.[41] Tracing the nerves from the brain and spinal cord to the organs and tissues in which they were embedded, Herophilus deduced that they must somehow cause these things to move and therefore function. Galen, who closely studied the writings of his predecessors and discusses them at great length, admires this particular achievement of Herophilus:

> If, therefore, on the basis of dissection a person has gained knowledge of the beginnings of the nerves that reach each part, he will more successfully treat the loss of sensation and movement in each part.[42]

Four hundred years after this discovery, Galen continued in his own writing to recognize the importance of Herophilus' work on anatomy, a sentiment he passed on to Renaissance physicians. Galen confirmed through his work on animals Herophilus' assertion that the cerebellum controls all motor function, marveling at the discoveries of "the first persons after Hippocrates to record carefully their dissections of the nerves."[43]

Rounding out the influence that the Alexandrians had on Galen is Erasistratus of Kos' contribution to cognitive physiology in his formulation of the pneumatic system. On his own, as opposed to when he worked closely with Herophilus, he was the first to record the complex interior brain structures and specifically the ventricles, which would become the center of brain physiology until the Enlightenment. In passing, the first century C.E. Greek physician Rufus Ephesius mentions that "according to Erasistratus there are two kinds of nerves, sensory and motor nerves," a remarkable discovery that is enhanced by his

assertion that the cerebellum is primarily responsible for the coordination of voluntary movement and is supported by motor nerves in the cerebrum.[44] His interest was primarily physiological, and his greatest contribution to the history of neuroscience is his formulation of the pneumatic system that Galen later edits. Galen had enormous respect for the two Alexandrian physicians, consistently quoting them even though he disagreed with some of their major assertions. The Roman physician was impressed by Erasistratus' method of dissection and close inspection, a pattern he follows in his own studies, and he quotes him at length in *De placitis humani*. He begins with the words of Erasistratus, of which Galen is our only source:

> "And the outgrowths of the nerves were all from the brain; and by and large the brain appears to be the source of the nerves in the body. For the sensation that comes from the nostrils passed to the member through the apertures, and also the sensations that come from the ears. And outgrowths from the brain went also to the tongue and the eyes." In these words Erasistratus admits that he saw clearly a thing that he had not known earlier, that each nerve grows from the brain. And he wrote accurately about its four ventricles, which he had also failed to see the year before.[45]

Galen here praises Erasistratus for his ability to observe and improve upon his knowledge of brain function, and he incidentally also mentions a point about which he thought Erasistratus had erred. Galen's primary disagreement with his predecessor, an observation that turned out to be the cornerstone of his physiology, is that the nerves in some way conduct pneuma or spirits throughout the body, and are not merely solid outgrowths of brain matter. This disagreement introduces Galen to the difficulty of refining a cognitive system that he believed

plausible and observable, and the result was the theory that combined matter and spirit in a tumultuous and intimate coupling.

Erasistratus was the first to conceive of a working system in which the properties of the Reigning Soul and the body could work together to produce consciousness and willful action. In his pneumatic theory, this airy substance comes directly from the inhaled air, passes directly through the walls of the trachea and lungs, and begins its motion in the pulmonary veins. From there, the pneuma goes directly to the left ventricle and is refined to vital pneuma, which is then distributed to the body by the arteries. When it finally reaches the brain, the pneuma are further refined to psychic pneuma, which is then distributed through the nerves to maintain sense and movement. Galen's pneumatic system at first glance appears very similar to the theory of Erasistratus, but its differences reveal Galen's philosophical intent. An important difference is that Galen does not believe that the pneuma simply come out of the air into the body, and he proposes a scheme by which the body *actively* extracts the substance from the air in the lungs. He argues also that the pneuma flows *with* the blood in the arteries and veins, its substance so fine that it can pass through porous membranes that blood cannot.[46] Finally, his most important correction concerns how the pneuma enters the brain. Galen gives the spaces inside the brain a philosophical charge, maintaining that the pneuma must be further refined *before* it enters the superior organ. Galen's insistence that the brain requires a qualitative change in the pneumatic substance reflects his shift of emphasis to

the brain as a mystical locus, even if he does not want to discuss theology directly.

Although Galen had no particular interest in linking what he called the soul to any religious concept, his writings reflect his absolute certainty that the body had parts that are obviously material and parts of whose origins he was ignorant. His brief discussion of the origins of the soul is intentionally irreligious, although Galen's doctrine of the soul was a later target of religious ire because of its ambiguity and implied determinism. In fact, Galen seems reluctant to admit that the soul appears to be material largely because of his devotion to the idea of a world creator spirit. His analysis of the topic is tortured and emotionally charged, as in his most explicit interrogation of the problem in a treatise entitled *The Soul's Dependence on the Body*:

> I have been unable to form even a vague conception of this—though I have for many years desired to. What I can observe clearly, though, is the phenomenon that loss of blood or the drinking of hemlock cools the body, while a powerful fever causes it excessive heat. So again I ask: why does the soul definitively leave a body which is excessively cooled or heated?[47]

Galen honestly admits that the soul is a mystery to him because it seems to depend on material states, and he cannot reconcile any theory of the soul's immortality with that relationship. He understands that the rational soul is man's reason and what Plato called the intelligence of the cosmos, something that separates man from all other living things. He also realizes that this doctrine guarantees that the soul and the body are inseparable until death, and that the soul, by classical definition, somehow coexisted with material substrate. And while he clearly states "that animals are governed at once by their soul and by

their nature (psyche and physis), and plants by their nature alone, and that growth and nutrition are the effects of nature, not of soul," he remained frustrated about what that actually means.[48] For this reason Galen refused to discuss the mortality of the soul in his discussions of the brain, but his treatments required attention to both psychology and physiology, entities that were not separate in his writings.

For Renaissance thinkers, as for Galen, there is no definite answer to exactly how the soul causes cognition in the brain. This project focuses not on any absolute assumptions that these authors make about body and soul but on the intellectual processes they employ in striving to unravel the intricacies of Renaissance identity. Spenser, Shakespeare, Donne, and Lanyer continuously address this issue throughout all of their works, the specific readings of which are too numerous to include here. In these particular works by Edmund Spenser, William Shakespeare, John Donne, and Aemilia Lanyer that I discuss, it is crucial to read brain and soul together as the special entity that makes human beings unique. As the accepted residence of the soul, the early modern brain is a place where important questions about what makes a human being can be addressed, and where we can read references to the brain in early modern literature as confluences of anatomical knowledge and Christian theories of identity. These readings uncover a more nuanced picture of the early modern subject as a complex union of corruptible flesh and imbued spirit.

I have begun this project with an overview of the Renaissance view of the relationship between body and soul. This discussion progresses through my reading strategy throughout the dissertation, which is informed by the reconciliation of Galenic medicine with Christian doctrine that occurs over several centuries. The texts I address identify the brain as the locus of material and spiritual identity, evincing a complex understanding of what the brain actually does. Early modern cognition, tied as it is to questions of religion, politics, and literary enterprise, helps us understand references, symbols, metaphors, and behaviors in the literature in which it is mentioned. Thinking about thinking is an attempt to understand the entire universe where one lives, as simplistic as that seems. Most important, because Renaissance literature reflects what we would now call an interdisciplinary understanding, it is useful not only to figure out what particular physiological theories they address but also to ask why this knowledge crops up in stage plays and longer poems. Early modern literature provides an opportunity to learn things about the brain that we may not have guessed they *could* know, considering an apparent lack of technological sophistication. More important, these writers are dealing with two enormous discourses that centuries of speculation and experimentation have informed and shaped. The works of Shakespeare, John Donne, Edmund Spenser, and Aemilia Lanyer suggest that there is a historically-bound way of thinking about the brain and nerves, starting in the ancient world, that is highly sophisticated and not restricted to the medical sphere of knowledge. It is their attempt to reconcile this knowledge with matters

of faith that provides an illuminating look at how some early modern people answered some of the toughest questions about identity.

After this extensive overview, chapter II is a focused analysis of how Edmund Spenser constructs the character of Prince Arthur as a compromise between current medical and Christian ideas of cognition. Using James Broaddus' essay "Renaissance Psychology and the Defense of Alma's Castle" as a critical starting point, I argue that in a critically popular passage in Book II of Spenser's *Faerie Queene,* contemporary theories of the brain ventricles contribute to a unique definition of Christian temperance that is anatomically driven and that attempts to account for the complexity of Prince Arthur's behavior. I begin with Broaddus' identification of two types of temperance, the physical and the psychic, and I go a step further to describe what I believe the poem outlines: a single theory of temperance that incorporates control over an ensouled body. In this way I show that Spenser's poem encourages us to read temperance as both an encephalic interaction and a spiritual state.

In chapter III, I read Richard's famous prison speech in act 5, scene 5 of Shakespeare's *Richard II* as a theory of his cognition, or the process by which his behavior becomes manifest, and I argue that this reveals the interdependent relationship between early modern personality and the physical body it inhabits. The result of such a reading is a re-conception of Richard's character that departs significantly from previous readings by Ernst Kantorowicz and more recently Charles Forker, who continues in the critical tradition of Kantorowicz's

"king's two bodies." Instead of the chaos that such critics read as a development throughout the play, I argue that what Richard describes happening in his brain is actually an ordered system in which his mind receives stimuli from and responds to his external and internal environments. Shakespeare constructs Richard's identity as an efficient system dependent upon both the right working of his brain and the influence of God's spirit on his soul.

My fourth chapter on John Donne examines his attempt to understand God's power over the human body through the image of the cross on the top of the skull and the physiological importance of the sutures that form it. Employing Ramie Targoff's work on Donne's conception of the body and soul, I argue that Donne deliberately departs from accepted anatomies of the cranial sutures in order to assert spiritual causation that maintains and disciplines the passions through the process of venting through the sutures. In seeing God's touch imprinted *literally* on the body, and offering physical and physiological proof of this, Donne is able to assert that this coherence of spirit and matter is proof of spiritual causation and that the body is ultimately at the mercy of divinity. To support this claim I use several examples of Donne's interest in the union of matter and spirit in his other prose and poetry, and following Targoff, I analyze the poet's specific theology concerning resurrection and incarnation, two of the most important Christian conceptualizations of the unity of body and spirit.

My concluding chapter on Aemilia Lanyer identifies a gendered cognitive model in the *Salve Deus Rex Judaeorum* that justifies the Calvinist doctrine of

irresistible grace in the poem. Using the work of Michael Schoenfeldt and Susanne Woods on her poetics of gender, I argue that Lanyer constructs a female brain that requires the masculine dominance of God's grace in a highly sexualized relationship, and that her model mirrors patriarchal physiological models of women. I assert that as a result, in her attempt to create a manifesto about the unjust abuses of women, Lanyer must reinforce traditional gender roles in light of the physiology of overruling masculine grace and submissive female intellect. I also discuss the poem's treatment of Christ's body as a manifestation of masculine roles, and the women in the poem as examples of feminine minds that need to be controlled. This final chapter on the overwhelming power of irresistible grace reinforces the unique conception of Renaissance identity that I have argued for throughout—as a complex unity of God and brain—and emphasizes the fluidity and persistence of that formulation of subjectivity. Finally, immediately after the close of this last chapter, I return to a more general consideration of Galenism in a short conclusion. In these chapters, this project will show that early modern writers most frequently sought to unravel the mysteries of individualization by consulting the physiology of Galen, the most influential medical theorist from the second century C.E. until well after the Renaissance.

CHAPTER II

TEMPERANCE AND COGNITION IN BOOK II OF *THE FAERIE QUEENE*

> For when we were in the flesh, the motions of sins, which were by the law, did work in our members to bring forth fruit unto death.
>
> Romans 7:5

The Christian and Classical Tempering of Arthur

In canto xi of Book II of *The Faerie Queene*, Prince Arthur is involved in what is arguably his most grueling fight in the poem. The combat with Maleger and his two hags, Impotence and Impatience, lasts for a full thirty stanzas, which is more than half of the entirety of the canto. Struck down numerous times, frightened into fleeing, chained writhing to the ground, and mysteriously unable after all to strike the deathblow, the prince comes very close to defeat. In the end, facing what could be the end to his journey, Arthur throws his trusted sword aside and attempts to overcome Maleger with the raw force of his body, but he soon finds that physically overpowering him will not work either. Crushing his body in his arms and throwing the villain with all his might only leave Maleger to spring to life again; Arthur is left astonished, only able to marvel at these miraculous recoveries. Pausing for a moment, the prince must remember the connection between earth and flesh in order to win this fight as he realizes that the earth maintains Maleger's life spirit. This physical connection lies at the heart of an intriguing definition of temperance that Spenser incorporates in the tale of Arthur's wrestling match with these embodied passions that he takes from both ancient and medieval sources, one that depends upon knowing the passions and

appetites intimately. For Spenser, as it was for Aristotle and Aquinas, the appetites and passions are physiological—they have very specific locations, qualities, and functions within the body. This is a doctrine of the emotions that has been inherited in Spenser's time from the Greeks and Galen, filtered through the medieval Christian philosophers, and finally arriving in the Renaissance as an amalgamation of primarily Galenic and Reformist theories of human nature. The fight between Arthur and the angry Maleger in Book II of *The Faerie Queene* reveals a combination of Galenic and Christian theories of the physiological nature of temptation and control in the figure of Arthur.

The virtues as Spenser understood them were discussed and studied as bodily processes that mysteriously worked to effect behavior; any emotional or psychological knowledge was also anatomical knowledge according to Galenic theories circulating during the Renaissance. Thus when Spenser explains what he means by self-control, he does not separate physical and psychic states:

> Of all Gods workes, which do this world adorne,
> There is no one more faire and excellent,
> Then is mans body both for powre and forme,
> Whiles it is kept in sober government;
> But none then it, more fowle and indecent,
> Distempred through misrule and passions bace:
> It growes a Monster, and incontinent
> Doth loose his dignitie and native grace.
> Behold, who list, both one and other in this place.[49]

In line three of this stanza, Spenser makes an important distinction between "powre and forme" that reveals to what extent the virtues are both spiritual and material states. The "powre" of the body resides in its physicality, but the "forme"

of the body is the soul which loses its “dignitie and native grace” if the organism is not well governed. Later on in canto xi, the narrator uses the familiar trope of encumbrance to describe the dangerous paralysis that results from sin and the freedom of movement associated with right behavior:

> What warre so cruell, or what siege so sore,
> As that, which strong affections do apply
> Against the fort of reason euermore
> Bring the soule into captiuitie:
> Their force is fiercer through infirmitie
> Of the fraile flesh, relenting to their rage,
> And exercise most bitter tyranny
> Upon the parts, brought into their bondage:
> No wretchednesse is like to sinfull vellenage.
>
> But in a body, which doth freely yeeld
> His partes to reasons rule obedient,
> And letteth her that ought the scepter weeld,
> All happy peace and goodly gouernment
> Is setled there in sure establishment.[50]

In these stanzas, Spenser’s view of temperance as exercised by Arthur *does not* equate to emotional paralysis, revealing that Spenser and his contemporaries did not necessarily read the virtue as a kind of stasis. Locating them in the body, Spenser equates the virtues with movement and action. Arthur constantly struggles with fluctuating spirits, changing humors, surging fluids, and the infinite variety of mental states that these effect, consistently reminding us of the body’s involvement with the virtues and with sin and goodness, and especially with choice and determination. In Arthur’s world, decisions are wrought by physical changes in the brain and the heart, and in this allegory, Arthur enacts the physiological process by which cognition maintains the temperate body.

My reading follows the approach of James Broaddus's essay "Renaissance Psychology and the Defense of Alma's Castle" in attempting to interpret the events of Book II through Renaissance emotional physiology. Specifically, the virtue of temperance exercised by Guyon and Arthur would have been read in the period not only for its spiritual significance, as the primary method of disciplining the Christian soul, but also as something that could be anatomically mapped as a bodily state. Broaddus identifies mortality as the most important human characteristic in Book II for Spenser's purposes, locating in Maleger this primary source of human frailty. What I most agree with is Broaddus's reading of temperance in the poem, through physiology: imbalance is actually the defining characteristic of temperance because the human body is so susceptible to it. He reads Guyon's physiological frailty, his faint in canto vii, and his later replacement by Arthur in the battle with Maleger as evidence that temperance is exercised in a constant state of imperfection. Unable to defeat mortality, Guyon steps out so that Spenser's ideal warrior can take up the fight, and even his attempt is fraught with weakness. This is a clear picture of temperance, Broaddus argues, that defines Guyon's quest within the poem as:

> The search for, the striving after, stability in a world of change. Physical temperance, the temperance of hot and cold and of wet and dry, is essential to the maintenance of life; and psychic temperance is essential to the sustained exercise of purposeful activity necessary to civil life. The expression of temperance, both physical and psychic, however, is confined to the actualization of the individual corporeal soul.[51]

While defining temperance as movement, Broaddus also distinguishes here between two kinds of temperance, the physical and the psychic, by which he

means the discipline of the physical body as opposed to that of the mind. I want to pick up on Broaddus's physiological reading but attempt to unify those physical and psychic temperances in Spenser's work.

Even Spenser's choice of Arthur as the primary figure in the poem indicates his dedication to a legacy of Christian and classical ideas. Arthur grounds the poem in centuries of legend that draws from both religious and nationalistic discourses. Spenser admits that he only included other knights besides Arthur in *The Faerie Queene* to add variety to a story that could otherwise become redundant. In his letter to Sir Walter Raleigh appending the 1590 edition, Spenser called Prince Arthur his "gentleman or noble person in vertuous discipline," stating that his primary goal in writing *The Faerie Queene* is to show his readers the image of a man "perfected in the twelve private morall virtues, as Aristotle hath devised."[52] Spenser's concept is not one-dimensional; on the contrary, we read here in his letter that he draws from both his ancient and Christian predecessors. Demonstrating to Raleigh that he understands his audience, for he knows that "nothing is esteemed of, that is not delightfull and pleasing to commune sence," the poet also offers the modern reader insight into early modern psychophysiology by explaining this ethical disposition in material terms.[53] As he moves through the poem, Arthur embodies Spenser's turbulent and sometimes violent definition of temperance, which is the maintenance of flesh and mind through the correct functioning of the cognitive cycle. And in Book II, using Alma's castle as a physiological base, we can read Arthur as the

cognitive movement, progression, and evolution of the temperate early modern Christian. Spenser aims his work at the reader's five senses at the same time that he shows what happens when they are stimulated.

A reading of Spenser's concept of temperance that owes much to both pagan and Christian sources, especially through the character of Prince Arthur, is an attempt at a refocused view of the poem outside of philosophical dualism. On the one hand, the use of Arthur as a virtuous superman emphasizes Spenser's focus on a particularly Christian temperance. And on the other, Spenser has admitted that his definitions of temperance and magnificence are based on Aristotle's *Nichomachean Ethics*, which critics have pinpointed as "moderation or observance of the mean with regard to pleasures."[54] By the Renaissance, Arthur has already become an example of control in the form of ideal kingship, and his rule at Camelot is an ideal of utopian proportions; he is the perfection of chivalry and courage to later generations who look back wistfully to a legendary time. Spenser recognizes the king as a paragon of military excellence, wisdom, and Christian heroism, and as he tells Raleigh, he is also an exciting and unifying national symbol. But Arthur is also a symbol of England's Christian legacy. Reading the character as primarily Christian hero, Merritt Hughes argues that Spenser's concept of magnificence is not so much defined by Aristotle's mastery of the virtues as by the Christian's mastery of sinfulness:

> As Professor Ernest Sirluck points out, since the pride in Aristotle's ideal amounts to an 'affront to Christian humility,' it seems to follow that Spenser's 'Arthur does not really correspond to Aristotle's proud man.' Yet he is the true descendant of that proud man, the mainspring of whose

> conduct was passion for civic honor; but his blood has been so altered by Roman, Chivalric, and Christian admixtures that in *The Faerie Queene* he transforms the cold preference of Aristotle's magnanimous man for doing rather than receiving favors into a passion for offering miraculous help to the distressed in all ranks of life.[55]

Hughes recognizes that Aristotle has been colored by subsequent philosophies, the most influential of which is in his mind Christianity, for he goes on to say that figuring Arthur as grace "is a fact hardly needing proof" but that Arthur's resemblance to heroic Hercules is "a mystery."[56] In his article on moral ambivalence in Book II, Paul Suttie likewise draws a dramatic distinction between pre- and post-Christian concepts of temperance, arguing for:

> Two very different models of heroism in play in Book II, of which the self-restraint that [traditionally] defines temperance is only one. The other is an outgoing, militaristic ethos of valor, (broadly speaking, a chivalric ethos), which marks as noble not one's capacity to restrain the passionate nature but its native strength.[57]

In both of these explanations a non-Aristotelian view of temperance is defined by a passion to rule the self and the action of governing, rather than what they read in Aristotle as unproductive stasis. This is the interpretation to which studies of Spenser's temperance have turned in the latter half of the twentieth century.[58] In sum, this dualistic reading recognizes both a temperance that is "insufficient to redress the woes of a world in need of Christian redemption" and one that is "not paralysis but action," as Peter Stambler explains.[59]

In the period, writers such as Thomas Rogers acknowledge two equally unacceptable yet philosophically popular definitions of temperance:

> For the *Stoikes* wyl not permit a man to be moued any whytt, for any thing: the *Peripatetions* contrariwyse, thinke it meete that a man should be

> moued, and being passioned, he should keepe himselfe within the bounds of modestie. Eyther opinion in respect of other, straunge, and yet neyther true. The *Stoikes* too severe,…the *Peripatetions* in this point too prodigall.[60]

Rogers symptomatically comments on the convergence of different ideas into one concept of temperance in the Renaissance, rhetorically moving between the two extremes. But what Aristotle tells us, and the later New Testament picks up on, is that this concept of movement is essential to his definition of temperance. At the end of Book II of the *Ethics*, the philosopher pauses to recognize that stillness is always the negation of turmoil, and that the turmoil must be kept in mind to achieve peace. The nature of man is to move toward his *telos*, and thus it is impossible to achieve a perfect stillness. Aristotle explains in the *Nichomachean Ethics*:

> But it is a hard task, we must admit, especially in a particular case. It is not easy to determine, for instance, how and with whom one ought to be angry, and upon what grounds, and for how long;…In fact, a slight error, whether on the one side of excess or deficiency, is not blamed, but only a considerable error; for then there can be no mistake. … So much then is plain, that the middle character is in all cases to be praised, but that we ought to incline sometimes toward excess, sometimes toward deficiency; for in this way we shall most easily hit the mean and attain to right doing.[61]

Aristotle explains here that in order to become more familiar with the middle way, we must sometimes experience the extremes. In the New Testament epistles, Paul takes a similar tack, always telling his audience what temperance is *not* even while calls for it. 1Thessalonians 4:11, plus commentary, instructs:

> And that ye study to be quiet, [8] and to do your own business, and to work with your own hands, as we commanded you; (7) He condemns unsettled minds, and such as are curious in matters which do not concern them. (8)

> He rebukes idleness and slothfulness: and whoever is given to these vices, fall into other wickedness, to the great offence of the Church.[62]

The commentator emphasizes that either extreme is to be rejected, and that work is always desirable as a Protestant ethic. Again, stillness is associated with the danger of being caught by sin, and constant movement somewhere between the two extremes is suggested so as to avoid distraction from what is good. But most important, the Geneva commentator stresses that the knowledge of the extremes is what helps us define what is good, and so the experience of temperance is made more profound by a reasoned rejection of it. Recognizing this as an important idea to the Reformation, John Calvin argues that because man is fallen, he cannot help but know sin, and that it is the movement toward what is not sin that is important. Using classical sources, Calvin explains:

> Aristotle seems to me to have made a very shrewd distinction between incontinence and intemperance, (*Ethic*. lib. 7 cap. 3) Where incontinence ("akrasia") reigns, he says, that through the passion ("pathos") particular knowledge is suppressed: so that the individual sees not in his own misdeed the evil which he sees generally in similar cases; but when the passion is over, repentance immediately succeeds. Intemperance, ("akolasia"), again, is not extinguished or diminished by a sense of sin, but, on the contrary, persists in the evil choice which it has once made.[63]

Knowledge, Calvin argues, is the key. According to these arguments, Guyon and Arthur can be paragons of temperance not in spite of, but *because* they experience bouts of weakness. The important thing is that they recover and learn from them.

As these philosophies were absorbed by Renaissance discourses, early modern temperance developed as a mixture of biblical doctrine and

contemporary physiology. Paul had already referred to motions that cause sin, the movement of physiology as the basis of spiritual states. In the early modern period these motions are simultaneously physical and spiritual, part of a concept of embodied virtue; original sin is a physical disease as much as a spiritual handicap, and it is the reason why we must exercise temperance. In 1594 Pierre de la Primaudaye explains what happened to man's body:

> And therefore God had so tempered [our bodies] in the first creation of man as was requisite…But since man fell at variance with God through sinne, all this goodly concorde, which God had placed not onely in mans bodie, but also betweene the rest of his creatures, hath been troubled and turned into discord by meanes of sinne.[64]

Man is at once ill in his soul and his body. In addition, his external environment is perpetually affected, as the soul's illness radiates to strain his relationship with other creatures. Working from Galen's doctrine of the humors and the complexions that result from their mixture, De la Primaudaye goes on to emphasize that the evidence of mortality is indeed this inability to exercise control, and that no man can be perfect in his discipline:

> For even in the best complexions there is alwayes some defect or excesse in some of the humours: so that if there were no other cause, yet no body coulde naturally bee immortall[…]…there are so many other wantes and superfluities throughout the whole life of man, whereby this evill alreadie become naturall, is so much augmented, that there die moe without comparison of ordinarie, diseases and of violent death, then of olde age and naturall death: and all this by meanes of sinne.[65]

Aristotle echoes here in the assertion that deviation from the mean is proof of mortality, even if De la Primaudaye argues from a very different philosophy. The Christian point of view, characterized by the nuances of Pauline self-abasement

and fierce humility, recognizes in its own past the necessary connection between man and the mud he comes from. Thus, when Renaissance writers speak of pleasures, it is not always in revilement, and in 1599 Robert Albott defines temperance as "using the pleasures [of the body] moderately, being a meane in our seeing, bearing, smelling, tasting, and feeling."[66]

In *The Faerie Queene*, Guyon and Arthur are constantly reminded of their mortality, and they are hardly ever standing still. In light of this definition of temperance in the period, we can begin to make sense of the numerous moments of seeming weakness that plague the two knights who are supposed to be perfected in their virtues. Guyon's irascibility, leading at times to chaos and destruction, becomes a serious problem in light of a definition of temperance that commands inaction, as critics such as Lloyd A. Wright and quite recently Paul Suttie have pointed out. There are, they argue, two very distinct philosophies at work here, that of "the classically temperate man" and that of the "proudly passionate" Christian soldier who regards it as valiant to consistently overcome his sinful nature.[67] While I recognize these two impulses, I would argue instead that these theories are not always at war but are sometimes in agreement that movement, simultaneously physiological and psychic, is the key to understanding true temperance. The virtue that Spenser gives us is complex, multifaceted, and dynamic, and sometimes contradictory, as the image of peace conquering through war:

> But lovely concord, and most sacred peace
> Doth nourish vertue, and fast friendship breeds;

> Weake she makes strong, and strong things does increace,
> Till it the pitch of highest praise exceeds;
> Brave be her warres, and honorable deeds,
> By which she triumphs over ire and pride,
> And winnes an Olive girlond for her meeds.[68]

Spenser urges his reader to remember control even as he encourages righteous warfare, and this makes sense because his idea of temperance is that of measured indulgence. Physiologically, this means that temptations will have an effect on the body, resulting in the movement of the passions; it is hardly something a human being can prevent. In this story, the emphasis is on Arthur's and Guyon's decisions to fight excess and also their unwillingness to embrace privation. In the events of cantos ix and xi of Book II, as Arthur and Guyon travel through the body castle and Arthur eventually battles temptation, we watch as the knights enact the physiological movements necessary to fight the temptations of excessive pleasure.

Thus Renaissance temperance is generally understood in critical terms as reason's rule over the passions so as to diminish both emotional and physical turbulence, and to enable one to focus on God's divine image without being distracted by the noise of the body. It is important to remember that this is a physiological process as well, one well documented by the Galenic physicians of the period. This assumes a dualistic approach to the human condition—flesh vs. spirit; but Michael Schoenfeldt offers a reading that more accurately conceptualizes the virtue of temperance as it had trickled down to Spenser. Schoenfeldt acknowledges the critical habit of reading the tension between

Christian and classical virtues but suggests that what we read as contradictory ideas were not such in Spenser's mind. He claims that in analyzing the relationship between flesh and spirit, Spenser must take often conflicting ideas into account, creating what he calls an "ethical physiology" which:

> Allows Spenser to articulate at once a humanist definition of ideal humanity but also a Calvinist conviction of human deprivation. […] As we move from Book 1's Legend of Holiness to Book 2's Legend of Temperance, we see emerging a tension between the absolute dependence on God that Protestantism counsels and the rigorous self-control that temperance demands.[69]

This tension is, according to Schoenfeldt, a result of the mixture of classical philosophy and Christian theology that characterizes the thinking of the early modern period. And as an extension of this thinking, I would add, we should learn to read the complexity of the body in the context of a similar union of seemingly disparate ideas. It is magnificence "both for powre and forme," for physical presence and the soul that informs it.[70] What Spenser gives us is a complete model of a human being, in all its fleshly splendor and spiritual beauty, which can make decisions and perform actions born of this perfect union.

Moving Temper inside the Body Castle

Spenser immediately begins to fashion his cognitive/emotional model at the closing of a discussion of the inseparable nature of body and soul. Immediately Spenser begins to construct his representation of temperance in the description of the building itself:

> Whenas they spide a goodly castle, plast
> Foreby a river in a pleasaunt dale,
> Which choosing for that evenings hospitale,

> They thither marcht: but when they came in sight,
> And from their sweaty Coursers did avale,
> They found the gates fast barred long ere night,
> And every loup fast lockt, as fearing foes despight.[71]

This immediate impression of the castle's defenses is crucial to our understanding of Spenser's conception of temperance. The gates are locked and no one, not even these goodly knights, may gain entrance. The watch calls out to them to "fly, fly" that place, saying that they are so scared of the exterior threats (which Guyon and Arthur have no experience of yet) that "Here may ye not have entraunce, though we would."[72] This treatment seems harsh, considering that these watchmen do not know the virtues of the approaching group, but Spenser has a particular configuration of temperance in mind. The castle doors are shut and locked, wary of things approaching, yet Arthur is allowed here in the first battle and later still to exercise holy wrath to fight temptation. This compromise reveals Spenser's vision of the human being as an interdependent soul/body complex that must, in every environment, cater to the needs of both material and immaterial parts. Stoic denial does not make sense because it attempts to deny the body's importance by suggesting that its impulses and desires can be resisted, so Arthur is allowed to "incline sometimes toward excess."[73]

The stage is now set for the ensuing walkthrough of the temperate body, as Arthur and his team are placed just outside the body and exposed to the external world's temptations and vices. As the first assault begins, Arthur's peripatetic methods take shape in his defense of the party against "Vile caytive

wretches, ragged, rude, deformd, / All threatning death, all in straunge manner armd" who seem to come out of nowhere.[74] As the battle ensues, the watchmen in the towers observe, and this sensory information is sent to the other inhabitants including Alma, the soul. The first part of Galenic cognition, apprehension, is now complete, and the spirits must now begin to move:

> Thus when they had that troublous rout disperst,
> Unto the castle gate they come againe,
> And entraunce crav'd, which was denied erst.
> ……………………………………………………….
>
> Goodly [Alma] entertaind those noble knights,
> And brought them up into her castle hall.[75]

This flow of information from the outside is theorized in the period by Edward Reynolds, whose popular treatise on the passions explores Galenic theories of how material stimuli affect the soul's behavior:

> It shall suffice therefore, onely to lay a ground worke in these lower faculties, for the better notice of mans greater perfections, which have ever some connexion and dependence on them. For whereas the principall acts of mans Soule are either of Reason and Discourse, proceeding from his Understanding; or of Action and Moralitie, from his Will; both these, in the present condition of mans estate, have their dependence on the Organs and faculties of the Body, which in the one precede, the other follow.[76]

As a Galenic commentator, Reynolds emphasizes, as Spenser does in his portrayal of Alma, the superior quality of the soul compared to the body, arguing that the material is simply a means to access the higher faculties. For this reason, the watchmen in the towers do not compare in stature with Alma, the ruler of the house, nor does anyone else on the premises. Alma is all of the greatest things: "a virgin bright," "faire," "in the flowre now of her freshest age,"

"full of grace and goodly modestee," and to top that off, she is also "most richly" dressed "in robe of lilly white."[77] She symbolizes purity, truth, grace, and peace as a shadow of the virgin Mary, clearly a representation of the most glorious spiritual state. Only she can lead her guests throughout her abode, touching each and every part with her presence as only the soul can. Traveling with her and on her behalf, the spirits enliven all the body parts, enabling their right function. The quality of this functioning, according to early modern physiology, depends upon the quality of the spirits, which is determined by the individual's humoral complexion.

In the House of Temperance, then, it is fitting that Arthur and Guyon travel the path of the spirits. They are, respectively, the epitome of perfect temperance and the knight of temperance, the latter of whom has already been tested and found worthy.[78] As the two knights travel into the castle and are given a detailed tour of its architecture, they move in a very specific pattern, through "a vaut ybuilt for great dispence" to "a goodly Parlour…that was with royall arras richly dight," and finally to "that heauenly towre, / That God hath built for his owne blessed bowre."[79] In 1582 natural philosopher Bartholomaeus Anglicus sheds light on this progression:

> Then one and the same spirit corporall, subtill, and airily, through diverse offices in diverse lims, is named by diverse names. For by working in *the* liver it is called *Spiritus Naturalis*, in the heart *Vitalis*, & in the head *Spiritus animalis*.[80]

The spirits travel through the body, as Arthur and Guyon do, and are refined until they reach the ultimate purity of the animal spirits, and these are the fluids that

enervate the brain itself. Arthur's role here becomes symbolic of the movement of the spirits that is required for the correct functioning of the brain, and in this section of the poem, that function is the exercise of temperance. According to Spenser then, inside the body temperance is maintained by physiological fluctuations that allow a balanced state:

> Which goodly order, and great workmans skill
> Whenas those knights beheld, with rare delight,
> And gazing wonder they their mindes did fill;
> For never had they seene so straunge a sight.[81]

Stymied by this wondrous machine, the knights are led into the heart chamber, where Spenser again emphasizes the good temper that the body castle enjoys:

> Thence back againe faire *Alma* led them right,
> And soone into a goodly Parlour brought,
> In which was nothing pourtrahed, nor wrought,
> Not wrought, nor pourtrahed, but easie to be thought.[82]

Within this body, nothing is forced or constructed and physiology works cleanly when temperance reigns. Unaffected by the stresses of excess and privation, the affections of the soul move enthusiastically within the simply decorated heart chamber. The spirits' journey emphasizes the importance of movement to the larger picture, which is Arthur's tour and fight to maintain balance. He wants to keep the inhabitants of the castle happy, and this means fully understanding their unencumbered state and then defending it against outward threats. Arthur started outside of the body battling an assault on the senses, moving then by Alma's judgment into the safety of the body and through the digestive tract.[83] But

Spenser seems interested in showing that the soul has to actively move cognition to maintain balance, and that decisions must be made to that effect.

And so Arthur and Guyon travel with Alma from room to room within the temperate body. The virtue allows for the perfect operation of each system. They begin at the sense organs, go from the mouth down through the digestive tract, into the stomach and intestines, and finally to view the "*Port Esquiline*" by which waste leaves the house. Having gone through the gut, where the natural spirits are born, these information carriers move into the heart, where the natural spirits are refined into the vital spirits. While this is the path of refinement for the spirits, Spenser is also sending his characters along the path of cognitive action: the sensory information must travel from the common sense and intellectual judgment, represented here by Alma, to the heart. The soul takes them to the heart because in the Renaissance cognitive model, the common sense converses with the heart to let it know what sort of affections have been formed—the soul has chosen to either move toward or away from what it has encountered. In the poem, these two choices are represented by the company in the heart chamber:

> And in the midst thereof upon the floure,
> A lovely bevy of faire Ladies sate
> ……………………………………………..
> Diverse delights they found them selves to please;
> Some song in sweet consort, some laught for ioy,
> Some plaid with strawes, some idly sat at ease;
> But other some could not abide to toy,
> All pleasaunce was to them griefe and annoy:
> This fround, that faund, the third for shame did blush,
> Another seemed envious, or coy,

Another in her teeth did gnaw a rush:
But at these straungers presence every one did hush.[84]

The first sort represents the concupiscible and the second group comprises the irascible passions. And fittingly for this situation, Arthur and Guyon choose to consort with Shamefastnes, considered irascible, and Praysdesire, who moves toward righteousness but is disdainful overall toward what is not honorable. Arthur desires praise not from human beings but from God, which is an expression of his goodness; James Norhnberg calls it "the proper animus of his quest."[85] Arthur chooses to confer with Praysdesire in the heart chamber, and this decision is most important to Spenser's concept of temperance: the prince chooses to *fight* to keep Alma's realm in order.

While Arthur's desire for praise could be construed as a negative attribute, we can also read him as an ideal Christian soldier fighting not for his own glory, but for God's. Spenser defines this virtuous desire for praise as "by well doing [seeking] to honour to aspyre," and it is his emphasis on well doing that justifies this desire.[86] Arthur has just noticed that Praysdesire looks sad, although she holds the glorious poplar branch that is the symbol of Gloriana: "Gentle Madame," he says, "why beene ye thus dismayd, / And your faire beautie doe with sadnes spill?"[87] Her response is that she is in fact not sad but sober, for she is in deep contemplation: "Pensive I yeeld I am, and sad in mind, / Through great desire of glory and of fame," she explains.[88] But her more important observation is that Arthur is showing the same sobriety connected to contemplation, and that this is a good thing. Praysdesire's commentary on the correct behavior while to

temperance, especially desire that will lead the prince to action later on. Immediately after her speech, Arthur tempers his emotional response to her words, inwardly acting appropriately to save face:

> The Prince was inly moved at her speech,
> Well weeting trew, what she had rashly told,
> Yet with faire semblaunt sought to hyde the breach,
> Which chaunge of colour did perforce unfold,
> Now seeming flaming whott, now stony cold.[89]

Reminiscent of contemporary beliefs in the innate corruption of man, Arthur responds out of measure but not by his own choice; he must actively overcome the natural distemper that results when he is schooled by Praysdesire. His body reacts of its own accord, his temperature fluctuating in a movement of blood to and from the heart. Crucial to Spenser's use of Arthur as an ideal soldier for temperance is the Prince's immediate decision to overcome his body's natural turn to the extremes; he has blocked the unruly passions in the heart, and now through temperance he is able to reach understanding in the brain.

Once the passions have responded in the heart, the spirits must travel to the brain so that it can be made aware of what is to be done. So far, in this model of the temperate body, there has been an unexpected barrage on the senses; the spirits have been generated and have enlivened all parts of the body, carrying sense information throughout; the soul has been alerted to the disturbance, has judged that it is unsavory, and has sent the spirits to the heart to engender movement; and now it is time for that movement to occur. For this to happen, understanding of the entire situation must be achieved in the brain. This

is the moment when the brain is alerted that the will must be exercised either for or against an object, and reason must once and for all judge the decision. Pierre de la Primaudaye, distilling basic Galenic concepts, explains the process:

> Reason draweth out and concludeth invisible of visible, of corporall things it concludeth without bodies, and secret things of plaine and evident matters, and generals of particulars: then it referreth all this to the understanding which is the chiefe vertue and power of the soule, and that which comprehendeth all the faculties thereof.[90]

At this stage in the action, if the will is corrupt, it will fight against reason; likewise, if the individual's humors are imbalanced or diseased, reason may be corrupt in its own right. This moment of judgment by the rational soul wholly depends upon the purity of the humors and spirits. In the case of this poem, both models, Arthur and Alma's castle, are perfectly balanced and able to exercise the will correctly after understanding is achieved.

Arthur's visit to the ventricle rooms is central to Spenser's portrait of how the well-tempered mind produces a decision and then a response. Spenser's picture of the temperate brain, the supreme seat of intellect and the soul, is remarkable in its clarity and comprehension of contemporary theories of cognition. We see in these stanzas exactly how the spirits move through the brain physiologically, even though Alma has already stood for an extension of the soul throughout the body. Spenser attempts to represent two important scenarios: the way that the temperate soul enlivens and constantly refreshes the temperate body, and the way that they together effect right decision in the brain. The soul, in all parts, is constantly aware of the body's status, but at the same time there are specific movements through the brain's ventricles.[91] After giving

due praise to the brain's magnificence and perfection, Spenser introduces Arthur and Guyon to the agents of thought:

> The first of them could things to come foresee:
> The next could of things present best aduize;
> The third things past could keepe in memoree,
> So that no time, nor reason could arize,
> But that the same could one of these comprize.[92]

Imagination, then, is able to construct possibility; intellect judges scenarios that are set before it at present; and memory is a storehouse for future consideration. First, when the senses pick up external cues, the imagination is "filled…with flyes, / Which buzzed all about, and made such a sound" that the mind is confused and overloaded.[93] The warden of the chamber, Phantastes, sits amid the whirlwind but cannot make sense of the fragmented impressions. They are not part of coherent ideas yet, merely "Infinite shapes of things dispersed thin."[94] Phantastes exists in an eternity of youthful confusion, never understanding the pieces of the larger puzzle. This is the place where sensory cues have not yet been tempered and sorted by reason, which sits in the next ventricle room, an unnamed sage surrounded by marvelously painted walls depicting clearly defined moments of the exercise of justice. This is the domain of the completed idea, the embodiment of contemplation and careful thought, where decisions are made. The change in décor from the first chamber to the second emphasizes the tempering power of reason:

> Who did [the murals] meditate all his life long,
> That through continuall practice and usage,
> He was now growne right wise, and wondrous sage.

Recalling Praysdesire's speech, this passage emphasizes the importance of constant mental action to the exercise of tempered reason. Arthur sees that this sage is never at rest, and he is inspired to achieve this same gravity. In the final chamber, memory, the knights sit with old Eumnestes and young Anamnestes, reticence and recall respectively, and hear the story of England. This is Arthur's heritage, the line of which he is part, and this knowledge of his ancestry is what brings understanding and spurs the men to action. The story gives them a "naturall desire of countryes state," and only by Alma's insistence do they leave the company of Eumnestes.[95] The two knights now understand the glory to be gained from fighting for the motherland, and they have heard examples of good governance that they can now emulate. For now, the very next morning, Guyon renews his own quest, leaving Arthur at the castle.

Fighting for Moderation

Now that Guyon has gone, Arthur remains to willfully defend the body against a second attack. The battle with Maleger, following directly after our tour of the perfectly tempered body, is an example of that body in action. We have seen Arthur battle the vices unprepared, until he was forced to seek shelter with the soul. We witnessed his education of the body, including his choice of Praysdesire coupled with Guyon's lady Shamefastnes. Finally, Arthur has learned patriotism from the story of his brave ancestors, and now he understands what is at stake. Thus, the next time the assault comes, he is ready to put his ability to balance into practice against intemperance. Soon after Guyon leaves, a

new attack begins, brought by the vices and their leader, Maleger. They assault each sense beginning with Sight, then Hearing, then Smell, Taste, and finally Touch. This confrontation is at once more hideous than the first, and after the entire guard is killed by the seven deadly sins and the five major vices, Alma, the soul, is so disturbed that Arthur cannot ignore her plight any longer:

> Eftsoones himselfe in glitterand armes he dight,
> And his well proved weapons to him hent;
> So taking courteous conge he behight,
> Those gates to be unbar'd, and forth he went.[96]

Remembering his manners and his appearance, Arthur enters the storm of arrows and spears that cannot pierce his armor, and his seeming invincibility attracts the attention of Maleger. Maleger, or “evil disease,” can be read as a characterization of spiritual illness caused by sin.[97] He is a corporeal model of intemperance, described as a being of “subtile substance and unsound,” and:

> As pale and wan as ashes was his looke,
> His bodie leane and meagre as a rake,
> And skin all withered like a dryed rooke,
> Thereto as cold and drery as a Snake,
> That seem'd to tremble evermore, and quake.[98]

Physiologically, Maleger is pale and cold because he represents the consequences of untamed desire, and in a body that feeds on the passions, all of the blood travels to the heart to act as fuel. Thus the extremities are empty and the heart burns, allowing revenge and anger to build in the chest unchecked. His helm is a human skull and he is dressed in thin cloth to align him with the spiritual death that occurs when a man chooses to embrace sin instead of reject it.

Contrasted to Arthur he is a shadow of a man, so corrupted by vice and concupiscence that he is not even properly flesh.

Well tempered, Arthur is so strong that Maleger's blows cannot hurt him. At first, the Prince does rather well against the monster; Arthur is battle-savvy, dodging blows that would bring down a lesser fighter. Immediately Maleger:

> His mischievous bow full readie bent,
> With which at him a cruell shaft he sent:
> But he was warie, and it warded well
> Upon his shield, that it no further went,
> But to the ground the idle quarrel fell:
> Then he another and another did expell.[99]

As the battle begins, Arthur shows the exceptional prowess that characterizes all of his fights in the poem. After several successful dodges, Arthur takes heart and charges Maleger, but at the last second:

> He was not so hardy to abide
> That bitter stownd, but turning quicke aside
> His light-foot beast, fled fast away for fear.[100]

His righteous anger, here and in other parts of the poem, is a component of his battle for temperance. In Maleger, Spenser offers the passions that are the result of selfishness and inordinate desire, a perfect contradiction to the balance that Arthur represents. But it is also acceptable that Maleger runs out of fear when he recognizes that Arthur is clearly his superior. This show of fear is crucial to his association with inordinate passion; Spenser creates a stark contrast between the steadfast Arthur and the excess that he rejects. But soon Spenser must remind us that temperance is only achieved through struggle with sin, and emphasize the Prince's weakness against such a passionate foe. Arthur decides

to stand still and wait for Maleger to run out of ammunition, and it is then that he is caught. Maleger's two sidekicks, Impotence and Impatience, allegorical representations of two intemperate extremes, pounce upon Arthur and "Him backeward overthrew, and downe him stayd / With their rude handes and grysely graplement."[101] Indeed, these passionate hags pin Arthur to the ground only when he becomes so inactive that he cannot escape intemperance. Grace arrives in the form of Timias, who has been watching the battle and sees that Arthur is in dire straits.

This resurrection of Arthur's desire for praise and the fierce hand-to-hand combat that follows demonstrate that the will must act against the passions to achieve temperance. Indeed, the will is not unbreakable and can be swayed, even overpowering reason if the reward seems great enough. Thomas Wright reminds his readers of the will's vulnerability:

> The object that haleth the sensitive appetite, draweth withal, the Will; and inclining her more to one part than to another, diminisheth her libertie and freedome. Moreover, the Will, by yeelding to the Passion, receiveth some little bribe of pleasure, the which moveth her, to let the bridle loose, unto inordinate appetites because she hath ingrafted in her, two inclinations, the one to follow Reason, the other to content the Senses.[102]

Thus the will wrestles with the passions and is sometimes defeated. And in Arthur's case, he fights a being that cannot be killed in the traditional sense. Chained to the ground, Arthur is mercilessly assaulted by the passionate Maleger, and in this case it is Timias, not Arthur, who enters as embodied grace. The will is bruised, but the decision has already been made to choose what is right:

> So mightely the *Briton* Prince him rouzd
> Out of his holde, and broke his caytive bands,
> And as a Beare whom angry curres have touzd,
> Having off-shakt them, and escapt their hands,
> Becomes more fell, and all that him withstands
> Treads down and overthrowes.[103]

Following reason, which tells him that to be imprisoned is worse than to be free, Arthur goes on the offensive and smites Maleger so savagely that the villain takes Arthur's exact place on the ground. The raging passions and vices are equitable to death, which puts each man in his place in the ground.

This exchange begins a lengthy ground battle that puzzles and exhausts Arthur, pushing him to the point of despair and testing his understanding of the physiology of action. Throughout stanzas 35 to 39, Arthur deals Maleger a death blow no less than three times, even impaling him with his sword so that "he made / An open passage through his riven brest, / That halfe the steele behind his backe did rest." Arthur marvels at the fact that no blood runs from Maleger's body, and he is amazed "That through his carcas one might playnly see."[104] Staring through the hole in Maleger's chest that he has now twice made, Arthur experiences horror and fear that reveals his philosophy of the body, or in this case, what the body should not be:

> His wonder farre exceeded reasons reach,
> That he began to doubt his dazeled sight,
> And oft of error did himselfe appeach:
> Flesh without bloud, a person without spright,
> Wounds without hurt, a bodie without might,
> That could doe harme, yet could not harmed bee,
> That could not die, yet seem'd a mortall wight,
> That was most strong in most infirmitee;
> Like did he never heare, like did he never see.[105]

It makes sense that the body, when injured, should bleed, and when injured more than is possible to bear, should die. Arthur marvels that this body is apparently not of the makeup that he understands, and that is of a mortal part and an immortal, one that is subject to death and the other which promptly leaves at the onset of death. He wonders that this seems to be “a person without spright,” a body that is animated but by what he does not know. Spenser’s emphasizes in this stanza the perfect and natural unity of flesh and spirit that makes this entire scenario of decision and action possible. Cause and effect in this poem work through a combined effort, and so when flesh dies, spirit departs as well. Wounds cannot occur without injury, and they cannot exist without resulting pain and discomfort. In this moment Arthur is forced to question the basis of his reality, of how he views himself and God’s role in his life.

But Arthur is on a learning curve. In order to continue this battle against passion and vice, the prince must remember that although matter and spirit are perfect cohabitants of the human body, the spiritual part is what truly separates a man from a beast and thus is always superior to the flesh. Instead of believing that this is “some magicall / Illusion…/ Or wandering ghost,” both of which are unnatural in God’s universe, Arthur chooses to learn that temperance is ultimately the subjugation of the flesh to the spirit.[106] He sees that the physical body certainly cannot tell him whether a person is truly alive, as Maleger’s body cannot be hurt but can hurt Arthur. Throwing aside his previous assumptions about the body, Arthur also throws aside his weapons and even his diamond

shield, which are physical representations of what is inside him in purest form, faith and holy might:

> Twixt his two mightie armes him up he snatcht,
> And crusht his carkasse so against his brest,
> That the disdainfull soule he thence dispatcht,
> And th'idle breath all utterly exprest:
> Tho when he felt him dead, a downe he kest
> The lumpish corse unto the senselesse grownd;

But just as quickly, and frustratingly:

> Adowne he kest it with so puissant wrest,
> That backe againe it did aloft rebownd,
> And gave against his mother earth a gronefull sownd.[107]

Almost crazed with confusion, Arthur reaches the edge of despair. In an allegory, he and the reader seem to wonder, should it not be as easy as casting aside the tools of earthly battle in order to win a symbolically spiritual war? Seemingly questioning the function of allegory, and especially how Spenser in particular wants him to behave, Arthur "thought his labor lost and travell vayne" until he returns to his original understanding of the human body.[108] If flesh and spirit are both essential to life and death, he reasons, the role of both of these must be fully explored at this point in his battle.

Going back to the physical, or the physiological, Arthur discovers how to defeat Maleger. Spirit makes us children of God, Arthur knows, and that half of a human is the superior. But the fluids and materials and parts that make up a man's other half, that which makes him visible and able to interact with his environment, cannot be discounted. Returning to his contemplation of Maleger's body:

> He then remembred well, that had bene sayd,
> How th'Earth his mother was, and first him bore;
> She eke so often, as his life decayd,
> Did life with usury to him restore,
> And raysd him up much stronger then before,
> So soone as he unto her wombe did fall;[109]

Only Arthur's rational understanding of man's material origins, the making of Adam from the dirt in the garden, helps him refocus his attack. Knowing now that he must pay attention to both kinds of bodily movements, Arthur promptly lifts Maleger from the ground, squeezes him to death, and:

> Upon his shoulders carried him perforse
> Above three furlongs, taking his full course,
> Untill he came unto a standing lake;
> Him thereinto he threw without remorse,
> Ne stird, till hope of life did him forsake;
> So end of that Carles dayes, and his owne paines did make.[110]

With a symbolic dousing, Arthur defeats spiritual illness brought on by sin. Just as the act of baptism is both spiritual and material, and water easily traverses the line between physical and immaterial here and elsewhere, Arthur's defeat of this villain involves his understanding of both qualities. Fittingly, he travels back to the house of the soul, where Alma engages in reviving his body and soothing his mind. In this episode, the body and soul have worked together toward the defeat of sin. Arthur and Guyon's journey down the path of the spirits, Alma's communion with the knights, and Arthur's subsequent understanding of faith and moral strength have all led to the moment when Maleger is submerged. The poem has presented a thorough model of disciplined decision and action, the very best that the temperate human being can achieve.

As Maleger sinks beneath the surface of the water, we can imagine that all sounds are stifled as his movement eventually subsides. For this representative of base misrule, suffocation and stasis is the only thing that guarantees victory for Arthur at this moment. Maleger is not allowed to move anymore in the poem, but his effect still lingers, as Arthur is now “feeble” and immediately “began to faint.”[111] In *Orlando Furioso*, Ariosto pictures the ideal that Arthur must surely desire:

> There are (said he) some better lessons taught,
> Then dancings, dallyings or daintie diet,
> There shal you learne to frame your mind & thought
> From will to wit, to temperance from riet:
> There is the path by which you may be brought
> Into the perfect paradise of quiet.[112]

Reminiscent of Paul’s words to the Thessalonians, this stanza voices stoic perfection in the enjoyment of quiet. But as we know that Arthur will fight many more battles, and that he will succumb to weakness again, we must read this fluctuation more accurately in light of De la Primaudaye:

> Whereupon wee will note this, that the naturall affections of the heart, which pricke it forward to the desire of pleasure, and which minister pleasure unto it, shoulde be no sinne at all unto men, but a benefite given them of God in the perfection of their nature…[113]

Embracing the movement of the physiological self is the best way to subdue sin. In this poem, the passions cannot be eradicated, but they can be temporarily kept at bay. In Arthur and Guyon’s trip through the body castle and Arthur’s subsequent battle with Maleger, temperance is inherently movement and involvement in progression and exchange. The correct functioning of the

cognitive cycle reflects Spenser's concern with movement in the maintenance of temperance—he focuses on Arthur for the majority of Book II. Our nature is to be out of balance since the fall of man; taming that is a struggle. The result is this physiological and spiritual experience all in one, a place where violence can be holy and fallen bodies consistently redeemed.

CHAPTER III

THE PSYCHOPHYSIOLOGY OF BEHAVIOR IN *RICHARD II*

Give me that glass, and therein will I read.

William Shakespeare, *Richard II*

Brains, Prison Cells, and Splintered Identities

In one of Shakespeare's most poignant scenes, the playwright offers a crucial key to interpreting the behavior of one of his most controversial characters. Richard sits alone in the prison at Pomfret, having only just handed his crown and scepter to the ambitious Henry Bolingbroke. Now awaiting the fate that the audience knows is inevitable, Richard slows the action to take a close look at himself. He begins as though we have stumbled upon him sitting there, explaining, "I have been studying how I may compare / This prison where I live unto the world."[114] The tone of the speech is different from anything that has come before; for all of Richard's histrionics in the previous acts, here is a voice of reason and careful consideration. What follows is an enumeration of his various impulses and desires that have contributed to the behaviors he now recalls. We know at this point in the play what has made Richard a bad king, and why he must be allowed to rule no longer; many of these behaviors have manifested already on the stage, and Bolingbroke has made sure to highlight what has not been explicitly in the action of the play. As he recounts who he has been, Richard is all at once contrite, ambitious, regal, jealous, and silly in his own estimation, and each of these characterizations, he tells us, is produced by the

intimate traffic of his soul and brain. According to Richard, his actions and decisions are brought to life as "these two beget / A generation of still-breeding thoughts" that then crowd his brain.[115] This is a theory of his cognition, of the process by which his behavior becomes manifest, and it reveals the interdependent relationship between early modern personality and the physical body it inhabits. Here, in the mention of the interaction of soul and body, the text introduces an important context for reading the changes in Richard's behavior: contemporary physiological theories and the theological and cultural implications of early modern science.

It is helpful to read Richard's account of the development and execution of thought alongside Galenic humoral theory, which dictates that every person's body is governed by an individual configuration of these fluids' proportions, which in turn is affected by several things, including the environment, intake, and output. This context is important to reading Richard's character because Renaissance physicians believed that the brain's basic functioning also depends on this complex association between body and environment—thoughts and feelings are a result of the flow of humors and spirits through the ventricles.[116] Richard's, or any man's, behavior is a result of the quality of his humors, which is the unique physiological disposition he was born with and the foods, drinks, and environments that he subjects his body to. The effectiveness of his pneuma, the airy substance that causes cognition, changes with the quality of these humors, and so his thoughts and attitudes are subject to potential change that could occur

at any moment. It is useful, then, to read this moment in act five paying special attention to this contemporary view of cognition that contributes to the sense of change and instability created by Shakespeare's figurative language. The question of how body and environment interacted to produce physiological change serves to highlight and inform the play's concern with the idea that human behavior can fluctuate in everyday situations, thus destabilizing social and political structures. Specifically, this context supports a reading of Richard's character that recognizes the necessity of these constant fluctuations in mood to the overall stability of the human psyche.

My reading asserts, then, that in this physiological context, Richard's plurality of mind works to unify what others have read as a fragmented personality with little or no self-awareness. And if Richard's character is a convergence of many personalities, lives, creatures, and circumstances, then it is important to note how central this theory of man's personality is to speculation on the mind and the soul during the early modern period. The clearest articulation of the belief that a person's behavior is severally influenced is the doctrine of man as microcosm, a philosophy inherited from classical and medieval thinkers as a way to emphasize the connection between God and his children and to express the inherent unity of the universe. Important to my study is the prevailing idea that everything in the universe is connected by the virtue of its creation by God, and that because of that connection, all beings share a common physical and

spiritual makeup. Helkiah Crooke, in his aptly titled *Microcosmographia*, explains the philosophy with a story:

> *Abdolas* the Barbarian, beeing asked what hee thought was the most admirable thing in Nature, is reported to have answered not Barbarously, but wisely; *That it is onely Man who far surpasseth all admiration,* for that beeing the Image and resemblance of the whole world, he can suddenly *(Proteus*-like) transform himselfe into any particular thing.[117]

The image of Proteus, the sea-god who would quickly change his appearance at will until a great warrior like Menelaus could stop him, resonates as an important symbol of man's psychological states since people cannot change physical form in the same way. And even though Menelaus can pause his transfigurations in *The Odyssey*, Proteus must necessarily return to his ever-changing nature. In acknowledgement of such human malleability, Crooke goes on to celebrate the flexibility not of man's body but of his nature in subsequent passages, and he attributes various moods and impulses to this phenomenon. In trying to understand the world, then, a man must come to understand himself, and the place where his soul defines him is in his physical body:

> This same knowledge of a mans selfe, as it is a very glorious thing, so it is also very hard and difficult. For seeing the soule of man being cast into this prison of the body, cannot discharge her offices and functions without a corporeall Organ or instrument of the body; whosoever will attaine unto the knowledge of the soule, it is necessarie that hee know the frame and composition of the body.[118]

In this passage Crooke acknowledges that a man cannot be truly Proteus-like because his body restrains him, but he also emphasizes the fluidity and liveliness of the soul within it just as Richard does in his soliloquy. In act five, Richard discusses this complexity of his mind within the physical limitations of his body,

reflected also by his literal imprisonment that will not let him enact the roles he enumerates. Reading this scene alongside microcosm philosophy and medical theory reveals the importance of these diverse contexts to early modern concepts of self and provides a more nuanced look at Richard's self-identification.

The idea that man is composed of all of the motions, impulses, and substances in the universe is at the heart of Renaissance conceptions of identity and can be traced throughout early modern readings of Galenic physiology. However, the microcosm is a complex issue for modern readers. Gail Paster's work is essential to my reading of *Richard II* because she points out a basic problem that later audiences have when reading and trying to interpret imagery in Renaissance literature. She argues that the post-enlightenment view of the body is dualistic and therefore unsuited to reading the Renaissance body, which enjoys freedom from such dualism in its identical makeup with the larger universe. In *Humoring the Body*, after asserting a "more than analogical relationship" between the body and its environs that is promoted primarily by Galenic medical theories, she goes on to point out important political implications of such a reading of identity. In the early modern period, observing the passions of monarchs was necessary to maintaining the state:

> The passions had an urgent practical character that, for the early moderns, was just as important as their overarching theological significance. In his preface to *Passions of the Minde in Generall*, [Thomas] Wright argues that no man can afford to be ignorant of the passions—especially not the "civill Gentleman and prudent Politician," who "by penetrating the nature and qualities of his affections, by restraining their inordinate motions, winneth a gratious cariage of himselfe, and rendreth his conversation most gratefull to men."[119]

Paste notices that Wright here implies that the doctrine of the passions is really concerned with methods of control over self, others, and ultimately, the state. In *Richard II*, this concern manifests in the constant observation and commentary of Richard's lords and in his obsessive tallying of his own ideas and emotions. Such introspection, instead of being characterized as responsible monitoring, tends to be labeled as either a searching for or a realization of a lack of identity.

My reading in part agrees with but also diverges from the work of Charles Forker, whose recent criticism on Richard's character is the culmination of several studies of Shakespeare's characterization of Richard. Forker's work is useful in pointing out how literary critics and historians have traditionally interpreted both the historical king and Shakespeare's Richard, and in doing so his work offers a jumping-off point for my argument for Richard's self-awareness. In his 2002 Introduction to the Arden edition of *Richard II*, Forker points out that Shakespeare's historical sources were contradictory concerning interpretations of Richard and Bolingbroke and can be broken down into two major camps: the Yorkist critics and the Lancastrian critics, aptly named for the political factions that descended from Richard and Bolingbroke. The two critical camps emphasize the personality differences of the two men in the play, specifically in reference to each man's role as either a tyrant or a victim of political corruption. Yorkist critics are "pro-Richard," meaning that in the interest of discrediting the later Lancastrian revolution, this group interprets Richard as the victim rather than the villain. Forker cites Yorkist interest in "a generally devout and well-

meaning monarch, misled into wrongful policies and exploited by false and self-seeking friends." (24). In addition, because of Richard's ties through marriage, French chroniclers contemporary with Holinshed cast him as "a royal martyr betrayed by his own subjects and dethroned by a shrewd and cruel usurper" (24). A sense of this sympathy arises often in the lines of York, who laments "that any harm should stain so fair a show" as Richard's royal face.[120] However, Forker emphasizes that Shakespeare's play is not an attempt to unapologetically lament Richard's usurpation, and that through Bolingbroke's character the king's flaws become more obvious. Lancastrian critics focus on this criticism of Richard as the play's effort to champion Bolingbroke's rightful succession to the throne, and in this sense they can be characterized as "pro-Henry." Forker asserts that this view is represented by the majority of English chroniclers, who believe that "Richard was a weak, incompetent and despotic king, extravagantly self-indulgent, deaf to wise counsel, dominated by corrupt and selfish favorites and altogether ruinous to his country," and that indeed Bolingbroke is "a justly popular and wronged nobleman, a strong and capable leader, the darling of fortune and destiny, the politically natural successor to Richard, a man who responded boldly to the needs of his time and the savior of the nation."[121]

It is necessary to our understanding of Shakespeare's characterization, then, to embrace a certain ambiguity in judging Richard's actions and emotions, an ambiguity that I argue can be illuminated by a consideration of contemporary cognitive physiology. And as Shakespeare attempts to keep audience responses

to his antagonists “in a more or less constant state of flux” (27), the play establishes dramatic tension between those watching and its main character that mirrors the tension between the flesh and spirit that Richard famous speech addresses. Early modern thinkers like Helkiah Crooke believed that a man’s personality is the product of moving fluids that fuel his cognitive processes, and that identity is at once physical and metaphysical; these well-documented theories can help us read Richard in a new light, not as a fractured and failed monarch but as a tragically self-aware hero. A possible result of such a reading is a re-conception of Richard’s character that departs significantly from what Forker would call more Lancastrian readings that emphasize Richard’s weakness. In the late 19th and early 20th centuries, some critics such as Ernst Kantorowicz, E.K. Chambers, and Walter Pater read this speech, as it winds down to “nothing,” as a sort of canceling-out of Richard’s attributes so that he ends without a self. This view asserts that Richard does not recognize his own weaknesses, suffers from an excess of emotion, is womanish, is obsessed with ceremony, defines himself only by his title, and is ignorant, self-absorbed, vicious, strangely eloquent, and superficial.[122] While there is value in considering these characterizations, I believe that the dualistic configuration of Richard’s identity that emerges from critical devotion to Ernst Kantorowicz’s seminal work *The King’s Two Bodies* has impeded a more appropriately holistic reading of the king’s psyche.[123] Instead, I suggest a reading that incorporates the early modern belief that each person’s behavior is a product of his physical makeup, the

physical environment that he is in, and the peculiar characteristics of his soul, manifested through the animal spirits. The idea that Richard's vacillations and uncertainties are influenced by psychophysiological theories of Renaissance cognition supersedes the figurative tenuousness of dualistic concepts of identity, a critical fragility that critics like Forker and more recently Robert Schuler have noted.[124]

This is not to say that my argument is strictly Yorkist—in a physiological context, it is essential to recognize Richard's weakness as part of his complex identity. And while Forker's discussion of ambiguity in *Richard II* is important to my reading of overall fluctuation in the play, he also provides a critical point at which I must depart from his characterization of Richard. In his 2001 article, "Unstable Identity in Shakespeare's *Richard II*," Forker argues that Richard's psychological and emotional turbidity stems from his dual identity "as both *rex imago Dei* and fallible mortal," which he reads as a shift from relative stability in the beginning of the play to uncertainty and doubt at the moment of his death.[125] Richard's inability to reconcile the conflicting aspects of his nature, then, causes his downfall. In this article and his recent introduction to the Arden edition of *Richard II*, Forker argues that Richard is psychologically unable to come to terms with the circumstances of his tragedy. The king is effectively a narcissist who cannot get outside of his own experience. This conception of Richard's character disagrees with the critical interpretation that Richard lacks the ability to understand himself or his situation and is directly in line with my argument that

the deposed king sees himself clearly. While I argue for unity in the chaos of Richard's mind, an important part of Forker's argument is that Richard ultimately cannot handle the conflict that results from his two halves' coexistence, and so the distance that opens up between his mortal and immortal parts creates a chasm into which he inevitably falls. Thus, in the prison cell speech, "the competing roles engendered by his fancy tend finally to obliterate each other, reducing him to nullity."[126] Even with his capacity for self-investigation, Richard ends up a non-entity both in mind and body, as his murder attests. Conversely, I focus on early modern concepts of personality and kingly identity that not only contain but *require* several desires and self-conceptions, and it is this complexity that I believe is mirrored in the literal and figurative language of the play.

While he argues that the play ends with the assassination of a fragmented and despairing king, Forker's recognition of Richard's developing self-awareness, especially as the king enumerates his own cognitive processes, lends crucial support to my argument that Renaissance physiology is an important context to the play. Forker's argument that Richard finally understands himself as a complex character in the prison scene implicitly recognizes the Protean nature of Renaissance identity that natural philosophers and physicians attempted to describe through the science of anatomy. The breakdown of Richard's identity results in a character with profound self-awareness, a character "of greater capacity for self-understanding and emotional depth than has yet been disclosed."[127] Forker specifically locates a change in Richard in act three, where:

> Tragic sympathy for Richard begins to emerge with the challenge to his authority, and self-knowledge, though incomplete, begins to accompany self-pity. The brittle confidence, arrogant self-possession and careless indifference of the earlier Richard have melted to disclose a richer and more vulnerably complex personality.

Specifically, Forker marks the change in Richard at the "hollow crown" speech in act three, and I agree that this is a point at which we see a more introspective Richard than has occupied the stage in the first two acts. Indeed, it becomes clear in act three why the play is named for Richard and not Henry as we begin to watch a fascinating character strive for self-understanding, even as this process is unstable and chaotic. In several places throughout this journey, the play presents changes in identity both metaphorically and physiologically, climaxing at Richard's soliloquy in act five when this conception is clearly presented. Instead of the unproductive chaos that earlier critics read in such a case of mental overcrowding, we can instead read Richard's thoughts in light of Renaissance physiological theories of cognition, according to which they are part of a lively and logical system in which his brain receives stimuli from and responds to his external and internal environments. In this important moment when the text gestures toward the physiological exchange between brain, body, and world, we are presented with a new way to characterize him that focuses on his insight into the constant shifts in his brain that contribute to his identity.

A question that arises in a physiological reading of Richard's identity is whether Shakespeare means to suggest that Richard is made of the same stuff as everyone else, thus problematizing Divine Right in the play. It is certain that to

a large degree, *Richard II* is interested in the ethics of kingship: the reasons why Richard is no longer a suitable king, why Bolingbroke may be an acceptable substitute, and how all of this ultimately is related to Divine Right. I would argue that Shakespeare's Richard should be considered, at least biologically, an average human being in the sense that his body works in the way that popular scientific theories suggest. As a record of history, *Richard II* investigates the possible ways in which this famous abdication may have occurred; as a tragic retelling of well-known events, the play's focus is human behavior, and I suggest that an early modern understanding of behavior would have involved a consideration of physiological states. Forecasting the circumstances that lead to the downfalls of Shakespeare's tragic princes, Richard's journey through self-discovery is the force that drives the action of the play, and his emotional utterances draw the audience's attention away from Bolingbroke's mechanical proclamations. And from the early histories to the late tragedies, Shakespeare dramatizes the physiology of emotion and behavior quite explicitly, for he understands, as do his contemporaries, thought and feeling to be entirely embodied experiences. Gail Paster finds a helpful theoretical approach to the language of embodied emotion in Shakespeare's plays in reading what she calls "psychophysiology"—as evidence of the labile and interdependent relationship between body, organs, humors, and passions. Her project in *Humoring the Body* is to highlight "a historical phenomenology in the language of affect in early modern drama" that she believes is particularly present in Shakespeare's

works.[128] Most important, Paster points to "the intersection of psychology and the early modern constitution of the world" as a place where we can witness Renaissance emotional self-experience unfolding in the way that I emphasize in *Richard II*:

> In the dynamic reciprocities between self and environment imagined by the psychophysiology of bodily fluids, circumstance engenders humors in the body and humors in the body help to determine circumstance by predisposing the individual subject to a characteristic kind of evaluation and response. Such evaluation and response were thought to occasion subtle but important changes in a person's substance. ... This is how the passions altered and were altered by the body.[129]

This complex involvement between flesh and environment—and then between flesh and spirit—dictates every decision, expression, and reaction made by every character in the play. The tenor of his thought and emotion, including what excites movement in the brain and the body's and soul's reactions to that, is entirely dependent upon the Richard's unique physiological disposition, which in turn changes according to environmental factors. Thus, it is not surprising that in the prison speech, Richard describes himself piecemeal, and that we can read him as a unified personality with several competing fragments.

Criticism on the play has offered useful ways to approach the concept of human identity, most importantly emphasizing that Richard's mind is full of his contesting and sometimes irreconcilable roles. In light of this, we can read early modern physiology, dominated by the fluidity of Galenism, as an important context of Richard's unified identity. This reading adds to Shakespeare criticism an assessment of Richard's identity, and eventually of the characters that

surround him, that is rooted in physiological variegation rather than what Kantorowicz considers an ideal image of unity. I acknowledge that the Renaissance body is not a quiet place, but it is unified in its own seemingly incoherent way; so while I disagree with the ideal unity of the two bodies theory, I suggest a different plurality by which to measure coherence and stability in the early modern body. As a container of roiling humors and other substances, the Renaissance body becomes an example of a system that is fueled by unrest, as only constant movement beneath the skin makes the coherent functioning of the human machine possible. Hierarchy and conflict maintain the physiological unity of humanness, and Richard's understanding of this Renaissance characterization of identity makes him the most insightful and stable character in the play.[130]

Many in One: Richard's Galenic (and Insightful) Crowdedness

My analysis begins at the end of the play, in act five, because Richard's self-awareness is most profound during his analysis of his own cognitive movement while he narrates the creation of his reality. When act five, scene five begins, Richard is seated in a prison cell at Pomfret awaiting his doom. It is a time for introspection in the dank cell; Richard is at his lowest political and emotional point, having begun the play as king and through usurpation, having been relegated to prisoner and traitor. The only thing left for him, and for the play, is death. He begins, "I have been studying how I may compare / This prison where I live unto the world," introducing the purport of the speech: Richard embarks on the familiar device of microcosm and macrocosm to clarify his

position in the universe. Notably, Richard's studiousness here supports the popular reading of his character as melancholic and imaginative. It is especially important that Richard is here speaking both figuratively and literally—reading literally, we take the word "prison" for what it is, thus leaving "world" to mean whatever is outside of his cell. But we see at this point that by his admission Richard is also speaking figuratively, for he uses the word "compare" to describe what he is doing rhetorically. His "prison" may not be so easily equated with the place where he currently sits, although he continues to refer to the prison and outside world literally, at least in the beginning:

> And, for because the world is populous
> And here is not a creature but myself,
> I cannot do it. Yet I'll hammer't out.[131]

Again, Richard speaks literally and figuratively in reference to the "world" that his cognitive exercise explores. He imagines many people outside of his prison wall, the numerous courtiers, advisors, and subjects that he associated with before his great fall. These make up his universe, the many "creatures" with which he identifies and interchanges roles. Figuratively, and at the same time, his head is also a prison within which his single identity resides separate from other bodies, a space that he wastes no time in filling with reflections of the world outside of it. In these lines, Richard assumes that his world and his person are continuous, whatever part of the world he may inhabit; as such, in this speech he is able to identify similarities between the world of his mind, his prison cell, his court, and the universe at large. Shakespeare's double meaning throughout the speech

reinforces the popular contemporary view of man as microcosm that allows a reading of Richard's mind that corresponds to his larger world.

At this point Richard chooses to run with the image of the microcosm as he then creates a small womb in his brain to help "hammer out" how his thoughts are created. Here the context of contemporary physiology becomes especially illuminating as he describes the complex interaction of soul and brain. As such, Richard's references change as he guides the audience through his cognitive process:

> My brain I'll prove the female to my soul,
> My soul the father, and these two beget
> A generation of still-breeding thoughts;
> And these same thoughts people this little world,
> In humours like the people of this world,
> For no thought is contented.[132]

In this passage Richard creates an imaginary realm in which he is the author of his experience, a creator of sorts who engenders new life. The pensive king recognizes God's power of generation in his body as a shared characteristic through his soul, which remains part of the greater formative spirit of the deity. Read alongside Renaissance science, the passage echoes the doctrine of the Galenic pneuma, the combination of body and soul that generates thought, which is the instrument of cognition. This moment has been glossed as figurative speech, a moment in which Richard creates a metaphor for what is going on in his mind, and it most certainly is; he imagines his virile soul coupling with his passive brain, relishing the malleability of language that fuels his rhetoric. Forker argues that the king is reinventing himself through metaphorical language,

creating a world in which he controls the demographics. He has no choice but to reconsider his position after what has befallen him, and it is difficult:

> The long meditation of identity, isolation, time and harmony with which the scene opens, Richard's only soliloquy, is, however, less unitary in its effect. Here uniquely we see Richard without an onstage audience. His island realm has now shrunk to the enclosure of a prison cell, and, psychologically speaking, to the confines of his own fanciful mind[…], fragmenting himself into a collection of listeners to his own performance, all of them discontented.[133]

Forker says rightly that as Richard tries to discover his subject position, he uncovers a nightmare of plurality. According to the metaphor of the speech, his mind has become his prison, the place where he is most confined because he cannot make sense of his role in the world. By the end of the speech he must be "eased / With being nothing" because he realizes that each state of being is ephemeral. The figurative is a useful reading because Richard's language has been gloriously figurative throughout the play, and he has been quite melancholic.

It is also useful, I think, to focus on the word "humours" in line 10 as a reference to an equally important physiological context. Undoubtedly, a Renaissance audience would have understood this as a reference to the Galenic humors to be the four constituent elements of human physiology, and as the passage indicates, that all people are made up of these humors to varying degrees. Although Shakespeare does not specifically mention the pneuma, Richard emphasizes that the intercourse between soul and body is what produces thoughts, and that as the soul and body are affected by the larger

world, with which they share their constitutions, so do thoughts change according to various physical influences. In sum, the parts that make him who he is, soul and body, also make his thoughts, which are also a part of who he is. According to this basic tenet of Galenic physiology, the mind changes so easily because the humors are easily influenced by environment and temperament, and this changes the constitution of the pneuma that make thought possible. This physical makeup determines how the brain acts in conjunction with the soul, and the thoughts that result bear the influence of conditional fluctuation as well; together, these thoughts give Richard a whole, if quickly changing, identity. That Richard speaks the language of these interactions demands that we consider how the soul and brain could cause thought, and indeed, we find that the process is an important aspect of early modern identity. I suggest that the subsequent list of thought types gestures toward the possible importance of associating his humoral changes with his fluctuations in mood, revealing a more physiological, and comprehensive, picture of Richard.

Thus, Shakespeare's Richard has begun his self-evaluation in language that invites a physiological reading of what is going on in his brain, and his self-awareness continues to develop from this honest appraisal of his motivations and moods. Early modern medical theory, which tells us that a person's physical makeup can be affected by the slightest environmental change, justifies the assumption that human beings are Protean, changing in attitude and behavior at the slightest physiological alteration. After laying out what he will discuss in his

speech, Richard launches into a list of the changing thoughts that his brain and soul have produced. He begins:

> The better sort,
> As thoughts of things divine, are intermixed
> With scruples and do set the word itself
> Against the word, as thus: 'Come, little ones';
> And then again:
> 'It is as hard to come as for a camel
> To thread the postern of a small needle's eye.'[134]

Using a scriptural contradiction, Richard anatomizes the first aspect of his identity that he finds in the little world that is his mind: one that is inclined toward spiritual considerations. Anatomically, a Renaissance person would be so inclined if his pneuma were qualitatively purer, allowing for a more reasoned and thus Christian exercise of the will. Reading physiologically, we see that there are times when Richard's mind is correctly tuned for right behavior, but that just as quickly his constitution changes. Here Richard realizes that his thoughts belong to two theological categories at once, and according to contemporary science, this is a physical possibility: he is a humble penitent welcomed to salvation, but he is also the rich man who cannot fit through the eye of the needle in one of the most well known biblical metaphors. At some points, according to environmental influences, his pneuma is better suited to move the will toward humility and childishness, and at others, depending upon how much the quality of the pneuma changes, it effects pomp and pride. Richard's movement among personalities in this speech, using phrases such as "And then again" and words like "sometimes" and "whate'er" as he lists aspects of his identity, shows his awareness of his

plural nature. Read in light of contemporary science, the king is only enumerating the normal behavioral fluctuations that physiological change may cause, adding an interesting dimension to Shakespeare's rich metaphor.

Throughout the speech, Richard continues to follow the way his various attitudes can so easily slip into one another. The next two personas he recognizes within his mind demonstrate his painful awareness of his mental instability, unsettling him even if it is physiologically normal. Again personifying these mental movements, he reveals their interactions:

> Thoughts tending to ambition, they do plot
> Unlikely wonders—how these vain weak nails
> May tear a passage through the flinty ribs
> Of this hard world, my ragged prison walls,
> And, for they cannot, die in their own pride.
> Thoughts tending to content flatter themselves
> That they are not the first of Fortune's slaves,
> Nor shall not be the last, like silly beggars
> Who sitting in the stocks refuge their shame
> That many have and others must sit there.[135]

This is a remarkably vivid picture of cognitive action in Richard's mind, and a reading considering the medical theory of the pneuma in the Galenic brain reinforces the physicality of the metaphorical interactions. Still collapsing his mind, his prison cell, and the universe, the king continues to characterize his thoughts as ever-changing entities capable of metaphorical movement or, in some cases, plagued by figurative immobilization. In addition to a metaphorical reading, I suggest the interpretive possibilities of a physiological reading that adds force and moment to its metaphorical physicality. A contemporary physiological understanding of this scenario begins with an environmental

occurrence that cues the senses, which report to the first ventricle containing fantasy and may urge the imagination toward ambition; sometimes these ambitious ideas may affect other imaginings by raging among them and sometimes, when they are offered to the ventricle housing reason for consideration, rebound in failure as ambition is tempered. In theory, reason should interpret sensory images and form judgments for the will to enact, but all this depends on the physical quality of the pneuma that act as a conduit for these impressions and ideas among the three ventricles. A “better” man would be more able to override desire with reason, and this goodness corresponds directly to the purity of his refined animal spirits. In conjunction with this movement between the first two ventricles, the third mnemonic ventricle would aid in the reasoning process, recalling past experiences to offer context for the decision to embrace or reject ambition. The image of Richard’s thoughts as slaves trapped inside his head emphasizes their necessary dependence on both outside and inside influences as his thoughts attempt to comfort themselves by acknowledging how quickly circumstances can change according to “Fortune.” Richard suggests, and a physiological reading confirms, that he is an amalgamation of his sometime humility, his selfish tendencies, his incapacity to empathize, and his desire for praise; his speech reveals that he is never one thing only. Seeing that his mind is constantly changing, which in turn affects his personality, Richard’s speech reaches an important intersection between Renaissance theories of identity and political ideologies.

Our physiological reading theorizes an embodied understanding of human personality that begs a difficult question: if pneuma can change so easily, is there not a specific makeup suitable for kingship? The question of royal suitability, tied so closely to the question of Divine Right, underlies this and other similar ruminations by Shakespeare's kings, and in this passage, it is possible to add an illuminating physiological consideration. As Richard discusses all of these aspects that unite to create his outward "person," and as he explicitly describes his competing emotions, he suggests that people's minds are in constant motion, a truth that we can read in light of the variable machinations of early modern cognition. And so, through considering how easily his identity can change in its expression, Richard's speech leads us to consider that his mind is inconstant in its very nature. If this is the case, is he suited to rule others? The king becomes a stage actor as he meditates upon his multi-faceted identity, arranging his various parts into a familiar hierarchy:

> Thus play I in one person many people,
> And none contented. Sometimes am I king;
> Then treasons make me wish myself a beggar,
> And so I am. Then crushing penury
> Persuades me I was better when a king;
> Then am I kinged again, and by and by
> Think that I am unkinged by Bolingbroke,
> And straight am nothing.[136]

This passage clearly expresses Richard's anxiety, insecurity, and fear that his subjects are betraying him, a fear that cripples him to the point that he wants to invert his position. This section prompts us to ask whether it is dangerous that a monarch's identity can change according to physiological factors, and before we

can arrive at an answer, Richard tells us something even more alarming: that he is “nothing.” This is partly understandable, since he has been betrayed by those closest to him and cast out of the only life he has ever known by a heartless and impertinent pretender. However, following the reading of embodied thought, his proclamation that is nothing can arise from the contemporary idea that his complexion is at the mercy of countless influences, and in that sense, his various identities are “none contented.” Bolingbroke figures here as one of these external influences that moves Richard’s mental vacillation by dictating his outward reality, and Richard’s thoughts change according to Henry’s words and actions. In a physiological sense, when he says that he is “nothing,” Richard does not assume that he literally ceases to exist in body. These pieces of himself do not physically cancel out, leaving Richard’s brain empty; the talk of “nothing” is figurative, so that his mind is full of all these roles but not one in particular is expressed, a rhetorical move that is made clearer by a reading alongside Renaissance medical theory.

As Richard continues to the end of his consideration, he cleverly expands the metaphorical meaning of “nothing” to include the dissolution of the body after death. In doing so, the speech solidifies its emphasis on physicality, as Richard points out that the opposite of existence is literally not having a body:

> But whate’er I be,
> Nor I nor any man that but man is
> With nothing shall be pleased till he be eased
> With being nothing.[137]

Several critics argue that Richard ends the speech by obliterating his identity in these final lines, which is a reasonable reading when considering “identity” as an amorphous concept with no literal meaning. But reading scientifically we must consider that he in fact reinforces his argument that “being,” on this earth at least, is completely dependent on physical nature. Richard refers to himself as “whate’er,” which is certainly not equatable to nothing; in fact, this wording indicates that he in fact counts himself as something when all is done. His sense of “nothing” is metaphorical after the vivid description of the violence in his mind; even though Richard suggests that there is comfort in ceasing to experience the world physically, he recognizes at the end of his speech that while he is still alive, he must embrace the ambiguity of his being. He emphasizes that he “but man is,” and the overwhelming effect of the soliloquy is to define man as a complex of his thoughts and the body that houses them.

A Kingdom in Pieces

Long before Richard ruminates in act five, other characters employ images that point toward his speech, creating the thematic framework that is later specifically discussed by the king. The image of one thing with many constituent parts, particularly in the microcosmic relationship of man to the larger world he inhabits and in cognitive movement, informs the play’s constructions of identity and behavior as a repeating metaphor. In the most general metaphorical sense, characters speak of single concepts in terms of their several aspects, philosophizing about the need to see a thing for its inherent chaos. The climactic

image of this phenomenon is the breaking of the mirror in act four, which Richard characterizes as an attempt to clearly see his variability. More specifically, Richard and his lords view him as a sort of shattered mirror that must appeal to its several parts for a unified image, and as the play progresses, Richard learns why he acts in such inconsistent ways. In fact, as the play is a study of Richard's character, the audience is subjected to constant commentary on the king's behavior, which becomes more interesting and dramatic when read in light of early modern physiology. And as several characters express anxiety over Richard's fluctuating moods, they reveal the true source of their fears: that a person's identity is so easily affected by various environmental causes, which for a king is a dangerous and unsettling truth.

In act two, York is one of the most verbal about Richard's seemingly irrational and confused behavior, and in particular he describes how quickly Richard's cognitive processes become impaired, in the same way that Richard later explains his own thoughts. His is the first explicit reference to the behavioral change that can be explained by the external environment's affect on the pneumatic substances in his brain:

> Where doth the world thrust forth a vanity—
> So it be new, there's no respect how vile—
> That is not quickly buzzed into his ears?
> Then all too late comes Counsel to be heard,
> Where Will doth mutiny with Wit's regard.
> Direct not him whose way himself will choose.[138]

York refers to the three parts of Richard's brain that work together in cognition: reason (Counsel), sensory information (Wit), and will. As contemporary cognitive

theory suggests, his reason should interpret the images produced by wit and move his will to right action, but according to York, his particular brain follows a different route. Read in a physiological context, York's speech alludes to the commonly held medical belief that the outcome of this interaction between sensory cause and cognitive effect depends upon the quality of the spirits that move Counsel, Will, and Wit. He comments on the danger that can result from such an overload of images—his argument that reason comes "all too late," read in a physiological context, could suggest that either Richard's reason is impaired or his will out of control, referring to the theory that in a brain with pneuma of lesser quality, either Will is at the mercy of an impure Wit or Will overcomes Wit's attempts to counsel it.[139] Here York suggests that Richard's environment affects the working of his cognition, and the danger is that the resulting thoughts may mimic their detrimental influences: encountering "vanity," Richard will be unable to reason well enough to overcome his desire, thus succumbing to his willfulness. The fear that vanity or vanities might negatively affect Richard's ability to reason makes sense considering contemporary theories of cognition, and as the action proceeds, Richard and the other characters in the play begin to understand that this vulnerability forms an aspect of human identity.

The frightening instability of human reason, especially as it is unavoidable, becomes a consistent theme as Richard's counselors watch his fall from grace. After this allusion to a physiological characterization of Richard's decisions, Gaunt is the first to locate several "persons" inside Richard's head, manifested as

varying entities. As the scene proceeds, Gaunt specifically compares Richard's brain to an assembly of people:

> A thousand flatterers sit within thy crown,
> Whose compass is no bigger than thy head;
> And yet, encaged in so small a verge,
> The waste is no whit lesser than thy land.[140]

This is the first occasion of the brain as world metaphor that informs the prison speech later in the play, and it continues the metaphor of a mind that is made of several parts. Specifically, Gaunt imagines Richard's mind as a receptacle for his subjects, a place where courtiers meet and compete. Gaunt again argues that perception is the key, as Richard's identity relies not only on what he thinks of himself in the abstract but more so on which of his various impulses and desires are strongest. The metaphorical flatterers are all part of the king's psyche in this passage as symbols of the varying influences that can affect Richard's cognitive state. Gaunt plays upon the image of the microcosm when he charges that Richard loses everything when he allows desire to rule his mind, placing the entire land of England within the scope of the king's mind. Gaunt offers a picture of multidirectional influence in which people, manifest as either composite parts of a whole or as the unified whole they comprise, are in constant communion with a larger environment and each other. The result of such communion can be negative, as Gaunt believes it is, if a mind is unable to rule with reason.

As the play continues, other characters use the same reference to several individuals inside Richard's head to describe the king's variable moods. Later in

scene one of act two, Northumberland further expresses the counselors' fears that the mind can be so easily influenced by environmental causes, including the company one chooses to keep. Following Gaunt's vivid image of Richard's crowded brain earlier in the scene, the flatterers that Northumberland now mentions gain an even more malicious characterization:

> The king is not himself, but basely led
> By flatterers; and what they will inform
> Merely in hate 'gainst any of us all,
> That will the King severely prosecute
> 'Gainst us, our lives, our children and our heirs.[141]

This passage forges a direct connection between these flatterers, which we may read as directly appealing to Richard's inordinate desires, and the thoughts that result from their influence. Reading physiologically, the desires in the king's brain may move his will toward the inclination to prosecute his assumed enemies, among which Northumberland fears he may be. The underlying cognitive assumption in this passage may be that Richard's thoughts will be negatively influenced by his associations, through the new temptation to vice that his brain receives. If that occurs, Northumberland muses, they are all in trouble. The only problem with his characterization is that the duke separates the cognitive root of Richard's behaviors from Richard's conception of himself. And while it is true that the flatterers surely influence his will, it is incorrect to say that Richard is "not himself," because according to the thematic pattern of the play, being himself depends only upon the identity he expresses at any given moment. What Northumberland recognizes are the "thoughts tending to ambition" that Richard

sees in his own mind in act five. Later in the same act, this image of physical plurality in the mind reappears in Bushy's speech to the Queen warning her to beware of the overwhelming heaviness of grief. He cautions against confusion:

> Each substance of a grief hath twenty shadows,
> Which shows like grief itself, but is not so;
> For Sorrow's eyes, glazed with blinding tears,
> Divides one thing entire to many objects,
> Like perspectives, which, rightly gazed upon,
> Show nothing but confusion; eyed awry,
> Distinguish form.[142]

This is an important parallel to Richard's prison speech and his mirror moment because it emphasizes the inherent complexity of a seemingly unified mind and the importance of perspective. What the eye sees, he argues, changes due to many factors, and those factors in turn affect the judgments that result. Read physiologically, this is certainly true; as environmental factors change, the sensory information received by the brain changes, thus affecting reason and will. In this sense, Bushy's speech can be read alongside physiological theories that environment influences the variability and ambiguity of cognitive states that form identity, emphasizing the mind's dependence on the senses' ability to judge and perceive. But also in a figurative sense, Bushy alludes to an important idea that I argue is central to reading identity in the play: that in some cases, in order to "distinguish form," one must look "awry." Bushy discusses a thing that is made up of several parts yet is still whole, and understanding the complex essence of it depends upon how the gazer chooses to see it. I suggest that the play endorses

this kind of seeing, and that it is useful to consider Richard's identity in the same way.

In act three, Richard continues to characterize his changing mental state as a collection of distinct aspects of his identity. In a moment of stark recognition, the king emphasizes his recent political abandonment with a physiological metaphor, claiming that the flight of an army of soldiers has affected the balance of his humors. The assumed connection between an environmental event, the emotions it may cause, and the change in body chemistry is an important reminder of the equivocal state of Renaissance identity. Concerned, Aumerle asks, "Why looks your grace so pale?" after Richard has just heard of the Welshmen's defection to Bolingbroke.[143] Richard associates his paleness with death as he considers the number of men who have gone:

> But now the blood of twenty thousand men
> Did triumph in my face, and they are fled;
> And till so much blood thither come again,
> Have I not reason to look pale and dead?[144]

Here it is possible to associate a change in Richard's humors with external occurrences as he comments on Salisbury's report that the country is in disarray upon Richard's return from Ireland. In particular, the passage alludes to the theory of microcosm, which dictates that he and his subjects share physical substance that ebbs and flows with the latter's proximity and devotion to him, which mirrors the later speech in which he locates just as many subjects within his mind. Metaphorically, the substances of these myriad souls are what give him life, and without them, he cannot function; physiologically, his emotional

transition between happiness and sadness is indicated by the movement of his blood to and from his face. Richard again emphasizes the variability of his psyche when Aumerle immediately counsels him:

> AUMERLE: Comfort, my liege. Remember who you are.
> K. RICHARD: I had forgot myself. Am I not king?
> Awake, thou coward Majesty, thou sleepest!
> Is not the King's name twenty thousand names?[145]

Here Richard again refers to his identity as a collection of aspects as he recognizes that majesty is one of them, along with others that by the end of the scene have returned Richard to a weaker subject position. Because he is aware that his personality is made of many parts, he understands that just as he can move to a more subservient subject position, he can also call himself back to a royal frame of mind. It is a moment when Richard previews his later speech wherein all of these thoughts are laid out neatly.

Later in the scene, Richard further explores the contours of his mind by personifying one of the most profound fears of a monarch:

> For within the hollow crown
> That rounds the mortal temples of a king
> Keeps Death his court; and there the antic sits,
> Scoffing his state and grinning at his pomp,
> Allowing him a breath, a little scene,
> To monarchize, be feared, and kill with looks,
> Infusing him with self and vain conceit,
> As if this flesh which walls about our life
> Were brass impregnable; and humoured thus,
> Comes at last and with a little pin
> Bores through his castle wall, and farewell, king![146]

Here Richard reiterates that his mind is metaphorically a small court that contains several entities, and he also refers again to the fluidity of the interaction between

the body and the external environment. Personified Death sits among Richard's other thoughts in state, enjoying all of the characteristics of a fully formed man and sharing in Richard's particular constitution while at the same time exercising control over his psyche. In line with this idea of sharing substances, Richard's description of Death closely resembles the way that others may describe the king himself. These lines create the vivid image of fluid conceit, with its own particular chemical makeup, injected into the closed receptacle of Richard's mind. But Richard knows that his mind, like his skull and his skin, is not closed to the outside; in fact, the membranes of the mind and body are permeable to traffic both ways. There is no chance of winning at siege warfare under these conditions; at some unknown point, Death will both metaphorically and physically overtake the space in his mind and the rest of his body.

Accompanying the ease with which Richard's mental state can change due to the various components of his identity that are easily influenced by external events, the other characters in the play notice that sometimes Richard can outwardly express aspects of his personality that do not necessarily match his inward feeling. Even as he feels like a beggar, Richard can impress his fellows with his regality, as York notices:

> Yet looks he like a king. Behold, his eye,
> As bright as is the eagle's, lightens forth
> Controlling majesty. Alack, alack for woe
> That any harm should stain so fair a show![147]

Whether we read 'yet' as 'still' or 'but,' York is noticing the persistence of Richard's royalty even in the face of his imminent deposition because, as Richard

has established, he is aware that royalty is an aspect of his identity that he can choose to show. In a common metaphor, York locates part of the essence of Richard's true being in his eyes, come to "show" the lords its presence there. Following the motif of the microcosm, Richard equates "England's face" with the literal earth that country comprises, again emphasizing that all things and people share substance with each other and with the rest of the universe:

> But ere the crown he looks for live in peace,
> Ten thousand bloody crowns of mothers' sons
> Shall ill become the flower of England's face,
> Change the complexion of her maid-pale peace
> To scarlet indignation, and bedew
> Her pastor's grass with faithful English blood.[148]

Again the play gives England, and its collective inhabitants, a metaphorical face, imbuing the slaughter that will occur as a result of Bolingbroke's usurpation with a sense of the failure of Richard's political ideologies. England is anthropomorphized, given a complexion, a humoral makeup, and emotional response, mirroring Richard's earlier lament that his face has lost color with his abandonment. Read physiologically, the country, as the body and the larger universe, experiences moments of surging spirits as blood literally flows within each subject's veins and also out onto the ground. In this image of pneuma shared by all, Richard identifies the important chain of interdependence that defines his cognitive processes and the play's universal concept of human identity.

Later in the same scene, Richard experiences frustration because he realizes that because his identity is necessarily composed of several easily

influenced aspects, he cannot rid his mind of the undesirable parts of his personality. He strives to forget things he finds unpleasant:

> O God, O God, that e'er this tongue of mine
> That laid the sentence of dread banishment
> On yon proud man should take it off again
> With words of sooth! O, that I were as great
> As is my grief, or lesser than my name!
> Or that I could forget what I have been,
> Or not remember what I must be now![149]

This passage makes physiological sense because contemporary theory characterizes memories as items that must be stored, and now they are part of the substance that inhabits his mind in the third ventricle. Even so, Richard must come to understand, as he does in act five, that all parts of his psyche, both desirable and undesirable, are integral to his identity as "Richard." He cannot forget his role because the sum of himself is stored in his brain, just as his cognitive ability tells him at present what he needs to do. In the passage that follows, the famous "What must the King do now?" speech, Richard continues to comment on his desire to purge his mind of some of its thoughts in order to undo the problems he has caused with Bolingbroke, even as he laments that he cannot do so.

In the later deposition scene, Richard's frustration comes to a head as he realizes that he cannot rid his mind of any aspect of his identity, especially at the whim of others. He associates his change in title with a complex reorientation of cognitive realities that he is yet unable to perform. He expresses consternation:

> Alack, why am I sent for to a king
> Before I have shook off the regal thoughts

Wherewith I reigned? I hardly yet have learned
To insinuate, flatter, bow and bend my knee.[150]

Here Richard tells us that majesty has become an essential part of who he is, in some ways a quality that has been influenced by his treatment by others. It is painful to be in Bolingbroke's presence because his life's circumstances have made his mind used to majesty, and changing this crucial aspect of his personality would have important physiological implications for Renaissance subject. If according to medical theory his behaviors are influenced by the quality of the pneuma that causes cognition, then he cannot immediately rid himself of any aspect of his identity. Because it is so soon after his change of roles, he imagines an inappropriate situation in which his mind is not yet familiar with the new role of Bolingbroke's subject, but the important implication is that he knows that he *can* express a different personality trait. The important bucket image that follows, wherein Bolingbroke is the higher, empty bucket and Richard is the low, heavy bucket full of water, recalls the instability of human identity in the buckets' configuration and contents.

Forced to take on a new role, Richard discusses the difficulty of his relationship with Bolingbroke, and he shares with the new king his awareness that his identity is severally composed:

BOLINGBROKE: I thought you had been willing to resign.
K. RICHARD: My crown I am, but still my griefs are mine.
You may my glories and my state depose,
But not my griefs; still I am king of those.
BOLINGBROKE: Part of your cares you give me with your crown.
K. RICHARD: Your cares set up do not pluck my cares down.
My care is loss of care, by old care done;

Your care is gain of care, by new care won.
The cares I give, I have, though given away;
They 'tend the crown, yet still with me they stay.
BOLINGBROKE: Are you contented to resign the crown?
K. RICHARD: Ay, no. No, ay; for I must nothing be.
Therefore, no 'no', for I resign to thee.
Now mark how I will undo myself:
I give this heavy weight from off my head.[151]

Richard points out that his griefs and cares, associated with his office, cannot be siphoned off and separated from the rest of his identity in his mind. His glories and state, he rightly asserts, are manmade externals that can easily be transferred, but his notion of himself as king permanently inhabits his mind. According to a physiological reading, giving the crown to Bolingbroke does not automatically relieve him of the cognitive attachments of kingship, since majesty is one of his many cognitive aspects; it also increases his grief, yet another aspect that ebbs and flows due to circumstance. Because his identity is created by a particular configuration of spirits, as his conceptions change, so must his brain's order, and so the loss of his crown will slowly alter the configuration that he has become accustomed to, in turn affecting his emotional response as well. This destabilization is caused by the change that occurs as his psyche reconfigures to express his new roles as subject and, most fitting for his poetic purposes, peasant:

Mine eyes are full of tears; I cannot see.
And yet salt water blinds them not so much
But they can see a sort of traitors here.
Nay, if I turn mine eyes upon myself,
I find myself a traitor with the rest;
For I have given here my soul's consent
T'undeck the pompous body of a king,

> Made Glory base and Sovereignty a slave,
> Proud Majesty a subject, State a peasant.[152]

At this point, Richard sees that majesty is metaphorically moving aside to make room for a new configuration as he begins to accept his new position, but a reading of the physical motions in his brain also emphasizes the difficulty of his transition. Not only must he understand that his new identity requires drastic changes, but he must also wrangle with the fact that because they are physiological, these fluctuations will be complex and gradual. He comments again on the idea that perspective is what matters, as different situations can turn things into their opposites as quickly as he can remove his crown and robes. This is a moment when Richard reveals just how well he understands the complexity of his situation: his power as king, which he has abused, has become obsolete, but his identity is grounded in what he thinks of himself. The struggle between his psychophysiological realities foreshadows Richard's painfully honest assessment of the variability of his identity.

Therein Will I Read

In act four, scene one, the deposition scene, Richard calls for a looking glass so that he might look into the face of a man who has been transformed by fate. Refusing to read the roll of accusations that Bolingbroke and his compatriots have compiled against him, the king instead desires to study "where all my sins are writ, and that's myself."[153] Echoing the idea that Richard's environment directly affects his identity, and supporting the idea that this environment changes his physical makeup, he sees his subjects in the reflection

of the “flatt’ring glass” and remembers his folly in indulging them (279). Again, in a preview of his speech in act five, Richard recounts his roles as caretaker, benevolent deity, sinner, and usurped king. In a symbolic act, Richard breaks the glass “in an hundred shivers” to reflect the state of his mind, which before now had always “[kept] ten thousand men” as both a reflection of his subjects’ influence on his identity and as a reference to the idea that his mind contains many thoughts.[154] At this moment Richard breaks the mirror in order to make it a more fitting reflection of him as he has been portrayed throughout the play—as a collection of aspects that form a whole personality. Indeed, when this mirror is still whole, the king has trouble interpreting what he sees because it does not reflect the variability of his thoughts—it shows, necessarily, an entire face. This moment is especially important to my argument for the complexity of human identity because Richard himself recognizes that it is difficult to read a person as a whole and unified being precisely because he changes with such ease. This is true in the passage in two senses: first, because he cannot reconcile the “tortured soul” where “lies the substance” of his identity with only one image, and second because is unable to associate what he sees with now with any of his present or former moods.[155] Richard dramatizes the difficulty in viewing an entire “person,” both metaphorically and physiologically; because his still beautiful face and his wretched disposition differ, he reasons that his “grief lies all within,” realizing that it is not the image that makes him but his internal, and possibly physiological, reality. What is ultimately unified, and externally whole, is only the illusion of a

man named Richard who was king and is not any longer. Regardless of which aspect of his identity is strongest—king, beggar, flatterer, and penitent—they are all ever-present, even if the mirror does not show them. Thus at his death, Richard still calls himself "the King," and his subjects recognize him as such.

CHAPTER IV

CRANIAL ANATOMY AND SPIRITUAL REGULATION IN JOHN DONNE'S "THE CROSSE"

Reading God in the Book of Flesh

John Donne's poetry abounds with attempts to formulate the speaker's identity in relation to other things: in the secular poetry to his mistress, the monarch, or his reader; and in the divine poetry to God. This desire to understand himself, both spiritually and physically, by contrasting himself with an other gives rise to speculations that explode into the metaphysical realm only to rebound on themselves again, back to the flesh and blood of the poet. Donne, like his contemporaries, questions how he, as a man made of flesh, can orient himself to an omnipotent and eternally disembodied God, and the answer to this query is the basis upon which his identity as minister, penitent, and poet rests. Indeed, the commingling of the physical and the metaphysical, which medical theory and philosophy clearly assumes in the period, is something that Donne seems desperate to explain. The apparent opposition of the matter of the body and godly pursuits is a problem for sixteenth and seventeenth century medicine, a discipline owing most of its achievement to the philosophy of heathen physicians who had no concept of grace or free will. In their desire to understand the body scientifically, Renaissance physicians sought the mark of God imprinted, figuratively, on it; their project was to demonstrate how the body reflected the wisdom of the deity, whose grace would always be given freely to

anyone who truly desired it. Donne is able to go a step further; in seeing God's touch imprinted *literally* on the body in the form of the skull sutures, and offering this physical proof, Donne is able to assert that this coherence of spirit and matter is proof of spiritual causation and that the body is ultimately at the mercy of divinity. What the poem offers, then, is Donne's picture of salvation based on his image of human anatomy: if freely chosen, God's grace is always available, and if necessary, God can override human will.

In a broader sense Donne's project is to reconcile contemporary Christian doctrine with this dialectical relationship between the spiritual and the human realms. And the body, paradoxically to modern readers, as an area where larger public concerns and private interests intersect, is the best place for an investigation of the anatomy of salvation. If Donne can prove the imprint of God on the body, then he can also prove that grace is real medicine, and that the subordination of free will is necessary to obtain it. In Donne's poem "The Crosse," the speaker describes the orientation of the cranial sutures as cruciform, and I argue that his desire to provide spiritual causation for anatomy is part of his larger discussion of the power that God can exercise over any aspect of the human soul. In the form of a cross, the sutures sit atop the head, governing the body's processes. This discussion of the sutures fits into the poem's overall attempt to locate naturally occurring emblems, namely crosses, that God has carefully placed within our view to remind us of Christ's sacrifice. After several examples of material crosses in the forms of birds, the design of ships, and the

globe's latitudes and longitudes, Donne's speaker begins an analysis of "spirituall" crosses that are imprinted in the psyche and in anatomical parts:

> And as the braine through bony walls doth vent
> By sutures, which a Crosses forme present,
> So when they [*sic.*] braine workes, ere thou utter it,
> Crosse and correct concupiscence of witt.[156]

In sum, if the brain's work has been corrupted by sin, God's grace is immediately accessible. What is striking is that although Donne knew a considerable amount about early modern medicine, influenced by his physician uncle and also reading several works on his own, he *incorrectly* suggests that the cranial sutures usually form a cross; ancient and contemporary sources indicate otherwise. This restructuring allows him to assert that the cross formed by the sutures is a concrete indication of God's dominance of the body's processes and movements, and this provides a spiritual cause for the nervous system that philosophers, physicians, and theologians could not explain.

What is truly at stake, then, in the poet's exploration of his own physical nature is the reconciliation of theological precepts and man's anatomy and physiology. In his biography of John Donne, John Carey argues that one of the poet's obsessive habits is the juxtaposition of tender, living matter with hard, insensate material. Donne understands the body, he says, as a fascinating mesh of hardness and softness. Thus in the poetry we find several references to combinations like hair and bone, fingernails, and what is most germane to this study, the brain encased in the skull. While this is absolutely true, Carey does not get to the root of Donne's interest in matter and spirit. In fact, "The Crosse"

suggests that Donne is really thinking about the unmoving, powerful influence of God on the malleable will, a reading that is supported by several tracts on the soul in the period. In "A treatise of the Passions and the faculties of the Soule in man," Edward Reynolds voices this very belief:

> But Divinitie, on the other side, when God speaks unto us, worketh Science by Faith, making us so much the more assured of those Truths which it averreth, than of any naturall Conclusions, (notwithstanding they may seeme sometimes to beare opposition to humane Reason) by how much Divine Authoritie is more absolute and certaine, than any Naturall demonstration.[157]

Reynolds has just finished arguing that the state of the soul is dependent upon the body's complexion, and that a bad mixture in the body can harm reason and causes the will to choose wrongly. Of course, if the body is properly maintained, then the soul can act according to God's will, but Reynolds must provide a way to reverse this awful effect, as Donne demonstrates in his poem. Indeed, Donne's emphasis on the importance of the will in choosing to do right is central to his theology, as is evident in *Metempsycosis*. But in the end, he must also assert, as in the *Juvenalia,* "that the body makes the minde" to accord with his dialectical understanding of flesh and spirit.[158] So to circumvent a theological problem, it was important that he emphasize that the will of God is immutable and therefore can override man's and point out the trouble that would result if "His creatures will, crosse[d] his."[159]

The concept of one thing consisting of but independent from its two parts is a major concern in Renaissance theology. Theresa DiPasquale provides a useful theoretical approach to this in her discussion of John Donne's unique

theology, which she recognizes as his attempt to unite seeming opposites to create a comprehensive religious view. In *Literature and Sacrament: The Sacred and the Secular in John Donne*, DiPasquale argues that Donne's preoccupation with the sacraments is evidence of an ongoing attempt to justify spirituality in material terms. In general, she argues, early modern people broke down distinctions between Catholic and Protestant concerns about materiality and salvation because the worry was universal. Donne was an example, she writes, of one who "was capable of combining Calvinist formulations and Catholic-sounding language" in a pattern that is unique to Renaissance metaphysical poets.[160] Along the same lines, in his study of the problematic status of the ensouled body in early modern metaphysical poetry, Robert Young discusses how Christian ritual and meditation constantly reminds one of the difficult relationship between matter and spirit through problematic doctrines like transubstantiation, sacrifice, crucifixion, and omnipresence. Young's study investigates the problem of assuming that ritual worship is an exteriorization of faith and that it is ultimately an attempt to negotiate matter and spirit. The problem is really one of analogy and equivocation, he argues, particularly in the medieval scholastics like Thomas Aquinas and Scotus, that develops between the physical ritual act and the meaning behind it:

> If grace is the gift of divine life by which a man is spiritually transformed and enters into a new relationship with his Creator and Redeemer, then worship is the means by which this new life with God is expressed; it is a concrete manifestation, within this world, of the Christian's otherworldly destiny.[161]

This is a simple formula, Young acknowledges, but what about the Protestant emphasis on the insignificance of the material world? He ends up pointing out that “The paradox of any human approach to the divine is that our efforts are both needless and inadequate, yet necessary (for us) and inspired,” and that Donne and other Renaissance writers are never able to truly come to terms with being made of both matter and spirit.[162]

The most comprehensive recent study that highlights the worry over the relationship between body and soul in Donne’s work is Ramie Targoff’s book *John Donne, Body and Soul*, a reading of Donne’s particular obsession with this topic. The primary issue that the book locates in Donne’s poetry is what the soul is made of, and even more to the point, what “material” and “immaterial” mean. The major doctrinal problem that Targoff identifies is that salvation is dependent on the state of one’s soul, but according to Renaissance medical theory, the state of the soul is directly influenced by the state of the body. What someone particularly thinks about the relationship between these two things directly affects his idea of sacrament, salvation, and resurrection and also influences his identity, definition of human being, and conception of his relationship with God. Targoff argues that Donne most frequently wrangled with the concept of incarnation, turning to the doctrine of resurrection for ideas about how man is related to the rest of the world. What Targoff uncovers is an interesting perception of him as made of a special substance that is simultaneously both matter and spirit. In particular, Donne believes that when he dies:

> His final "sacrifice" will consist of both matter and spirit. Not only does he affirm his belief that God desires equally both parts of the self. He also seems to elide the period of separation—when the body is buried in the earth and the soul rests in heaven—by imagining salvation and resurrection as concurrent events.[163]

So anxious is he that part of God's creation will go unappreciated, Donne's personal doctrine of resurrection affirms for him that both parts of the human being, immortal soul *and* physical body, will remain in heaven with God and the angels for all eternity. Donne's radical interpretation exemplifies the Renaissance worry about what exactly a human is, and the willingness to believe that man is made of something altogether unique.

Donne's sophisticated vision of the relationship between physiology and morality, one that pervades Renaissance literature at large, betrays a cultural interest in that relationship that persists at several levels of inquiry. In the sixteenth and seventeenth centuries, natural scientists imagined the world as a uniquely interdependent organism: all things within our perception are part of the cosmos, which is itself a being with a soul. This cumulative view is complicated by its various components and influences: Plato's idea of the great chain of being, in which everything is connected to everything else; the medieval Catholic Church's total rejection of autonomy in favor of the elevated Christ figure; the post-Reformation Protestant assertion that since the fall, man owes nothing to himself and everything to God; and the humanist support of the merits of the individual as opposed to what they consider the vulgar debasement of the incredible human organism. It is the Christian point of view that adds to the mix

the supremacy of God over the created universe, and inside the microcosm of man's body, God's dominance over the world's flux and flow fits nicely within the brain. But the relationship between God and his children should also be reciprocal and interdependent, the product of two partners contributing to a shared purpose: the eventual reunion in the afterlife. Another of Donne's writings takes us through this whirlwind, the infamous Holy Sonnet XIV:[164]

> Batter my heart, three person'd God; for, you
> As yet but knocke, breathe, shine, and seeke to mend;
> That I may rise, and stand, o'erthrow me, 'and bend
> Your force, to breake, blowe, burn and make me new.[165]

Donne's argument that man's iniquity requires that God forcefully overtake his soul, preventing him from choosing sin through a sort of Protestant sadomasochism, is underwritten by his conception of the possible ways that a holy spirit and a physical body can interact. Regardless of the force that the speaker asks for, he is willing to submit to God's corrective power in a consensual relationship. Donne makes no attempt in this sonnet to lay out the specifics of this meeting between flesh and spirit, presenting it as an enigma that he cannot explain. But the physicality of the poem, the desperate desire for the spirit of God to palpably affect the parts of the speaker's body, reveals that in Donne's mind at least, there is no doubt that the two together constitute Christian being.

Concerning the scientific aspect of this inquiry, very few critics have discussed Donne's knowledge about and understanding of anatomy. John Carey's chapter on Donne's treatment of bodies is more a discussion of

aesthetics than medical knowledge, but the author does offer a very brief summary of the possible sources of such knowledge. Carey claims that Donne's impulse to bring "anatomical density into spiritual contexts" was inspired by the Church Fathers, in conjunction with a singular interest in anatomy and physiology.[166] Both Carey and Don Cameron Allen discuss the influence of Donne's stepfather John Syminges, who was at one time President of the Royal College of Physicians. Allen's important 1943 article on Donne's specific knowledge of Renaissance medicine was the first to investigate this, and its scope is ambitious. The essay does offer good evidence for Donne's reverence of Paracelsus, and it also deduces from the text of Donne's poetry and sermons that his anatomy is Vesalian. On that subject Thomas Willard is keen to comment in his 1983 essay on the authoritative influence of Donne's anatomy and physiology. Few critics are willing to conclude definitively that Donne read Vesalius because while he mentions Hippocrates, Galen, Avicenna, Paracelsus, and other fathers of medicine, Donne never specifically references Vesalius. Willard argues that despite this, the references that Donne does make to anatomy in general speak to the fact that he was greatly influenced by Vesalian methods. Regardless, Donne's works contain language that indicates that he was familiar with anatomical procedures at least minimally.[167]

For help on this topic it is best to look at Donne's own writings. There are several places in both the poetry and the sermons that reveal the expanse and content of Donne's medical knowledge. A playful reference comes in "The Will,"

a funny and ironic poem about the fate of "some Legacies" after the death of the speaker. Included in the roll of bequests are Donne's "physick bookes," which he generously and wittily gives "to him for whom the passing bell next tolls."[168] In the sermons Donne gives attention to medical issues by continually referencing public dissections or autopsies as a metaphor for the way that man must open himself to God and show all of his healthy and diseased parts, an expectation that causes much anxiety in the *Holy Sonnets*. Donne considers the revelation of information to be the most important aspect of anatomizing, and this is essential to understanding why he would choose to reveal the skull as proof of man's connection to God. In "Sermon Number 6, Preached at Lincoln's Inn," Donne describes the reasons for anatomizing sin:

> Hide nothinge from God, neyther the diseases thou wast in, nor the degrees of health that thou art come to, nor the wayes of thy fallinge or risinge; for *Dominus fecit, et erit mirabile* [God made it, and it will be wonderful]. If I mistake not the measure of thy conscience, thou wilt find an infinite comfort in this peculiar tracinge of the Holy Ghost, and his workinge in thy soule.[169]

Donne's language in this passage reveals how indebted he was to his knowledge of anatomy for useful metaphors, but more importantly we see that human anatomy is the easiest way for Donne to understand himself in relation to the divine. Although it seems paradoxical that he would only be able to fathom non-corporeality through vivid images of the body lying open for dissection and inspection, the poetry makes clearer that instead of rejecting his physical state, Donne embraces his mortality in order to understand his spirituality. Thus,

corporeality becomes the means by which he can reach what he believes is his true nature, one that is beyond the constraints of the body.

The poems in which Donne refers to anatomy are much more tortured and unsure than the sermons on the same topic. As has often been noted, Donne's attention to spirituality is no less evident in the secular poetry, and all of the references that he makes to anatomy in the *Songs and Sonets* are made in musings upon the revelation of his inward state. A prime example is "A Valediction of my name, in the window," a fascinating study of the mortality of his love for his mistress and the symbolic meanings in memorializing this love by engraving his name upon her window. Like in the sermons, Donne explores his anxiety over being emotionally exposed to a censuring subject, and he uses the image of dissection to tell his lover that his engraving can act as a symbol of mortality. He says that if the love cannot survive, then:

> It, as a given deaths head keepe,
> Lovers mortalitie to preach,
> Or thinke this ragged bony name to bee
> My ruinous Anatomie.
>
> V.
>
> Then, as all my soules bee,
> Emparadis'd in you, (in whom alone
> I understand, and grow and see,)
> The rafters of my body, bone
> Being still with you, the Muscle, Sinew, and Veine
> Which tile this house, will come againe.[170]

This realization that anatomy reveals a great deal about the state of the subject being anatomized, and the understanding that accepting God's mercy must be prefaced by this kind of exposure, is a prevalent theme of the *Holy Sonnets*. The

speaker in the sonnets is extremely anxious that God sees the decay of his soul, and this fear drives him into hiding on more than one occasion. In sonnet IX, the speaker, upset that reason sets him apart from animals and thus makes him a candidate for damnation, asks in the shocking resolution that God overlook what he has discovered in the speaker's heart:

> O God, Oh! of thine onely worthy blood
> And my teares, make a heavenly Lethean flood
> And drowne in it my sinnes blacke memorie;
> That thou remember them, some claime as debt,
> I thinke it mercy, if thou wilt forget.[171]

Instead of accepting God's censure like a true penitent, the speaker wishes to hide his sins so that he does not have to suffer the humiliation of exposure. It is this awareness of God's ability to find out the truth, and the speaker's own realization of the power in this, that fuels the anxiety of the *Holy Sonnets* and shapes Donne's later discussion of what the skull reveals.

Donne's Anatomy Lesson

Just as important as Donne's theological understanding of his subject is the anatomical evidence that he presents to support his argument. Many physicians and historians of medicine date the beginning of neuroscience in the late seventeenth century, long after Donne wrote "The Crosse." Thomas Willis is considered the "father" of neurology after the publication of *Cerebri Anatome* in 1664, and critics regard his rejection of Galen's humors and reconception of brain matter as one of the most significant milestones in scientific history.[172] Indeed, Willis revitalized the science of the brain with his groundbreaking claim that it was

the actual brain tissue and not the spaces within it that mattered, although Galen did believe that if the soul had a locus, it was the brain tissue. The ventricles, forming the center of neurological inquiry from antiquity, he called "only a vacuity resulting from the folding up of the exterior of the brain" and so much "empty space" that hardly needed investigating.[173] His close study of the gray and white matters afforded breakthroughs in diagnosis and prognosis of epilepsy, apoplexy (stroke), aneurysm, basal ganglia syndromes, sleep disorders, sensory deprivation, and many other previously misunderstood abnormalities. This is because in his relinquishment of the humoral system of physiology, Willis let go not only of a physical system but also a set of accompanying philosophical assumptions. At the center of humoralism is the belief in the microcosm of man that requires the body to be made up of the same substances as the rest of the world. Also important is the belief that human beings take part in God's spirit, an idea that makes it necessary for anatomists to account for the soul within the body. It is partly this dualistic conception of man that keeps early modern anatomists as talented as Andreas Vesalius from the mystery of exactly how the brain controls sense and movement, and what informs Donne's picture of the divinely inspired human organism.

Donne taps into a long history of neurological theories of the relation between the nerves and the immortal soul that serves as the scientific and physiological basis of Willis's work. Philosophers in antiquity conceived the body and soul as a single unit, performing together all of the necessary functions to

keep the body alive. Thus, from the time of Plato and Aristotle, the soul is given physical properties. This doctrine of the soul as an anatomical feature, which Donne assumes in the 1620s and Willis reconsiders in the 1670s, coexists with a long history of speculation about what enables rational thought. Over the course of approximately 1900 years, since the assertion by Herophilus that the brain is the control center of the body and its mode of influence the nerves, the main concern of anatomists had been to determine what makes human beings different from animals; Plato's theory of the rational soul provided a philosophical explanation, but scientists sought physical evidence in the substance of the body.[174] This becomes a problem for later Christian anatomists who inherit this legacy of searching physical matter for signs of a spiritual presence, as the newer religion disdained associating the perfection of God with any physical substance. But it is important to this reading of Donne's poetry that Thomas Willis only invented the study of neurology in name. The nerves had long been conduits for the pneuma, the soul's quasi-physical form that is sent from the brain to all the body parts, and this conception of the way this more refined matter interacts with the body persisted even through the studies of Descartes in the seventeenth century. This substantiation of the soul may in fact be the reason why Vesalius, a self-proclaimed Galenist in most things, could not conceive of electrical nerve conduction, although he was capable of understanding such ideas, and it certainly offers Donne a way to infuse the physical body with God's spirit. According to Galenic physiology, the psychic pneuma is the instrument of

the soul, which resides in the brain, and so it is a means of communication whose mechanism was a profound mystery to anatomists. It was unclear to them whether the message-carrying substance flowed within the nerves as through a hollow tube, along the outside of the nerve, or in some other more mysterious fashion. In the seventeenth century, Donne uses these well-established neurological ideas to explore the inherent tension that exists between the solidity of the body and the ephemeral nature of the soul.

Specifically, medieval and Renaissance philosophers and writers benefited from the work of ancient anatomists who had already discovered much of how the brain and nerves function. Although they could not describe the action of nerve conduction or even conceive of electricity, their anatomical arguments were an issue of simple observation. In the fourth century B.C.E., Herophilus of Chalcedon and his younger colleague Erasistratus, lucky enough to dissect human bodies, noticed the stringy white projections that they determined originated in the brain and were woven throughout all of the body's tissues. They saw that these strings wound through the spinal cord, which was made of seemingly the same material, and invaded the spaces within muscle tissue, clung to the surfaces of bones, and wrapped around every organ. They concluded from this evidence that the brain, and not the heart, is the command center of the body. After much experimentation through dissection and vivisection, Herophilus made the revolutionary claim that the substance they knew as psychic pneuma, later called "animal spirit" by Galen, flowed through the nerves to enable two very

specific functions: sentience and voluntary movement.[175] This is distinct from the functions that the body itself naturally performs, such as digestion, respiration, and pulse control. This demarcation is an important contribution to early modern understanding of the body, including the Christian anatomizing which emerges in Donne's poetry, because it creates a hierarchy in which the soul is elevated above the body as it performs the highest functions. This is why Donne thinks that there is something mysterious and special happening in the head that is more important than everything else going on inside the body. John Wright and Paul Potter consider this move especially important:

> Herophilus's differentiation…signals that he circumscribes the soul's distinctive powers and activities much more narrowly than had, for example, Plato and Aristotle. This more restrictive view of *psyche,* of its *dynameis*, and of its 'ruling part'…draw[s] lines of demarcation between *psyche* and the rest of the body in ways which…display a significant affinity with Stoicism after Herophilus.[176]

In their declaration that the nerves receive and transmit the soul's instructions throughout the body, Herophilus and Erasistratus give the soul a purpose and an organ. The physical nature of the soul and its mechanistic action, ideas inherited by Galen and Vesalius, prove a special point of anxiety and confusion for later Christians; this is precisely what Donne explores in his writings on anatomy and spirituality.

By the time Galen approaches the study of the nerves in the second century C.E., he has learned from his forbears that the brain controls the body (choosing to contradict Aristotle on that point), the nerves provide sensory and motor control, and that in some unknown way, the pneuma are distributed

throughout the body by the nerves. As for the soul, Galen is famous for his reticence on the subject, expressing discomfort with investigating such mysteries of the gods. His work reveals, like that of Herophilus and Erasistratus, the complexity of the ancient study of the nervous system, including an original and sophisticated understanding of the nerves that experts attribute almost two millennia later to Willis. Meticulously studying the brains of the ox and ape, Galen observed the paths of the nerves, which he thought might be hollow, and the cerebrospinal fluid that filled the spinal cord, drawing a material connection between the fluid and the functions of the nerves.[177] He agrees with Herophilus that there must be a means of sending messages from the brain, but on that point, he cannot be specific. His words clearly anticipate the concept of electrical conduction and at the least pinpoint the correct relationship between the brain and nerves:

> We cannot absolutely pronounce whether the power flows from the brain through the nerves to the limbs and the essence of the spirit reaches the feeling and moving parts; or whether it in some way or other strikes the nerves so as to induce in them a powerful change which is propagated to the parts to be moved; whether there is in each nerve an innate spirit belonging to it, and which is struck by something coming as a sort of messenger from the first principle; or whether the spirit flows from the brain to parts, on every occasion, when we will to move them; or whether in the third place there is merely a change in the qualities of parts contiguous to each other (which appears to me to be hinted at by some who say that the influence is a power without a substance) I am not able easily to determine.[178]

Galen's understanding as expressed in this passage, with which Vesalius later agrees in the sixteenth century, is important to Donne's poetry for several reasons. As a poet, Donne can take advantage of the several metaphorical

possibilities that Galen offers; the various accounts of movement provide various avenues of poetic movement and countless images, symbols, and associations. As a Christian, Donne picks up on the Roman physician's mention of the "innate spirit" that accounts for sense and movement in man, and whose source is the "first principle." Galen speaks of "power" that moves, though he is not sure where; there is "something" that tells the parts to move and sense, a mysterious force that cannot yet be understood by man's feeble intellect. It is an obvious point of insertion for the Christian God, and at the same time it is an example of how clearly anatomists before Thomas Willis expressed the relationship between mind and brain.

In the mid-sixteenth century, the legacy of Galen fell under the scrutiny of the Belgian Andreas Vesalius, who did not argue with the possible methods of nerve conduction that Galen suggested but refused to investigate the matter further.[179] Vesalius's mastery of human anatomy is undoubtedly a result of his opportunity to dissect human cadavers in public for the first time since Herophilus; but his writings also reveal a shrewdness and logical savvy that are hardly present in other anatomical treatises. Criticizing but not blaming Galen for working only on animals, Vesalius overturned many of Galen's theories, especially of the brain, through observation of the organ itself.[180] But for Donne, who was undoubtedly familiar with the groundbreaking *De Fabrica*, the most relevant aspect of the work is Vesalius' discomfort with Galen's philosophy of the soul. He accepted the doctrine of the pneuma as well-established truth, praising

Hippocrates and Galen for their valuable understanding of that theory. However, to put it simply, the theory of the pneuma does not fit into orthodox Christian philosophy. For Vesalius, the mechanism of the soul presents a particular problem because he is a Christian who believes that the soul is *not* a physical substance, and his trouble with this idea surfaces as a distinct tension in his anatomical treatises. The logical epistemological question, of which Vesalius is quite aware, arises: Why should there be a non-corporeal soul if the soul can be accounted for physiologically? The Platonic belief that the soul is without substance, having been brought down to the realm of the physical, is now stuck there, in the substance of the body. Thus, as Donne recognizes, the most important anatomical issue is a spiritual one.

In the beginning of the seventh book of *De Fabrica*, Vesalius boldly asserts that his interest in this section is explaining how "the brain, like the senses, and also like volitional movement, is made for the Reigning Soul (*Princeps Anima*)."[181] After a short explanation of Galen's theory of the spirits, with which he is in complete agreement, he feels the need to add a note that recalls Galen's perplexity at the power of the nerves. He writes that he is "not over-anxious to decide" exactly how the brain sends messages through the nerves to the outlying parts of the body, and that he can deduce from observation how the brain functions in a living animal. However, he cannot figure out how imagination, cognition, and memory physically work, and furthermore:

> What impiety can such a description of the uses of the ventricles (as it concerns the powers of the Reigning Soul) produce in ignorant minds not

> yet confirmed in our Most Holy Religion! For such [ignorant ones] will examine carefully (even though I myself were silent) the brains of quadrupeds. These closely resemble those of men in all their parts. Should we on that account ascribe to these [beasts] every power of reason, and even a rational soul, on the basis of such doctrines of the theologians?[182]

In this passage, Vesalius points out, as Donne later does, that the study of anatomy is necessarily connected to piety and worship, as the human body is God's most wonderful creation. The question for Vesalius, and later for Donne, is how to reconcile human physiology with Christian doctrine. Vesalius finds that he cannot, so he refrains from guessing to avoid impiety; on the other hand, Donne uses the creative auspices of poetry to make the body conform to his idea of God.

Donne provides endless examples of his struggle to understand the complex relationship between matter and spirit in his poetry and prose. A prime and profound example is the sermon preached at Lincoln's Inn between October 1616 and February 1621, in which he begins with a visceral image from the Book of Job, the punishment by "*corruption in the skin.*" Immediately he conjures a startling metaphor to describe the kind of spiritual and physiological unity that he imagines in the human body:

> These be the Records of velim, these be the parchmins, the endictments, and the evidences that shall condemn many of us, at the last day, our *own skins*; we have the book of God, the Law, written in our own hearts; we have the image of God imprinted in our own souls; wee have the character, and seal of God stamped in us, in our baptism; and, all this is bound up in this velim, in this parchmin, in this skin of ours, and we neglect book, and image, and character, and seal, and all for the covering.[183]

Donne aims to intrigue his audience with a physiological enigma in his characteristic fashion, but his image provides much more than mere shock value. The book itself, perhaps the Bible, is created using the once-living skins of animals, and it contains the intangible concepts that also contribute to the book's makeup. The book is not complete without either its covering and pages or its words, and it becomes a different object when the constituent parts are assembled correctly. The same is true for a human being in Donne's estimation. There can be either spirit or flesh, but when separate they are only these things; combined, they are transformed into a third being that is altogether different than its parts. Donne may be overemphasizing the importance of the physical nature of God's connection to man at least in John Calvin's estimation, but his characteristic insistence that the physical world is crucial to human identity reveals the impossibility of denying that part of identity.[184]

Donne understands that this is not an easy concept, and his sermons and divine poetry are places where he attempts to understand the complexity of this arrangement. This plural unity is a mystery usually attributed to God's wisdom in Renaissance writing, and it informs early modern models of personality, emotion, and identity that are crucial to understanding literature in the period. And while it is an idea that would never be deemed outside of God's power to effect, the inability to appreciate the spiritual realm fully leads to instances of confusion, paradox, and what seems like contradiction for authors of the time. In a sermon preached at Whitehall on April 21, 1616, Donne captures the attitude toward this

phenomenon succinctly when he asks his congregation whether they can deny the power of God considering:

> From the first minute that thou beganst to live, thou beganst to die too? Are not judgements of God speedily enough executed upon thy soul and body together, every day, when as soon as thou commitst a sin, thou ar[t] presently left to thine Impenitence, to thine Insensibleness, and Obduration?[185]

The ultimate paradox of simultaneous life and death and Donne's immediate acceptance of such a condition perfectly illustrate the inherent contradiction of Renaissance identity that neurology helped writers explore. Men who studied the human brain sought to localize the soul, a tricky task for a "part" of the anatomy that is not actually anatomical. The very goal of these studies is to combine, as Donne does in the above passage, things that are palpable, visceral, and to some extent quantifiable with something that is none of these things. The science is an experimental and clinical expression of plural unity that is characterized by the seeming incompatibility of its constituent parts, a theme explored copiously in the early modern period. For these reasons, such interest in neural physiology is important to reading literature whose goals are more in tune with entertainment and self-expression.

Essential to this idea of the nervous system's regulating power is Donne's reading of this history of the nerves and the physical conceptualization of the soul. Donne imagines the nerves as ropes that connect the extended body to the mother brain, as a horse is connected to the rider by reins. Such a configuration obviously suggests that the brain is able to control the body's impulses and

desires, and in his poetry Donne refers to this very scenario. In "The Funerall," a poem in which the speaker leaves instructions for his interment, Donne uses the familiar image of hair in reference to the nerves, a repeating trope that Carey notes. The speaker begins by telling the person who would shroud him not to disturb the "wreath of haire, which crowns my arme" because it is an important relic that, he explains, is an outward reflection of the nerves that grow from his brain to exercise its power on the rest of his body. The ring of hair is important:

> For 'tis my outward Soule,
> Viceroy to that, which unto heaven being gone,
> Will leave this to controule,
> And keep these limbes, her Provinces, from dissolution.[186]

If it is unclear in this first stanza that he refers to the brain as his soul, a common early modern conceit, the speaker clears this up in the next stanza. Here we see that the nerves, as the soul's viceroy, are agents of its power to the outlying limbs:

> For if the sinewie thread my braine lets fall
> Through every part,
> Can tye those parts, and make mee one of all;
> Those haires which upward grew, and strength and art
> Have from a better braine
> Can better do'it;[187]

Donne's speaker here describes the nervous system as a closed regulatory machine, and its purpose is to unify all of the seemingly disparate parts of the body. In this poem too Donne expresses the desire for coherence between the body and soul inside a Galenic framework, echoing Galen's description of the structure of the nervous system but adding his own Christian spin. The previous

passage and others like it combine Galen's basic structures and physiological functions with Donne's causal idea that the mystery of nervous conduction was just God's influence. Galen could not have suggested any kind of spiritual causality, for he was most influenced by Aristotle's four causes and the belief in a material soul. Galen's logical and rational ideas refused to acknowledge any deity's active participation in disease and cure, and in fact he "could hardly anticipate that specialized higher centers of the brain could inhibit lower motor centers" because he imagined the brain working as a whole.[188] Later anatomists were able to easily prove many of his theories wrong, although they could not go much farther in giving human physiology a spiritual basis. But more important than the accuracy of his theories is the persistence of thinking about the soul in material terms, and this materiality, despite the conflict with orthodox ideas about the soul, enables Donne to speak concretely about theological concepts.

The inherent tension that ensues during the Renaissance between material and immaterial concepts of the soul and body surfaces not only in Donne's poetic manipulations but also in the writings of contemporary anatomists. Early modern Christian anatomists, even as they glorified God, still found it difficult to definitively locate and thus suppose spiritual causality. Where Vesalius acknowledged the goodness of God's works,[189] but this acknowledgement is a far cry from giving physical proof of God's presence in the body. Vesalius' explanation of the way in which the brain sends impulses

through the nerves closely resembles Donne's Galenic account, but his language closely mirrors Donne's idea that the brain is the regulatory seat of the body:

> This [animal spirit] it uses partly for the divine operations of the Reigning Soul, partly however it distributes it continuously to the organs of sense and motion through the nerves, as through little tubes.[190]

Vesalius goes on in this paragraph to describe the substance that flows by the nerves as the "chief author" of each specialized organ function. The language here is primarily Aristotelian, mirroring his description of the brain as the seat of the rational or primary soul. But it is easy to see how Donne could pick up on such language and turn it into a Christian profession of faith in God's power. In fact, the resemblance between the above passage from Vesalius and Donne's assertion in "The Crosse" that the suture cross, "when thy braine workes, ere thou utter it, / Crosse and correct concupiscence of witt" is quite remarkable, revealing the prevalence of this idea.[191]

Vesalius provides a more nuanced account of suture respiration than that described by anatomists like Giovanni da Vigo, who wrote that the bones of the head are porous so as to vent "moyst fumes."[192] In a section of the *De Fabrica* entitled "Why the Skull is Not Made of Solid Bone," he explains thus:

> But since the head somewhat resembles the roof of a hothouse, in that it forms a receptacle for all sorts of smoky and vaporous waste which rises from below, and since for this reason the head itself requires an even more sufficient exhaust system, the wise Parent of everything made the helmet surrounding the brain not solid all over but full of holes and interlaced with sutures.[193]

In the next section Vesalius goes on to describe the structural advantages of the sutures, and then he moves on to their orientation, which is most important for a study of Donne's lines. Indeed, Vesalius echoes both Hippocrates and Galen in saying that in a skull of "natural shape," the sutures form the *eta* pattern when viewed on its side (Figure 1).[194] The *chi*, or cross, pattern only occurs "when both the anterior and the posterior eminences vanish at the same time."[195] Thus in the contemporary writings of Vesalius we find evidence that Donne purposely deviated from the medically sanctioned description of the sutures. The question then becomes why Donne wants to change ancient and contemporary anatomical data, and the answer may lie in the materialist concept of the soul, and thus a spiritual matter, that has persisted since antiquity.

Materialism and Mind

It is certainly true that early modern writers blurred the line that we conceive between matter and spirit, and that their works often indicate that they are of the same nature. But Donne's desire to understand the relationship between flesh and spirit is intentionally based upon numerous underlying questions about the body's material construction; his particular interest in anatomy is a constant preoccupation of his poetry. And because questions about physical natures threatened to take attention away from spiritual considerations, a problem that early modern philosophers had already located in Aristotle and Galen, Donne made it a point to stress their mutuality while foregrounding his

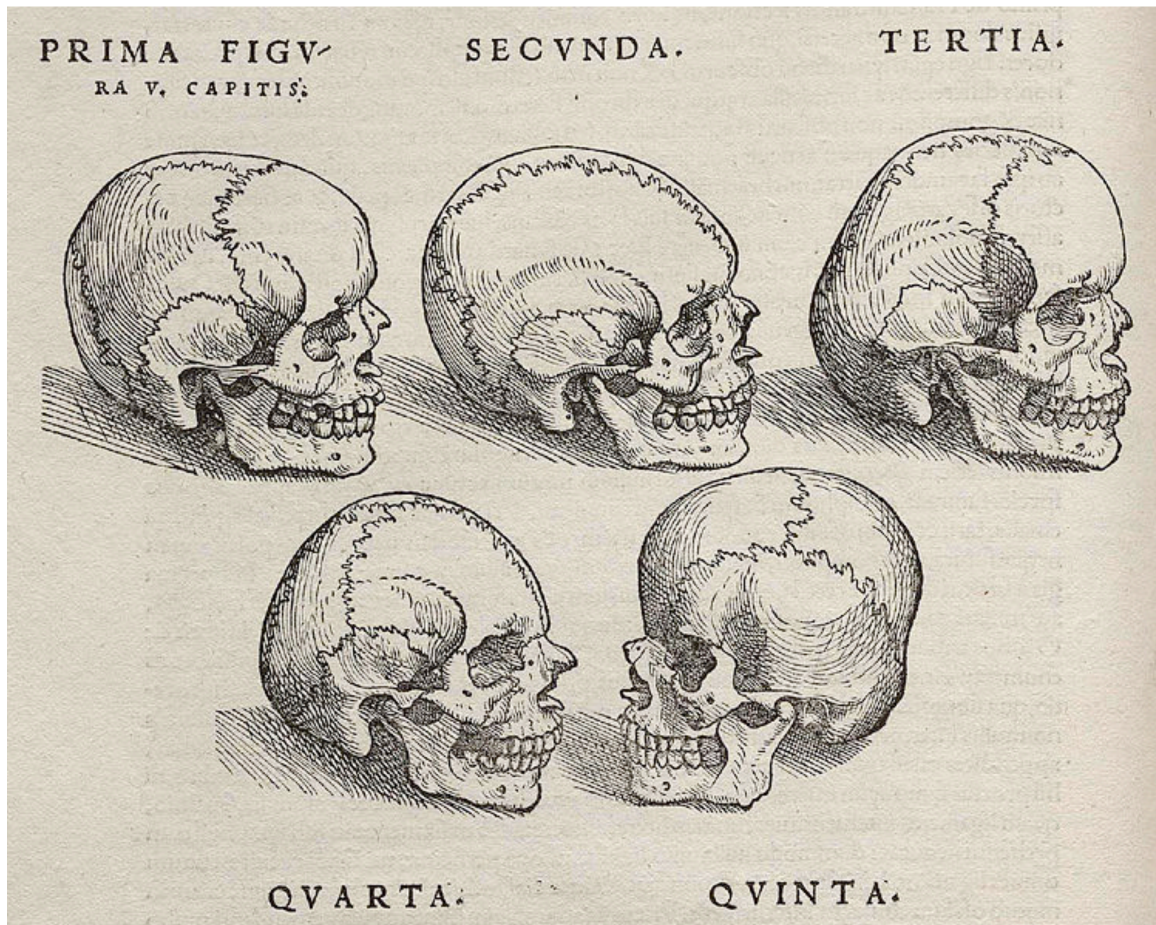

Figure 1. Figures 1-5 of Book 1, Chapter 5 of the *Fabric* showing, from upper left to bottom right: a normal skull; a skull with missing anterior eminence; a skull with missing posterior eminence; a skull missing both anterior and posterior eminences; and a skull with eminences on the sides instead of the front and back.

theological opinions. It was imperative not only that Christian philosophers and physicians emphasize God's influence on the body's material processes but also that they find a way to reconcile these processes with their concept of free will. Galenism, the most roundly accepted option for understanding the early modern body, did not claim any spiritual causation, thus presenting the body as a self-contained organism that did not need to have free will.[196] Douglas Trevor notes that being a Christian Galenist then meant facing the ugly shadow of determinism:

> Of course, Christian Galenists in the sixteenth century were well aware of the potential heresies entwined with materialist readings of the passions, and many of them responded to the dilemma in a way altogether typical in the period, that is, contradictorily. On the one hand, English writers such as [Timothy] Bright, Thomas Wright, Thomas Walkington, and others insist on reading the body through the rich lexicon of Galenic theory, with its panoply of views on character types, bodily permeability, the relevance of different bodily fluids to different emotions, the influence of astrology on a person's complexion, and so on. On the other hand, these same medical writers try to make it clear that God's dominion over the human soul is in no way abrogated by the influence of bodily fluids.[197]

In pointing out early modern medical writers' tendency to contradict themselves in order to emphasize God's supreme power and the existence of free will, Trevor locates the central problem inherent in Renaissance medical study. In essence, Christian physicians had to believe both in Galen and in God. F. David Hoeniger notes "the vehement rejection of Galenic medicine as pagan by several extremist Puritan ministers," an attempt not only to keep God in medicine but also to emphasize the need for reform in an antiquated system.[198] In fact, in order to

provide a viable synthesis of medicine and theology, Paracelsus had to reject Galenism entirely. Charles Webster remarks, "Paracelsians dismissed Galenism as a relic of the decaying pagan, or Romanish Mediterranean culture. Theirs was the medicine of the reformed Christianity of the Germanic cultures."[199] Framed as a contradiction between Galenist determinism and Christianity, the issue is really a much larger one concerning the intersection of the divine and the material. Donne's attention to the problem of reconciling Christianity with Galenism, then, reveals the tension in not only early modern theology but also in medicine's larger project.

Indeed, the simultaneous espousal of Christian ethics and Galenic knowledge was easily managed by most early modern physicians simply because these were two equally beneficial systems. Despite certain Christian physicians' objections to Galen's heathenism, the medical treatises of the period express unshakable loyalty toward the ancient doctrines. The seventeenth-century surgeon William Clowes, a devoutly religious physician, feels the pressure from both sides:

> How be it, much strife I know there is between the Galenistes and the Paracelsians, as was in times past between Ajax and Ulisses, for Achilles Armour…Notwithstanding, for my part I will heere set up my rest and contentation, how impertinent and unseemely so ever it make shew.[200]

While Clowes acknowledges that Christian physicians take issue with Galen's paganism, he also knows that Galen's contribution to medical knowledge has been immeasurable. Likewise, in his preface to the *De Fabrica*, Vesalius is quick

to say that even as he acknowledges that Galen was wrong on many occasions, having worked exclusively on animals, he cannot deny Galen's authority:

> I have no intention whatever of criticizing the false teachings of Galen, who is easily first among the professors of dissection, for I certainly do not wish to start off by gaining a reputation for impiety toward him, the author of all good things, or by seeming insubordinate to his authority.[201]

Like Clowes, Vesalius worships both at Galen's altar and at God's, and he seems to be unaware of any contradiction therein, or if he does he thinks it imprudent to admit. In his study of the rise and fall of Galenism, Owsei Temkin recounts this admiration of Galen that resembled worship, even as he discusses Galen's most problematically "un-Christian tenets."[202] But the Christian ethic required physicians to practice their art to the best of their ability and knowledge, and using Galenic tenets in conjunction with Christian theology was obviously the most beneficial route.

Likewise, the opening of "The Crosse" is dedicated to revealing the shared significance of matter and spirit: it juxtaposes the physical cross that Christ carried to the more ephemeral image of the cross that signifies Christ, and it contrasts these things while attempting to equate them in meaning. In the first two lines the speaker asks, "Since Christ embrac'd the Crosse it selfe, dare I / His image, th'image of his Crosse deny?" The poem wants to understand these things as identical in meaning, but the fact that the first eighteen lines comprise a series of questions to this effect reveals the shakiness of the speaker's assumption. Opening with doubt that is eventually resolved in the course of the

poem is a characteristic of Donne's poetry to a certain extent, but six questions to start indicates the especial philosophical difficulty of equating things that seem reasonably opposed. In fact, the last question that Donne's speaker asks reveals his fervent desire to understand Christ's sacrifice through is own body as an extremely problematic one, as he asks defiantly, "Who can deny mee power, and liberty / To stretch mine armes, and mine owne Crosse to be?"[203] While it seems that the speaker has finally found a way to easily understand the spiritual sacrifice through his own body, the ease of the action does not communicate the complicated theological issues involved in Protestant salvation that the lines before have indicated. Raymond-Jean Frontain argues that "Donne's speaker discovers his own power to form a cross, both physically by extending his arms, and spiritually by patiently suffering 'crosses' or afflictions, as his Savior did while on the cross," but this explanation is lacking in my opinion.[204] What the speaker comes to understand by the end of the poem, and indeed by the time he discusses the cross formed by the sutures, is that his own ability to form a cross is not nearly as remarkable as the crosses that have already been placed by God's hand. By subordinating his agency and realizing that God's will is greater than his own, Donne's speaker is able to fully appreciate Christ's marvelous sacrifice.

The speaker's decision to see the crosses everywhere, and his urging plea that others choose to see them as well, indicates the importance of free will to Donne's idea of salvation. This humility helps Donne understand how

Galenism can indeed be reconciled to Christianity. Recognizing the greatness of God's power allows him to believe that the material nature of the body is not at all removed from God's spiritual touch, thus making sense of God's physical imprint on the body. It is not, then, a problem of two different substances, as an Aristotelian might argue, for the difference between matter and spirit is blurred in the Renaissance; the problem is in the figuring of it. In the sermons, Donne continuously emphasizes the importance of Galenic theories and the attractiveness of such a closed material system. However, he is always quick to point out that the body's movements are ultimately controlled by the higher power, which gave the body its particular constitution. In "Sermon Number 9, Preached in Lent, to the King" on 20 April 1630, Donne compares the supremacy of God's influence on our bodies to the way in which he breaks down man's spirit only to rebuild it:

> This is Gods Method, and his alone, to preserve by destroying. Men of this world do sometimes repaire, and recompence those men whom they have oppressed before, but this is an after recompence; Gods first intention even when he destroyes is to preserve, as a Physitians first intention, in the most distastfull physick, is health; even Gods demolitions are super-edifications, his Anatomies, his dissections are so many re-compactings, so many resurrections.[205]

This use of the anatomical metaphor demonstrates the hierarchy that Donne imagines: the seemingly closed material system has been given a particular constitution that develops *a priori*, and all human efforts to keep it in balance are merely "an after recompence." In fact, God's influence on the physical body makes even clearer sense considering Calvinist doctrine that describes salvation

as destroying and remaking, an issue that Donne explores at great length in his *Holy Sonnets*. But Donne's interest in describing the sutures is not meant as a metaphorical allusion to Protestantism in "The Crosse" but as evidence of his own idea of anatomy and physiology which is necessarily connected to God's omnipotent power. In this way, the poem itself is extremely scientific, espousing a method of understanding man's position that is at the very least a description of anatomy and at the very most a discussion of spiritually infused matter.

Thus Donne's and the medical writers' interest in drawing a connection between matter and spirit is part of a larger desire to know the nature of man, and consequently of the self. The search for human identity is an obvious undercurrent of medical investigation, as discussed at length by writers such as Shigehisa Kuriyama, Andrew Strathern, and Thomas Laqueur.[206] For Donne and other early modern Christians, the connection between man and God is presupposed; anatomy then serves as a means to finding out how that connection works. Donne easily uses anatomy as a metaphor for self-discovery, and he makes no distinction between corporeal and spiritual. In "Sermon Number 6, Preached at Lincoln's Inne," Donne tells his congregation not to hide its sins from God, but to lay them open so that God may truly know them:

> We must hide neither; but anatomize our soule in both, and find every sinnewe, and fiber, every lineament and ligament of this body of sinne, and then every breath of that newe spirit, every drop of that newe bloud that must restore and repayre us. Study all the history, and write all the progress of the Holy Ghost in thy selfe.[207]

This description recalls Donne's *First Anniversary: An Anatomy of the World*, in which he expresses that he wants his readership to "learnst thus much by our Anatomy."[208] Donne's poetry, then, can be read as his attempt to establish the speaker's identity in relation to God through studying the nature of matter and spirit. It is also his goal in "The Crosse" to have "displayed to my selfe, anatomized mine own conscience, left no corner unsearched…[and] come to a perfect understanding of mine own case."[209]

Crosses Made of Bone

"The Crosse," while it has been blasted as a boring show of egotistical linguistic acrobatics, is rather an important exploration of man's fragile material existence in comparison to the astounding majesty of a truly spiritual being. This is no small concern for early modern poetics, as I have suggested above, and the poem's focus is certainly not rhetorical entertainment. Donne's small comment on the sutures is an informative intersection between Christian theology and medical knowledge that clarifies the way that free will, grace, and anatomy work together. If the speaker so chooses, he can see the crosses everywhere; if his sight is too corrupt, God's grace will help him. Donne's assertion of anatomical spiritual causality united the ancient, reportedly heathen doctrines of Hippocrates and Galen with later Christian anatomist like Vesalius and Vigo, both of the latter taking up lines of argument like that described by Douglas Trevor above. In effect, Donne had to do better than the Christian physicians by demonstrating instead of assuming, because for him it was not enough to say that God was the

cause of everything and therefore of man's physiology. The proof, he thought, was in the anatomies that described the various head shapes and suture patterns, and his departure from what was written is a deliberate assertion of spiritual causality.

Opinions about the orientation of the cranial sutures begin with Hippocrates, who first enumerated the several head shapes. In his treatise *On Wounds in the Head*, Hippocrates says that the orientation of the sutures depends on the shape of the head, and his detailed account became the basis of Renaissance understanding of the skull and brain. "Men's heads are not alike nor are the sutures of the head disposed the same way in all," he says, and in fact:

> When a man has a prominence in the front of his head—the prominence is a rounded outstanding projection of the bone itself—his sutures are disposed in the head as the letter *tau*, T, is written; for he has the shorter line disposed transversely at the base of the prominence; while he has the other line longitudinally disposed through the middle of the head right to the neck. But when a man has the prominence at the back of his head, the sutures in his case have a disposition the reverse of the former, for while the short line is disposed transversely at the prominence, the longer is disposed through the middle of the head longitudinally right to the forehead. He who has a prominence at each end of his head, both the front and back, has the sutures disposed in the way the letter *eta*, H, is written, for the long lines have a transverse disposition at either prominence and the short goes through the middle of the head longitudinally, ending each way at the long lines. He who has no prominence at either end has the sutures of his head as the letter *chi*, X, is written; the lines are disposed one transversely coming down to the temple, the other longitudinally through the middle of the head.[210]

These descriptions are not easily superimposed upon our modern understanding of skull shape as influenced by neonatal craniosynostosis, as the images show (Figures 2-5).[211] Also, Hippocrates' description does not include the details that Galen's later does, but it is important to remark that the disposition of the sutures is assumed to be a congenital characteristic. Only one out of the four possible head shapes produces the cross that Donne writes about, and as it turns out that shape is the least common.[212] Indeed, as Galen and Vesalius later indicate, the skull with front and back prominences is normally shaped, and the others are abnormal. In Hippocrates, the collection of skulls with a cross pattern has been identified as the smallest group, as a result of premature skull fusion.

Galen's discussion of the cranial sutures is far more complex as he carefully explores their physiological functions in addition to their placement. While he exactly describes the same configurations that Hippocrates does, he is also interested in the sutures' role in his physiologically balanced system. Also, unlike Hippocrates, Galen clearly states that the *eta* suture pattern is found in all heads of normal shape. Jules Rocca calls it the "typical skull," saying that this pattern "is virtually identical to that of the human cranial vault."[213] Indeed, this is the understanding that has survived to modern medicine, and other suture patterns are classified as the products of early skull fusion in infants. It is extremely important to note that Donne, like Hippocrates and Galen, imagines that the sutures are patterned at birth, since early modern medicine had little understanding of skull bone fusion and the fontanels. This

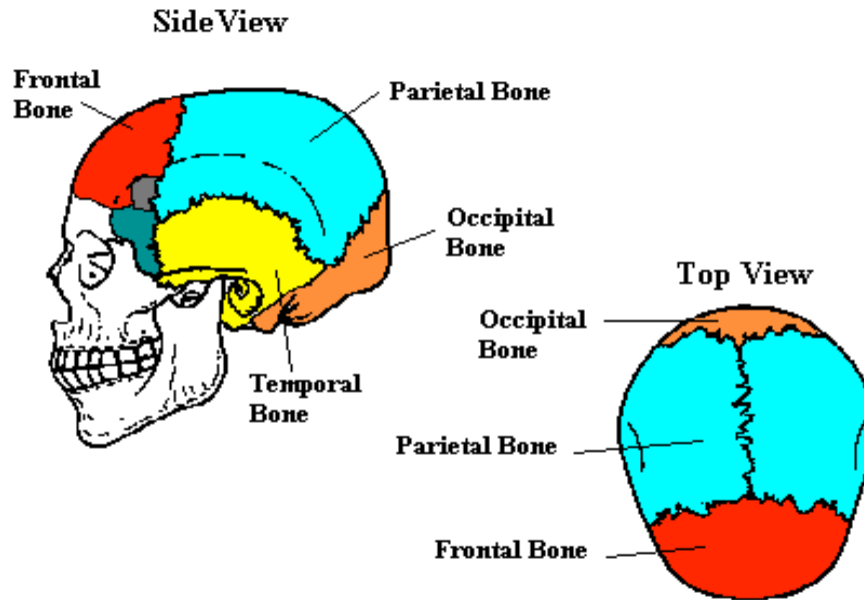

Figure 2. Normal adult human skull.

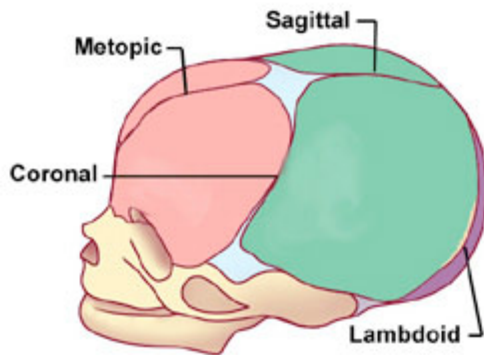

Figure 3. Normal infant skull showing the major sutures.

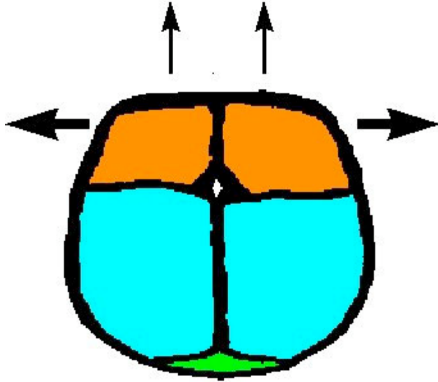

Figure 4. Infant skull showing the absence of both prominences, and the *chi* suture pattern caused by bilateral coronal synostosis.   In this case, the metopic suture does not fuse before the coronal.

Figure 5. Metopic synostosis, forming the *tau* pattern when the lambdoid suture is covered.

allows Donne to believe that the cross is placed atop the head *in utero*, an idea consistent with his belief that the pattern holds religious significance. Donne stresses the constructedness of human beings in several places, most notably in the first line of Holy Sonnet I, which begins, "Thou hast made me." Holy Sonnet V expresses the same awareness that the speaker's existence is wholly dependent upon God's creative impulse:

> I am a little world made cunningly
> Of Elements, and an Angelike spright,
> But black sinne hath betraid to endless night
> My worlds both parts, and (oh) both parts must die.[214]

This passage also reveals the language of difference that Donne uses to discuss metaphysical conceits, because his understanding of his divine nature is inextricably bound up with his knowledge of his physical parts. He is aware that he cannot conceive the idea of God in any other way because he is what he is by nature, and that means ignorance and degradation are part of his makeup. This sheds light on Donne's poetic effort to understand his anatomy spiritually, for the relationship undoubtedly works both ways.

While his emphasis on the concrete symbol encroaches upon anti-Protestant sensibilities, Donne's insistence upon understanding spiritual relationships through physical objects is for him a common sense move. One of Donne's most important suppositions is that the form of the cross has a direct physical impact on whatever it touches, and so he must address the physiological function of the sutures. In the text of *De Usu Partium*, Galen describes three purposes of the sutures: "the evacuation of the residues of the

nutriment from…. the encephalon," support points for the pericranium, and the passage of blood vessels between the brain and the scalp.[215] In the Galenic system the brain's respiration is essential for reducing the heat inside the cranium, as increased brain temperature would make the gray matter hot and dry, leading to both serious disease and concupiscence. This process is important to anatomists who study pathologies, but Donne picks up on this function to stress the moral significance of denying dangerous impulses. The release of waste products at the apex of the body, which Galen characterizes as a result of Nature's great wisdom, becomes for Donne a symbolic purpose for the sutures. The real job of the cruciform is to "Crosse and correct concupiscence of witt" as a sort of suppressing agent, further stressing the profound physical effect that a cross can have. In "Sermon Number 14" on Matthew 4:18-20, Donne explains the profound significance of the image of the cross as it relates to Jesus' sacrifice:

> In practicall things, things that belong to action, wee must also follow Christ, in the right way, and to the end. […] Now the end of the Lord was the crosse: So that to follow him to the end, is not onely to beare afflictions, though to death, but it is to bring our crosses to the Crosse of Christ.[216]

Christ's death provided purgation of sin and a pathway to everlasting life, and the cross is a physical reminder of that. On the top of the head, then, it makes sense that the cross would perform the same purifying and enlightening function.

"The Crosse" has been discussed as a moment of self-reformation, an exercise in forced wit and metaphorical muscle flexing, and overall as a

puzzling attempt to explore the importance of the cross's emblematic significance. The poem does all of this and more as it ponders the intersection of the physical and metaphysical and ultimately comes right back to the body made flesh. This explosion and then implosion is a characteristic of all of Donne's poetry as he struggles with mysteries that he wants to concretize. Donne reveals at several places in his own writing that this intersection between familiarity with the flesh and desire for the divine is problematic, most vividly in the *Holy Sonnets*. As a divine, he believes that all things are connected to God in some way, but as a human being this link is often very difficult for him to understand, as he professes in much of his poetry. Donne's speaker is clearly frustrated over being confined by a physical body as he tries to comprehend the glory of a non-corporeal entity. He always seems to be asking how he can come to understand his divine nature while he is trapped in a corporeal form. What he must do, then, is reconfigure the relationship between matter and spirit as so involved that it cannot be broken – and this guarantees the flesh a spiritual quality. What he needs is a new perspective, a new way to see—a way to overturn the doubt he professes in the *Holy Sonnets*. Placing God in the brain takes care of this doubt. Claiming that the *chi* suture pattern is the most normal makes it the most preferred but not necessarily the most common, and the emphasis is that it is the most special configuration because it indicates that the public and the private realms

are in harmony with God's will—something that not everyone can appreciate. In trying to understand his fragile position, the speaker in "The Crosse" presents a comfortable picture of a careful and wise Father who is always present should he be needed.

And ultimately, we have to choose to read the poem this way, just as Donne's speaker must choose to see the crosses everywhere. In a simple poetic move, Donne shows the scope of God's influence by penetrating the secret private recesses of the brain, and it is important to realize that Donne wants grace to be a free choice. But he also wants his reader to remember that God has a lot to do with who we are, and that in the case that the will should err, there is always a safety net. The true believer is never alone, and he must continually recognize God's part in his life. Early modern medicine wanted to make, according to Vesalius, "discoveries about the body and the mind, about the divine power that arises from the harmony of both, and hence about our own selves (which is the proper study of mankind)."[217] It can be said that early modern poetics sought this as well, and the conflation of medicine and theology in "The Crosse" is one successful product of Donne's quest for this harmony.

CHAPTER V

(PHYSIO)LOGICAL DIFFERENCE: DEFINING “WOMANS WIT” IN AEMILIA LANYER’S *SALVE DEUS REX JUDAEORUM*

Different Bodies, Different Brains

In *A Treatise on Lovesickness*, Jacques Ferrand writes in 1610 “If you question our lovers concerning what part wherein they feel the greatest affliction, they will all tell you that it is the heart.”[218] But this is incorrect, he argues, for surely, “in erotic melancholy the brain is the diseased part, while the heart is the seat of the cause of the disease.”[219] Ferrand insists that the part of the body affected by this “disease” is the brain because as a form of melancholy, lovesickness is actually a psychophysiological disorder. He goes on to explain that the body’s complexion makes it more or less susceptible to this and other forms of madness, but then he asks an interesting question in Chapter 28. He wonders “whether love in women be greater and therefore worse than in man” and delves into a fascinating physiological contradiction in Galenism based on a material difference between men’s and women’s brains. Ferrand is forced to tease out Galen’s assertions that “the dry and hot [complexion] is more inclined to rampant love than all the other complexions and temperatures,” *and* that “men must be more often and more grievously tormented by this madness than women” because they are naturally hot and dry and women are cold and moist, *and* that men have more reason than women, *and* that “love is a movement of the soul opposing the reason.”[220] Ferrand identifies this contradiction that

women, although they are colder and moister than men, are more susceptible to the heat of lovesickness, and he ends up arguing that each one of those statements is true despite their obvious incongruity.

This physiological differences between men's and women's brains, and thus their behaviors, is a central concern for female Renaissance poets largely because it seems to endorse the belief that women are naturally stupider and morally weaker than men. In *Salve Deus Rex Judaeorum*, Aemilia Lanyer uses this discussion of love and the brain to make a very fine and gendered physiological distinction between two kinds of "weakness" that is crucial to her argument for the value of women. Feminine weakness, she contends, is "undiscerning Ignorance" that intends "No guile, or craft," and is indeed the natural state of women as evinced in the relationship between Adam and Eve presented in "Eves Apologie."[221] In that subtle passage, Lanyer reminds the reader of the specific hierarchy presented in Genesis after the fall, for as punishment Eve is told by God that she will love Adam, but that "he will be your master."[222] This rightful submission does not weaken Lanyer's claim that women are important members of society because she presents Eve's fall as an intricate persuasion by the serpent, and in turn Adam's fall as the result of poor judgment that occurs all too quickly. Female weakness, then, is ideal because it precludes fault for the fall of man. In fact, Lanyer argues, masculine weakness is a failure to exercise the superior reason that God gave to all men, and because the expectation is higher, the disappointment is greater. In particular, the kind of

weakness that she attributes to Adam is a physiological inability to overcome his passions due to his impaired judgment that, for whatever reason, has not functioned correctly on at least two very important occasions. In Galenic terms, men are not *supposed* to give in to temptation because their wits, or cognitive abilities, are more sophisticated than women's, and so their wrong decisions must be willful ones. Men, who are ruled only by God, sin because they *choose* to, and that is an affront to nature itself. Indeed, men go a step farther in Lanyer's estimation because they:

> lay the fault on Patience back,
> That we (poore women) must endure it all;
> We know right well he did discretion lacke,
> Being not persuaded thereunto at all:
> If *Eve* did err, it was for knowledge sake,
> The fruit being faire persuaded him to fall:
> No subtill Serpents falshood did betray him,
> If he would eate it, who had power to stay him?[223]

In the clearest indictment of men in the poem, Lanyer argues that Adam should have known better, and that he should have used his superior intellect to overrule Eve's mistake. This question of who has power can be answered, I argue, by Lanyer's emphasis on *discretion* as an important marker of gender difference, and in particular as a Galenic process that is affected by the variable material states of men and women.

In order to interpret the construction of cognitive difference that is central to Lanyer's poem, I turn to physiologically gendered bodies with the understanding that gender disparity, both outwardly physical and internally behavioral, stems from differences between male and female physiologies. In the

case of moral behavior, this difference lies in the brain. Lanyer specifically taps into early modern ideas about women's bodies by adhering to a Galenic interpretation of brain physiology that emphasizes specific distinctions between male and female brains. If we read the poem alongside of Galenic cognitive theories, it becomes clear that Lanyer is engaging with discursive elements that emerge from theories of female physiology, especially applied to the brain's ability to reason and choose, and that she uses a Galenic model in order to argue for women's inherent goodness. According to popular Galenic physiology, which Lanyer reinforces, the female brain is cold and moist while the male brain is hot and dry, and this difference dictates all of the behavioral and cognitive differences between the sexes. Galen writes that cognition only occurs due to heat, and most important, that reason functions most correctly in a warmer brain. As a result, women's brains, because they have less heat, are less able to reason, leading to lapses in judgment and providing an ideal substrate for control by stronger personalities. It is important to note also that a less widely known theory of the brain dictated that all brains are cold and moist so that, in the words of Thomas Vicary in 1533, "he shoulde by his coldnes and moystnes abate and temper the exceeding heate and drought that commeth from the harte."[224] This might have been for Lanyer a defense of the popular belief that women were naturally more likely to succumb to their passions, but as we see in the *Salve Deus*, she gains more from embracing the traditional view. My reading focuses on the private space of Lanyer's female brain, a cold and moist substrate that is

open to external control—easily penetrated, not hardened by reason, and malleable.

One way in which Lanyer reinforces her argument that women are more cognitively suited for a relationship with God in a Galenic sense is by highlighting the ease with which they are affected by irresistible grace. In pointing this out, Lanyer links theology to the place where the soul resides and exercises control over the body. Irresistible grace is a controversial Calvinist doctrine because it is the cornerstone of the theory of election, and Lanyer's attempt to connect these ideas to a physiological cause is a bold move. Election assumes that God chooses some people for heaven and some for hell before any person is born, but he does so without regard to the future actions of those persons. In that sense, prevenient grace is active, and the goodness of the elect is a result of that decision. As a result, those who have been chosen cannot change this course, and no matter what they do in their lifetimes, they are saved. In Book III of *The Institutes of the Christian Religion*, a section devoted solely to explaining the working of election and grace, John Calvin clarifies the concept:

> The only ground on which he will show mercy to one rather than to another is his sovereign pleasure; for when mercy is bestowed on him who asks it, though he indeed does not suffer a refusal, he however either anticipates or partly acquires a favour, the whole merit of which God claims for himself.[225]

Thus, those who are not elect may ask for grace and receive it, but it is an extraordinary gift because they are not saved and it will not change their ultimate fates. The doctrine depends upon God's constant regulation of an elect mind in

order to make sure that the elect person deserves this distinction, and so the subject's sinful inclinations are always overthrown. Calvin insists that "none excel by their own strength or industry" because while we imagine that we are choosing to be good, that decision has already and is continuing to be made for us.[226] Lanyer embraces the doctrine in order to praise Lady Mary of Cumberland, specifically celebrating grace that cannot be refused:

> This Grace great Lady, doth possesse thy Soule,
> And makes thee pleasing in thy Makers sight;
> This Grace doth all imperfect Thoughts controule,
> Directing thee to serve thy God aright.[227]

Lanyer celebrates minds that are perfectly suited to God's control, and she praises this mental submission throughout her poem. The Galenic idiom gives her the opportunity to physiologically legitimize what she considers a theological truth: that God finds female minds easier to override.

In an attempt to argue that women are as theologically and socially valuable as men, Lanyer confronts this questionable doctrine by arguing that women are more physiologically suited to submission to God's will according to a particularly Galenic theory of brain anatomy. She tacitly argues that the mental submission that Galen's theory forces upon women is ideal because it actually signifies election, and God's favor gives the elect social and moral superiority, which she argues is the same as power. Women, then, with physiologically weaker minds, are overcome more easily by God's corrective control and as the naturally submissive sex they are more comfortable being ruled by God. This is not an easy argument to make, and it is full of contradictions and structural

problems. For example, if women have weaker reason, how do they recognize that it is right to submit to God? Also, the medieval church fathers tell us that reason is the way to discover the truth of God, so isn't this a problem? And if reason is weaker, isn't it more likely that women will choose sin because they don't know that it is wrong? Lanyer does not address all of these issues directly in the poem, and she seems comfortable with the contradictions that her argument affords; she does not aim to present a logically sound argument. But she cannot get away from the idea that women are morally weaker, especially since Galenic cognitive theory verifies that their brains are more vulnerable to God's influence. As a result, she must use that position to her advantage.

Using the controversial theological model of irresistible grace to emphasize the superiority of the female intellect through its idealized submission, Lanyer is able to legitimate not only religious but also the scientific aspects of the cognitive atmosphere that is physiologically best suited for election. Particularly, Lanyer locates evidence of this difference in the mind, and she transforms a place that is traditionally inferior into a sacred space. The "well-staid" mind that Lanyer assigns to Lady Margaret, Countess Dowager of Cumberland is a controlled and submissive one, but Lanyer emphasizes the idea that submission can be desirable if it is to God. She also plays upon the contradictory physiologies of women, using the idea that women are hotter and thus more passionate, *and* the idea that women are colder and thus less able to reason. The passion she gives women is of a Christian kind, which transcends worldly

passion but is still confined to the physical realm. She is trying to refocus this passion, but she repeatedly runs into the physiological reality of women (the inability to reason which leads to excess passion), which problematizes her effort. Lanyer's continued reference to the weaker female wits alongside of her insistence that women are the superior sex sets up a contradiction common to early modern women's writings. Writers like Anne Askew, Mary Wroth, and Mary Sidney express the desire to be liberated from the oppression of men even while they perform the familiar submissive roles as wife, daughter, and spurned lover. But my reading of Lanyer's poem is not an analysis of gender hierarchy as much as an exploration of Lanyer's use of a physiological doctrine that happens to be gendered. In fact, I argue that the religious doctrine in the *Salve Deus* is gendered by its association with a particularly gendered cognitive physiology.

The orientation and situation of cognitively gendered bodies, both to each other and to the world, is a major concern throughout the *Salve Deus*. The most helpful grounding essay in my approach to this negotiation in the poem has been Michael Schoenfeldt's article "The Gender of Religious Devotion: Amelia Lanyer and John Donne."[228] Schoenfeldt reads the poem inside the body space, and he is particularly interested in the primary conflict in the poem between women's worldly and Christian desires, where those desires are physically located, and the ways in which patriarchal society vilifies female submission. Schoenfeldt argues for a feminized religious experience in *Salve Deus* that works to simultaneously demarcate the inward passion and the outward piety that Renaissance

Christianity requires. At the same time, he argues that Lanyer is able to legitimize female desire by eroticizing the relationship with the male deity, which satisfies her while remaining within the bounds of Christian behavior. What she is really trying to do, he says, is "liberate heterosexual desires from masculinist oppression" and effectively "assume devotional postures to produce social action," which is part of her larger project of undermining social hierarchies.[229] The sexual excitement that she locates in the tension between religious and social rules helps her to point out the perversity of patriarchal constructions. That being said, Schoenfeldt suggests that Lanyer has difficulty extracting herself from the hierarchies that she is trying to undo, and she must fall back into the submissive position in order to make her point. I would agree with this argument and go further to point out that we achieve a greater understanding of the poem if the passions are read as physiological certainties. In focusing on the natural state of women, with cold and moist bodies that are easily overruled and directed, the naturally submissive position of women becomes privileged because it is what God requires of all his subjects. In that sense, I would argue, women have great power in their suitedness to worship with a cold and moist brain, even if they must be more docile and obedient.

Outside of Schoenfeldt's work, which focuses less than mine on particular physiology, the majority of scholarship on Lanyer's work has eschewed the material nature of her gender in favor of ideology. Scholars who focus on this gendering most often read the *Salve Deus* as a resistance of male domination

and a desire for sexual equality, which in critical terms means that it is largely associated with modern feminism. In her book *Subjectivity and Women's Poetry in Early Modern England,* Lynette McGrath argues that Aemilia Lanyer's *Salve Deus Rex Judaeorum* can be considered "feminist," although she admits that this is an anachronistic term and must be qualified appropriately.[230] In support of this, she cites "the poem's unusually assertive representation of a woman's authorial subjectivity, acted out inside an ideally and desirously represented women's collective culture."[231] McGrath argues that Lanyer enjoys a self-declarative subject position especially compared to contemporary poets Isabella Whitney and Elizabeth Cary, whom she calls "less openly provocative." Citing Janel Mueller, McGrath goes on to say that Lanyer is like Christine de Pizan in confronting misogyny and creating a female discourse to counter it, tacitly agreeing with Ilona Bell's argument that the roots of the modern feminist movement are in the sixteenth century. She concludes that the poem is linked to twentieth-century feminism through its portrayal of women as a disadvantaged class, an argument that can hardly be opposed given Lanyer's own language concerning "imputations, that [men] undeservedly lay upon us."[232] And although she says that it is wrong to look for the origins of modern political views in literature in which the term "feminist" has no currency, she believes that "the *Salve* does represent a subjectivity compatible with what even an ironically-beset, postmodern reader might aptly describe as 'feminist.'" It is more accurate, she says, to argue that "recognizing the terms in which the feminist element

operates in Lanyer's work confirms the slowly strengthening ideological current that ran counter to the dominant position concerning women in early modern England."[233] I agree that Lanyer does recognize a gender discrepancy, and I argue further that it is more helpful to investigate the cultural source of this discrepancy than to place Lanyer into a category that does not yet exist.

Lanyer's willing embrace of gender hierarchy in order to subvert it, albeit with slightly revised terms, is a focus of many projects on early modern women writers, some of the most useful occurring in the past fifteen years. Barbara Lewalski attends to the social and political aspects of subjugation in *Writing Women in Jacobean England*. She argues that we know less about early women writers for several reasons: a lack of surviving texts, overshadowing by male writers of the period, uncertainty over which texts are written by women, and so on. Another problem she identifies is the narrow scope of the criticism that does exist, such as reading only in terms of modern feminism, according to the period's patriarchy, or compared only to other women writers. Lewalski recalls the oppressive atmosphere of Jacobean England: the queen, a bastion of female authority, has just died; the new king is homosexual and thus prefers the company of men; and according to King James's own writings, female subjection is thought to mirror both subjection to the monarch and to God. One of the most important things Lewalski points out is that there was "an outpouring of antifeminist or overtly misogynist sermons, tracts, and plays detailing women's physical and mental defects, spiritual evils, rebelliousness, shrewishness, and

natural inferiority to men in the hierarchy of being."[234] Women were often seen as a physical other because their difference was only in body, the corruption or weakness of which produced undesirable emotional responses and lesser intellect. Importantly, Lewalski emphasizes that women did not, in some cases, accept subjection at the hands of men but that it was impossible to resist a culture so dedicated to such patriarchal constructions. Lanyer and other women "did not of course float free of the ideology and institutions that structured Jacobean society," and Jacobean women did not consider themselves part of a unified group with any definition.[235] However, she adds, women like Aemilia Lanyer:

> Explicitly claim to voice the wrongs and complaints of many women. They rewrite discourses which repress or diminish women—patriarchy, gender hierarchy, Petrarchism, Pauline marriage theory, and more—by redefining or extending their terms or infusing them with new meaning: this is the way any orthodoxy is first opened to revisionism.[236]

Unfortunately, the physiological stakes of such an argument have not been fully considered. If Lanyer says that women have a lesser intellect, we must investigate what that means literally. In trying to form a complete picture of a thinking and feeling Christian woman, Lanyer attempts to infuse her own biological reality with new meaning and power by emphasizing her body's ease in submission and worship. In this way, Lanyer can overstep the men who oppress her and speak directly to God through the special dominant/submissive relationship they naturally have.

About Lanyer in particular, Lewalski says that the *Salve Deus* is a willful resistance to male dominance of religious history and gender inequality, a literary leap over the heads of her male critics. The poem has a feminist conceptual frame: a defense and celebration of good women. She emphasizes Lanyer's statement at the end of Eve's Apology of gender equality:

> Then let us have our Libertie againe,
> And challendge to your selves no Sov'raigntie;
> You came not in the world without our paine,
> Make that a barre against your crueltie;
> Your fault being greater, why should you disdaine
> Our being your equals, free from tyranny?
>   If one weake woman simply did offend,
>   This sinne of yours, hath no excuse, nor end.[237]

The ideological problem with this reading is that it skips over places in the text where Lanyer explicitly says that women are less intellectual and weaker, and that that is a good thing. The meek and humble are better than the strong because they are more like Christ, but when all is said and done, Christ is male and thus superior. When the poem says that God's glory will be greater "the Weaker thou doest seeme to be / In Sexe, or Sence," Lewalski fails to comment on how such a statement affects both the strength of the community of women she identifies and the success of their supposed attempt at liberation.[238] It is clear in the poem that Lanyer considers Galenic physiology an integral part of a complete picture of an early modern woman. My reading turns away from the popular critical opinion that Lanyer believes in the equality of men and women, paying attention to the "one weake woman" who represents the entire sex as Lanyer continues to emphasize women's lack of acuity.

Lanyer's reading of female wit in *Salve Deus* is gendered because the physiological legacy that she taps into is gendered. Aristotle was infamous for his insistence that women were biologically and thus socially inferior, and this in conjunction with the Hippocratic doctrine that women have naturally weaker reason helped propagate the idea that women have an inferior biological complexion. This physiological distinction is partially destabilized by the corresponding medical opinion that women are more susceptible to their passions, and that those who are susceptible to their passions, especially love, are by nature hotter and more sanguine. Galen makes up for this contradiction by emphasizing that the lack of heat in the brain, and therefore the weaker reason, leads to moral turpitude and thus women can *become* hotter, and thus less reasonable, as a result. In the early seventeenth century, other opinions characterize women as hot and dry, aligning them with theories of the passions, but the most common belief is Galen's idea that women are indeed cold and moist. In the early seventeenth century, Jacques Ferrand attests to the popularity of this idea by quoting the heroine of Ovid's *Hero and Leander* to exemplify the widespread acceptance of Galen's and Hippocrates' medical theories:

> I love with an equal fire, but I am not your equal in strength.
> The natural constitution of men is stronger, I imagine.
> While women's bodies are more tender, their minds more slight.[239]

While Ferrand attempts to sort out the issue in *A Treatise on Lovesickness*, it is never satisfactorily settled; he ends up concluding that women feel more violent

love "since nature owes her some compensating pleasures for the suffering she endures during pregnancy and childbirth." As men tried to embody women's behaviors with contradictory theories, they offered writers like Lanyer more opportunities to characterize women throughout history as cold and hot, passionate and stoic in a comprehensive account of female emotion.

The characterization of women in Lanyer's poem corresponds most clearly to Galen's distinctions between men and women that were widely known in the early modern period. In his own writings, Galen devoted incredible attention to the theory of innate heat because he believed it to be the impetus for creation, growth, and death together, the single most important idea associated with the human body. Its association with the soul, and indeed its necessary connection to the refinement of the pneuma that enable cognition, are among Galen's favorite topics. The idea that women have less innate heat originates in Book one of the Hippocratic *Regimen*, but it begins to take clear shape in the work of Aristotle, who was famously interested in distinguishing between males and females from birth. Observing sex development in chicken embryos for his lengthy work *De Generatione Animalium,* which tabulates reproductive anatomy and physiology, Aristotle's commentary wanders away from animals at times when he muses about the differences between men and women. This work contains the infamous passage in which he categorizes women as defective versions of men:

> In human beings, more males are born deformed than females; in other animals there is no preponderance either way. The reason is that in

> human beings the male is much hotter in its nature than the female. …And it is due to this self-same cause that the perfecting of female embryos is inferior to that of male ones, <since their uterus is inferior in condition….[and] once birth has taken place everything reaches its perfection sooner in females than in males—e.g., puberty, maturity, old age—because females are weaker and colder in their nature; and we should look upon the female state as being as it were a deformity, though one which occurs in the ordinary course of nature.[240]

Aristotle's view that innate heat, or the lack thereof, is responsible for the differentiation of sexes *in utero* survives in the Renaissance through Galen's work,[241] which further emphasizes the critical role of the innate heat in the survival of the human organism. For Galen, the lack of female discretion is caused directly by her lack of heat in the brain, providing the perfect physical conditions for the development of "womans wit."

This famous belief in a dearth of innate heat in women, discussed at length by proponents of twentieth-century body studies like Thomas Laqueur and Gail Paster, was cited for centuries as the reason why women's reproductive organs remained inside the body while men's organs were fully realized and external.[242] Such a distinction is further proof of the ways in which the state of the early modern female body, and especially her disorders and disruptions, remained continually internalized. At a time when medical science dictated that health and disease were caused, maintained, and altered by body's association with the external physical environment, women's maladies were often discussed as a result of an inferior bodily makeup. In other words, she is by nature flawed and more susceptible to defect. Galen certainly promotes this characterization of women as a result of the lack of heat in *De usu partium*:

> The female is less perfect than the male for one, principle reason—because she is colder; for if among animals the warm one is the more active, a colder animal would be less perfect than a warmer.[243]

And then shortly after, he reiterates:

> Now just as mankind is the most perfect of all animals, so within mankind the man is more perfect than the woman, and the reason for his perfection is his excess of heat, for heat is Nature's primary instrument. Hence in those animals that have less of it, her workmanship is necessarily more imperfect, and so it is no wonder that the female is less perfect than the male by as much as she is colder than he.[244]

Such an analysis is given as the reason why women have smaller testes, are less inclined toward movement or action, and are much more susceptible to disease. Galen claims that innate heat is not only the reason for the differentiation of the sexes but that it is also so crucial to normal bodily processes that every aspect of a woman's life is affected by her lack of it.

Galen can so completely differentiate between male and female bodies primarily because he believes that innate heat is both the source and instrument of the immortal soul, especially in its facilitation and regulation of the cerebral processes of imagination, cognition, and memory. In *De tremore*, he goes so far as to say that Nature and the soul are wholly made of this heat and that it is self-moving and ever-moving.[245] In Galen's cognitive physiology, heat is the cause of the refinement of the pneuma, the substance that triggers thought inside the brain ventricles. Galen's account reflects this sentiment in that the faculties of the soul are wholly dependent upon the refinement of these pneuma or spirits. First, the lungs extract a "pneuma-like" substance from inspired air and send it to the heart, where it is refined by innate heat into vital spirit in the left ventricle

using the innate heat and venous blood in the right ventricle. Specifically, this is a mysterious process in which innate heat acts as a catalyst for coction.[246] The vital spirit now enters the arterial system, where it flows to the brain and enters two networks of blood vessels, the *retiform plexus* and the *choroid plexuses*. Inside the *choroid plexuses*, intricate structures of veins and arteries in the ventricular system, the vital spirit is turned to psychic pneuma or animal spirit, the substance responsible for all brain activity. The animal spirit moves methodically, first to the foremost ventricle where the imagination resides to stimulate the possibility of cognition or inspiration. The imagination processes relevant sensory information and sends the spirits to the heart, where desire is consulted for every decision; the spirits must then flow back to the brain's second ventricle to effect whatever act of cognition has been decided upon. After cognition effects action, most often through movement, the spirits recount the decision to the third ventricle, where memory resides. Thus cognition is made possible by quality of the pneuma in the body that changes and is changed by the material it interacts with.

Galen's physiology depends upon the *quality* of the substrate with and in which the pneuma interact, and so any defect in either pneuma or body tissue will have adverse effects. The perfect execution of thought and reason depend upon this quality, especially if both substances are flawed. Further, because a person's goodness is directly related to the quality of her body, women were automatically assumed to be morally inferior to men and thus more likely to fall

prey to their passions. But here emerges the contradiction in gender physiology. Women's brains may be colder and disinclined to reason, but Galenic physiology also purports that people who are naturally hotter are more inclined to sin because they are more easily overtaken by the passions. An excellent example of an attempt to unravel this problem appears in Jacques Ferrand's *Treatise on Lovesickness,* in which he distinguishes between male and female responses to amorous desire. The decisive factor, it turns out, is innate heat:

> According to the teachings of Galen, there can be no doubt that the hot complexion, or the dry and hot, is more inclined to rampant love than all the other complexions and temperatures. From that, I would also infer that these complexions must experience more violent loves, and that by consequence men must be more often and more grievously tormented by this madness than women—who are endowed with a temperature less warm and dry.[247]

This makes sense according to the early modern belief that heat feeds the passions, which threaten to overtake the brain and lead the body and soul into moral depravity. But he decides that more important is the idea that heat also fuels rational thought and right decision, and here he explains the physiological situation that best suits Galen's theories. Ferrand's exercise in logic reveals his understanding that innate heat directly affects a person's ability to use reason:

> The woman is more passionate in love and more frantic and rash in her folly than man ("by nature the woman possesses weaker spirits and less courage than the man, and her reasoning is not as strong," says the Father of Medicine) since the woman does not have the rational powers for resisting such strong passions, as Galen says.[248]

Ferrand references the two most important sources of medical knowledge, Hippocrates and Galen, who agree that women's inability to reason correctly damns them to sin and frenzy.

The Power of Cold, Moist Submission

In the *Salve Deus*, Aemilia Lanyer taps directly into this backdrop of cultural knowledge in order to negotiate the power of female subjectivity. These ideas become a rich and ironic support for the women she writes to and about, and even the contradictory aspects of the doctrine of innate heat become useful to her argument. The women that she writes about, including both sinners and saints, are clearly literary constructions that pay special attention to the colder, moister female body. But at the same time, Lanyer encourages a passionate relationship with Christ and acknowledges several women whose vice was to become a victim of inordinate passion. Instead of relenting to the inescapable physiological contradiction of the female complexion, the poet celebrates both aspects: it is good to be cold and moist because lack of reason relieves women like Eve of responsibility and makes them amenable to worship and submission, and it is good to be passionate so that women can fully realize the intensity of Christ's love. Starting with Cynthia in line one, the poem welcomes figures that indicate change and contradiction in addition to celebrating constancy. Lanyer mentions both Cynthia and Phoebe, alternate names for Artemis, not only as symbols for the ever-changing moon but also as icons of perfection. Indeed, she sandwiches her first mention of feminine fancy between Cynthia and Phoebe and

attaches the concept to a reference to the Countess Dowager of Cumberland's future journey from earth to heaven. This opening introduces the ideal of femininity in the poem: women are wonderfully inconstant and divinely powerful.

Lanyer's reference to "womans wit" comes in the second stanza in the context of an apology, and it serves to categorize women's brains as different *and* special. Her phrasing indicates that this is a particular *type* of wit that belongs to women and not a *lack* of wit because she is a woman. She states clearly that women do possess their own wit, which she will describe in the description of the Countess in these opening stanzas. To enhance her picture of feminine power in this dedication, Lanyer introduces the concept of irresistible grace in order to characterize the Countess as the ideal Christian woman, an account that includes praise of both submission and sacred passion for God's love. Later she will go on to give historical examples of women who are rightly submissive to God's will in the stories of Eve, Pilate's wife, and the Virgin Mary, praising the same sense of duty and unquenchable love. In the fourth stanza, she writes that the sun's rays are:

> Increasing, strengthning, guiding, and directing
> All worldly creatures their due course to runne,
> Unto His powrefull pleasure all subjecting:
> And thou (deere Ladie) by his speciall grace,
> In these his creatures dost behold his face.[249]

Lanyer insinuates that the Countess is elect and thus receiving irresistible grace, and that therefore she has a special ability to see God everywhere. She receives special attention from God because of her election, but the state of election

requires also that she submit to his “powrefull pleasure.” The word “pleasure” is an intriguing and important choice because Lanyer sets up a dynamic in which only women would submit to the masculinized Godhead’s pleasure, thus quite subtly placing women in particular in this ideal relationship.

Lanyer continues to sexualize the relationship between her benefactress and God by launching at times into the language of love poetry, as she does in the very next stanza. She characterizes God as the lover:

> Whose all-reviving beauty, yields such joys
> To thy sad Soul, plunged in waves of woe,
> That worldly pleasures seems to thee as toys,
> Only thou seek’st Eternity to know,
> Respecting not the infinite annoys
> That Satan to thy well-staid mind can show;
> Ne can he quench in thee, the Spirit of Grace,
> Nor draw thee from beholding Heavens bright face.[250]

Here Lanyer skips directly to the desired Platonic transcendence that was the end goal of early modern sonnet sequences with one small change: because God is her lover, she is able to transcend earthly desires and keep her lover as she does so. The reference to the Countess’ “well-staid mind” is an indication of her Christian temperance even as she enjoys the passion of this relationship that cannot be quenched; lover and beloved have forged a solid bond particularly because of the kind of mind she has. She is unmoving in her devotion to him, able to share a special passion for which she cannot be chastised. Backing away a bit from the denial of freedom that irresistible grace infers, Lanyer here provides a brief example of the way women in particular can choose this sacred passion.

The following stanzas comprise an explicit description of the relationship that she has already presented, emphasizing that a woman's mind is ideal for forming a lasting bond between the elect and her spiritual lover. Lanyer begins with a compliment to the Countess' mental state, praising "Thy mind so perfect by thy Maker fram'd" and indicating that she is not wise by choice but by design or nature. The poet insists upon the dual role of subservient and lover, calling her one "inflam'd" by "his sweet love" and negotiating a hierarchical dynamic between them:

> Tis He that made thee, what thou wert, and art:
> Tis he that dries all tears from Orphans eyes,
> And hears from heav'n the wofull widows' cries.[251]

Lanyer instills her subject with desirable weakness by focusing on God's power over traditional symbols of weakness. Again, she places women in this category, arguing that they were created to be submissive and malleable and that God controls every aspect of life, even what has not yet happened. She continues this insistence of God's overarching power:

> Tis he that doth behold thy inward cares,
> And will regard the sorrows of thy Soul;
> Tis he that guides thy feet from Satans snares,
> And in his Wisdom, doth thy ways control:[252]

The idea of God as a guide through life is taken directly from the Psalter, but her emphasis more serious. The word "control" is a deliberate nod toward the specific doctrine of irresistible grace that continues to resonate throughout the poem. The way he does this is by forming female intellect particularly

susceptible to his influence, and he continues to shape it throughout a lifetime. Laying hold to her malleable substrate:

> He through afflictions, still thy Mind prepares,
> And all thy glorious trials will enroll:
> That when dark days of terror shall appear,
> Thou as the Sun shalt shine; or much more clear.[253]

The image of a sculptor handling clay and turning it into a realized, ideal form is not amiss here, and it is all the more easily done because her "mind so perfect by thy Maker" was made.

Indeed, it is good to submit to God's power, who receives excitement and happiness from dominating the female mind. God is titillated by this show of force, as Lanyer argues that he does so in order "that they his power may know." This overthrow is not just for her benefit but is also a show of masculine power; she characterizes God as a powerful male figure who has the power to give and take freedom by dominating weaker beings. The sense of the passage is sexual, as she constructs an exciting relationship that:

> Draws thee from caring what this world can yield;
> Of joys and griefs both equal thou dost prove,
> They have no force, to force thee from the field.[254]

No temptation, either good or evil, can draw the lover away from her beloved; the depth of their involvement subsumes her. This characterization of the love relationship between God and his people works most comfortably on this level if the lover is a woman, and the same is true of the dynamic between God as a dominating presence and the woman as one to be controlled.

The idea that women are naturally submissive is a crucial physiological point for Lanyer, and she goes to great lengths to present women who are ideal examples. This is a rhetorical move in part that allows her to blame men for a sort of mismanagement, like in the cases of Helen, Rosamund, Mathilda, and the example of Adam and Eve, but part of her agenda is also to argue the inherent value of women, and since she cannot deny their social position in subservience, she chooses to value it. Having explained that women are naturally ideal lovers for God, she continues to emphasize the importance of weakness before God in the story of Christ's passion. Lanyer's feminization of Christ is one of the most discussed aspects of this poem largely because she also sexualizes his femininity, effectively placing the female lover on the same romantic plane as her Savior.[255] Women find an ideal example in Christ because he submits as he should, but with intense love and almost a need to become the world's sacrifice. Lanyer asks of the greatest kings and conquerors "which of them, that ever yet tooke breath, / Sought t'indure the doome of Heaven and Earth?"[256] This characterization of Christ mirrors her previous argument that the Countess is God's ideal lover; Christ does give himself over with great courage after a moment of weak resistance in Gethsemane, but he ultimately enjoys the punishment he receives because to fulfill God's greatest desire. The passion focuses on Jesus as both passionate and submissive, doing God's will with ferocity. The feminization of Christ occurs as she describes him in the same ways that she has described women, going so far as to idealize his beauty in a

blazon. The utter submission of the dying Christ to his father's will, coming as it does flanked by accounts of women who are ruled by men, serves to raise the value of the submissive position to the perfection attained by Christianity's most famous victim.

Still, the mind is where Lanyer locates the primary difference between men and women although she does not address the issue of Christ's male brain. The most direct reference in the poem to contemporary theories concerning the difference between male and female cognitive abilities occurs in "Eve's Apology," the most famous portion of the work. Lanyer blames men for not understanding submission, moving directly into the story of Eve's sin in the midst of her description of the passion. Here she explicitly presents her argument that women cannot be blamed because they should have been ruled by their male counterparts, invoking the belief that women should obey their masters in order to exonerate themselves. In "Eve's Apology," Lanyer goes so far as to say that if evil is physically manifest in women, then it must have come from men at Eve's creation. Here, sin is characterized specifically as a result of material inadequacy:

> If any Evill in her did remaine,
> Beeing made of him, he was the ground of all;
> If one of many Worlds could lay a staine
> Upon our Sexe, and worke so great a fall
> To wretched Man, by Satans subtill traine;
> What will so fowle a fault amongst you all?[257]

Adam and Eve share substance because she was made from him, but there is a primary difference that Lanyer focuses on in this passage. She characterizes the

fall as a failure of Eve's ability to reason, stressing that she differs from Adam on a cognitive level. Lanyer explicitly states that Eve's fault is "undiscerning ignorance," and she emphasizes the fact that Adam's knowledge should have made him stronger, for he had "from Gods mouth receiv'd that straight command, / The breach whereof he knew was present death."[258] Lanyer's use of the word "discretion" in the next stanza to characterize Adam's fault becomes a telling criticism of his sin, for "discretion" was a popular synonym for "reason" in the period. Adam is made for reasoning; he knows better, and Eve has only done what she should by sharing with Adam what she has discovered. In fact, her mental weakness has caused this problem, since "the Serpents craft had her abused."[259] Adam's most heinous fault is the mismanagement of his rational authority, his great failure that "He never sought her weaknesse to reprove."[260]

Another moment in the poem at which Lanyer focuses on the submissive character of the female intellect is her meditation upon the Virgin Mary. In this passage, Lanyer clearly shows the value of the weaker female mind, as Mary is easily persuaded and influenced by Gabriel. Lanyer characterizes Mary, as other writers in the period do, as a paragon of women whose example should be followed. However, she mentions Mary's mental feebleness specifically:

> For the Almightie magnified thee,
> And looked downe upon thy meane estate;
> Thy lowly mind, and unstain'd Chastitie
> Did plead for Love at great *Jehovaes* gate,
> Who sending swift-wing'd *Gabriel* unto thee,
> His holy will and pleasure to relate.[261]

Her “lowly mind” can hardly comprehend the import of Gabriel’s message, and so Mary must rely on pure faith to guide her decision. Here Lanyer argues that God has chosen Mary not just because she is able to bear children, but also because she has a mind that can be easily influenced. Later, she emphasizes Mary’s inability to understand and judge Gabriel’s import:

> [Gabriel] cheeres thy troubled soule, bids thee not feare;
> When thy pure thoughts could hardly apprehend
> This salutation, when he did appeare;
> Nor couldst thou judge, whereto those words did tend;
> His pure aspect did move thy modest cheere
> To muse, yet joy that God vouchsaf’d to send
> His glorious Angel.[262]

Lanyer clearly emphasizes not only Mary’s goodness but also her lack of judgment concerning what Gabriel says and what is expected of her. This is in part a popular characterization of the Virgin taken from the Gospel of Luke, which characterizes Mary as “deeply troubled” when Gabriel reveals his message; however, the scripture in no way emphasizes a lack of mental fecundity on her part, and in fact she is presented in full awareness of her situation.[263] Lanyer magnifies Mary’s inability to understand and judge the situation and she praises Mary’s submission in the face of such a mystery.

The remainder of the poem, including Christ’s resurrection and Lanyer’s closing remarks, redirect the reader to consider the great joy in a passionate relationship with Christ. Especially in this section, the poem characterizes the Christian experience as a great love affair between a powerful male figure and a submissive female that reaches its climax in Christ’s reentry into heaven. Christ

is remasculinized even while he is described in Petrarchan terms in the section of the poem that most closely resembles a collection of love sonnets. Lanyer celebrates passionate longing:

> This is that Bridegroome that appeares so faire,
> So sweet, so lovely in his Spouses sight,
> That unto Snowe we may his face compare,
> His cheekes like skarlet, and his eyes so bright
> As purest Doves that in the rivers are,
> Washed with milke, to give the more delight.[264]

She continues with the traditional Petrarchan description of Christ as a blonde with white skin, red cheeks and lips, and balmy breath, effectively placing him within the realm of sexual desire. In the subsequent description of great women who remained faithful to God, the many earthly wives he has enjoyed, Lanyer attempts to contrast the Lady with Cleopatra, whose love she characterizes as "earthly" not because it is passionate or lustful but because the Egyptian did not support her lover at the Battle of Actium. In fact, for three stanzas, beginning with "No *Cleopatra*," Lanyer begins to address the queen in the second person, and the change is at first confusing because the speaker had been addressing the Lady of Cumberland in the same way. She berates the queen for her lack of faith in Antony and her refusal to submit to him, reinforcing her praise of obedient women. Indeed, the Lady is associated not only with Cleopatra but with other famous lovers such as Joachim's wife and the Queen of Sheba, and in each section the intensity of the love affair is never criticized. She ends the poem encouraging the Lady to enjoy "This hony dropping dew of holy love," "To taste his sweetnesse," and to enjoy "The freshest beauties" of her lover Jesus.

The *Salve Deus* is full of exemplary women who have two things in common: mental weakness and passionate desire for God. Women are, in this poem, privileged as ideal subjects, ready and more importantly *able* to submit to God's power to lead them out of sin. Men, who have a superior ability to reason, are characterized as true villains because they realize the enormity of their choices yet sin anyway. In the poem, Lanyer wants to define what she calls "womans wit," arguing that male and female wit are fundamentally different, and that because of this difference, religious experience is undeniably gendered. Part of her argument is that women deserve sexual equality, but the terms of that equality depend upon the weakness of said "womans wit." According to Lanyer's specific formulation of wit, women are more pious and theologically self-aware creatures because their brains are more apt to receive communication from God and their understanding more easily comprehends Christ's suffering. The primary apparatus she employs to prove that submission is actually what God wants, and not the domination of Adam, is identifying a gendered cognitive model in the *Salve Deus Rex Judaeorum* that is justified by the Calvinist doctrine of irresistible grace in the poem. Lanyer presents an ideal female brain that requires the masculine dominance of God's grace in a highly sexualized relationship, and she uses gendered physiological models to emphasize the difference she believes exists between the sexes. As a result, instead of creating a proto-feminist manifesto about the unjust abuses of women, Lanyer willingly reinforces traditional theories of gender difference in this picture of overruling

masculine grace and submissive female intellect in order to redefine what is "good" about women.

And so Lanyer does not hesitate to characterize a woman's love for her Savior as romantic or even sexual love. Indeed, in a heterosexual patriarchy, this to favors women as better disciples than men. In a sense, Lanyer's poem can be characterized as a domination and submission fantasy in which both positions are highly valued for their contribution to the unified relationship. Divine control is famously characterized this way in the period especially by the metaphysical poets, for as Donne says, he will never be satisfied "unless thou ravage mee."[265] As a woman who lived during a time when women were both subjugated and ambitious, Lanyer is not unusual in easily falling back into a patriarchal social construct in her poem in order to make the very point that women are strong and intelligent in their own right. This is a reasonable argument considering that Christians value humility very highly, and even more so considering Lanyer's inability to work outside of the gender hierarchy. But it is not a neat argument that she has made. In dealing with popular ideas concerning women's minds, she has not undone any contradictions, especially that women are both cold and passionate. Neither has she sought to overthrow the gender hierarchy, actually favoring female subjugation as an ideal Christian state. And in the end, she has not attempted to prove without doubt any theological truth or champion any specific denominational tenet over any other. One thing she has done, however, is shown how writers can use numerous discourses to investigate the popular

ideologies that affect them directly. This reading of her poem also interrogates the intimate relationship between Galenic physiology and contemporary social tenets, a connection that exists just as deeply between Renaissance literature and other specific disciplinary endeavors. Most important, Lanyer has demonstrated that women could and did believe in and advocate for their social and theological worth and imagined themselves as important, complex participants in an ever-changing social milieu. And even though she recognizes that sexual equality may not be possible, she is able to celebrate what it means to be a woman, both materially and immaterially.

CONCLUSION

GALEN'S LEGACY AND THOMAS WILLIS

> What grounds are then left for any doctor who wishes to be trained in the art in a way worthy of Hippocrates not to be a philosopher?
>
> Galen, "The Best Doctor is also a Philosopher"

In this project I have looked closely at the relationship between body and soul that Renaissance writers recognized as the formative essence of a human being; they saw themselves as complex amalgamations of parts physical and perceivable with imperceptible aspects that we call "personality" or "identity." I have discovered that these authors looked to the brain for several things: how anatomy can be interpreted as an example of what behavior is right in God's eyes; how order may be gleaned from an appearance of chaos; how to relate to God as incarnated beings; and, finally, how to recognize that God is always present in the body. Unfortunately, the most important connection between *what* is imagined about the self and God and *where* this imagining takes place has yet to be fully investigated in any period of literature. Literary criticism has recognized in passing is that the brain is what individualizes the early modern Christian, as far as its connection to the immortal soul, but not how Renaissance literature reflects this unique formulation of human identity. At moments when materialist notions of the human body intersect with Christian theories of spiritual identity, or where these things coexist in the brain and in the literary text, this study uncovers strands of self-perception and realized agency. This project is not intended to create an overarching view of brain studies in either a clinical or

metaphorical sense, or to provide a summary of cognitive theories in the works of these authors. But it is partly an assertion that the work of Galen, who is at the center of this study, underlies every reference to body parts, states of illness or health, the practice of medicine, and psychological realities that we read in not only these early modern writers but also countless others. He is important, and I have not touched upon some of his most interesting and controversial ideas in this lengthy discussion.

In considering his place in medical and philosophical history, we must realize that Galen's contribution to thinking about the body goes far beyond blood, phlegm, black bile, and yellow bile. There is a tendency in discussions of the Renaissance body to associate Galen only with his humors, a physiology that he depended heavily on but did not invent. Beyond the humors, Galen was a classically trained scientist-philosopher who could not conceive of a separation between what he knew as "science" from what he knew as "philosophy." In the lesser-read treatise "The Best Doctor is also a Philosopher" and the more famous "Affections and Errors of the Soul," he explains his work as a pursuit of truth for its own sake and the study of the body as the best way to fulfill the Delphic oracle's command to "know thyself." As he discusses at great length, calling himself a "doctor" is problematic because the word is reductive; it suggests that his purpose is to *fix* the body alone rather than to maintain it and its three-part soul. For the physician's duty is multifold:

> He must be practiced in logical theory in order to discover the nature of the body, the differences between diseases, and the indications as to

> treatment; he must despise money and cultivate temperance in order to stay the course. He must, therefore, know all the parts of philosophy: the logical, the physical, and the ethical. …And so he is bound to be in possession of the other virtues too, for they all go together.[266]

Galen does not view his profession as a simple balancing of substances inside the body; he does more than bleed and purge. Medicine is an ethical commitment that only a virtuous man can fully understand because of its philosophical import.[267] Galen believes in the possibility of attaining goodness and truth following the opinions of Plato, and these pursuits are as much within his professional realm as healing a sick body. Because he believes that the soul depends upon the body's health, he thinks that he has a real chance to encourage each man to pursue a good life.

Another important way to consider Galen beyond the basic humoral system is to recognize the materialist stakes of that system, especially as it relates to the immortal soul. Galen's belief that virtue is possible for all men is closely related to his famous assertion that "the faculties of the soul depend on the mixtures of the body" and that we have direct control of these mixtures.[268] This assertion caused endless trouble for Christian thinkers who could not accept the idea that the immortal soul could be affected and even controlled by a base material substance, and its centrality to Galen's work seems to be inconsistent with Renaissance ideologies, requiring the reconciliations and selective reading that I have discussed in this project. In fact, Galen has more in common with the future of neurology than we realize primarily because of his progressive views of the soul. Despite his obvious reverence for a world Creator that he mentions

often in his writings, and that delighted early modern Christian readers, Galen has serious problems dismissing the idea that the soul is material. In fact, he seems unable to deny that the soul *must* be material. His training teaches him to analyze the issue logically, which he does in the famous treatise "The Soul's Dependence on the Body." After considering that according to Aristotle, the soul is the formative principle of the body, and conceding the truth in Plato's assertion that death is the separation of body and soul, he comes to the only logical conclusion available. He is clearly troubled by the implications of his argument:

> If, then, the reasoning faculty is a form of the soul, it must be mortal: for it too will be a mixture, namely a mixture within the brain. If, on the other hand, it is immortal, as Plato believes, there is a problem as to why it should depart when the brain undergoes excessive cooling, heating, drying, or moistening. …Nor can I see how, if this substance is no part of the body, it can extend through the *whole* body.[269]

Galen simply asks, how can a thing with no substance *only* be affected by material states? And if it has no substance, how can we qualify it? His questions anticipate those of the medieval scholastic philosophers who performed daring logical feats to try to prove both the soul's immortality and its interaction with the body, but Aquinas and Scotus never said so clearly:

> So one is bound to admit, even if one wishes to posit a separate substance for the soul, at least that it is a slave to the mixtures of the body: these have the power to separate it, to make it lose its wits, to destroy its memory and understanding, to make it more timid, lacking in confidence and energy… .[270]

It is clear from this section and others that Galen did not prefer to think of the soul as mortal although he taught the doctrine of the humors. Many later physicians and philosophers saw this inherent uncertainty and contradiction as an

opportunity to refute him, as in the case of Thomas Willis. But even as Willis discounted the humors, he found himself using the same empirical methods as Galen, and his theory of neural activity that changed the way physicians considered the brain and nerves, and thus theories of cognitive scientists today, depends heavily on Galen's work.

Galen's centrality to medical studies lasted only a few decades after the Renaissance, even if ideas like the materiality of behavior persist in modern medicine. Now we have either forgotten what Galen wrote or remembered him only for his doctrine of the humors, and even then literary critics do not pay enough attention to his importance to early modern identity. The rejection of the theory of the humors, especially related to brain function, came in the form of published material only a few years into the Restoration in the work of Thomas Willis, who is considered the father of modern neurology. Willis is an example of early specialization as his studies flowed from the general body to the brain and nerves to his foundation of neurology as a distinct branch of medicine. In the *Cerebri Anatome* of 1664, Willis produced the first record of neuro-anatomy accompanied by a beautiful series of drawings by the famous architect Christopher Wren that attested to Willis' commitment to detail. What Willis was looking for, and what he thought that he could document, were the anatomical machinations of the rational soul, which he believed worked through the cerebrum and cerebellum. He departed from Galen through his allegiance to Descartes, who famously separated the rational soul out from the body and

challenged the argument that the maintenance of bodily movements could affect the soul. Thus the immortal soul influences the brain not as an internal part of it but as an external entity, but this was problematic as well. The problem he ran into was the passions, because in trying to account for behavior, which is governed by reason, he was bound by prevailing medical theory to explain the movements of the animal spirits. He was never able to say how this occurred, but he decided that the passions were "those perceptions, sensations or emotions of the soul which we refer particularly to it, and which are caused, maintained and strengthened by some movement of the spirits."[271] Descartes did believe that the nerves mediated this behavior, but he could not explain how, and this is where Willis takes up the project in the *Cerebri Anatome*.

Thomas Willis' contribution to late seventeenth century thought was a new language with which to discuss the ever-present problem of body/soul interaction. His interest in "neurology," the term he invented to describe the mysterious relationship between the brain's anatomy and the body's physiology, was inspired mostly by his study of the traditional medical school texts that he found inadequate in explaining the functions of the brain and nerves. Following the example of Vesalius, Willis resolved to discover the answers to his inquiries empirically:

> Wherefore all delay being laid aside, I determined with my self seriously to enter presently upon a new course, and to rely on this one thing, not to pin my faith on the received Opinions of others, nor on the suspicions and guesses of my own mind, but for the future to believe Nature and ocular demonstrations: Therefore thenceforward I betook my self wholly to the study of Anatomy.[272]

Part of this statement is an interesting admission that he may not see the same things that Galen or Hippocrates saw and reported, and therefore his anatomy may not agree with theirs. But even as Willis tried to discover new ways of thinking about the brain and nerves, he relied on the legacies of Hippocrates and Galen in his discussions of the brain's special functions. For Willis the soul was both material and immaterial, but this was not his major point of contention. Willis believed, from his experimentation on human and animal brains, that the brain was the source of the body's every state, physiological and emotional. He also thought that it was the seat of the rational soul, and it must regulate what happens in the rest of the body in order to maintain that *something* is governing the body's physiological responses. As Renaissance thinkers had already realized, Willis reconsiders that the theological problem was that sin is a product of will, and as such, requires that man be accordingly punished by God, and that involuntary responses to stimuli, such as desire, could not be framed in the same way. To resolve this, he imagined the nerves as part of a sort of regulating mechanism that reflected God's government over mankind. He says in the "Dedicatory Epistle" to the *Cerebri Anatome* that "I had resolved to unlock the secret places of Mans Mind, and to look into the living and breathing Chapel of the Deity (as far as our weakness was able)." Further, he acknowledges the supremacy of the brain's function after Hippocrates and Galen, and like them, he is especially interested in how the will is influenced by God, especially in respect to involuntary action. He goes further than Galen in questioning the specific

functions of the nerves, which Galen clearly states are of a different substance than the brain, and his inquiries lead him to propose a physiological interaction between the brain, nerves, and the target tissues that they enervated. This break from Galen is perhaps the most significant departure Willis makes from his medical past, and his anticipation of nerve impulses forces Galen's humoral theories into obsolescence.

An important example of Willis' necessary departure from Galenic medicine is his study of involuntary muscle contraction. The question of involuntary action had always complicated ancient and Renaissance theories of self-discipline that assume that a person can exercise complete control over his body. This kind of muscle response forced Willis not only to think outside the humors but also to a whole new physiological cause that he relates to the nerves. For Willis, the nerves and reason were one thing, not separable—the nerves governed the body's reaction to certain stimuli, acting as a regulatory mechanism. His rhetoric suggests that he sees the nerves fulfilling a moral function as they guard involuntary action, which the rational mind cannot control. The passions, then, are no longer controlled by humoral balance, which can be affected by voluntary interference–the humors can no longer satisfactorily explain involuntary action, and physicians like Willis must now develop new accounts for sin and mistakes. At the same time, Willis cannot trump the power of the will with this more mechanized account of thought and behavior, because free will is the

crux of the Christian politics of repentance and salvation. He admits in the Dedication:

> I am not ignorant, how great the labour is that I undertake: For it hath been a long while accounted as a certain Mystery and School-house of Atheism to search into Nature, as if whatever Reasons we grant to Philosophy, should derogate from Religion, and all that should be attributed to second Causes did take away from the first. But truly, he doth too much abuse the Name of Philosophy, who considers the wheels, curious frame, setting together, small pins, and all the make and provision of a Clock, by which invented Machine the course of the Time … may be exactly known and measured, if that at length, when by this his search and consideration, he hath profited himself so much, he should not acknowledge the Artist, to whose Labour and Wit he owes all those things.

Willis is not, then, a strict mechanist, as he rejects the famous clock metaphor meant to explain how the body continues to operate without constant interference from God. Instead, he suggests that the mechanistic and the theological explanations of physiology can be simultaneously legitimate. His language is a beautiful extension of the same ideas in Galen but with an eye toward revolution and new possibility.

After a reading of Galen in Renaissance literature, it is clear that what Willis imagines is not a complete turn away from the older regime. His theories of the intersection of flesh and spirit reflect precisely what Galen struggled with in his ruminations on the soul, even if there are several obvious differences between Willis' and Galen's physiologies. It is easy to say that the scientific revolution of the seventeenth and eighteenth centuries was a dramatic paradigmatic shift from already outmoded Galenism to newer and more exciting theories, but a thorough reading of Galen reveals a much more complicated formulation. The publication of the *Cerebri Anatome* was not a guarantee that

seventeenth century science would immediately take up Willis' proposed theories, nor was it by any means unimportant. Instead, Restoration literature reveals that science does not progress with complete disregard for its legacy, and that even if Galenism was not as popular in the social mind when the new neurology was taking hold, its importance resonates. Readers of Willis could have easily accepted both systems of ideas without further consideration, not only because Willis' language does not completely abandon humoralism, but also because in the poetic mind the two were not so completely divided yet. As this project has shown, forgetting Galen means misunderstanding an entire cultural discourse, its literature, and most important, its individuals.

NOTES

[1] It is important to note that Galen's and the other ancients' uses of the word "soul" were not theological. The soul to the ancient Greeks was simply the principle of life, that which inspired a person, plant, or animal.

[2] Crane, Shakespeare's Brain, 4.

[3] Ibid., 10.

[4] Michael Schoenfeldt, Bodies and Selves in Early Modern England, 11.

[5] Gail Kern Paster, *Humoring the Body*, 20-21.

[6] *Twelfth Night,* ed. Herschel Baker (New York: Penguin, 1965), 1.1.37-43; *Hamlet,* ed. Susanne Wofford (New York: Bedford, 1994), 2.2.1622 ff.; *Macbeth,* ed. Sylvan Barnet (New York: Penguin, 1963), 2.1.39. All references to Shakespeare are to act, scene, and lines.

[7] Galen downplayed the role of the spinal cord, which he argued stemmed from the brain and owed its function to it. The pupils of Praxagoras of Kos, a contemporary of Herophilus, Erasistratus, and Diocles of Karystus, maintained that the brain was an outgrowth of the spinal cord, and thus owed all its function to the more centralized and extensive organ. For more on Galen's departures from his predecessors, see Jules Rocca, *Galen on the Brain*, 31-46.

[8] Erasistratus of Kos, ancient Alexandrian physician considered the father of modern physiology.

[9] The early modern opinion of Galen, and the attempt to utilize seemingly contradictory theories, is most famously expressed in the work of Andreas Vesalius, arguably the period's most influential and innovative anatomist. Vesalius combines reverence for the ancient philosophers with his Christian piety in a sophisticated way, so that he places himself among them but creates enough distance so that he can criticize their ideas. In his great masterpiece, the *de Corporis Humani Fabrica*, his descriptions engage in the complex history of the relationship between flesh and spirit, and the illustrations, which he dictated to several artists, bear out the understood connection between them in a way that only a visual medium can. Vesalius' work on the brain and nerves departs only slightly from Galenic tenets, and he makes no remarkable assertions regarding specific physiology. But the sixteenth-century anatomist departs most from Galen in his inherently Christian focus on the relationship between God and humans as demonstrated through physiology. His firsthand knowledge of

physiology stands out against Galen's vague descriptions of animals because he was able to look closely at the anatomy while comparing it to Galen's work, and as a result Vesalius discovered many discrepancies in Galenic theory that he respectfully addresses. The greatest departure Vesalius makes from Galen's physiology is his insistence that the soul is located in the ventricles of the brain and not in the brain matter, and in this respect Vesalius follows a standard Christian anatomy of the soul. But where Vesalius excels most is his profound understanding of the importance of visualization to pursuits of natural philosophy. In the prefatory materials to the *De Fabrica*, he argues that he sees the hand of God in the flesh, and that this is the best way to learn about the divinity that God shares with human beings. The connection is clear to him, and at least in his mind, the proof is undeniable. *On the Fabric of the Human Body*, 3 vols., ed. William Frank Richardson. For commentary, see Charles Singer, *Vesalius on the Human Brain.*

[10] Jules Rocca, *Galen on the Brain*, 60.

[11] Ibid., 60.

[12] In ancient Alexandria, law forbade physicians to perform human dissections, but Herophilus of Chalcedon and Erasistratus of Kos cut open the bodies of criminals, thus making it possible to trace the nerves' progress throughout the body. Observing what they could, physicians began with an object and then attempted to assign its significance in a largely semiotic exercise. Guesses were made intuitively, as when Herophilus first saw that the corpus callosum touches both sides of the brain, and therefore must be a bridge to link them. With his partner Erasistratus of Ceos, Herophilus made detailed observations of the dura mater, the sinuses, and the eye, as well as distinguishing the nerve trunks from tendons and blood vessels and determining their roles in either motor or sensory function. For more on Herophilus' methods and discoveries, see Heinrich von Staden, *Herophilus: The Art of Medicine in Early Alexandria*. For more on how modern cognitive studies have progressed from Herophilus' methods, see Ramachandran, *Phantoms in the Brain*, 10ff and Luria, *The Making of Mind*, 176ff.

[13] F. David Hoeniger, *Medicine and Shakespeare*, 72-5.

[14] The humors, of which there are four—yellow bile (choler), black bile (melancholy), sanguine (blood), and phlegm—interact with each other and with certain natural temperaments—hot, cold, moist, and dry—to determine the state of the physical body. The natures of the humors and the temperaments were related directly to the four elements: earth, wind, fire, and water. The healthy

body is composed, according to Galen, of a perfect balance of all of these, and their imbalance results in disease. Logically, if the humors were out of balance, the task of the physician was to put them in balance once more. Curing by contraries, or *contraria contrariis*, allowed doctors to administer to or take away from the patient what was lacking or in excess. For example, a Renaissance doctor treating a patient with consumption (tuberculosis) would let blood, thereby relieving the patient of the excess of yellow bile (choler, hot and moist), which causes fever. Once enough blood had been let, the patient would theoretically recover from the disease. This is an extremely simplified explanation; in Galen, see *On the Usefulness of the Parts of the Body,* edited by Margaret Tallmadge May, "Introduction" and text; for an early modern interpretation, see Nicholas Culpeper, tr., *Ars medica* (London, 1652) and Hoeniger, *Medicine and Shakespeare,* 71-116 for two detailed summaries.

[15] Hippocrates remains an important figure in Renaissance medicine because many of his theories form the basis of the doctrine of the humors in that period, and also because his professional methodologies, such as case studies described in copious detail, are still among the most informative practices in medicine today. For more on his school of medicine in the Renaissance, see Nancy Siraisi, *Medieval and Early Renaissance Medicine*, 101ff; Roy Porter, *The Greatest Benefit to Mankind*, 168ff; Hoeniger, *Medicine and Shakespeare.*

[16] See Lloyd ed., "Dreams" (from *Regimen IV*) and "The Nature of Man," 252, 260; Elizabeth M. Craik ed., *Places in Man*.

[17] Schoenfeldt, *Bodies and Selves*, 20.

[18] Paster, *Humoring the Body*, 5-11.

[19] Galen was equally receptive to pagan, Jewish, Christian, and whatever other theories he encountered. As a physician, he understood that his duty was to treat his patients often without payment or acknowledgement, but he also considered himself a philosopher who desperately wanted to discover the Truth of the universe. This began as quite a struggle for Galen, who believed in the mystical powers of the soul but could not account for them physiologically. Foremost is the problem of how the soul actually transmits its power to brain tissue, a question that has puzzled natural philosophers from the time of Hippocrates. Closely related is the mystery of the soul's substance, a controversial topic that Galen wisely shied away from. Medieval and Renaissance Christian writers could definitively say that the soul was immaterial based on faith, but their assurance did not shed light on cognitive processes. And after the soul energizes cognition, how does it know what to do next, or in

what order to travel through the ventricles? Still, after all these inquiries have been addressed, the question of gender remains; male and female brains were fundamentally different according to Galenic physiology. For comprehensive accounts of Galen's mysticism, see Hoeniger, *Medicine and Shakespeare*, esp. Chs. 5 and 9; Temkin, *Galenism*, esp. ch. 2; Spillane, *The Doctrine of the Nerves*, esp. ch. 1.

[20] Nemesius was highly regarded by Thomas Aquinas and Albertus Magnus, among others. Religious studies scholar William Telfer argues that the eclectic nature of Nemesius' work indicates his conversion to Christianity as an adult who had already received a liberal Greek education, leading to his profound knowledge of Platonic and Aristotelian doctrine as well as an independent view of Neo-Platonism. Whether this is true or not, Nemesius is a proponent of both Greek learning and political structure, preferring it to the Roman system of law that he had also studied. For more on his life and philosophy, see Tefler ed., *The Library of Christian Classics,* vol. IV., esp. the "General Introduction" to *Nemesius, Bishop of Emesa*.

[21] Ibid., 291.

[22] Ibid., 271-3.

[23] Galen, De foetuum formatione, 6.

[24] Aquinas, *Treatise on Human Nature*, Q. 82 Art. 3, pg. 119. Aristotle's placement of the soul in the heart presented later writers with many problems considering that it was generally understood to be a false doctrine. Although the scholastics had held to it fiercely, few experts in the Renaissance acknowledged it as useful, deciding instead that Galen's encephalocentrist theory was equally amenable to Christian doctrine.

[25] On the Usefulness of the Parts, I.189.

[26] Ibid.

[27] In the *Phaedo*, Plato interrogates the body's role in the apprehension of sensory data and presents the idea that there must be a "common sense," a place where all of the sensory data merges (65ff). In the *Timias,* he elaborates on a specific theory of the soul and its three divisions (30b ff). See Plato, *Complete Works,* ed. John Cooper.

[28] Juan Huarte, The Examination of mens Wits, 21-2.

[29] Ibid., 23.

[30] Crane, Shakespeare's Brain, 21.

[31] Debra Kuller Shuger, *Habits of Thought in the English Renaissance*, 14. In order to perform such a reading of physiology as a discursive intersection in Renaissance literature, I depend upon an important theoretical perspective that is shaped by the multidisciplinary nature of Renaissance modes of inquiry. In that sense, neurology in Renaissance literature must be taken into account simply because it was a part of the cultural fabric that helped create early modern literature. The anatomical theories that I will address here are underwritten by an aspect of the Renaissance worldview that is a kind of plural unity, a seemingly paradoxical arrangement that emerges in both early modern literature and science. A critical problem that studies of the early modern body face is the difficulty in reading the meanings of the terms "physical" and "spiritual." Critics have recognized that saying that modes of discourse cross in specific passages is not to say that there were solid divisions between concepts like "matter" and "spirit," or even "physiology" and "theology." Deborah Shuger's study of where to put boundaries is an interesting look at the different and sometimes contradictory models employed by writers who are interested in organizing and analyzing selves. She says that this is what defines Renaissance "habits of thought." She writes: "Despite their general agreement on doctrinal matters, the figures studied present an unexpected and at times drastic ideological pluralism. Instead of a monologic world picture, one uncovers complex and divergent assumptions…. The focus that emerged followed the realization that the divergences were structured by a central problematic: the placement of boundaries. I defined 'habits of thought' above as a culture's interpretive categories and their relations, and the question of boundaries is precisely that of the relation between categories. For various reasons … in the Renaissance these relations were in a state of flux, a negative measure of which appears in the obsessive desire for systematic order…. The impulse to define and distinguish, whether logic from rhetoric, elder from doctor, soul from body, words from things, state from church, mind from nature, results from a prior sense of confusion and lack of demarcation." Quite simply, the ideological noise that we observe in Renaissance texts, sometimes manifesting as contradiction, stems not from the existence of a variety of separate perspectives but rather from the constant overlap of these views within individuals. "Dotted lines" as opposed to solid ones demarcate disciplines and ways of thinking.

[32] Caroline Bynum, "Medievalist's Perspective," 12-13.

[33] Ibid., 14-15.

[34] *Philebus* in *Complete Works*, ed. Cooper, 29e.

[35] Gen 1:26 (Geneva).

[36] Philo of Alexandria, *De opificio mundi*,1.69, http://www.earlyjewishwritings.com/text/philo/book1.html.

[37] On the Usefulness of the Parts, "Epode," 729-31.

[38] The Salernitan Tracts, translated by and quoted in George W. Corner, "The Rise of Medicine at Salerno," 6.

[39] *King John,* 3.3.42-4. This is not a muscle contraction, but a true contraction of the tissue. Black bile, cold and dry, was believed to cause the blood to boil to get rid of the excess cold humor, and too much boiling would burn the veins and dry out the heart until it shriveled.

[40] For a discussion of Herophilus' anatomical achievements, see Heinrich Von Staden, *Herophilus*,158 ff.

[41] Aristotle observed chicken embryos and noticed that the first sign of life was a beating heart. For his complete commentary on these studies, see Aristotle, *History of Animals,* tr. D'Arcy Wentworth Thompson, Book VI, especially 561a6-562a20. http://classics.mit.edu/Aristotle/history_anim.html.

[42] Kühn ed., *Opera omni*, 3:14.

[43] The phrase "after Hippocrates" is a standard insertion of later physicians wishing to acknowledge the father of physicians. It is a general attribution of vast medical knowledge, and it does not mean that Hippocrates or anyone in his school dissected the nerves. The "persons" Galen refers to are Herophilus and his contemporary Eudemus, whom he often mentions together.

[44] Erasistratus could not have identified the motor cortex in the cerebrum or discovered to what extent the cerebellum directs voluntary movement. Herophilus was more correct in saying that the cerebrum contains the nerves "that make voluntary movement possible," but he probably did not realize the fine distinction he was making. Ephesius, *De anatomia partium hominis,* 71-5, quoted in von Staden, *Herophilus*.

[45] Galen, *De placitis Hippocratis et Platonis*, ed. P. De Lacy, 440-442.

[46] The implication is that the blood and pneuma are separable substances and that the pneuma passes through membranes at certain points and leaves the blood behind.

[47] *Selected Works,* ed. and tr. P.N. Singer, 154.

[48] On the Natural Faculties, tr. Brock, 1.1.

[49] This and all other references are to Edmund Spenser, *The Faerie Queene*, ed. Hamilton. 2.9.1. References are to book, canto, and stanza, unless excerpted from the letter to Raleigh, which is cited by page number.

[50] Ibid.*,* 2.11.1-2.

[51] James Broaddus, “Renaissance Psychology in the Defense of Alma’s Castle,” 149-50.

[52] *FQ,* 715.

[53] Ibid., 716.

[54] Aristotle, *Nichomachean Ethics*, III.9.1117b.

[55] Merritt Hughes, “The Arthurs of the *Faerie Queene*,” 210.

[56] Ibid., 210, 216.

[57] Paul Suttie, **“**Moral Ambivalence in the Legend of Temperance,” 127.

[58] The move to read temperance in Book II as a singularly Christian virtue began around the time of Viola Blackburn Hulbert’s groundbreaking article in 1931, in which she argues that Spenser learned about Christian temperance at Cambridge, where the concept largely departed from the text of the *Ethics*. In 1949 A.S.P. Woodhouse emphasized that original sin is at the center of Spenser’s ethics, thus identifying grace as Arthur’s major contribution to the poem. Philip Rollinson reports that despite a few departures from this trend, Arthur is most commonly read as a symbol of Christian temperance. See Hulbert, “A Possible Christian Source for Spenser’s Temperance”; Woodhouse, “Nature and Grace in *The Faerie Queene*”; Rollinson, **“**Arthur, Maleger, and the Interpretation of *The Faerie Queen***.”**

[59] Peter Stambler, "The Development of Guyon's Christian Temperance," 52.

[60] Thomas Rogers, The anatomie of the minde, vi.

[61] *Ethics,* II.9.1109b.

[62] Verses 7-8 (Geneva).

[63] John Calvin, Institutes of the Christian Religion, 2.2.23.

[64] De la Primaudaye, *The French Academie,* 367.

[65] Ibid.

[66] Robert Albott, Wits theater of the little world, 28.

[67] Lloyd A. Wright, "Guyon's Heroism in the Bower of Bliss"**;** Suttie, "Moral Ambivalence," 126-7.

[68] *FQ,* 2.2.31.

[69] Schoenfeldt, *Bodies and Selves*, 41.

[70] *FQ,* 2.9.1.

[71] Ibid., st.10.

[72] Ibid., st.12.

[73] *Ethics,* 1109b.

[74] *FQ,* 2.9.13. In his editor's notes, A. C. Hamilton equates these spiritual marauders allegorically to the passions or misrule of the emotions, but if the episode that spans cantos nine through eleven is a model of Renaissance temperance, this assignation cannot be correct if these miscreants remain outside of the castle. James Broaddus also disagrees with Hamilton, arguing for a clear distinction between the passions and the temptations that cause them, focusing on the siege warfare employed by the enemies (144-5).

[75] Ibid., st.17, 20.

[76] Edward Reynolds, A Treatise on the Passions, 3.

[77] *FQ,* 2.9.18,19.

[78] Lloyd Wright argues that Guyon is worthy of his label at this point, that he has proved himself before this, and that the Bower of Bliss is not a test but a demonstration of Guyon's perfect understanding of the virtue. See "Guyon's Heroism."

[79] *FQ*, 2.9.39, 33, and 47.

[80] Bartholomaeus Anglicus, *De proprietatibus rerum,* 22.

[81] *FQ,* 2.9., 33.

[82] Ibid.

[83] Although some writers in the period call the imagination and the common sense the same thing, Spenser here takes another popular alternative, and that is to make the common sense and imagination separate. In this rendition of the cognitive cycle, the common sense is located in Alma's character, where all of the information from the outside world converges. In some accounts the spirits would bring sensory information directly to the foremost ventricle of the brain, the fantasy or common sense. Spenser aligns himself most clearly with Galen, who believed that the brain was the common sensorum but never clearly states that imagination resides any one ventricle. See Jules Rocca, *Galen on the Brain*, 18-47 and 245-7.

[84] *FQ,* 2.9.34-5.

[85] James Norhnberg,*The Analogy of* The Faerie Queene, 47.

[86] *FQ,* 2.9.39.

[87] Ibid., st. 37.

[88] Ibid., st. 38.

[89] Ibid., st. 39.

[90] De la Primaudaye, *FA,* 418.

[91] The result here is a blurring of the model that natural philosophers and medical writers often outline, but this may be an effect of the allegory itself. As an embodied character, the soul will be aware of and react to the situation as soon as it enters the castle, because Alma herself presumably has a brain also; therefore the information does not have to travel all the way to the imagination in the first ventricle when it first enters.

[92] *FQ,* 2.9.49.

[93] Ibid., st. 51.

[94] Ibid., st. 50.

[95] Ibid., 77.

[96] Ibid., 2.11.17.

[97] Several critics have characterized Maleger as either mortality or a physiological extension thereof. James Broaddus builds onto an extensive body of criticism concerning Maleger as a representation of mortality, referring to the work of James Carscallen ("The Goodly Frame of Temperance: The Metaphor of Cosmos in *The Faerie Queene*"), Maurice Evans (*Spenser's Anatomy of Heroism: A Commentary on* The Faerie Queene), and Harold Weatherby (*Mirrors of Celestial Grace*). The traditional interpretation of Maleger has been that he symbolizes original sin, as argued by A.S.P. Woodhouse ("Nature and Grace") and Philip Rollinson ("Arthur, Maleger, and the Interpretation of *The Faerie Queene*). When Maleger is interpreted as original sin, Arthur is framed as heavenly grace in opposition to that, and as magnificence in opposition to mortality.

[98] *FQ,* 2.11.22.

[99] Ibid., st. 24.

[100] Ibid., st. 25.

[101] Ibid., st. 29.

[102] Wright, *Passions,* 58.

[103] *FQ,* 2.11.33.

[104] Ibid., st. 37.

[105] Ibid., st. 40.

[106] Ibid., st. 39.

[107] Ibid., st. 42.

[108] Ibid., st. 44.

[109] Ibid., st. 45.

[110] Ibid., st. 46.

[111] Ibid., st. 48.

[112] Ariosto, *Orlando Furioso*, 10.41.

[113] De la Primaudaye, *FA,* 218.

[114] William Shakespeare, *Richard II*, ed. Charles R. Forker (London: Arden Shakespeare, 2002), 5.5.1-2. References are to act, scene, and lines.

[115] 5.5.7-8.

[116] De la Primaudaye, *FA,* Chapter 26. De la Primaudaye attempts to summarize this constant movement through the brain, which is powered by the soul: "For after that *Imagination* hath received the images and impressions of things offered unto it by the outward senses, the consideration of *Reason* followeth, which enquireth of all that may be in the minde, of the plentie or want that is there, and causeth it to returne to it selfe, as if it did beholde and consider it selfe, to take knowledge what it hath, or what it hath not, howe much it hath, and of what qualitie and nature it is. After this, reason draweth out and concludeth invisible things of visible, of corporall things it concludeth things without bodies, and secret things of plaine and evident matters, and generalles of particulars: then it referreth all this to the understanding, which is the chiefe vertue and power of the soule, and that which comprehendeth all the faculties thereof, as wee will discourse in place convenient, yea, that which finally resteth in the contemplation of the spirite, which is the ende of all enquirie of trueth, and as it were a setled and assured view of all those things that have beene culled out by reason, and received and approoved by judgement." De la Primaudaye's

picture of cognitive physiology is complex and its implications important to my study.

[117] Crooke, Microcosmographia, 1.1.

[118] Ibid.

[119] Paster, Humoring the Body, 6.

[120] 3.3.71.

[121] "Introduction," 24, 27. Forker points out that Holinshed reports mixed attitudes toward the two characters, the chronicler saying that Richard was both a loving king who was victimized by his counselors AND a man prone to anger who ruled by will instead of reason. Shakespeare acknowledges this account by making Richard "royal, angry, petulant, shrewd, pious, and impious, with no definite judgment of the king as "good" or "bad."

[122] For opinions on Richard's psychological state at the end of the play, see Nicholas Grene, *Shakespeare's Tragic Imagination*, 1-10; E.K. Chambers, ed., *Richard II*, "Introduction"; Walter Pater, "Shakespeare's English Kings" in *Appreciations*, 200-201; Graham Holderness, *Shakespeare: The Histories*, chapter 8.

[123] Ernst Kantorowicz, *The King's Two Bodies,* especially 20-25.

[124] Robert Schuler's fascinating look at perversion in *Richard II,* which uncovers several instances of perversion that participate in the early modern discourse of witchcraft, provides another helpful context for my reading of Richard's self-awareness ("'Wandering with the Antipodes': Witchcraft, Statecraft, and Stagecraft in *Richard II*," *EIRC* 33:1 (2007): 27-63). Rather than focus on specific references to witchcraft, Schuler looks at moments of deliberate inversion as the play's participation in the dialogue of binary opposition. Richard becomes an agent of that inversion when he deliberately reverses *himself*—moving from tyrant, an image of the devil, to self-possessed martyr. Although my approach is different, I appreciate Schuler's reading of Richard as one who gradually recognizes who and what he is, arguing that he is not confused, empty, or morally degraded by the play's end. And this reading reveals Richard's realization that his identity is made of differing and sometimes contradictory parts, an insight that makes his character stronger and more capable of surviving Bolingbroke's usurpation (although he does not). Schuler points out, "Until 3.2, Richard's peculiar *embodiment* of theological politics has been (unconsciously)

perverted ('antic' in the demonic sense of grotesquely aping godly kingship). But as he becomes conscious of this in the scene's third aria, he also attains, along with this personal moral understanding, an insight into the Luciferian and thus morally preposterous nature of *all* rebellion and tyranny" (48). My point of agreement with this argument is that Richard does recognize the various aspects of human personality, and that at the end of the play, he is fully aware of the complexity of not only his own but human identity in general.

[125] Charles R. Forker, "Unstable Identity in Shakespeare's *Richard II*," 3.

[126] Ibid., 14.

[127] Ibid., 7.

[128] Paster, Humoring the Body, 23.

[129] Ibid., 14.

[130] An important perspective that emerges from this kind of consideration is Maurice Hunt's study of Richard's "shifting selves" throughout the play. Both essays explore the motif of *transition*, depending upon a presumption of plurality, between different parts of Richard's identity. It is very useful, I think, to consider the characters of the play as single entities made of various aspects, and here is where we are reminded of the usefulness of Kantorowicz's approach however misleading the specifics may be. In particular, Hunt looks closely at Richard's transition from king to pauper as the centralizing movement of the play, that of conversion from one thing to its opposite. In sum, he argues that through this transition, Richard reaches a poetic apex that is "authorized" by Pico de Mirandella's philosophy that man can only move between his antithetical identities because he is supremely imaginative. In *Richard II*, Shakespeare demonstrates that this movement among personalities can be "the catalyst of tragedy," and that Richard "eventually finds that the rich inner life made possible by the conversion of selves becomes disorienting, debilitating, and finally a paradoxical existence based on 'nothing'" (1). Hunt's picture of Richard's mind is one of constant movement, and his theory of Richard's identity is dependent upon the volatile interaction between his inner aspects. While I disagree that Richard is eventually forced to stop this mental movement from role to role, I take this useful way of looking at the concept of identity in the play into the realm of physiology, where I believe this picture of movement becomes clearer. In early modern medical theory we can find a solid basis for Shakespeare's construction of Richard, one that helps explain his vacillations, his melancholic temper, and

his inability to be king. Maurice Hunt, "The Conversion of Opposites and Tragedy in Shakespeare's *Richard II*."

[131] 5.5.3-4.

[132] Ibid., lines 6-11.

[133] Forker, "Unstable Identity," 14.

[134] 5.5.11-17.

[135] Ibid., lines 18-27.

[136] Ibid., lines 31-8.

[137] Ibid., lines 38-41.

[138] 2.1.24-9.

[139] Renaissance natural philosophers believed that the more often a man committed a vice, the more physiologically accustomed to vice his brain would become. As a result, a few cognitive scenarios are possible: either reason is weakened by the impure spirits, the will is emboldened by them, or both; the ability to reason is always positive and seeking goodness, while the will is a slave to base desires and appetites. Over time, if a person does not make a conscious effort to change his environment and thus the purity of his thoughts, his bad behavior could escalate, which I argue is a possible aspect of York's criticism here.

[140] 2.1.100-103.

[141] Ibid., lines 238-45.

[142] 2.2.14-20.

[143] Paleness was sometimes medically associated with strength of heart; it was believed that when the blood rushed away from the extremities toward the heart, his face would become pale and indicate a solid resolve. But in this instance, Richard interprets his paleness in another popular way, as indicating death. For an explanation, see De la Primaudaye, *FA*, ch. 39.

[144] 3.2.76-9.

[145] Ibid., lines 82-5.

[146] Ibid., lines 160-70.

[147] 3.3.68-71.

[148] Ibid., lines 95-100.

[149] Ibid., lines 133-9.

[150] 4.1.163-6.
[151] Ibid., lines 190-204.

[152] Ibid., lines 244-52.

[153] Ibid., line 275.

[154] Ibid., lines 283, 289.

[155] Ibid., lines 297-9.

[156] John Donne, "The Crosse," in *Complete English Poems*, ed. C.A. Patrides, 351-4. All poetry references are to line numbers in this edition.

[157] Reynolds, A treatise of the Passions, 10.

[158] John Donne, *The Complete Poetry and Selected Prose*, ed. Charles M. Coffin, 302. References are to page numbers.

[159] "The Crosse," 319.

[160] Teresa DiPasquale, *Literature and Sacrament*, 10.

[161] Young, Doctrine and Devotion, 81.

[162] Ibid., 91.

[163] Ramie Targoff, *John Donne,* 5.

[164] I use the order set forth by C.A. Patrides, which follows the *Poems* 1633 edition.
[165] "Holy Sonnet XIV," 1-4.

[166] John Carey, “Bodies” in *John Donne’s Life,* 131-66.

[167] John Roberts, ed., *Essential Articles: John Donne’s Poetry,* 93-106; Thomas Willard, “John Donne’s Anatomy Lesson: Vesalian or Paracelsian?”, 35-61.

[168] “The Will,” 37-8.

[169] Evelyn Simpson and George Potter, eds., *The Sermons of John Donne in Ten Volumes*, 2.6.16. References are to volume, sermon number, and page number.

[170] “A Valediction of My Name, in a window,” 21-30.

[171] “Sonnet IX,” 10-14.

[172] For a detailed look at Willis’ contribution to the history of neurology, Spillane, *The Doctrine of the Nerves*, chapter 3.

[173] Thomas Willis, *Practice of physick*, 96.

[174] In *Timaeus*, Plato expounds his idea of the organizing principle of the universe, which he calls the “demiourgos” or “one who works for the people.” This image of a universal creator pervades Renaissance writings on the creation of man’s body, decentralizing man’s role in the universe and emphasizing God’s power. John M. Cooper, ed., *Plato: Complete Works*, 1224-91.

[175] One of Herophilus’s most advanced theories was that the cerebellum is responsible for involuntary movements such as pulse, digestion, and respiration, and not the nerves. The development of this and other theories, and their importance to modern neurology, is discussed in detail by Heinrich von Staden in *Herophilus,* esp. the Introduction.

[176] John Wright and Paul Potter, eds., *Psyche and Soma,* 90.

[177] There has been some debate among medical historians over whether or not Galen thought the nerves hollow, especially the optic nerve. In the later twentieth century, it is universally thought that Galen only considered the idea but did not depend upon it for his theories of nerve action. For some perspectives, see Spillane, *The Doctrine of the Nerves*, 27-8; McHenry, *Garrison’s History of Neurology*, 17-23.

[178] Excerpt translated by John Cooke, *Treatise on nervous diseases*, 6.

[179] Vesalius writes, "We will not too anxiously discuss whether the spirit is carried along certain hollow channels of the nerves, as the vital spirit is carried by the arteries, or whether it passes through the solid material of the nerve, as light passes through air." *Vesalius on the Human Brain,* ed. Charles Singer, 9.

[180] Vesalius's most famous disagreement with Galen concerned the *rete mirable*, a net of blood vessels at the base of the brain in animals. When he dissected the human brain, Vesalius could not find such a structure, and he calls this Galen's largest error. On his several disagreements, see the Historical Preface to *On the Fabric of the Human Body*, ed. by Richardson, ix-xviii. Further references to text will be to book and page number

[181] *Vesalius,* ed. Singer, 1.

[182] Ibid., 6.

[183] Donne, Selected Prose, 469.

[184] It is important to note that Donne relies on John Calvin's theory that the Word of God is the path to apprehending the divine nature, but that Calvin would have disagreed with Donne's focus on the physical nature of human beings. See Calvin, *Institutes,* 1.2.

[185] Donne, Selected Prose, 468.

[186] "The Funerall," 5-8.

[187] Ibid., 9-14.

[188] *On the Affected Parts,* ed. Rudolph E. Siegel, 64.

[189] Although many critics argue over whether Donne read Vesalius, the *De Fabrica* is essential to understanding early modern conceptions of the brain and nervous system.

[190] *Vesalius,* ed. Singer, 2.

[191] "The Crosse," 57-8.

[192] Giovanni da Vigo, *The whole worke,* Fol. Iiii.

[193] *Vesalius,* ed. Singer, 60.

[194] *Fabric*, I.45.

[195] *Vesalius,* ed. Singer, 63.

[196] Galen prescribed to Aristotle's four causes when explaining causation for anatomy and physiology; further, he was admittedly confused about the relationship between matter and mind. See for example excerpts from *The Soul's Dependence on the Body* and *On the Passions and Errors of the Soul* in *Selected Works*, ed. and trans. P.N. Singer.

[197] Trevor, The Poetics of Melancholy, 50.

[198] Hoeniger, Medicine and Shakespeare, 80.

[199] Webster, Health, Medicine, and Mortality, 316.

[200] Clowes, *Selected Writings,*16-17.

[201] *Fabric*, liv.

[202] Temkin, *Galenism,* 168.

[203] "The Crosse,"17-18.

[204] Frontain, from "'Make all this All: The Religious Operations of John Donne's Imagination" in *John Donne's Religious Imagination*, 28.

[205] *Sermons*, 9.9.5.

[206] Shigehisa Kuriyama, *The Expressiveness of the Body*; Andrew Strathern, *Body Thoughts*; Thomas Laqueur, *Making Sex*.

[207] *Sermons,* 2.6.16.

[208] Poems, First Anniversarie, 185.

[209] *Sermons,* 9.13.2.

[210] *Opera Omnia,* trans. E.T. Withington, I.7-9.

[211] Synostosis is the premature fusion of bone to bone, and our modern understanding is that the *eta* suture pattern is normal and the others, producing the *tau* and *chi* patterns, result from this disorder. The *eta* patter is formed when the metopic suture separating the frontal bones, which are divided in infants, completely fuses. Larry A. Sargent, M.D., "Chapter 3: Craniosynostosis." http://www.erlanger.org/craniofacial/book/craniosynostosis/cranio_1.htm.

[212] Bicoronal craniosynostosis, which is the condition described lacking both prominences, currently affects only 12-29% of infants whose sutures prematurely fuse. This condition arises when the coronal suture fuses early. Jack Welch, M.D., "The Cranial Synostoses," *Pediatric Subjects*. <http://gucfm.georgetown.edu/welchjj/netscut/neurology/synostosis.html>.

[213] Rocca, *Galen on the Brain,* 90-91. Rocca here contrasts Galen's research, which was on ox brains and skulls, with that done on humans by later anatomists.

[214] "Holy Sonnet V," 1-4.

[215] On the Usefulness of the Parts, I.424.

[216] *Sermons,* 2.14.13.

[217] *Fabric*, lvii.

[218] Ferrand, *Treatise*, 256.

[219] Ibid., 257.

[220] Ibid., 311.

[221] *Salve Deus Rex Judaeorum* in *The Poems of Aemilia Lanyer*, ed. Susanne Woods, 769-70. References are to line numbers.

[222] Gen. 3:16 (Geneva).

[223] *Salve Deus*, 793-800.

[224] Thomas Vicary, *A Profitable Treatise*, no page number.

[225] Calvin, *Institutes,* III.22.218.

[226] Ibid., 219.

[227] *Salve Deus*, 249-52.

[228] Schoenfeldt, "Gender of Religious Devotion," in Shuger and McEachern, eds., *Religion and Culture*, 209-33.

[229] Ibid., 211.

[230] McGrath, Subjectivity and Women's Poetry, 212.

[231] Ibid.

[232] *Salve Deus,* "To the Vertuous Reader," 27.

[233] McGrath, *Subjectivity,* 212-13.

[234] Lewalski, *Writing Women*, 2.

[235] Ibid., 3.

[236] Ibid., 3-4.

[237] *Salve Deus*, 825-34.

[238] Ibid., 289-90.

[239] Ferrand quotes Ovid, *Heroides*, XIX. 5-7.

[240] Aristotle, *De generatione,* 4.6, 774b.

[241] Although some early modern physicians, most notably Vesalius, disagreed with some points of Galenic anatomy and physiology, Galen's authority was not seriously challenged until the late seventeenth century.

[242] Laqueur, *Making Sex,* esp. 101-102; Paster, *Humoring the Body*, esp. 80-84.

[243] On the Usefulness of the Parts, II.628.

[244] Ibid., II.630.

[245] *Opera omnia*, VII.616.

[246] "Coction" may refer specifically to digestion, or the process by which ingested food becomes waste material, or generally to any process of refinement or elaboration that alters a substance into another form.

[247] Ferrand, Treatise on Lovesickness, 311.

[248] Ibid.

[249] *Salve Deus*, 28-32.

[250] Ibid., 33-40.

[251] Ibid., 46-8.

[252] Ibid., 49-52.

[253] Ibid., 53-6.

[254] Ibid., 154-6. In the stanzas immediately preceding, Lanyer taps into the image of the masculine godhead in the Old Testament by presenting Jehovah as a raging storm god similar to Zeus or Jove.

[255] Lewalski takes the common argument that Christ is the "standard that validates the various kinds of female goodness her poems treat, and condemns the multiple forms of masculine evil." *Writing Women,* 226. See also McGrath, 226-31.

[256] *Salve Deus*, 543-4.

[257] Ibid., 809-14.

[258] Ibid., 787-88.

[259] Salve Deus, 781.

[260] Ibid., 805.

[261] Ibid., 1033-38.

[262] Ibid., 1057-63.

[263] Luke 1:26-56.

[264] *Salve Deus*, 1305-10.

[265] "Holy Sonnet XIV," 14.

[266] Selected Works, 61.

[267] Galen assumes Plato's theory of the unity of the virtues, that if a man disciplines himself enough to achieve one of the virtues, the rest will naturally follow.

[268] Selected Works, 150.

[269] Ibid., 153-4.

[270] Ibid., 155.

[271] The Passions of the Soul, tr. Stoothoff, 1.27

[272] *Cerebri Anatome*, tr. Pordage, "Preface to the Reader."

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