

Blessed be the Paps:
Early Modern English Medical Representations of Women's Breasts, Breast Milk, and
Breastfeeding

by

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Dalhousie University is located on Mi'kma'ki,
the ancestral and unceded territory of the Mi'kmaq.
We are all Treaty people.

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Dedication

To the girls

Table of Contents

List of Figures	v
Abstract	vi
Acknowledgements	vii
CHAPTER 1: INTRODUCTION	1
1.1 The Scope: Early Modern Medical Texts.....	6
1.2 The Breast Question	12
1.3 The Breast in Context	22
1.4 The Breast Chapters	45
CHAPTER 2: MEDICALIZING BREASTS	55
2.1 The External Breast	60
2.1.1 Terms	66
2.1.2 Symbols	73
2.2 The Internal Breast	86
2.3 The Illustrated Breast	97
CHAPTER 3: LIVING BREASTS	125
3.1 The Informative/Informed Breast	131
3.1.1 Defining the Breast	133
3.1.2 Reading the Breast	151
3.2 The Male and (Fe)Male Breasts	157
3.3 The Deformed, Dysfunctional, and Unwell Breast	171
CHAPTER 4: LACTATING BREASTS	192

4.1 The Anatomy of Breast Milk	197
4.1.1 The Production of Breast Milk	198
4.1.2 The Quality of Breast Milk Is Strained	209
4.2 The Nutritious and Sick-Making Breast Milk	222
4.3 The Early Modern Woman Debate Expressed	240
4.3.1 To Nurse or Not to Nurse	241
4.3.2 How to Choose a Nurse	253
CHAPTER 5: CONCLUSION	264
WORKS CITED	277
APPENDIX A: PERMISSIONS FOR COPYRIGHTED MATERIALS	314

List of Figures

Figure 2.1 Dissection, human breasts, “Nineteenth Table,” from William Cowper’s 1698 <i>The Anatomy of Humane Bodies</i>	88
Figure 2.2 Title page of Vesalius’ 1559 <i>Compendiosa totius anatomiae delineatio</i>	102
Figure 2.3 Title page detail, “Prudence,” from Vesalius’ 1559 <i>Compendiosa totius anatomiae delineatio</i>	103
Figure 2.4 Title page of Johann Remmelin’s 1675 <i>A Survey of the Microcosme</i>	105
Figure 2.5 Frontispiece of Giambattista della Porta’s 1658 <i>Natural Magick</i>	108
Figure 2.6 Frontispiece details, “Art” and “Nature,” from Giambattista della Porta’s 1658 <i>Natural Magick</i>	109
Figure 2.7 Complete frontal nude, male and female, from Vesalius’ 1553 <i>Compendiosa totius anatomiae delineatio</i>	113
Figure 2.8 Complete frontal nudes, male and female, seated, from <i>The Anatomie of the Inward Parts of Man</i> , Anon. ca. 1650	114
Figure 2.9 Complete frontal nude, female with dissected abdomen, from Helkiah Crooke’s 1616 [<i>Sômatographia anthrôpinê</i>].....	116
Figure 2.10 Complete frontal nude, female, from Johann Remmelin’s 1675 <i>A Survey of the Microcosme</i>	117
Figure 2.11 Dissections, female torso, from Vesalius’ 1553 <i>Compendiosa totius anatomiae delineatio</i>	119
Figure 2.12 Dissection, female torso, with explicatory table from Thomas Chamberlayne’s 1680 <i>The Complete Midwife’s Practice Enlarged</i>	120
Figure 2.13 Dissection, pregnant female with open abdomen, from Jane Sharp’s 1671 <i>The Midwives</i>	122
Figure 3.1 Mastectomy procedure, “Tabula XXXVIII,” from Johannes Scultetus’ 1674 <i>The Chyrurgeons Store-House</i>	179

Abstract

In this interdisciplinary study, I examine representations of women's breasts in early modern English vernacular medical texts and posit that women's breasts – as represented within these texts – are a visible and powerful site of contention in the debate about women and their bodies. Within the contexts of humoural theory, increased medical experimentation, and the transition from a theocentric to an androcentric worldview, women's breasts – the singularly female body parts – serve as the constant reminder of multiple medical understandings of female corporeality, allowing writers to attribute both negative and positive characteristics to women. First, I demonstrate a tension resulting from writers' difficulties in developing a new English scientific mode of discourse – terminology, symbols, descriptions, and illustrations – to present information to readers who were not university educated but required or wanted medical instruction. Second, I show that despite a lack of consensus on specifics, some writers delineate medical parameters dictating theoretical control over every aspect of women's breasts and imply the possibility of an ideal – albeit indeterminate – female breast, which may allow preventative care. Third, I demonstrate how the humoural idea of breast milk being concocted uterine blood is challenged in the mid- to late-seventeenth century as anatomical and mechanical discoveries provided evidence repudiating the theory. Fourth, I confirm that the texts reveal medical debate over the value of breast milk, some authors claiming it is poorly made, can easily be corrupted or cause illness and disease, other writers arguing that breast milk is nature's provision of infant nutrition that has medicinal properties. Finally, in analyzing the maternal/wet nursing debate, I show that medical writers stipulate variable guidelines to determine whether a woman is – or will be – a good or bad breastfeeder. The persistence of old texts intensified the lack of medical consensus at the very time that new medical and scientific ideas were being put forward. I conclude that writers of early modern English vernacular texts do not show a homogeneous understanding of women's breasts and breast milk demonstrated through these many issues.

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CHAPTER 1: INTRODUCTION

Suppose he had been Tabled at thy Teats,

Thy Hunger feels not what he Eats:

He'l have his Teat e'r long (a bloody one)

The Mother then must suck the Son.

(Crashaw, line 1-4 17; C1r)

In this 1646 sacred poem, metaphysical poet and cleric Richard Crashaw (1612-1649) retells a scene from Saint Luke's gospel: "And it came to passe as [Jesus] spake these things, a certaine woman of the company lift[ed] up her voice, and saide unto him, Blessed is the wombe that bare thee, and the pappes which thou hast sucked" (Luke 11.27).¹ The speaker of the words in the Bible and the lines in the poem praises the Virgin Mary's breasts – or "pappes" – as blessed by God, sanctifying maternal breastfeeding. In addition, the Bible and the poem reveal that Mary's presumably weakened post-delivery body produces milk to nourish the infant Christ.² Crashaw also claims Mary "feels not what he Eats" (line 2), neither physically feeling her milk flowing nor experiencing the pain often associated with breastfeeding.³ In line 3, Crashaw employs dual meanings of "teat" to illustrate the sacrificial bloodletting at the crucifixion

1. I have used the authorized English *Holy Bible* (1611) for all biblical references.

2. Immediate postnatal breastfeeding was a contentious issue, as will be discussed in Chapter 4.

3. Skin irritation, infection, bite lesions, and so on might cause painful breastfeeding. Further, even if breastfeeding is not painful itself, it stimulates contraction of the uterus, which can be as painful as active labour.

and the transition from earthly to spiritual sustenance. Christ's teat – meaning the chest or torso – is physically injured, spilling his blood.⁴ This action makes possible the figurative – or, for some, the literal – fulfillment of Christ's Last Supper dictum.⁵ Yet because, as we shall see, early modern medical theory indicated that breast milk was purified blood, the vision of Christ's bloody teat – meaning breast – at the crucifixion also provides the symbolic transition of nourishment from Mary's corporeal milk to Christ's spiritual blood.⁶ Consequently, the salvation provided by Christ's body and blood reimagined in the Eucharist inverts human biology and places the female lactating breast firmly in the corporeal.⁷

Through its Christian lens, Crashaw's poem introduces the foci of this thesis: women's breasts, breast milk, and breastfeeding. The tension created by the separation and hierarchical ordering of corporeal and spiritual nutrition, the implication that Mary is the surrogate provider of nutrition, and the relative qualities of milk and blood reflect the discord in early modern medical understandings of women, their bodies, and their

4. "[O]ne of the souldiers with a speare pierced his side, and forthwith came there out blood and water" (John.11.34).

5. The drinking of Christ's blood is literal for Catholics who believe in transubstantiation. In the late twelfth century, French poet Robert de Boron (or Borron) composed his poem *Joseph d'Arimathe*, suggesting that Joseph of Arimathea – the man who claimed and entombed Jesus' body – collected a few drops of Christ's blood in the Holy Grail.

6. For an excellent analysis of medieval Marian thought see Beattie *God's Mother, Eve's Advocate*. See also Bynum's *Holy Feast and Holy Fast* for a thoughtful study of women in relation to Communion.

7. Consider the inverted birth narrative in which God, always portrayed as male, creates Adam in his own image (Gen. 2.7), but makes woman from man's flesh: "And the rib which the LORD God had taken from the man, made hee a woman, & brought her unto the man" (Gen. 2.22). Such biblical precedents reinforce the superiority of the male body.

breasts.⁸ My analysis of the widely available and highly popular vernacular medical texts demonstrates how medical writers and illustrators composed and disseminated theoretical arguments within the wider English patriarchal culture.⁹ Further, changes in medical methodology, discoveries from anatomical observation, and, indeed, transitions of worldviews from the beginning of the sixteenth century to the end of the seventeenth began to provide opportunities for perceiving human bodies in different ways.¹⁰ As part of the women question, new understandings of women's bodies – within which male fears of sex change and body instability could arise – began to dismantle theoretical medical arguments.¹¹

8. Remember, however, that after the Reformation multiple Christianities arose: “For more than a decade, the religious turn in early modern studies has contributed mightily to the ongoing, vigorous investigation of the social processes at work in early modern England, and their cultural effects: from the struggle over religious rites and doctrines, to the persecution of secret adherents, to forbidden practices. So far, the issues of religious pluralization and the divisions between Catholic and Protestant positions, among sectarian movements, or between the Church and the state, have been debated mostly in terms of dissent and escalation” (Baldo and Karremann 1).

Although J. Kelly contends that the term “Querrelles des Femmes” has been in usage since at least the fifteenth century (“Early” 4), the term also applies to eighteenth century and Victorian political and social debate about women. See also Purkiss, “Material Girls: The Seventeenth-Century Woman Debate.”

9. This study does not investigate the processes of anatomizing, reading the body, or transferring knowledge from the body into text. Rather, I am analyzing the ways writers and illustrators – claiming medical authority – presented information about women's breasts, breast milk, and breastfeeding to the literate public. Also note that not all writers of these texts had medical training. See section 1.1 for a discussion of early modern English medical texts.

10. In the early modern period, the structure of the very universe was changing. In 1588, Danish astronomer Tycho Brahe posited his heliocentric system in *De mundi aetherei recentioribus phaenomenis liber secundus* (*Second Book about the Recent Phenomena in the Celestial World*).

11. One must remember that most early moderns did not conceptually differentiate gender and sex. However, the changeability of biological sex and social gender

Despite the marked shift in medical representations of women's breasts away from those of earlier periods, scholarship on early modern English medical texts has questioned interpretations of women and their bodies emphasizing the uterus and menses with limited consideration of women's breasts.¹² Thus, inadequate analysis exists regarding medical textualization and illustration of – as well as anatomical knowledge and advice about – women's breasts, all of which contributed to changes in early modern interpretations of women and their bodies. Taking analysis of these texts in a new direction by focusing on women's breast anatomy and function, my research questions previous academic views about early modern hegemonic control of women's bodies in popular medical discourse. Discursive insistence on the inferiority and subjugation of women does betray a male anxiety in early modern English male consciousness.¹³ In my analysis of these medical texts, however, I show that to interpret these medical texts as

identification was within their cultural awareness. For example, in Philip Sidney's *The Countesse of Pembrokes Arcadia* (1590), cross-dressing by men and women provides multiple cases of (successful) gender deception. Further, in *The Blazing World* (1666), Margaret Cavendish inverts the established gender dynamic by making women – and fictional representations of herself – the absolute rulers in her story world.

12. For example, Sugg writes that the uterus and female testicles provided a gendered “fantasy acceptable to men, while conveniently excluding more unnerving and unknowable qualities” (124) of female genitalia, invisible even during dissection. For some anatomists, “female identity is totally represented by the uterus” (Thompson 93).

13. Rogers proposes, for example, that the early modern “patriarch's haunting fear that woman is more powerful than man, and hence she will enslave him completely given the slightest opportunity” (105) is dissipated through the forced construction of women as innately inferior and in need of male authoritative control. Further, B. S. Turner suggests, “Because the government of the body is in fact the management of sexuality, the issue of regulation is in practice the regulation of the sexuality of women by a system of either patriarchal or patristic power” (*Medical* 99). Even Queen Elizabeth I's authority depended “on the self-containment and self-control of the Virgine-Queen” (Belsey and Belsey 157).

homogeneously misogynistic or writers as uniformly endorsing the inferiority and subjugation of women is highly problematic because, in fact, the texts provide heterogeneous understandings of women and their bodies, as well as their breasts, breast milk, and infant feeding practices. Further, many medical writers showed legitimate professional concerns for – and personal attitudes towards – women’s and children’s health as medical knowledge – if not practice – continued to advance.

Although primarily a close reading of the early modern English vernacular medical texts – allowing as best one can for the texts to speak for themselves – my thesis is interdisciplinary. Specifically, I combine the textual analysis of literary criticism, the methodology of the history of medicine, the body theories of feminism, and the cultural assessments of early modern English history. My primary goal in this dissertation is to demonstrate how and why writers negotiated – and delivered – their understandings of women’s corporeality and functioning through their depictions and discussions of breasts, breast milk, and breastfeeding practices rather than the more commonly investigated female body part, the hidden and mysterious uterus. *In toto*, my investigation shows that although the early modern English vernacular texts disseminate important medical information about women’s – and men’s – breasts, lactation, and breastfeeding to their readers, that information is not homogeneous among writers. Further, classical ideas about the inherent inferiority of women and their bodies, religious and cultural constructions, and overlapping of old and new theories and experimentation complicated medical understandings of the appearance, structure, and functioning of women’s breasts. Additionally, my thesis demonstrates that twenty-first-century scholarship requires a

change in its assumptions about early modern medical thinking, taking critical analysis back into the texts as they spoke to early modern readers.

1.1 The Scope: Early Modern Medical Texts

The new and expanding medical book trade in England during the sixteenth and seventeenth centuries enabled dissemination of knowledge about human bodies to a degree never before imagined.¹⁴ This dissertation examines anatomical descriptions of and discussions about women's breasts, theories about the production and composition of breast milk, and recommendations for breastfeeding practices in vernacular medical texts widely available in early modern England.¹⁵ My analysis furthers scholarly understandings of early modern medical representations of women's – and men's – bodies from a distinct perspective because male and female breasts are structurally – and potentially functionally – the same rather than complementary.¹⁶ As I will show, these

14. As part of humanist education, “The male elite was educated in Latin but they increasingly expressed themselves publicly in Italian, French, German, Spanish, and English” (Mack 22). Not surprisingly, then, medical texts were being published in these languages in the early modern period, with various locations excelling in medical education, notably Paris, Padua, and Leiden. For example, R. Carter states, “Padua played a principal role in the dawn of medieval science and practice in northern Italy and intense intellectual activity placed that region at least half a century ahead of northern Europe” (“Assassination” 325). Consequently, several English medical students travelled to the continent to learn at the hands of the European masters.

15. Melançon argues that scholars should look to these texts as “knowledge creating devices” (4). Further, she writes, “the importance of style, the nature of the genre, and the context in which [the texts] were created” (5) reflect how writers distributed information to the reader.

16. Scholarship on women's bodies in these texts tends to be uterocentric, comparing the structural and functional relationships between the complementary male and female reproductive organs.

depictions of female breasts provide invaluable insights into the way writers and illustrators interpreted and disseminated information about the female body within the wider context of English patriarchal culture. Despite the increasing availability of medical anatomies, the amount of material on women's breasts is variable among texts – some writers providing a wealth of detail, others omitting women's breasts altogether in their catalogues of human body parts.¹⁷ However, other medical texts, such as midwifery manuals and herbals, also contribute information about women's breasts, milk, and lactation. Thus, various texts are available to examine how – and why – medical thinking about women and their bodies evolved throughout the early modern period in England. Here I will briefly describe the medical text marketplace and explain how I chose the set of texts examined in this study.

The number of works that became available in the early modern marketplace reflects growing popular demand for medical texts in English. By 1600, there were about 150 medical books written in English, with about 400 editions available (Hoeniger 35). Furthermore, by the beginning of the seventeenth century, medical books and works containing general medical information for professionals and literate members of society became increasingly popular (H. S. Bennett, *1603-1640* 140). In part, the demand for

17. For example, even though “accomplished” physician Samuel Collins (bap. 1618-d. 1710), who “stood foremost among his contemporaries, whether at home or abroad, in his knowledge of comparative anatomy” (Thompson Cooper, “Collins”), discusses women's genitals but never discusses female breasts in *A Systeme of Anatomy* (1685). In addition, anatomy writers often organizationally fragmented women's breasts from discussions of the human body: male body parts described from the top of the head to the feet, women's breasts relegated to separated sections on childbirth. See Chapter 2.

medical information in the period was high because “self-medication was part and parcel of a comprehensive lay medical culture” (Porter, “Patient” 97). Although Latin had long been the universal language of scientific and medical writing, early modern English medical professionals – and other writers – authored vernacular medical treatises for an audience of university and non-university educated practitioners as well as literate people who may not have had access to medical professionals.¹⁸ Indeed, the demand for English vernacular medical knowledge, which varied enormously according to particular circumstances, “was widespread across society” (Wear, *Knowledge* 21) throughout the period as printers began to produce texts – as well as reprinted editions with and without emendations – that “attract[ed] the attention of the ordinary citizen” (H. S. Bennett, *1603-1640* 142). In addition to new vernacular works, translations of Latin texts, including classical works, appeared in the medical marketplace.¹⁹ Finally, given the advanced

18. The term “practitioners” indicates men and women who used and developed early modern medicine; “doctors” or physicians had university training and high social rank, “surgeons” were trained through a seven- to nine-year apprenticeship, “barber-surgeons” performed menial tasks such as shaving and blood-letting; in the country, churchmen and some “charitable ladies of the aristocracy” performed medical tasks (Hoeniger 17). In addition, “surgeons” set bones and “apothecaries” dispensed medicines and sometimes prescribed them (Porter, “Patient” 93), while blacksmiths and ferriers drew teeth and set bones, and “nurses” or “wise women” functioned as midwives and herbalists (94). Non-licensed practitioners were often suspect, and variously called quacks, mountebanks, charlatans, itinerants, rogues, grocers, drug pedlars (94) and witches. Licensing was regulated loosely and many practitioners – including most midwives – were unlicensed. “The practitioners were the first ever of the medical groups to be regulated by the creation of licensing bodies” (Raach 214) in 1511, followed by the practice boundary rule of London plus seven miles beyond in 1522. See also Cook’s *The Regulation of Medical Practice in London under the Stuarts, 1607-1704* for a discussion of medical licensing in the seventeenth century.

19. The extent of the Latin medical book trade is, as Farmer notes, “difficult to determine” (59). Further, Farmer suggests that Latin books were less popular and made

research in Europe widening the scope of medical knowledge, translations of continental vernacular works also became popular.²⁰

Of those medical texts available publicly, several anatomies emerged in book-length works.²¹ In addition, as Vivian Nutton indicates, “far cheaper, and far more widespread, were the so-called anatomical fugitive sheets that were issued from 1538 onward by printers around Europe. These were usually produced in pairs, one of the male anatomy and the other of the female” (“Representation” 78). As well, anatomical lectures came already “digested for the busy practitioner” (H. S. Bennett, *1558 to 1603* 145).²² The early modern period also witnessed a proliferation of midwifery and obstetrical manuals with sixteen texts on midwifery/gynecology identified by Lisa Forman Cody, “plus several more general works on sexuality and birth” published “between 1640 and 1700” (xi). Not surprisingly, works on midwifery and obstetrics provide much information about women’s breasts and breastfeeding practices. In addition, the Royal Society of London began publishing *Philosophical Transactions* in 1665, its articles

less money than their vernacular counterparts (59).

20. Significantly, vernacular texts from Europe translated into English increased the risk of perpetuating inaccuracies because “the level of competence in translation was much more various than is often supposed” and translators were not “concerned whether or not the work was made from the original or from a translation” (H. S. Bennett, *1558 to 1603* 103). Further, translators’ names often replaced the names of original authors, booksellers advertising the texts as new works written by English writers. Note that in some cases the “author” is, in fact, a compiler of knowledge by one or more older writers.

21. Although Braidotti suggests that “the establishment of clinical comparative anatomy in the modern era is very significant because it points out the rationalistic obsession with visibility” (73), the Royal Society and writers of medical texts emphasized the importance of written descriptions and discussions of body parts.

22. Wealthier readers purchased large volumes while those with lesser means obtained condensed texts, pamphlets, broadsheets, and fugitive sheets.

developing “from the communal correspondence which was common among its members” (Gotti 204).²³ Moreover, the period saw increasing numbers of printed recipe (also called receipt) books and herbals that not only offer cures and treatments for diseases and ailments of women’s breasts, but also indicate the use of women’s breast milk in the healing of other diseases.²⁴ Clearly, information about women’s breasts can be gleaned from a variety of medical subgenera.

Establishing a set of works for this investigation hence became a process of inclusion using two criteria across the entire early modern English medical canon published between 1500 and 1700.²⁵ The first of those criteria was content. I examined

23. Initiated by Henry Oldenberg, Secretary of the Royal Society, *Philosophical Transactions* (also briefly called *Philosophical Collections*) was published sporadically between 1665 and 1848. According to Kronick, “It quickly became the preeminent scientific journal of the seventeenth century and maintained that position throughout the following century” (243), even though each issue had a sizable portion of non-scientific entries (248). Further, some entries were published in Latin (254), limiting their readership. Moxham explains other problematic aspects of the journal: items in the early *Transactions* were often compilations of various anonymous sources (245); “almost half the material in *Transactions* between 1665 and 1677 was never communicated to the Royal Society” (244); and content did not represent accurately the discoveries and information of the Society’s members (243). The Society’s manuscript register, however, records the “ownership of experimental knowledge production and of research” (243). See, for example, the collected letters of Smycotts *et al.*

24. Also available in English were surgical books for field surgeons on the battlefield and explicatory texts of medical and technological developments. Obviously, these works did not hold information about women’s breasts.

25. I do not mean to suggest that medical theory, practice, and writing remained constant throughout a two-hundred-year span. Indeed, consulting texts spanning this breadth of time allows for some consideration of the changes in medical knowledge and discourse occurring in the early modern period. The period between discovery and public dissemination through print, however, was highly variable, delaying public reception of such changes. Further, the reprinting of old editions – especially those falsely claiming to be new or emended – may have prevented readers from learning about medical and technological developments.

general medical works, anatomies, receipt books, and herbals, along with household books, almanacs, and texts discussing specific illnesses, groups of illnesses, body parts, or diagnostic methods for content relating to women's breasts, milk, and breastfeeding. I eliminated texts if unrelated to the current study, as well as political position papers, argumentative diatribes, parodic tirades, service and drug advertisements, statistical pamphlets such as plague death notices, and works that did not have specific sections devoted to medical theory or anatomy. After content, the next important criterion for inclusion was accessibility. All the works considered here were available in English to literate consumers.²⁶ Also included are works translated from Latin and continental languages as well as texts originally published prior to 1500 reprinted in English in the sixteenth and seventeenth centuries.²⁷

Given the immense number of extant works currently available, I cannot claim to include all relevant works or even to know whether I have accessed all of them. The subset of medical texts examined here is diverse and sizable, however, and provides a broad sample of early modern English vernacular textual material on women's – and

26. Buchholz and Key claim that by 1550, nearly all members of the elite class were literate (161). Literacy in early modern England, however, could mean “the ability to read simple print” (Ford 23). It is impossible to know the extent and level of literacy or the reading experience of early modern English people. Furthermore, illiteracy did not necessarily exclude people from acquiring medical knowledge, which a literate individual could disseminate orally.

27. I give the English title and date of the text used in this analysis when it is a translation. Where possible, I also give the name(s) of translator(s). I have tried to obtain and read the quoted passages in their original languages, but often this was not possible. Further, to avoid repeating “the translator of [writer] says” I will only refer to known translator(s) on first mention.

men's – breasts.²⁸ Note that throughout the sample considered here, and indeed the entire set of medical works, plagiarized materials, uncertain authorship, inaccurate translations, and editorial intrusions complicate the bibliographic apparatus.²⁹ I address these issues as needed throughout. I have followed the information on title pages of individual works, supplemented by that gleaned from *Early English Books Online (EEBO)*, as noted.³⁰

When I quote from early modern texts, I retain original spelling and punctuation except for minor typographical adjustments.

1.2 The Breast Question

“Medical stories are also always social stories” (Kerwin 1).

Since the so-called third wave of feminism in the 1980s and '90s, feminist scholars have been analyzing, increasingly and with widening scope, issues of sex, gender, and the body in various genres of early modern English writing.³¹ Despite the

28. In addition, I have documented texts that might have had, but do not have, materials related to women's breasts, breast milk, and breastfeeding. In total, I examined more than two hundred early modern English medical texts.

29. Compilers of old texts altered and rearranged materials as well as introducing new material without explanation or accreditation (Considine 497). Olson concludes that “the revision of texts in reprinted books was often a response to commercial demands” (619) and unsold books were “repackaged” and sold as “emended” or “corrected” “deceptively portraying it as a completely different book” (619). These practices explain some of the anomalies observed in the texts, such as multiple title pages in one volume, two or more books within an edition with incompatible paginations (and often accredited to the author of the first work in the series), and incorrectly ascribed origins of materials. See Lanska and Lanska regarding plagiarism of illustrations.

30. I have placed bibliographic information from *EEBO* in brackets.

31. Studies of women in early modern English literary genres, for example, have contributed in many ways to the understanding of cultural perspectives about women,

difficulty in historically locating constructions of any body, Jane Pilcher and Imelda Whelehan claim, “Embodiment represents the current moment, in conceptualizing the body” (14). Further, they argue that “the tension between the body as ‘real’ and the body as discursive remains a key axis of debate within gender studies” (14).³² Significantly, Marlena Kubisz writes that literary “[r]epresentation of the breast deprived of sexual connotations continued till the second half of the fifteenth century, when the naked breast acquired an explicit sexual meaning” (64) in response to the humanist shift from theocentrism to androcentrism.³³ As Pilcher and Whelehan suggest, such representations “tell us something about how women’s lives are valued and the difficulties in being represented” (139). Further, because of the fundamental connections between the medical discourses and their cultural contexts, feminist scholars, Elizabeth Grosz claims, “need to reconsider representational forces in their impact on the mediation of the real” (“Future”

their bodies, and their breasts. In the blazon poetic form, “women were pictured by means of a catalogue of interchangeable rhetorical tropes behind which the concrete body vanished almost completely” (Scholz 59) – the woman in parts only. In his analysis, Huebert locates six categories of woman’s breasts in early modern literature: pleasure, immodesty, temptation, nourishment, Christian charity, and socio-economic difference (205).

32. Commenting on early modern Italian art, Ames-Lewis writes that during the early modern period, writers and visual artists were concerned with mimesis: “the classical belief that nature must be the primary source of the artist’s inspiration” (198).

33. Humanism developed out of the study of classical texts. “Above all,” Mack writes, the goal of humanists “was to become, and to enable others to become better people, through their understanding of the greatness of the classical past” (20). Further, “The Renaissance is marked by widespread writing about educational reform” (Mack 20). Although “Juan Luis Vives, Desiderius Erasmus, and Thomas Elyot, three important humanists, all viewed women as spiritually equal and argued for the education of at least upper-class girls,” writes Wiesner-Hanks, “[n]one of them thought this spiritual equality should translate into political equality or even total mutuality between spouses” (25).

19-20).

The present study, therefore, illuminates this important aspect of early modern English discourse about women, their breasts, breast milk, and breastfeeding within a significant paradigm-shifting agent of the period: popular vernacular medical texts.³⁴ The strength with which gendered ideologies contributed to the *a priori* assumptions of writers and the extent to which these writers disseminated gendered knowledge to the populace demands analysis of early modern representations of women's corporeality – and particularly women's breasts – within the genre of popular medical texts.³⁵ The varying degrees to which medical writers and illustrators working within the wider English patriarchal culture ranked women below men according to inferior and essential female corporeality – if they did rank women in such a way – also requires further examination. More specifically, in descriptions and discussions about breasts, breastfeeding, and breast milk, these texts may reflect what Pilcher and Whelehan call “objectionable” (139) images of women; yet these texts might reflect favorable images of

34. See section 1.1.

35. For example, in an English edition of *The Secret Miracles of Nature* (1658) by Dutch physician Laevenus Lemnius (1505-1568), the translator writes, “Since therefore the terms are an excretion of superfluous blood, which the weakness that sex can neither concoct by heat, nor discusse by exercise, it must needs break forth by the Moons urging of it at a set time; and by the running out thereof the body is cleansed, and if it chance to be stopped longer; it growes venomous by corrupting. But it is not so in Nurses, or women with child” (31; G4v). This brief quotation is dense with medical assumptions – and astrological connections – that support beliefs about the natural inferiority of women's bodies: excess humours, feminine weakness, inadequate body heat, expulsion of a dirty excremental, internal self-corruption, and the connection between the uterus and breasts. The association with the moon also alludes to a popular symbol of early modern women: Diana (Latin) or Artemis (Greek) as will be shown in Chapter 2.

women, their bodies, and their functionality.

As Kathryn Schwartz has amply demonstrated, early modern breasts were the only exclusively feminine part of the female body with no analogous male part (4) – or, at least, no functionally analogous part.³⁶ Medical writers who described women’s reproductive organs in masculine terms and as inversions or inferior complementary configurations of male body parts could not describe women’s breasts in the same way because women’s and men’s breasts are physically the same – that is, they are made of the same tissues and one is not an inversion of the other. Further, as Rosi Braidotti states, while women’s genitals seemed menacing to early moderns because “there is *nothing to see* in that dark and mysterious region” (66; emphasis original), women’s breasts were not obscured in the same way as the female genitals or sometimes at all.³⁷ In fact, women’s breasts were acceptably discussed and sometimes fashionably displayed.³⁸ I posit that women’s breasts, as presented in English vernacular medical texts, were visible and powerful markers of femaleness and women’s worth in the early modern debate

36. If, as some writers suggest, men can lactate, male and female breasts are functionally the same or at least similar. See Chapter 3.

37. McClive suggests that the focus on the female interior “may be the result, in part, of a relative lack of early modern curiosity about the male body in comparison with the glut of interest in the elusive, secretive female body, which was so intimately connected with paternity and patriarchy” (45).

38. By the late sixteenth century, “Fashionable breasts remained modest in swell, but now the elegant neckline descended to expose the upper portion, sometimes the nipple as well” (Hollander 108). “[A]round 1610, it became fashionable to expose the breasts completely, using rouge to set off the nipples against artificially whitened breasts” (Lueke 250), and in the early seventeenth century, “the bosom demanded more exposure than compression and the bosom began to look as if it might escape” (Hollander 206).

about woman.³⁹ Examining the strategies employed by writers and illustrators who described or defined women's breasts, breast milk, and breastfeeding, this study considers images invoked in both written descriptions and illustrations, analyzes the links between women's corporeality and medical discursive constructions – especially of breasts – and points to the cultural perceptions that informed early modern English medical understandings of women and their bodies.

This study, then, seeks to advance scholarly understandings of the multiple and changing medical views of women disseminated to the literate public from an interdisciplinary perspective that addresses some of the issues associated with the early modern debate about women and their corporeality in England. Several questions immediately come to mind. What do women's breasts and medical representations of women's breasts reveal about the tensions surrounding the early modern notion of woman in important aspects of English culture? Was the notion of the inferiority of women maintained in vernacular medical texts throughout the early modern period? Do medical discourses address the crumbling foundations upon which female inferiority was based? Can writers working within English patriarchal culture develop arguments that suggest

39. One example of the literary back-and-forth within the debate about women is the publishing of Joseph Swetnam's (d. 1621) misogynistic *The Arraignment of Lewd, Froward, and Unconstant Women* (1615) and Rachel Speght's (b. 1597) rejoinder in *A Mouzell for Melastomus* (1617). In addition, several proto-feminist works by women were published, including *The Countess of Montgomery's Urania* (1621) by Mary Wroth (1587-1652), *The Tragedy of Miriam* (1662) by Elizabeth Cary (1585-1639), and *Oronoco* (1688) by Aphra Behn (b. ca 1640-1689), that led up to the publication of eighteenth-century feminist philosophical texts, such as Mary Wollstonecraft's (1759-1797) important treatise *A Vindication of the Rights of Woman* (1792).

female parity? Unequivocally, what we will see throughout these texts is a lack of consensus about every aspect of medical inquiry related to women's breasts, breast milk, and breastfeeding.

Importantly, I find a shift in the medical representations of women's corporeality almost halfway into the seventeenth century. Closer medical and experimental examination of women's breasts through anatomization and vision aided by advances in telescope technology began to discredit early modern and historical medical arguments espousing the innate inferiority and subsequent subordination of women and their bodies. Consequently, crumbling established paradigms allowed for construction of new models of human bodies, destabilizing the relative worth of female and male bodies. Despite advances in anatomy, scientific methodology, and visual technologies, however, the deeply ingrained patriarchal ideology in early modern English culture, in part, made the elevation of women a slow and challenging task. By the end of the seventeenth century, medical perspectives about women remained multiple with no unified theory of female corporeality – or parts of the female body such as the breasts.⁴⁰

Contemporary feminist scholarship would suggest that the endurance of the inferiorization and subjugation of women by men reveals much about what Siobhan Keenan calls the “pervasive anxiety about masculinity” (21), an anxiety that considers

40. Regardless of the seventeenth-century intellectual shift through which “the structure of the body rest[ed] quintessentially on ocular demonstration of natural phenomena” (Roberts and Tomlinson 125) and the decline of Galenic medicine in favour of “chemical and mechanical explanations of the body” (Wear, “Making” 120), medical practice – particularly that of uneducated practitioners – did not change significantly.

masculinity as unstable and not superior to femininity. Extending one step further, the fear experienced and expressed by early modern humans was “that woman is more powerful” (Rogers 105) even though early modern English culture placed men firmly in the position of dominance. Power, however, is unstable and always subject to threat – here, as the functioning and more developed breast.⁴¹ Resulting male anxiety could manifest medically as well as politically, socially, and culturally. If, as Susan Dwyer Amussen states, “Gender is the process by which meaning is given to the perceived biological differences between women and men, a process that turns biological facts into social relations” (4), then writers must conceptualize biological fact ideologically as well as scientifically. Consequently, Lisa Isherwood concludes that “what is at stake in the struggle for control over the body is power and social relations” (22) rather than mere biological understanding, the models for which supplied several arguments to buttress men’s superiority to and authority over women in a nation that had long been based on patrilinear succession. Yet writers of early modern medical texts in English had a vested interest in developing women’s and children’s medicine and disseminating that knowledge to maintain a healthy and powerful nation. Accordingly, many works commend the functionality and beauty of women’s breasts as an example of the

41. Further, P. Carter poignantly states, “How women manage their breasts is a major indicator to themselves and others of how they manage their sexuality” (*Feminism* 149-50). By extrapolation, how medical writers manage women’s breasts is an indicator of how they manage women’s sexuality – another potentially threatening aspect of women’s corporeality. Yet diverse medical interpretations of women’s breasts – as what we might now identify as the uniquely female sign of alterity – represent only some writers’ perspectives of women and perceptions of female inferiority and morality.

perfection of nature's/God's creation in supplying nutrition for offspring. The anatomization and investigation of women's body parts had the potential to elevate women's intrinsic worth through clearer medical understandings of women's breasts. Further, such examinations and subsequent vernacular distribution of information could empower women by educating them about their own bodies and allowing better medical care by non-university educated practitioners as well as women themselves.⁴²

In addition, male writers did not exclusively develop representations of women's bodies. One might intuitively consider that women writing on women's breasts, breast milk, and breastfeeding would be caught between the strongly held ideas presented in the many medical texts written by men and their differing interpretations of the female body and experiences as women.⁴³ However, much of the material written by women – of which precious little was published – repeatedly copies large passages about the female body verbatim from male authored texts. This practice is true of the only known published female-written midwifery manual in early modern England: Jane Sharp's 1671 *The Midwives Book*.⁴⁴ On the other hand, other works that appear to be male-authored

42. In *De morbis foemineis: The Womans Counsellour* (1657) – the English version of German physician Alessandro Massaria's (1510-1598) *Praelectiones de morbis mulierum, conceptus et partus* (1600) – translator R. T. writes that the work is now set forth “plainly into the *English* tongue, that the women themselves may be their own Physicians” (6; B3r-v).

Massaria, professor of practical medicine in Padua ca. 1587, was against what Martin calls “astral causation” of illness (“Medicine” 7). “He argued that celestial bodies influence only light and motion and that astrologers had adopted a forced and inaccurate reading of Galen when they maintained the existence of occult celestial influences” (7).

43. Wheale suggests that “between 1580 and 1720 about 300 women have been identified a working as stationers” in England (61).

44. Jane Sharp frequently mocks theories and commentaries in male authored texts,

may, in fact, be translations, copies, or partial copies of texts written by women.⁴⁵ For example, the anonymous text *The Compleat Midwife's Practice Enlarged* (1663 – a third English edition) is likely a translation of the works of “Louys Bourgeois, Midwife to the Queene of France” – later Louise Boursier – according to an engraving that appears on the title page.⁴⁶ Further, Patricia Crawford argues that W. M.'s *The Queens Closet Opened* (1663) – the title page claiming to have been “Transcribed from the true Copies of her Majesties Own Receipt Book” – was written by a woman, as were other anonymous texts (251). Medical practitioner Sarah Jinner (fl. 1658-1664) penned several almanacs for several years, such as *An Almanack Or Prognostication for the Year of Our Lord 1658, Being the Second after Bissextile or Leap Year* (1658).⁴⁷ Despite her occupation, however, there is no evidence she wrote about anatomy. Also, professional writer Hannah Woolley (1622-ca.1675) wrote at least five texts in the mid- to late-

believing that men lack first-hand (medical) experience of women's bodies. In addition, she often reverses the causal relationship of male and female body parts to explain that men's body parts were made to complement those of women. Nothing is known about Sharp other than her claim to have been a midwife for twenty years (*Midwives* Title page).

45. See also Weber's article “Women's Early Modern Medical Almanacs and Historical Content.”

46. Although Louise Boursier (née Bourgeois) did not receive her midwifery licence until 1598, Klairmont-Lingo writes, “In 1593, she began delivering the children of the poor and wealthy alike in her Left Bank neighborhood; her obstetrical prowess became well known, and she claims to have attended over 2,000 births within 15 years”

(“Biography”). Importantly, as Beal writes, “Boursier was the first woman known to write midwifery textbooks in Europe,” her French text *Observations diverses* (Paris, 1609) being printed more than sixty years before Jane Sharp's English manual. At least five editions were published between 1684 and 1700, including Peter Chamberlen's 1665 *Dr. Chamberlain's Midwives Practice* and Thomas Chamberlayne's 1680 text, *The Compleat Midwife's Practice Enlarged*.

47. See Thauvette's “Sex, Astrology, and the Almanacs of Sarah Jinner,” for example.

seventeenth century, including *The Gentlewomans Companion* (1673) and *The Ladies Directory* (1662), that gave medical advice to women. The Countess of Kent (Elizabeth Grey; 1582-1651) is credited as the compiler of medical recipes for the text *A Choice Manual or Rare and Select Secrets in Physick and Chyrurgery* (1653). Further, several writings on midwifery, women's medicine, and childcare were distributed in private letters and recorded diaries, as was Elizabeth Clinton's *The Countesse of Lincolnes Nurserie* "originally written in 1622 as personal correspondence between female family members" (Lueke 238).⁴⁸ The print copy of Clinton's text provides valuable insight about whether a father/husband or mother/wife should be responsible for breastfeeding decisions from the perspective of a woman of nobility.

Although some of the texts under investigation here express biased medical perceptions about women's corporeal structures and functionality, overall, the works do not reach consensus regarding the value of women's breasts and breast milk, women's bodies in relation to men's, or the validity of any particular model of human corporeality. This inability to reconcile observations through advancements in medical technologies and new investigative protocols with established medical paradigms implies a degree of influence by the existing patriarchal framework in England. To some measure, then, pre-existing hierarchical dichotomies that not only privileged men but also reaffirmed the male body as the ideal human form shaped the discourses in these vernacular texts – particularly in those from the sixteenth and early seventeenth centuries. Even so, appeals

48. Clinton, Countess of Lincoln (later Dowager Countess) bore eighteen children.

to inversions of male body parts or inferiority to male bodies could not be applied so easily to women's breasts. By the mid- to late-seventeenth century, writers began incorporating new and significant anatomical and experimental discoveries proving that the physical connection between the breasts and uterus did not exist. These invaluable contributions to anatomical knowledge necessitated a new paradigm about women's bodies, one that begins with re-evaluating women's breasts, breast milk, and breastfeeding practices. Nevertheless, despite the development of medical theories that showed women's corporeality differently than in earlier paradigms, change did not necessarily translate into the cultural elevation of women in England.

1.3 The Breast in Context

“[T]here are always multiple and competing discourses that thwart any move to pin down a unified account of how the body has been historically constructed”
(Shildrick 30).

This analysis of vernacular medical representations of women's breasts, breast milk, and breastfeeding practices in England requires contextualization within the ideologies strongly influencing early modern medicine. Understandings about the workings of the human body and soul developed partly out of ancient natural philosophy re-introduced and assimilated throughout Europe with those of Christian principles – medical investigation being the pathway to understanding God's creation. Extending Hippocrates's humoralism, Galen (Claudius Galenus; 120- ca. 210) developed a complicated paradigm of humours that maintained its position as the definitive system of

human corporeality into the nineteenth century.⁴⁹ But it is Vesalius (1514-1564) – through his anatomizations – who contributed the most to knowledge about human bodies in the early modern period.⁵⁰ New anatomical knowledge, as well as development of optical technologies, began to provide evidence contradicting long-held medical beliefs. Finally, the beginnings of the scientific revolution associated with Francis Bacon (1561-1626) initiated a shift in medical theory and methodology that would eventually lead to the elimination of humoral theory and to fields of modern medicine, making room for writers to re-evaluate their understandings of and, consequently, the projection of the worth of women and their bodies – and their breasts – to readers.

Engagement with classical texts significantly impacted late medieval and early modern medical theory and practice. The Hippocratic theory of functional holism adapted a previously undeveloped, but generally accepted, model of the four humours – Blood, Yellow Bile, Black Bile, and Phlegm – into an organized system of natural philosophy allegedly based on observed scientific evidence.⁵¹ Hippocrates perceived in the female

49. From what is now known as Turkey, Galen “exercised a dominant influence on medical theory and practice in Europe from the Middle Ages until the mid-17th century. His authority in the Byzantine world and the Muslim Middle East was similarly long-lived” (Nutton, “Galen”).

50. Vesalius (also Andries van Wesel) was a Flemish physician. In Belgium, “he re-established public dissections for the medical students, a practice that had lapsed for 18 years” (McIntyre 96). Significantly, after finishing his medical studies, “Vesalius did away with demonstrations and prosectors and did the dissections himself” (96). “Vesalius undermined the foundation of Galen’s anatomical pronouncements,” writes McIntyre. “He showed that Galen’s statements applied only to animals, and much that concerned the human body was set down scantily or incorrectly” (96). However, he did approve of Galen’s physiological ideas.

51. See, for instance, the account by Holmes.

body a “radical difference from the male” (King, “Mathematics” 48) – a paradoxically fleshless and fleshy one. Women, for Hippocrates, lacked a defining body part: the phallus. The female body, therefore, lacked an important part of the functional whole.⁵² For early moderns, the absence of the phallus, or, according to the one-body model, the absence of the corresponding (dys)functional, internal female reproductive organs, confirmed female corporeal imperfection.⁵³ Further, describing the humours in man’s body, Hippocrates writes,

The body of man has in itself blood, phlegm, yellow bile and black bile; these make up the nature of his body, and through these he feels pain or enjoys health. Now he enjoys the most perfect health when these elements are *duly proportioned* to one another in respect of compounding, power and bulk, and when they are *perfectly mingled*.

(*Nature* IV.30; my emphasis)

Although Hippocrates believed that men and women had the same humours, male humoral balance underscored the female humoral imbalance that contributed to women’s inferiority.⁵⁴

52. Further, Hippocrates states, “And as the male sex is stronger than the female, it must follow that it is engendered from stronger semen” (*Generation* IV.16-17) – man is superior to woman from his very conception.

53. Adelman writes, “The sense that woman is a defective man – a kind of glitch in nature’s master plan, which was to produce men – is at least as old as Aristotle; we can hear its attenuated echoes in all language that characterized woman as primitive, woman as lack” (23).

54. Early modern English texts claiming their authority from Hippocratic medicine

While Hippocrates allowed for some deviation from the norm, Aristotle – his philosophy seeking the universal truths of nature’s design – emphatically affirms that “there is no room for deliberation about matters fully ascertained and complexly formulated” (*Nicomachean Ethics* III.3,1112b.1).⁵⁵ That is, he allowed no accommodation for change, interpretation, deviation, or revocation of demonstrable – or allegedly demonstrated – universal truths derived from induction, observing data and arriving at logical conclusions (VI.4, 1140a.1). Basing his theories, in part, on physical anatomy, Aristotle insisted on nature’s goal of moral perfection through totality, symmetry, and balance: nature “would always wish to create the most perfect thing, which is completely formed, the best endowed” (Maclean 8). Believing that women’s bodies were colder than men’s, Aristotle concluded that women could not develop corporeal completeness.⁵⁶ Further, visible male ejaculate – long assumed as the only substance required for human generation – meant human reproduction depended on “the father’s capacity to concoct semen” (Cadden 133).⁵⁷ Although the lack of penis and

include Oxford-educated physician Thomas Cogan’s (or Coghan) *The Haven of Health* (1584), and the anonymous *The Whole Aphorismes of Great Hippocrates Prince of Physicians* (1610).

55. Bianchi states, “More than three thousand editions” (50) of Aristotle’s texts were published between the invention of print in Europe and 1600. Bianchi warns, however, that “in the Renaissance there was a *multiplicity*” (65; my emphasis) of what constituted Aristotelianism. English-language texts attributed directly to Aristotle include *Aristoteles Master-Piece* (1684) and *Aristotle’s Compleat and Experienc’d Midwife in Two Parts* (1700).

56. The early modern anonymous author of *The Problemes of Aristotle* (1595) repeats this contention: “because nature doth alwayes tend unto that which is best, therefore she dooth alwayes intende to beget the male, and not the female, because that the female is only for the males sake, and a monster in nature” (E7v).

57. The visibility of ejaculate confirms the belief that “the male alone contributed sperm

visible ejaculate – combined with “inferior endurance” (*Nicomachean Ethics* VII.6, 1150b.15) – fixed women as corporeally inferior, Aristotelian natural philosophy claimed women were clearly only on their way towards male perfection, as nature would have them.⁵⁸

Early modern medical theorists synthesized these core classical principles with Christian beliefs when developing their own arguments, nature being the earthly manifestation of the Judeo-Christian God’s perfect plan.⁵⁹ With the assimilation of classical works into the Christian world of early modern England, the influence of Christianity on medicine leads us to consider the tenets of early theologians. “In a context where bodily and spiritual healing were never entirely separable,” Lyn Bennett argues, “the physician’s arguments relied also on the rhetoric of religion” (3). Expanding on this medical/religious connection, David Harley writes, “In the late Reformation, God was seen as a physician in several senses. The disposing power of God’s providence, sending health and illness among other blessings and afflictions, made the image of God the

containing an active principle to conception, the female producing only the matter of the fetus” (Siraisi 110), supposedly through the conversion of menstrual blood (Wiesner-Hanks 35), a visible excretion but one that is decidedly feminine. In cases of indeterminate sex, ejaculation of viable sperm became the deciding factor. See Chapter 3. 58. Cadden extrapolates Aristotelian natural philosophy to its next logical step: “that every female child is a failed male child” (133), and argues, “The importance of heat as an instrument and a manifestation of sexual differentiation illustrates both the extent and the complexity of the tangle created by notions of sex differences and the gender constructions with which they interact” (172).

59. Consider how Plato, in *Timaeus*, describes the creation of the universe, the Earth, and living creatures, including humans, according to ancient Greek theology. In many aspects, the Genesis creation story echoes Plato.

Father” (“Medical” 400) as a physician of the soul.⁶⁰ Thus, the “analogy between the minister and the medical practitioner was reinforced by frequent comparison made between the means of salvation and the means provided by God for recovery from sickness, which were seen as almost precisely homologous” (401).⁶¹

Highly influential in the early modern period, Thomas Aquinas (1225-1274) developed Aristotelian philosophy within his Catholicism to maintain the phallogentric hierarchy of reproduction, attributing the human essence of the fetus to man.⁶²

Necessarily then, Aquinas declares that “the female alone supplies the matter” (*Summa* III.Q.28.Art.1), or the flesh of the fetus. In other words, God provides the soul, the father provides the active force, and the mother provides the physical matter.⁶³ The visibility of male ejaculate and the invisibility of any corresponding female fluid confirmed this

60. “God as physician was an ancient analogy, the Christian use of which derived from passages in Mathew’s Gospel that was stressed by Augustine” (Harley, “Medical” 399). According to Harley, however, “The practice of medicine by clergymen aroused considerable anger in early seventeenth-century England” (362). Further, “That the attack on such men was mainly religious has been obscured partly by the fact that they were not, for the most part, orthodox Galenists in their practice. They employed Paracelsianism, judicial astrology, and an excessive reliance upon uroscopy” and “even pious patients were not quite so convinced of the necessity to link medical and religious orthodoxy” (363).

61. Consequently, the figure of the priest-physician plays a significant role in early modern medicine. See Grell and Cunningham, *Religio Medici: Medicine and Religion in Seventeenth Century Europe*, Scolar, 1996. *Religio medici* was written by priest-physician Thomas Browne (1605-1682).

62. See Sytsma’s article on the sixteenth-century reception of Aquinas. As Aristotle confirms, “Nature always seeks” finality (*Generation of Animals* I.1, 715b15-16) and “semen is a residue derived from useful nourishment, and not only that, but from useful nourishment in its *final form*” (I.18, 726a27-29; my emphasis). Thus, humoural theory contends that the warm and dry male body concocts blood to produce its purist excremental: sperm.

63. See also Aristotle (*Problems*, I.2, 716a5-14).

belief.⁶⁴ Aquinas concludes that the fetus “remains in the mother’s womb not for the purpose of receiving human nature, but for a certain perfecting of that *which it already had*” (*Summa* III, Q. 27, Art. 1; my emphasis). The anonymous early modern work, *The Problemes of Aristotle* (1595) illustrates this theory:

both the seedes are shut and kept in the wombe: but the seed of the man doth dispose and prepare the seed of the woman to receive the forme, perfection or soule, the which being done, it is converted into humiditie, and is fumed and breathed out by the pores of the matrix, which is manifest, because only the flowers of the woman are the materiall cause of the young one. (E2v-E3r)⁶⁵

In part, Aquinas’ writing demonstrates how patriarchal authority coalesced with Christian and biological beliefs to maintain the stability and concomitant superiority of men, while

64. Dutch draper and scientist Antonie Philips van Leewenhoeck (1632-1723) microscopically observed “*animalcula*” (821) – small animals – in various forms of water proving “spermism” (Pinto-Correia 66), the theory that the foetus comes from sperm rather than egg or a combination of sperm and egg. See van Leewenhoeck’s letter in *Philosophical Transactions*.

65. In this context, “flowers” means menstrual discharge, which seems to be a common early modern metaphor. The *OED* gives several meanings for flower, including “[t]he choicest individual or individuals among a number of persons or things” (n., 7) from the thirteenth century, virginity (n., 6c) by about 1300, “[t]he menstruous discharge; the menses” (n., plural, 2b) beginning in the fifteenth century, and “[a]n adornment or ornament; a precious possession, a ‘jewel’” (n., 6a) since the sixteenth century. Likely, this text, as well as *Problems*, are not translations of Aristotle but follow Aristotelian style and meaning (Martin, “Lodovico” 23). There are at least thirteen known editions of this text, printed between 1595 and 1684. The contents – whether out-dated or not – contributed to lay understanding of breast milk for about a century.

defining women as legally, culturally, and biblically inferior well before the discoveries of early modern anatomy.

Additionally, medieval devotion to the singular masculinity of God – despite developing philosophical refutations – continued well into the sixteenth and seventeenth centuries (Bianchi 64). Or, as Suzanne Trill notes, “Christianity provided the ideological basis for a patriarchal system of social order that defined femininity negatively and justified female subjection and subordination” (31-32). Beginning with the very creation of man and woman, Judeo-Christian discourse maintained the classical arguments subordinating women.⁶⁶ In the creation story, Adam – made in God’s image – is complete in body, perfect in reason; he is endowed with a soul, free will, and dominion.⁶⁷ Eve, however, is created at Adam’s request, fashioned out of human bone. Further, Eve’s transgression, attributed to her greater susceptibility to sin and weaker reason, makes her more culpable in the Fall than Adam but also provides some excuse for her misdeed.⁶⁸ Yet Eve’s sin – wilful disobedience to God – is more transgressive than Adam’s – loving adoration of the wife God made for him specifically.

Furthering the religious demand for the hierarchical ordering of men and women, Augustine (354- 430) naturalized men’s superiority to women after he relinquished his own corporeally sinful existence. Reaffirming the Christian hierarchy of beings

66. See note 7.

67. See Gen.3.16.

68. In addition, Saint Paul, an early church authority, is generally thought to have established the subjugation of women based on their extra degree of separation from God (both in their creation and their guilt in the Fall). See, for example, 1 Cor. 14:34.

Augustine writes,

so was there for the man, corporeally also, made a woman,
who in the mind of her reasonable understanding should
have a parity of nature, but in the sex of her body, should
be in like manner subject to the sex of her husband, as the
appetite of doing is fain to conceive the skill of right-doing,
from the reason of mind. (*Confessions* XIII.xxxii)⁶⁹

During the same period as Augustine, bible translator Jerome (347- 420) endorsed the education of women and their active roles in moral life, claiming that women (or at least widows) could perfect their reason only if they denied their corporeality and conquered their lust (Letter LIV 261).⁷⁰ Some Christian women found an example of this ideal in the eternal virginity of Mary.⁷¹ In the late medieval period, Christian “spiritual hierarchy” (Wiesner-Hanks 21) deemed the most appropriate corporeal state for women was virginity – or, for married women “spiritual chastity” (K. C. Kelly, *Performing* 33). Margaret Miles writes that “the Virgin represented a fantasy of a totally good mother” (205) for many Christian women. As with Eve, however, conceptions of Mary invoke

69. Early moderns following in the Platonic tradition also considered women’s bodies as disruptive to the control and use of reason and the soul’s ascension “to truth and goodness” (Eisenbichler and Murray xxvii), suggesting that women set aside their corporeality to be more like men.

70. Plato writes that “the female sex must share with the male, to the greatest extent possible, both in education and in all else” (*Laws* VII). Plato claimed that “given proper education, and in the absence of lifelong family duties, women were capable, in principle, of filling the same roles as men within their own class” (Maloney 44).

71. Not all Christian theology claims Mary’s virginity after Christ’s birth.

multiple images that subordinate women to men.⁷²

In addition to religious biological doctrine and appeals to female virginity, Christian theology suggested marriage was an effective and practical foundation through which to impose control over women in early modern England. Trill explains that marriage changed women's unsatisfied lust into "wisdom, piety, meekness, love, constancy, good household government, and godly devotion" (33).⁷³ This strategy, Olwen Hufton suggests, maintained that the Christian husband was his wife's "metamorphic agent" (29). This tenet is a reformulation of Aristotle from the Christian perspective: the complementary aspects of male and female bodies reflect Aristotle's theory that men and women "supply each other's wants" (*Nicomachean Ethics* VIII.12, 1162a.27).⁷⁴ Despite Pamela Benson's claim that early modern marriage "frees women to be responsible for their own morals rather than committing them to following male strictures on their conduct" (165), the Christian marriage contract was not one of equality, but one that

72. In his examination of late medieval and early modern English poetry, Waller states that Mary held "contradicting roles" (189) and was imagined in multiple ways during the period. For example, the "dominant Protestant image of Mary is the dutiful wife and self-effacing mother," Waller writes, "with a strong dose of Protestant disapproval of the Catholic idolization of the female" (182-83). Puritans did not see Mary as pure or unique, but part of sinful humanity so motherhood was "not a gracious activity in which saved women exercise their gifts; instead; it places women under the old covenant of worlds as they participate in the fallen procreation of Eve" (Thickstun 9).

73. In humoral terms, the husband supplying the hot/dry complexion and intellectual reason to counter woman's inefficient cold/wet complexion and emotional fancy biologically and morally stabilizes the wife.

74. See also Aristotle's *Nicomachean Ethics* (VII.5, 1150b.1; VII.12, 1153a.1). Similarly, Galen writes, "It is necessary to begin from a therapeutic precept – opposites – are the cures of opposites – to become knowledgeable about the material of remedies, so you may learn thoroughly the potencies of this, and always apply to the whole body, if it is in a bad state" (*Hygiene* II.84-85).

placed the husband at the top of the familial order.⁷⁵

Negotiated out of these classical and Christian concepts of women, early modern English medical texts emerged from medieval works and continental sources, partially emending classical metaphysics and anatomical conclusions. Significantly, medical writers continued to embrace humoral and corporeal theories that proclaimed women's genitals as underdeveloped versions of men's, in part because male and female bodies had the same overall structure. However, writers also began questioning the historically misunderstood homoplastic relationship of human body parts in which female reproductive anatomy was seen as an inversion of the male: the vagina as an interior, inverted penis, the labia as the foreskin, the uterus as a scrotum, the ovaries as testicles, and the Fallopian tubes as spermatic ducts (Laqueur 4-5).⁷⁶ This one-sex model of human bodies depended upon "the notion that gender is one-dimensional and can be imagined on a single scale as a result of more or less heat" (Schleiner, "Controversies" 187) – what Aristotle would call a defect:

in general, most of the parts, *i.e.*, those out of which the main bulk of the body is composed, are either identical or differ by way of opposition, *i.e.*, by excess and defect—for

75. Stated another way, "control of family, property and participation in the civic community," McClive writes, was "directly linked to proof of physical potency through the engendering of progeny in marriage emphasizing the link between patriarchy and the male body" (45).

76. Italian anatomist Matteo Realdo Colombo (ca. 1515-1559), for example, first describes the clitoris as the female penis in *De re anatomica* (1559). However, Helkiah Crooke does not publish [*Mikrokosmographia*] – the first English text to mention the clitoris – until 1616.

we may consider ‘the more and less’ as being the same as
‘excess and defect.’ (*The History of Animals*, I.1, 486b14-
18)⁷⁷

Paradoxically, the one-sex theory of human bodies claiming that men’s and women’s bodies were the same also employed this sameness to argue that male and female bodies were inherently different, women’s bodies interpreted as underdeveloped versions of the male bodily ideal proved the superiority of the male body.⁷⁸

Without the context of convergent evolution, which holds that analogous or complementary structures develop because they perform similar functions within and among species rather than because of a common genetic evolution, the one-sex model prevailed as the leading theory of human bodies in England.⁷⁹ Michael Stolberg shows,

77. Again, Aristotle delineates the most significant defect of woman: “woman is as it were an infertile male; the female, in fact, is female on account of inability of a sort, viz., it lacks the power to concoct semen out of the final state of the nourishment (this is either blood, or its counterpart in bloodless animals) because of the coldness of its nature” (*Generation of Animals* I.20, 728a18-22).

78. Laqueur contends that medical descriptions and illustrations confirm the unanimous early modern belief in the one-sex theory; others have challenged this conclusion. Importantly, King demonstrates that adherence to the assumption that the one-sex model was universally accepted “reduces the historical and geographical variety of pre-modern Europe into a single image imposing on it a misleading uniformity” (*One-Sex* 31). King dismantles Laqueur’s supposition by identifying his failure to interpret the representations of male and female body parts as “being a model of reciprocity,” leading to a model that “favors the male body” (*One-Sex* 31).

79. Early modern evidence contradicting the one-sex model was presented mostly in Latin and continental texts (Schleiner, “Controversies” 181). Further, because of the expense of printing new illustrations, visual evidence against the one-sex model may not have appeared in popular texts (Stolberg 279); thus, laypeople may have been unaware of medical challenges to the one-sex model. Note that “while such attention to finding differences in male and female genitalia speaks against the notion that a one-sex model was pervasively accepted, it does not challenge the notion of general correspondences”

however, that “many leading physicians, rather than proclaiming a ‘one-sex model’ of female inferiority, insisted on the unique and purposeful features of the female skeleton and the genital organs” (274).⁸⁰ Stolberg suggests that with mounting anatomical evidence, “by the early seventeenth century physicians were already almost unanimous in their explicit rejection of any notion of real homology as wrong if not ‘absurd’” (286).⁸¹ In addition to anatomical discoveries, the emerging field of obstetrics and gynecology meant physicians “had to be well aware of the differences between the male and the female body” (Stolberg 289), whether they included them in their texts and practices or not.⁸²

Building on the work of Plato, Hippocrates, and Aristotle, Galen would prove to be the most influential figure in early modern medicine. Galen expanded the concept of humours into a complex system of co-ordinating tetrads arranged according to Season,

(Schleiner, “Controversies” 183).

80. In *Aristoteles Master-Piece* (1684) for example, the anonymous writer comments, “The Stones in Women, commonly called the Testicles, altho’ they perform the same Action as mens, if rightly considered, yet are they different in their situation, magnitude, temperament, substance, form and covering” (112-113; E8v-E9r). Yet Cadden writes, “Even those who held that menses in women were homologous to semen in men nevertheless set menstruation apart as a female idiosyncrasy” (173).

81. For example, the anonymous author of *The Problemes of Aristotle* suggests that the chest is narrower in women than in men “Because there is heate in men, which doth naturally move to the uppermost part of them, making those parts great and large. And therefore, a great breast is a token of courage, as *Aristotle* doth say, declaring this to be true by the Lion and the Bull: but in women cold dooth predominate, which naturally doth tend downward” (D2r).

82. For example, by the late seventeenth century, male midwives began to take over labour and delivery, leading into the development of the field of obstetrics, from which women were excluded. See, for example, A. Wilson’s *The Making of Man-Midwifery: Childbirth in England, 1660-1770* (1995).

Humour, Complexion, Element, Age, and Qualities.⁸³ Galen's humoral paradigm incorporated the idea that men and women were unequal (King, "Mathematics" 49): man represented the perfect balance of humours producing the perfect corporeal being with the perfect combination of qualities and Principals that "have their Power ingrafted in them by Nature, as the Brain, Heart, Liver, Testicles" (*Galen's Art* [1657] 14; C7v).⁸⁴ In addition to reworking classical and contemporary theories about human bodies, Galen insisted that anatomical observation would prove his model correct. As Andrea Carlino writes, "Direct observation by means of dissection, in contrast to anatomy based on books, was postulated by Galen as the surest way to learn about human structure" (142-43).⁸⁵

Significantly, Galen insisted on the existence of opposites functioning within the entire humoral system as seen in this early modern interpretation of Galenic medicine:

83. Each of the four humours (Blood, Yellow Bile, Black Bile, and Phlegm) had a corresponding Complexion (respectively, Sanguine, Choleric, Melancholic, and Phlegmatic) with a pair of associated Qualities (hot and wet, hot and dry, cold and dry, cold and wet). For a complete analysis of humoral theory see Wear, *Knowledge and Practice in English Medicine, 1550-1680*, Siraisi, *Medieval and Early Renaissance Medicine: An Introduction to Knowledge and Practice*, and Hankison (ed.), *The Cambridge Companion to Galen*.

84. According to its title page, this text provides translated sections of Galen's work, "largely Commented on" by Culpeper. The material in the text does correspond to Galen's ideas, and, in some sections, direct translation is evident. "Culpeper's most significant service," Curry claims, "was writing and translating books, enabling the poor to help themselves." Culpeper's numerous vernacular works sold successfully. Indeed, one of his translations of Galen became, in 1720, "one of the first medical books published in North America" (Curry). Nicholas Culpeper, an apothecary, was tried for witchcraft in 1642. Curry, however, insists that it was Culpeper's opposition to the "the self-interest of the college physicians" that led to this event.

85. Note that "human dissection did not feature in Galen's world. It is clearly a thought experiment" (King, *One-Sex* 35).

“Mortall and immortall, rationall and irrationall, meek and fierce, and such like. Soft, hard, heavy and light, thin and thick, great and small” (*Galen’s Method* [1656] 4; A2v).⁸⁶ Within this set of oppositional binaries is that of the “active which is acted by it self, and that is passive which is acted by something extrinsically beside it self” (*Galen’s Method* 7; A4r) as well as the hot/cold and dry/wet arrangement of humours.⁸⁷ Galen believed that, as man’s opposite, woman had a different balance of humours leading to all manner of frailties, incomplete corporeality, and an undesirable passive combination of qualities – cold and wet – seeping beyond the confines of her body.⁸⁸ Galen’s conclusion that women’s lack of heat accounted for their gross sexual appetites, as Petty Bange *et al.* suggest, further confirmed notions of female inferiority by making men “indispensable for women’s equilibrium” (24) in providing heat through sexual activity.⁸⁹ In almost every way, therefore, Galenic medical theory shaped women’s bodies as underdeveloped and/or inferior.⁹⁰

86. This text is not a direct translation of Galen.

87. “No animal can be entirely cold or dry. Rather, the appellations arise from what prevails in the *krasis*, since we call wet a part in which there is a greater amount of wetness, and dry a part in which there is a greater amount of dryness. In like manner too, a part is hot in which the hot prevails over the cold, and conversely cold in which the cold prevails over the hot” (Galen, *On Temperaments* I.1). *Krasis* is the animal’s temperament (Arikha 121).

88. In ancient Greek medicine accepted by Galen, women’s moisture “difference is presented as an excess in relation to the norm of the happy medium, the *mesotēs*, which is the privilege of the male body” (Bonnard 26).

89. Galen’s conclusion neatly correlates with the Christian notion that man transforms his wife within marriage and firmly places a woman’s sexuality under control of her husband.

90. Jane Sharp, for example, suggests that women’s perceived incompleteness is largely a matter of internal versus external: “Mens parts for Generation are compleat and appear

However, Galenic theory fails when one considers women's breasts. If Galen's – and Aristotle's – adherence to reasonable explanation of visual observation remained consistent, the same reasoning that devalued women for lacking a penis should have devalued men for lacking (the bulk of) breasts and breast milk. Yet the impulse to subordinate women through their corporeality thwarts such an equivalency. For some medical theorists and writers, women's breasts and breast milk exemplified Galen's principle of humoral imbalance, evidence of women's humoral functioning running amok: superfluous humours making women's breasts larger than men's and milk from another feminine excess, menstrual blood. Further, Galen concluded that substances and elements had a consent between them, or a sympathy among body parts. Within a system that insisted bodily fluids were transmuted and transported between sympathetic areas in the body, the mystery of milk production and movement was, to man's advantage, necessarily and easily linked to uterine mischief.

Despite European medical education's reliance on Galen and humoral theory in the sixteenth and seventeenth centuries, Swiss physician Theophrastus von Hohenheim (1493-1541), commonly known as Paracelsus, presented a new paradigm of natural philosophy that posed a significant challenge to the Galenic – although similarities connect the two models.⁹¹ Reworking the humoral system and replacing Aristotle's

outwardly by reason of heat, but womens are not so compleat, and are made within by reason of their small heat" (*Midwives* 37; D3r).

91. For example, Paracelsus agreed with the hot/cold and dry/moist dualities: "there are two *Complexions* of Nature that require our observation: the one is *Hot*, the other *Cold*: Moreover, each of these hath a certain inbred disposition within it self; For every *Hot* thing is dry, and every *Cold* thing is moist" (*Archidoxis* 101; F2r [note that the page

Causes, Qualities, and Elements, Paracelsus focused on the elements fire, earth, air, and water, which he claims “are commixt with each other in all things, but yet (in every thing) one onely of those four is perfect and fix, and that *Element* is the *Predestinated Element*, wherein the *Quintessence*, *Virtue* and *Quality* doth lodge” (*Archidoxis* [1663] 140; K6v).⁹² Further, Paracelsus sought external causes of illness from astrology and iatrochemistry, naming salt, sulphur, and mercury as the principles ruling from within and the elements and influence of the galaxy acting upon human bodies.⁹³ In associating living bodies with natural elements, Paracelsus provided a pathway for future chemical and mechanical experimentation to debunk and replace humoralism.⁹⁴ As Paracelsus’ theories demonstrate, an important facet of medieval European scientific discovery that significantly impacted early modern medical theory was astrology, which synthesized

should be numbered 99]). Both models had tempers associated with nature, essence, and properties that produced bodily conditions analogous to humoral complexions:

Salty/Sanguine, Bitter/Choleric, Sour/Melancholic, and Sweet/Phlegmatic (Arikha 136).

92. Paracelsus claimed quintessence was “a certain matter Corporally extracted out of all the things, which Nature hath produced; and also out of every thing that hath a life in its self, and is separated from all impurities and Mortality” (*Archidoxis* 35; D2r).

93. Developing out of medieval alchemical scientific theory – the transmutation of metals – iatrochemistry stressed chemical explanations for the well- and ill-functioning of human bodies. Iatrochemistry is the early modern theory that “regarded medicine and physiology as subjects to be understood in terms of the chemistry of the time” (*OED*, “Iatrochemistry, n.). The *OED* suggests that the term originates with Paracelsus.

94. Paracelsus’ model gained popularity by the 1660s (Arikha 202) and was supported by a group of French physicians known as the Helmontians (Wear, *Knowledge* 39).

Jan [Joannes] Baptista van Helmont (1580-1644) was a Flemish physician, philosopher, and chemist. Boss writes, “Helmont shows that the Galenists are in confusion, supposing that urine and sweat both to be separated blood serum, and serum itself to be the yellow humour bile, a fluid quite evidently different from it” (263-64). Rather, Helmont suggested, “The transition from a humoral body theory of body fluids to the notion of a common reservoir is obviously a critical step in the development of modern ideas about body water” (Boss 268), termed latex.

classical natural philosophy, Christian doctrine, and developing cosmological systems.⁹⁵

Although twenty-first century Christians might consider such a paradigm as antithetical to the all-encompassing power of God, medieval and early modern peoples believed that the celestial bodies existed in a divinely ordained (mathematical) harmony that could be interpreted as accurately as any terrestrial sign system. For Paracelsus, Noga Arikha writes, “The world itself was made of forces, embodied in the metals that corresponded to the stars” (136), created by God. Not surprisingly, astrology continued to hold prevalence in English medical texts well into the seventeenth century.⁹⁶

In the early modern period, then, classical natural philosophy, theological biology, humoural theory, alchemy, iatrochemistry, and astrology comprised the medical knowledge about the human body and its mechanics, the relative perfection of male and female bodies, and the necessary subjugation of women.⁹⁷ Despite the age of some of

95. Siraisi, citing Aristotle’s import of the sun, summarizes fourteenth-century astrology as “the belief that heat, light, and occult influences emanating from the heavenly bodies assisted in the generation of life on earth” (111). Bergin and Speake add that natural astrology “foretold future terrestrial events on the basis of celestial signs” (32). See English physician William Salmon’s compilation *Synopsis medicinae* (1681) in which he provides a comprehensive explication of astrological medical theory. P. K. Wilson alleges that “Salmon drew accompanying most of the information he incorporated into his writings from his extensive personal library [...] two microscopes, and many mathematical and natural philosophical instruments” (“Salmon”).

96. Salmon associates women’s breasts, cold, moist, and flegmatic, with the female planet Venus, just as both male and female reproductive parts are (*Synopsis medicinae* [1681] 22; C3v). Not surprisingly, dryness in the breast (here, meaning chest) is associated with Mars, the male planet (19; C2r).

97. “Alchemy’s central goals – achieving metallic transmutation, producing better medicines, improving and utilizing natural substances, understanding material change – developed in many directions” during the early modern period (Principe 107). Further, Principe writes, “Belief in metallic transmutation also rested on observational evidence; it appeared to be a naturally occurring process” (109).

these paradigms in the early modern period, a shortage of direct observation, and limited emendation of texts, developments in scientific methodologies, technologies, and protocols as well as the developing two-sex model signalled the coming of a watershed moment in the representation of human bodies.⁹⁸ Highlighting the beginnings of an epistemological shift, early modern physicians responded to the “Know thyself” directive from the Oracle of Apollo “by knowing one’s anatomy” (E. Keller, *Generating* 55).⁹⁹ More than any medical theory or paradigm devised in antiquity or later, early modern dissection of corpses changed scientific understanding irrevocably as many of the anatomical texts of the seventeenth century will show.¹⁰⁰

The modern era of human anatomical dissection began in the fifteenth century, undertaken not only for medical advancement but to better understand God’s creation. Andreas Vesalius made significant contributions that aimed to correct long-established assumptions made about human bodies without observed evidence. Indeed, Vesalius’ *De humani corporis fabrica libri septem* (1543), in which he accepted but reformed

98. Although Paracelsus presented a compelling argument against Galenic medicine’s limitations, Wear concludes that “in practice, medicine did not really change, except the addition of chemical remedies; generally old theories were mixed together” (*Making* 121).

99. Importantly, Paracelsus attacked Galenists’ failure to examine their patients (Furdell, “Willis” 242) and their reliance on ancient medical texts.

100. Tarlow and Lowman comment that “anatomical and medical science at the time was developing a paradigm of the body as machine of predicably interacting systems” (6). René Descartes (1596-1650), for example, conceived “[t]he body [as] a self-moving machine,” separating body and mind as being “two distinct, mutually exclusive [entities ...] each of which embodies its own self-contained sphere” (Grosz *Volatile* 6). Recall, however, that writers have varying degrees of education, financial means to produce books or travel, and quality of translation. See section 1.1.

Aristotelian and Galenic anatomy, represents “a great turning-point in the history of anatomy,” according to Andrew Cunningham, in articulating “the beginnings of recognizing modern understanding of the functioning and anatomy of the human body” (3). Vesalius, in fact, became the gold standard for knowledge about the human body. Even so, the number of human anatomies performed appears to be quite low. In the early modern period, “To anatomize was a pejorative term, descriptive of attitudes towards deviants [who] did not deserve a Christian burial” (Thompson 9). Consequently, human dissection continued to be limited: “the procurement and cutting open of cadavers for scientific (and thus profane) purposes, and the inevitable delay in the burial of the dead that followed, were considered religiously and anthropologically dangerous acts” (Carlino 3) in many countries, across many time periods. In England, human dissection remained limited throughout the early modern period.¹⁰¹ Further, Charles Singer explains that Vesalius developed his description of female generation from the visual inspection of only six women whose anatomical workings were fleshed out with information extrapolated “from the examination of animals” (120-121) – that is, comparative anatomy.¹⁰²

Due to Christian influence, some observations of human bodies arose through the

101. For instance, only four bodies were made available for anatomization in 1540 (Sugg 2).

102. In addition, Carlino also confirms that physicians also performed vivisections – dissections on living creatures – in this period (121). French writes that, at least according to rumour, “at least two Renaissance anatomists succumbed to temptation and ventured into human vivisection” (*Dissection 2*).

anatomization of hanged convicted criminals.¹⁰³ “[D]issection could be seen as expiation for his or her sins,” explains Christine Quigley, “and criminals who paid their dues to society were believed to avoid eternal damnation” (37).¹⁰⁴ Consequently, “criminals before execution asked to be delivered to the ‘college of physicians’ rather than being executed in public” (French, *Dissection* 48). These anatomies also freed practitioners from the fear that they were dissecting good Christians, at least publicly – privately, scientific inquiry eclipsed morality as evidenced by grave robbing. Louise Noble acknowledges that “While a small number of corpses were legally anatomized in state-sanctioned anatomies, apothecaries and barber-surgeons were actively involved in the illegal processing of many others” (3). Given the lack of corpses available for anatomization and the limitations of observational and preservative technologies, practitioners could not succeed, as Devon L. Hodges contends, in using “anatomy to arrive at knowledge of universals” (4).¹⁰⁵ Even the most detailed and advanced anatomy

103. “We know for example that the basis of Vesalius’s epoch-making studies in anatomy was a skeleton of a felon he cut down from the gallows” (Wightman 105).

104. In England, The First Anatomy Act (officially called *An Act for Better Preventing the Horrid Crime of Murder*), which gave “judges latitude to substitute dissection for gibbeting” (Quigley 15), was not passed until 1752.

105. For example, John Caius (also Kees, Keys, Kay, or Kaye; 1510-1573) trained under Vesalius; see the entry for Caius in the *Complete Dictionary of Scientific Biography*. He was able to attain “an annual grant of two bodies to be delivered to Gonville College, Cambridge” (Tarlow and Lowman 58).

Tarlow and Lowman contend that “by the 1690s, the Barber-Surgeons were finding it harder to claim bodies from the sheriff. Official supply of executed criminals could not keep up with demand” (58). The development of anatomy theatres in Padua and Leiden, and later Edinburgh, allowed for more spectators. Although anatomization of a dead body provides a roadmap of internal structures of the body, it does not readily reveal the functionality of those structures. One solution was vivisection. Another was to infuse the veins and arteries post-mortem and track the movement of fluids through the body.

cannot produce a totalizing or universal understanding of the body, and no anatomist could, as Dawn H. Currie and Valerie Raoul state, “construct a total perspective by combining and distilling partial views, detaching them from their origin” (5).¹⁰⁶

Nevertheless, anatomizations contributed much to early modern knowledge about human bodies.¹⁰⁷ By the seventeenth century, anatomy theatres were permanent structures in European cities (Quigley 14).¹⁰⁸

In addition to the developments in anatomy – and anatomical theatre – the stage was being set for the so-called Scientific Revolution that would transform medical research and writing irrevocably. In *The New Organon*, Francis Bacon demands the elimination of previously accepted knowledges, requiring research to begin anew:

The evidence of the sense, helped and guarded by a certain process of correction, I retain. But the mental operation which follows the act of sense I for the most part reject; and instead of it I open and lay out a new and certain path for

106. During anatomization, of course, various fluids ooze out. Further, in the early modern period, as Longhurst notes, “Fluids are implicitly associated with femininity, maternity, pregnancy, menstruation, and the body. Fluids are subordinated to that which is concrete and solid” (31), even though breast milk is nourishing and blood is vital to life. From a contemporary perspective, these fluids might be described as being the Kristeva’s abject: rejected bodily aspects that are revolting. Dale explains that Kristeva “locates the source of the abject in the maternal relationship” (140), and by extrapolation, through the leaking breast, which in turn is linked to menstruation through the alleged physical uterine connection and the concoction of uterine blood into milk. See Kristeva’s *Powers of Horror: An Essay on Abjection*.

107. Making anatomization even more difficult, “under the conditions prevailing during the dissection of an unpreserved, uninjected, putrefying body which it was impossible to keep for no longer than three days” (Montagu 376).

108. Note that anatomists dissected the bodies before the arrival of the public viewing.

the mind to proceed in, starting directly from the simple
sensuous perception. (“Preface”)

Unlike previous scientific models, Baconian empiricism, “which characterized so much of the practice of the new philosophy in late-seventeenth-century England, proposed an enforceable boundary between the unencumbered mind in the scientist and the material world he studied,” argues Eve Keller. “The researcher, then, [...] turned a disembodied gaze on an inanimate world” (*Generating* 129).¹⁰⁹ Because Bacon disparaged logic as being in the realm of *a priori* knowledge, his proposed methodology expected a more personally detached observation, contemplation of these observations, and a demonstrable technological analysis of acquired knowledge using every new investigative pathway as it became available. “[I]f anyone would form an opinion or judgement,” then, Bacon writes,

let him examine the thing thoroughly; let him familiarize
his thoughts with that subtlety of nature to which
experience bears witness; let him correct by reasonable
thought and due delay the depraved and deep-rooted habits
of his mind; and when all this is done and he has begun to
be his own master, let him (if he will) use his own
judgement. (*New*, “Preface”)

109. Pomata explains, the Empirics “rejected the Aristotelian search for causes and the use of syllogistic inference” (7). Thiselton writes, “broadly, empiricism denotes the belief that *experience* is the source of all knowledge” See Wolfe and Gal for a discussion of Empiricism.

Thus, Bacon argued that no particular scientific model could be proven, only shown as being most probable.

Herein lies the dilemma exposed by early modern medical representations of women's breasts: developing medical investigative protocols may have challenged the medical theories on which women's inferiority depended, yet new discoveries failed to eradicate long-standing beliefs in women's subordination. Overall, medical discourses about women's breasts continued to debate female corporeal inferiority despite claims that both sexes contributed to generation, and that the biological bases for assuming the female inferiority manifest in the lesser development posited by the one-sex model was invalid.¹¹⁰ Further, despite strong arguments against Galenic medicine's limitations, Wear concludes that "in practice, medicine did not really change" ("Making" 121), and in theory, medical understandings of women's breasts remained inconsistent.¹¹¹

1.4 The Breast Chapters

"Presenting scientific knowledge in print became a way to broker relations between

110. Medical theorists long held that both men and women were required for reproduction. The way in which each contributed to the formation of the child, however, was not clearly understood. In 1651, William Harvey put forward the notion of the ovum based on his animal dissections. As Cobb explains, Dutch physicians Regnier (or Reinier) de Graaf (1641-1673) and Leewenhoeck theorized on the existence of the ovum, although they could not find it in their experiments. The elusive ovum was not discovered until 1827. See also Pinto-Correia.

111. Wear adds, "except the addition of chemical remedies; generally old theories were mixed together" ("Making" 121).

different societies of differing faiths, who nonetheless shared many scientific interests and were genuinely curious about each other's knowledge" (Findlen 413-14).

The preceding discussion serves as a general intellectual background to the issues – classical philosophy, Christian biology, humoralism, competing paradigms of human corporeality, developing research practices, and patriarchal culture – that contributed to the ideological and theoretical concepts facing writers of early modern English vernacular medical texts. This background contextualizes writers' arguments about women and their bodies, enabling a better understanding of the discussion that follows. For the rest of the thesis, I turn specifically to female breasts, breast milk, and breastfeeding practices as represented in the texts.

The second chapter, "Medicalized Breasts," addresses how early modern medical writers perceived, understood, and represented anatomical knowledge about women's breasts in their vernacular publications. In it I consider how medical writers mimetically represented the external and internal anatomy women's breasts, facilitating lay understanding through vernacular terminology, symbols, and illustrations. First, I discuss the reasons why authors and translators wrote about human bodily structures and functions in vernacular English rather than Latin, the traditional scientific language. Then, I examine the development of medical vernacular terminology and definitions employed by writers to convey information about the external parts of women's – and men's – breasts. I also explore the principal symbols that writers used to facilitate dissemination of knowledge to lay readers while positioning women's breasts within early modern English cultural, religious, and scientific world views. In the second section

of the chapter, I evaluate the medical discussions about internal breast anatomy. Significantly, the later texts have access to an important illustration showing a dissected female breast at six times magnification, an illustration that allows more accurate information about breast tissues than previously possible. Finally, I analyze a set of medical illustrations available to lay readers as discourse and visual art merged to demonstrate and facilitate understandings of breast anatomy. I examine several types of illustrations: frontispieces, male and female paired anatomies, single-person drawings, and pictures of excised body parts.

The texts examined in Chapter 2 indicate writers' recognition of the wide-spread need for the distribution of medical information to people across England. Non-university educated medical practitioners as well as people who had no other option but to provide their own healthcare required (relatively) easily understood vernacular texts. However, the lack of clarity, specificity, and consistency in the terms and descriptions of women's breast anatomy highlights the discursive tension experienced by medical writers as they negotiated the transmission of scientific concepts – and terminology – to lay readers.¹¹² Developing an English vernacular lexicon out of Latin, Greek, and vernacular European languages, writers' uncertainties are evident, with multiple and overlapping terms for women's breasts, nipples, and areolae that sometimes included those of men. Writers employed figurative language, poetic allusions, and common symbols – such as those provided by nature, topography, and the cosmos – to describe women's breasts trusting

112. The confusion of language, however, may also reflect writers' concealment of that which might be socially unacceptable or distasteful.

that connotative meanings assisted lay readers in understanding scientific writing. Use of these common comparisons by writers and translators, however, evoked negative and positive notions about the alleged duality of women's nature – physically displayed by the existence of two breasts: women's breasts are at once wholesome and vital for human existence and maleficent and lacking control, even at the linguistic level.

The illustrations within the vernacular texts differ in style according to their various purposes. These illustrations present detailed knowledge of internal and external structures of human bodies, generally with clear notes explaining anatomical features – although some drawings are more stylized than accurate. Additionally, symbolic objects included in the illustrations place the human figures in particular cultural contexts such as those alluding to Adam and Eve or to valued moral characteristics. Despite some contemporary academic claims that such visual images might be pornographic or invoke lusty desires, these illustrations seem modest – showing the body and its parts appropriately for their didactic use. Together, the vernacular terminology, descriptions of internal and external breasts anatomy, and the anatomical illustrations, as discussed in Chapter 2, reveal inconsistent medical perspectives and understandings about women and their breasts. Perhaps more importantly, the texts – through the presentation of women's breasts – reveal a concerted effort by writers to educate English people about human corporeality and functioning.

The third chapter, “Living Breasts,” goes on to examine recurrent questions debated throughout anatomical discourses about women's breasts: what purpose(s) human breasts serve, why humans have two breasts, why human breasts are located on

the upper chest, and whether the outward visualization of the breast provides information about the internal workings of the body. First, I analyze whether there exists a medical ideal of female breast linked with Christian morality, early modern aesthetics, breastfeeding practices, humoural balance, and male control of women and their bodies. Further, I examine how medical writers employed cultural paradigms of women's alleged corporeal abnormality, frequently referred to as monstrosity.¹¹³ Next, I uncover the principles employed in the texts to affirm the possibility of male lactation, followed by an examination of the medical figure of the hermaphrodite that significantly contributed to arguments of women's place and worth relative to men's. Finally, I examine the various – and contradictory – claims writers made about the association of women's breasts with illness, injury, and mutilation as well as healing.

In Chapter 3, I find that the works reveal several early modern dichotomies associated with women's breasts, such as nurturing/ tempting, maternal/sexual, beautiful/ugly. Further, writers demonstrate a complex association of breast size, shape, and colour with women's life stages and social function. By delineating parameters for all aspects of women's breasts – although inconsistent among texts – these writers signified some need to impose control on women's bodies. Indeed, the writers provided many medical recipes and procedures to help women achieve the mysterious ideal breast.

113. In the early modern era, “The monster is the bodily incarnation of difference from the basic human norm; it is deviant, an anomaly; it is abnormal” (Braidotti 62). Given that the male body was considered the human norm, the female body can be considered monstrous: “a figure of devalued difference” (64). Women's breasts can be monstrous in size, their uncontrollable (postnatal) leakiness, and their prevalence in acquiring diseases and infecting others.

Although many of these writers contended that their suggestions about all things breasts are necessary for breast milk preparation and breastfeeding – and for proper humoral functioning – some writers indicated that care for women’s breasts means creating visually appealing breasts, nipples, and areolae.

Further, some writers showed that female inferiority is natural as well as a scientific truism evidenced by the humoral excess associated with women’s breasts, the linking of women’s breast to those of animals, and the association of breasts with the uterus. Other writers, however, set aside questions of gendered corporeal ranking and endeavoured to provide useful medical knowledge about women’s bodies – especially the breasts – for non-university educated practitioners, such as midwives, as well as those whose health was largely dependent on self-care. Finally, the continued yoking of illness and wellness to women’s breasts, even when new anatomizations fail to show a physical link between the internal tissues of the breasts and the uterus – a fact that could potentially be a paradigm-shifting observation – illuminates the inability of writers to advance knowledge within the texts. Those who endorsed the possibility of male lactation argued against notions that men’s breasts may be inferior underdeveloped versions of women’s breasts, and therefore dysfunctional or even superfluous – or monstrous.¹¹⁴ More significantly, these representations of women’s breasts contradict the central man/woman hierarchy as often as they confirm it.

114. Fausto-Sterling presents several genotypes of intersex as well as their approximate frequency in the twentieth century.

Chapter 4, “Lactating Breasts,” opens with my analysis of the early modern medical understandings about the manufacture, transportation, and storage of breast milk in the female body. New anatomical discoveries and William Harvey’s demonstration of blood circulation necessitated reconsideration of humoural movement within the body – and the passage of humours to the postnatal breast. Early modern writers – particularly those in the mid- to late-seventeenth century – debated the humoural origins of breast milk and the mechanics of its production.¹¹⁵ I also explore the many early modern questions about breastfeeding, such as the quality of breast milk; practical realities; the use of wet nurses; the physical, intellectual, and emotional implications for both mother and child; and the possibility of women making decisions about their own bodies and the care of their own children. In addition, I analyze the medical implications of breast milk as a therapeutic remedy and stabilizer of infant health and, as some writers suggest, breast milk’s complicity in the ill health of mothers, wet nurses, and children. Finally, I discuss the ways and reasons why medical writers argued for and against maternal and wet nursing.

In the medical works considered in Chapter 4, I confirm that early modern

115. See Harvey’s text *Exercitatio anatomica de motu cordis et sanguinis in animalibus* (1628). The first English version, *The Anatomical Exercises of Dr. William Harvey Professor of Physic, and Physician to the Kings Majesty, Concerning the Motion of the Heart and Blood* was published in 1653.

Harvey (1578-1657) studied in Padua, “further[ing] his anatomical education with Girolamo Fabrizi of Acquapendente (Fabricius) who was conducting original anatomical research in a manner derived from Aristotle” (French “Harvey”). Harvey was royal physician to James I and Charles I. Significantly, French writes, Harvey’s “doctrine was a radical departure from the accepted professional Galenism” (“Harvey”).

medical theorists and practitioners, as well as women themselves, hotly debated matters associated with breast milk, breastfeeding, and wet nursing. The texts show that although there is little consensus regarding the composition of breast milk, most medical writers continued to endorse the uterine blood concoction to milk paradigm, reinforcing the direct – and mostly negatively interpreted – physical connection between the uterus and the breast. By the end of the sixteenth century, writers who denied the blood concoction theory suggested chyle – the humoural fluid resultant of digestion – as the origin of milk claiming food begets food. By the end of the seventeenth century, most writers agreed that the notion of concocted blood as the source of breast milk was impossible – proven by anatomical knowledge, the discovery of fluid circulation within human bodies, and the new contemporary theories of body mechanics. Nevertheless, the texts indicate that writers could not provide a solution to the question of breast milk production.

Regarding breastfeeding, I conclude that writers presented arguments both for and against maternal breastfeeding – some based on biological understandings, others on more cultural considerations. Some writers fashioned positive representations of the breastfeeding mother as nurturing and loving, arguing that maternal breastfeeding was woman’s natural duty. Although such a characterization seems to elevate the position of women, some medical writers made clear that maternal breastfeeding was merely their Christian duty. Several discussions about wet nursing invoked images of mercenary – and often morally and physically dubious – women. Medical practitioners also expressed fears that mothers’ affections threatened social order by imprinting on the *tabula rasa* of the infant child; if breast milk transferred morality and personality to an infant as

humoural theory maintained, then breastfeeding may also have allowed too much maternal influence, a possibility made worse by the corrupting potential of wet nurses.¹¹⁶ Writers questioned the very quality of women's breast milk, from its origins to its consumption, sometimes associating women's milk with mothers' and children's mental and physical illness. Further, just as with questionable suggestion of the existence of an ideal female breast, medical writers repeatedly placed restrictions concerning which women ought to breastfeed, citing women's bodies sizes and shapes, humoural complexions, personalities, susceptibility to evil, and social class as signifiers of "good" and "bad" breastfeeders.

Chapter 5 completes this interdisciplinary study. Using literary criticism, body theory, and cultural and historical contextualization, and closely reading the early modern English vernacular medical texts, I demonstrate reasons and methods used by writers who described, discussed, and disseminated medical understandings of women's breasts, breast milk, and breastfeeding practices. I establish that writers struggled with developing a vernacular mode of medical discourse for a diverse readership, debating every aspect of women's breasts, breast milk, and breastfeeding, but without providing a cohesive

116. In a statement that easily could be applied to mothers, for example, Daniel Sennert, in *Practical Physick* (1664), advises that the wet nurse be "not angry, melancholy, or foolish, not lecherous, not a drunkard (226; S1v). Sennert's "habit of citing multiple sources is both a diplomatic attempt to arrive as consensus and an example of the early modern need to ground novelty in tradition" (Newman 418).

Presupposing the wet nurse's immorality, John Pechey writes, "by means of nourishment [the child] draweth from her; and in sucking her, it will draw in both the Vices of her Body and Mind" (*Store-house* 437; Ff2r).

The threatening aspect of breast milk will be discussed in Chapter 4.

understanding/ narrative/ picture/ construction. I conclude that early modern English medical writers represented women's breasts as a defining symbol of women's corporeality and functional capability based on biological and cultural assumptions, variously reiterating and refuting long-held gendered medical opinions. Although insistence of women's inferiority reveals some male fear of the female breast and its ability to produce milk, I question academic conclusions about pervasive hegemonic control of women's bodies in these texts. I interpret these medical texts as representing heterogeneous understandings of women's breast anatomy and function: writers were divided about endorsing the cultural *status quo* of women's inherent corporeal inferiority to men. Further, what writers say about women's breasts leads to larger anatomical considerations and the direction of new medical works, particularly as medicine moved toward developing specific fields such as obstetrics, pediatrics, and women's medicine in the eighteenth and nineteenth centuries.

In the remainder of Chapter 5, I discuss the limitations of the current study and suggest new directions that research on the representations of women's breasts, breast milk, and breastfeeding in the early modern English medical texts might take.

CHAPTER 2: MEDICALIZING BREASTS

“Social history writes over medical theory, in the sense of giving it a particular value, in place and time” (Kerwin 3).

Early modern English medical authors and translators – some of whom were not medical practitioners – negotiated their descriptions of the anatomy and functioning of human body parts through the lens of the patriarchal system within which they were working. Writers filtered their discussions through a scientific perspective informed by humoral theory, anatomical observation, a complex astrological system, and previous medical interpretations.¹ Anatomical methodology, Devon L. Hodges suggests, allowed writers “to reground knowledge through the act of separating appearances from reality” (18) as they contended with not only the intricacies of real and unreal, nature and artifice, human and divine, but also the location of the essence of a person whose body has been both literally and figuratively fragmented. Women’s bodies – dissected and transformed into text associated with multiple and/or ambiguous meanings – became pages upon which writerly authorities could place their philosophies and overwrite knowledge potentially provided by the female body.² In addition, textual privileging – referring to

1. Even so, the early modern anatomical process attempts “to see the body disencumbered by representation” (Hodges 3), so that man could understand the universal truth of the human body and its cosmic significance.

2. In *Arcana microcosmi* (1652), for example, Scottish clergyman and writer Alexander Ross demonstrates some of the biological reasons traditionally used to inferiorize women’s bodies, even as nature aims toward perfection: nature, “being hindred by abundance, weaknesse, and other vitiosities of the seed, and menstruous blood, besides the ill disposition of the matrix, is forced to leave the work imperfect” (115; I2v).

and relying on previously written texts and converting observation and interpretation into new texts – allowed the control of the body and displacement of the body’s own meaning in deference to established ideas. Richard Sugg concludes that vernacular representations of women’s fragmented bodies in publicly available texts enabled “a male construction of female sexuality with its more uncertain and dangerous aspects diffused or neutralized” (125).³

While recent scholarship – such as Sugg’s – has leaned toward the notion that these writers “reiff[ied] the logic that puts women in their place” (Schwartz 147) and thus maintained the patriarchal *status quo*, my research demonstrates that several early modern writers rejected the long-held truisms upon which female corporeal inferiority was based.⁴ In the set of books under investigation here, writers variously maintained control of, partially demystified, complicated, or explained breast anatomy and function as they grappled with the complex “ideological struggles” (Haraway 591) of interpretation and representation of human bodies. Although evidence gleaned through physical dissection of men, by men, could be interpreted as upholding the normative

3. Early modern anatomization itself demonstrated that the “visceral realism” (Sugg 7) of cutting into the body – male or female – severed the boundary of the skin and allowed the expulsion of bodily fluids resulting from death and decomposition. From a modern critical perspective, Shildrick states the body – anatomized and/or discursively constructed – is “an insecure and inconstant artifact, which merely mimics material fixity” (13). Further, as Sugg suggests, early modern anatomization showed the human body – male and female – as “a peculiarly unstable, hybrid, and variously define[d] entity” (21). See Chapter 1, note 107.

4. Recall that I am analyzing the ways medical information was presented to the reading public rather than the processes of transferring knowledge from the body into text. See Chapter 1, note 9.

human body as male, new anatomical revelations – such as the proof that the breast/uterine conduit did not exist – could also contradict the biological assumptions that justified subordinating women. Irrefutable reality undermined any assumptions of male bodily stability, a central tenet buttressing male superiority.⁵ In particular, despite the frequently mentioned but often contradicted notion that women’s bodies were inferior to men’s because of their lack of heat and lesser generative capability, medical writers had to acknowledge the almost exclusively female nutritive function of breasts.⁶ Further, the inability to establish knowledge about the production, storage, transportation, and composition of milk within the body and the breasts complicated writers’ development and dissemination of new understanding of the female body.⁷

Regardless of anatomical developments, however, one merely has to look at a sample of these texts to recognize that definitions and descriptions of the male body comprised the bulk of the popular medical texts in early modern England. The textual separation of male and female body parts reinforces a presumptive normativity of the male body and the hierarchical position of men, writers generally placing descriptions of women’s body parts outside of the main narrative. That is, some writers organizationally

5. Anatomical writing frequently validated pre-existing cultural and religious assumptions about women’s innate inferiority even as scientific enquiry began to provide increasing evidence to the contrary. As shown in Chapter 1, the reconsideration of the one-sex model of human bodies, for example, was beginning to challenge essentialist arguments about women’s corporeal inferiority in relation to men’s bodies.

6. I write “almost exclusively feminine” because the male body interrupts the discussions of this definitively female body part when writers describe male lactation, as will be shown in Chapter 3.

7. Breast milk and lactation practices will be discussed in Chapter 4.

fragmented woman's breasts and bodies from anatomical discussions of the body that was essentially male in the way it was conceived. Women's breasts – and often women's reproductive systems – were sometimes limited to chapters on women's diseases, neonatal care, or generation placed after anatomical descriptions of men from head to foot, or completely elided.⁸ Although this strategy may have forced the acceptance of women and men's physiological differences and reaffirmed the (negative) tying of women to their relatively lesser corporeal essence, the necessity of describing women's breasts in detail – and separately from descriptions of male anatomy – also signified the importance of such a highly functional and definitively female body part: the breast.⁹

Before delving into some of the connections between representations of women's breasts in the popular medical texts and the early modern debate about women, we must first consider how breast knowledge was transmitted among physicians and to lay readers.¹⁰ Because home practice was part of daily life, we need to understand how – and what – practical tips, diagnostics, cures, and so on, were disseminated to educated readers and those with little or no education. In addition, we require some understanding of what writers hoped readers could/would glean from the texts through word choice, symbolic

8. For example, after naming the parts of the human thorax, including the breasts, Jean Riolan, in *A Sure Guide* (1657), provides a separate section entitled “Of the Dugs of Women” (95; P3r). In Latin, the section is called “De mammis” (196; N2v). Riolan, “the spiritual head of the Paris Medical School,” was “a stern defender of traditional medicine and a declared enemy of the chemical healers” (Mani 121). “Riolan became known for his ‘errors,’ particularly for his opposition to the circulation of Harvey” (121).

9. See note 5.

10. In her analysis of household medicine, Stobart uses family papers to determine what sorts of medical practices were occurring, which self-help people used, how these people obtained self-help knowledge, and so on.

descriptions, and anatomical illustrations. Therefore, in this chapter, I first explicate the debates surrounding the placing of medical information about women's breasts – and, indeed, all body parts – in vernacular books available to the reading public, beginning with the confused/confusing terminology and the use of symbols, each supplying multiple culturally understood meanings. “The deft use of figurative language,” Caroline Bicks argues, “mirrors the power of ideology itself – by creating the illusion that one is seeing the naked truth” (3). The negotiations of *a priori* and subsequent assumptions, along with lexical confusion, reveal tension in attempts by writers to represent women's breasts within patriarchal hegemonic systems such as Galenic medicine and Christianity while creating a mode of scientific writing and illustration that could be understood by lay readers. Corresponding to the early modern arguments within the debate about women, the cultural tropes and sign systems with which medical writers associated women's breasts, breast milk, and breastfeeding spoke to overarching ideological discourses such as male hegemony and patriarchal legitimization from varying perspectives.

Next, I will show how representations of the internal anatomy of women's breasts – a somewhat limited topic in the texts – contribute to our understanding of early modern medical knowledge and interpretation of women's internal corporeality. The ability to investigate internal breast anatomy developed out of the medical intention “to emphasize the hidden and internal over the external and apparent” (Daston and Park 6). This complicates the separation of the breasts and uterus that are externally visible and “invisible,” respectively. The internal/external dichotomy also reflects the early modern notion that characteristically “women [tend] toward timidity, men to boldness” (Daston

and Park 4) as well as the correlation of male and female primary sex traits visually exhibited at birth – such as genital configuration – and “secondary external traits like breasts, beard, and voice” (Daston and Park 4) that are observed during puberty to internal sex traits such as ovaries, uteri, and sperm ducts. Finally, I discuss the illustrations of women and their breasts in frontispieces, paired whole body pictures, lone female images, and body part drawings, and explain how early modern readers might interpret them. My analysis of medical representations of women’s breasts reveals a tension resulting from writers’ difficulties in developing a new English scientific mode of discourse that included terminology, symbols, descriptions, and illustrations. The writers were concerned with complex problems of representation, not just for women’s breasts but for all body parts and human bodies.

2.1 The External Breast

“I am a little world made cunningly / Of Elements, and an Angelike spright”
(Donne, [Holy Sonnet 5] lines 1-2 316; X5v).

Many early modern medical writers argued for the importance of disseminating medical information to a broader public. Medical texts written in continental languages, as well as those written in Latin – the universal language of science – allowed transmission of information across Europe but impeded dissemination of important health information to most of England’s literate public.¹¹ The significant public demand for

11. For an explanation of “literary public,” see section 1.1.

medical knowledge – subsequently evidenced by the ongoing publication of vernacular texts throughout the early modern period – necessitated medical vernacularization. In addition, vernacular writing of medical materials also aligned with so-called “scientific revolution.” Francis Bacon advocates in *The New Organon* (1620), that vernacular medical writers should “follow lines of division that are more obvious to vulgar understanding” (59), which often included using metaphorical language.¹²

Advocating for a wider distribution of medical knowledge, self-professed English midwife Jane Sharp (fl. 1671), in *The Midwives Book* (1671), chastises writers who use Latin and Greek in medical texts, insisting that the use of English vernacular is essential to the education of midwives:

It is not hard words that perform the work, as if none understood the Art that cannot understand Greek. Words are but the shell, that we oftentimes break our Teeth with them to come at the kernel, I mean our brains to know what is the meaning of them; but to have the same in our mother tongue would save us a great deal of needless labour. (3-4; B2r-v)

French shows that Latin and vernacular English were used for various differing purposes in early modern England. “Latin,” he writes, “remained important, and its use signified where power lay in society” (“Languages” 25). However, “While the surgeons, as tradesmen, kept their records in English, the College of Physicians kept theirs partly in Latin” (25-26).

12. Lloyd notes that Baconian science remained gendered, the task being “the exercise of the right mind of male domination” (47) and of feminine “chastity, respect, and restraint” (51). Further, the use of figurative language undermines Bacon’s demand.

Sharp understood that without vernacular texts – that is, texts written in plain English – midwives and other practitioners (as well as self-practitioners) had little access to important medical information about pregnancy, labour, and delivery; lactation and infant care; and their own bodies. In addition, “writers not uncommonly alluded to the likelihood of a female readership as an alibi for bringing out in the vernacular works that were traditionally available only in Latin” (Hobby xi). In *The Byrth of Mankynde* (1545), for example, well known German physician Eucharius Rösslin (also Röslin, Rhodion, and Rosslin; 1470-1536) writes “A Prologue to the Wemen Readers” telling them to observe “faithfull counsell also unto wemen of theyr familiar knowledge to here the booke red by sum other, or els (such as could) to reade it themselves” (D2r).¹³

Some physicians were concerned that placing medical information – as well as potential ambiguity – in the hands of the literate public might lead to confusion and dangerous self-doctoring and self-medicating. To caution readers, for example, highly published Paracelsian and English botanist Robert Turner (b. 1619/20; d. on or after 1664), in his [*Mikrokosmos*]: *A Description of the Little-World* (1654), writes an address

13. The original text, titled *Rosengarten* (*The Rose Garden*), was published in 1513 in German. “When *The Birth of Mankind* first appeared in print in 1540, it initiated a new kind of publication in Britain: this ‘scientific’ book was the first published text in England that sought to explain to the general reader where babies come from and how to look after them in their infancy” (Hobby 35). Further, Gadd states, the text “became the standard midwifery text, going through a total of thirteen editions before it was superseded in the 1650s.” A one time a physician to the Princess of Saxony, Rösslin was responsible for “examin[ing] and supervis[ing] the city midwives. These he found to be ignorant, careless, and responsible for many unnecessary deaths” (Dunn F77). His text was, in part, an attempt to remedy the situation. Note that the 1540 version of the text does not contain this preface.

“To the Christian Reader”:

It being the nature of all men to desire and seeke after
knowledge; I have therefore given thee a briefe character,
or epitome of the body of man, the little world; whereby
thou mayst attaine to the most necessary externall
knowledge of thyselfe; which being knowne, if any
causally happen, thou maist the more properly apply a
remedy.¹⁴

Affirming the godliness of “knowledge of thesef,” Turner indicates his text is meant to educate lay readers and give them the ability to provide themselves and others with simple first aid. His address also implies that readers of the text will not be educated to the same degree as medical professionals, again implying a warning about self-help.¹⁵

Opposition to printing medical texts in the vernacular reveals the drive of some physicians to preserve the mysteries and complexities of medicine for educated male readers (H. S. Bennett, *1558 to 1603* 180). This impulse becomes clear when one considers that university educated doctors started concealing new knowledge and technology such as the forceps as the Chamberlen family did (Wiesner-Hanks 85) and

14. The original English text was published in 1625. Robert Turner who “usually identifies himself as Philomathus in his title pages and prefaces” was a prolific and “important” writer and translator of occult and medical works – producing “at least ten translations of medical and astrological works published between 1655 and 1658” (Linden).

15. Of course, some writers did intend their books to be read by medical professionals, as will be shown.

corresponded through personal letters, registers of the Royal Society, and eventually in the *Transactions*.¹⁶

According to Kit Heyam, the College of Physicians' objections "as a whole stemmed from an anxiety that anatomy books might be appropriated by readers for erotic purpose" (616).¹⁷ Indeed, textual ambiguity could be an effective strategy for writers obfuscating that which some might deem heretical or lascivious.¹⁸ Heyam submits that "books with sexual content were not inherently pornographic but possessed pornographic potential" (617). Given the limited and frequently bawdy set of vernacular terms available to discuss human bodies and their functions, medical writers had to consider the effect those words and descriptions might have on lay readers because humoral theory contended that reading about sexual reproduction could negatively impact humoral balance. Some writers maintained appropriate Christian decorum by reinforcing the male/female hierarchy, encouraging admiration for the beauty of God's design, and reaffirming the likeness of man to God.

16. See for example, various letters collected in "Letters of the English Physician in the Early Seventeenth Century" (Smycotts *et al.*).

17. Although the government may not have been eager to regulate the publication of these texts, P. M. Jones suggests that "the policing of medical literacy largely fell to various corporations acting at the local level. The college of physicians, the barber-surgeons' company, the Bishop of London and the city aldermen all had jurisdictions in London" ("Medical" 40). While ostensibly about style and clarity, the consideration of language was, in fact, one of controlling knowledge: opposition to printing medical texts in vernacular meant preserving their mysteries for educated male readers (H. S. Bennett, *1558 to 1603* 180).

18. "[T]he increasing moral rigidity characteristic of Reformation and Counter-Reformation Europe made popular terms for the body, particularly those which referred to the genitalia, seem more and more vulgar and indecent" (Klaimont-Lingo, "Fate" 336).

Some early modern writers directly attempted to disabuse critics of claims of obscenity. At the beginning of the section on female genitals, for example, an anonymously written early modern text, *Aristoteles Master-Piece* (1684), warns

Was it not for the benefit of Practitioners and Professors of the Art of Midwifry, I should above all things spare to Treat of these particulars because they may be turned by some Lascivious and lude Person into ridicule, but they being absolutely necessary to be known. I will hope the best, and proceed in order. (104; E4v)

The author's intention to distribute what he considers "absolutely necessary" medical information subsumes his fear of accusations of lewdness. Likewise, Sharp explains that she writes "as plainly and b[r]iefly as possibly I can, and with as much modesty in words as the matter will bear" (4; B2v). She continues,

desiring the Courteous Reader to use as much modesty in the perusal of it, as I have endeavoured to do in the writing of it, considering that such an Art as this cannot be set forth, but that young men and maids will have much just cause to blush sometimes, and be ashamed of their own follies, as I wish they may if they shall chance to read it, that they may not convert that into evil that is really intended for a *general good*. (5; B3r; my emphasis)

Such writers realized the need and demand for access to medical knowledge outweighed

many of the arguments opposing the publishing of vernacular texts.

Nevertheless, a lack of clear terminology characterizes discussions of women's breasts in early modern English medical texts.¹⁹ Many early modern medical writers "struggled with the issue of nomenclature," writes Klairmont-Lingo ("Fate" 335), when developing a set of terms appropriate for disseminating information to lay readers.²⁰ Indeed, "The development of plain style through the sixteenth and seventeenth centuries," as Elizabeth Tebeaux argues, "may have been enhanced by writers who saw the need for a style appropriate to conveying information and instructions" (31). In addition to potential problems associated with providing information to those who might misuse or misunderstand this knowledge, "What troubled the English vernacular writers in medicine," as Charlotte F. Otten suggests, was really "the anglicizing of the vocabulary used to describe the genitals and the process of reproduction" (197) and, I argue, to describe women's breasts, lactation, and breastfeeding.

2.1.1 Terms

My analysis of the texts demonstrates the poorly defined and inconsistent terminology that writers employed in their discussions about women's breasts. In the written descriptions of the external anatomy of women's breasts, the medical texts reveal

19. See Stark's discussion of the rhetorical transformation of elaborate to plain language in the seventeenth century.

20. Arabic terms "were seen as 'corruptions' which had seeped into the Western heritage. Purification of old anatomical vocabulary was facilitated" (Klairmont-Lingo, "Fate" 336) by the publication of medical dictionaries, such as those by John Rider and Stephen Blankaart.

numerous inconsistencies and much lexical confusion until the middle of the seventeenth century when the texts begin to exhibit more regularization of terminology. These examples indicate that the problems with which these writers were struggling – if their objective was to disseminate important medical information – was one of language down to the word level as they translated works from Latin, Greek, and European languages. In addition, writers needed to consider how much scientific (Latin) or vernacular terminology they should include:

There are many cases where the vernacular simply carries more weight than a Latin alternative. This may be because the Latin equivalent (as in the case of animals) was unknown; or because the vernacular was so much better known and awakened personal memories in the audience that the Latin could never supply. (French “Languages” 38)²¹

Medical writers and translators were careful not to employ terms and descriptions for the breast, nipple, and areola that might ignite the sexual appetites of their readers or carry multiple connotations. They were not, however, always successful in their word and phrase choices. Further, although context is often necessary to decode meaning, the

21. Latin, according to French, helped university educated physicians to uphold “their monopoly of medical learning and practice” (“Languages” 26). Further, Latin was the language for communicating God’s will: “the ultimate authority” (26). In addition, Latin “had advantages such as making international communication easier” (44). Still, for the popular medical texts, “English idioms and proverbs,” writes French, “clearly carried greater importance than a Latin equivalent” (40).

works in question do not always provide context sufficient to decrypt the denotations, logic, and causal relationships they represent.

Anatomically, the “second part” was the torso from the shoulders to the bottom of the rib cage. Commonly, writers employed “brest,” “breste,” or “breast” interchangeably to mean “breast,” “torso,” “chest,” “thorax,” “pectus,” or “second part,” for both men and women – that is, a mix of formal and common language without specific denotation. For example, in eminent German anatomist and surgeon Johann Vesling’s (1598-1649) *The Anatomy of the Body of Man* (1653), translator Nicholas Culpeper (1616-1654) writes that the middle ventricle “which is called *Thorax*, in English the breast” (35; H2r).²² In several cases, “breast” also means the breastbone or sternum.²³ Other than “breast,” the most commonly used words for breasts used in the medical texts are “dug” (or “dugge”), “pap” (or “pappe”), and “teat” (or “teate” or “tete”).²⁴ Further, some writers use a word self-referentially. For example, in his 1663 anatomy, Danish physician Thomas Bartholin (1616-1680) writes, “The Dug is divided into the Nipple and the Dug it self” (86; Cc2v).

22. “Breast” is the translator’s word.

Vesling’s original text in Latin, *Syntagma anatomicum*, was published in 1641 and “was the most widely used anatomical text in Europe for almost a century and was republished a number of times with editions in Latin, German, Dutch, and English. Syntagma was the first illustrated western anatomical text to reach Japan and laid the foundation for the development of European medicine there” (Ghosh 1121). The edition used here, edited by Nicholas Culpeper, is the first English edition. Vesling was educated at the University of Padua and “made significant contributions to the advancement of anatomical knowledge during the 17th century” (Ghosh 1121).

23. “Breast” is of Germanic origin, the English form deriving from the Old English “breosd” and “briost” (*OED* n., Origin).

24. The origin of “dug” is unclear, but the *OED* cites 1530 as the earliest usage (“Dug,” n.1a). “Teat” may come from the Anglo-Norman/Middle French “tete,” defined as “the small protuberance at the tip of each breast of a woman (*OED*, n.1a).

“Pappe” also refers to a food prepared for an infant as translator Th[omas] Johnson (1600-1644) of highly noted French barber-surgeon Ambroise Paré (1510-1590) indicates in *The Workes of that Famous Chirurgion Ambrose Parey* (1634): “Pappe is a most meet foode or meat for children, because they require moist nourishment” (911).

Several writers used anglicized Latin and Greek derivatives in their descriptions, employed terms that maintained the *gravitas* of medical tradition, supplied established denotations, and avoided popular language that might connote undesirable meanings. In the English edition of German physician Oswald Gabelkover’s *The Boock of Physicke* (1599) and Dutch physician Stephen Blankaart’s *A Physical Dictionary* (1684), the Greek term “mazion” or “mastos,” respectively, denoted women’s breasts.²⁵ The Latinate “mammalia” (also spelled mammallia or mamilla) and its correlatives “mamma” and “mama” were also used often mean breasts.²⁶ Maintaining this Latinate terminology in French anatomist Jean Riolan’s *A Sure Guide* (1657), translators Culpeper and W[illiam]

25. Gabelkover (1539-1616), also spelled Gabelhover, published his German vernacular text, *Artzneybuch*, in 1589. Gabelkover came from a noble Austrian family and was the physician at Stuttgart (Stälin 290).

Blankaart (1650-1704), also spelled Blancard, Blankard, Blanchard, was a Dutch physician in Amsterdam since about 1674. “Starting in 1678,” Klerk writes, “he began what would be an enduring business partnership with publisher and bookseller Johannes Claesz. ten Hoorn (1639-1714)” (518). “By 1688,” Klerk continues, “the reading public would have been familiar with Blankaart as a translator and commentator of Latin medical works and author of compendia on human anatomy and chemical medicine” (521).

26. In his 1612 dictionary, John Rider (Bishop; 1562-1632) defines “Mamma” as “a pap, a teate, the first speech of infants, calling their mothers” (Eee6r). “Mama” (*OED*, n., etymology) and its other forms may derive from the syllable “characteristic of early infantile vocalization and regarded by some as a development of the sound sometimes made by a baby when breastfed.”

R[owland] write that “Women that have large strouting Dugs” are called “*Mammosae Mulieres*” (96; P4v) – that is, some women are identified by the size of their breasts.²⁷ In *Batman Uppon Bartholome, His Booke De Proprietatibus Rerum* (1582), English translator Stephan Batman (1542-1584) attempts to clarify Anglicus Bartholomeus’ interchangeable terms based on their linked relationships in Latin and Greek: “The pap is called *Mammilla* in latin, & taketh that name of roundnes, for *Maso* in Greeke is round in Latine” (53; K5r).²⁸ In the English translation of *The Anatomy of Human Bodies* (1694), by Isbrand van Diemerbroeck (1609-1674), English empiric William Salmon (1644-1713) uses “*ubera*” to define the human breast; later, however, he suggests that the term applies only to animals: “By the Latins [women’s breasts] are called *Mammillae*, and *Ubera*, though some will have *Mammae* to be proper to Women; *Mammillae* to Men; and *Ubera* to Beasts” (281; Nn3r).²⁹ Here Salmon implies that even in scientific discourse

27. In the original Latin text, *Encheiridium anatomicum et pathologicum* (Leiden, 1649), Riolan (1577-1657) writes “*Mammae amplae et ponderosae*” (199; N4r) and uses the adjective “*tumidae*,” meaning swollen. As a verb, “strout” means “To distend, cause to swell or bulge, making protuberant; to puff out” (*OED* v.1c); “strouting,” therefore, must refer to the outwardness or protuberance of the breast.

The second translator may be Rand rather than Rowland.

28. Anglicus Bartholomeus’ *De proprietatibus rerum*, originally written circa 1240, serves as an example of historical medical knowledge entering the early modern period, often without change. The Latin text was first translated into English in 1398 by John de Trivisa (Thornton 42). According to one biographer, “*De proprietatibus rerum* (‘On the properties of things,’ henceforth *DPR*), was the most widely copied, adapted, and translated medieval encyclopedia. Medieval translations of all or part of *DPR* were made into Anglo-Norman French, Continental French, Provençal, Italian, Spanish, English, and Dutch, for most of which there are premodern printed editions (Twomey).

Batman (also Bateman) was a Dutch physician. “[I]n addition to being chaplain to Archbishop Matthew Parker, [he] was also Parker’s ‘book-collecting agent’” (Kraebel).

29. The original Latin text, *Anatome corporis humani: Plurimis novis inventis instructa* (1672), reads “*brutis propria*” (388; Ccc2v). Salmon’s first translation of Diemerbroeck’s

breast terms were used variously. In the vernacular texts, *ubera* rarely appears.

“Nipple” and “niple,” as well as the Latinate “papilla” are the most frequently used terms for nipples in these early modern texts.³⁰ In *Bartholinus Anatomy* (1663), the unnamed translator writes, “For in the middle of the Dug there is to be seen a peculiar Substance, which, Is called *Papilla* the teat or Nipple, being spungy” (86; Cc2v).³¹

“Areola” is employed almost exclusively in this set of medical books.³² In the 1664 translation of Jacopo Berengario’s [*Mikrokosmographia*], H. Jackson describes the areola as a circle (6; B3v).³³ English physician Thomas Winston (ca. 1575-1655) adds a colour in his description. In his *Anatomy Lectures at Gresham Colledge* (1659), he writes, “The black circle about them is called *Areola*” (141). Riolan offers a slightly different description: “Round about [sic] the Teat there goes a Ring or Circle of different Colors” (95; P3r).³⁴ He then explains that the colours depend on the age and reproductive stage of

text appeared in 1689 (P. K. Wilson, “Salmon”).

In Latin, “uber” is a woman’s breast and/or nipple and is related to fertility. Further, “uber” (*OED* adj.) means a breast containing milk.

30. “Nipple” may be Germanic, coming from the word “neb” meaning the beak of a bird, with its first usage related to women’s breast in 1510 (*OED*, n., Origin, 1a).

31. The appearances of “Nepples” (Vesling 36; H2v) and “Nibbles” (Salmon, *Synopsis* [1671], 553; Nn7r; Wecker, *Cosmetics* [1660], 119; I4r) may be typographical errors typical of early modern printing, as they appear once and twice, respectively. I have not found the corresponding section in the 1681 edition of *Synopsis*. In *The Surgions Directorie* (1651), Vicary uses “Pappes-heads” (80; G1v), a fifteenth-century term for nipple (*OED*, “Pap” n1., compounds).

32. “There stands upon their Centre a little Protuberance called *Papilla*, or Nipple, which is encompassed with a reddish circle called *Areola*” (Keill 6; B3v).

33. This Italian physician (1460-1530) – also known as Berengarius of Capri, Jacopo Barigazzi, or Carpus or Carpi – was an important Italian anatomist. Parent writes, “The medical knowledge acquired by Berengario at Carpi appears to derive exclusively from experience” (1). By 1529, he was royal physician (2).

34. Thomas Winston studied in Padua under famous physician Fabricius. In 1608 his MD

the woman. Overall, however, writers say little about the areolae; some writers omit them entirely. Although many Latin words remained in the medical lexicon, most writers translated terms for external breast anatomy into vernacular that were assumed to be easier for lay people to understand.³⁵

In addition, there are many places in the medical texts where gender specificity is uncertain. Sometimes medical writers specified the sex to which they were referring, or the sex was obvious from the context such as under a gendered subtitle. However, frequently writers did not specify sex and context does not clarify usage. The term “pap” or “pappe,” for example, can mean a) the male and female breast; b) the female breast only; c) the male and female nipple; or d) the female nipple only. Writers defined the term “teat” (teate, tete) similarly, although never to mean a man’s nipple.³⁶ English surgeon and anatomist William Cowper (or Cooper; 1666/7-1710), in *The Anatomy of Humane Bodies* (1698), refers to “breasts,” “paps,” and “mammas” as terms for both men’s and women’s breasts, but also specifies “mammilla” for men’s and “dugs” for women’s.³⁷ He concludes, however, that the external thoracic parts – the tissues – are

was incorporated at Cambridge and licensed in 1610 (Spalding).

35. In his 1678 dictionary *The New World of Words*, for example, author Edward Phillips defines “mammet” as “a Puppet, a Diminutive of our vulgar word *Mam*, a Mother or Nurse, from the *Latin Mamma*, a Teat, as if it were a little Mother or Nurse” (Ff4r). He then equates mother/nurse with mam/teat, synecdochally making the female breast representative of the whole person. Note that Phillips’ text is not a medical text, but a dictionary that defines new vernacular words evolving out of developing scientific, medical, and legal practices.

36. That is, “teat” can mean a) the male and female breast; b) the female breast only; or c) the female nipple only.

37. See Figure 2.1 and my commentary below.

biologically the same in men and women – an important reminder that human tissues are, generally, not sex specific. On the other hand, French surgeon Jacques Guillemeau’s (1550-1613) obstetrical text *The Happy Deliverie of Women* (1612) indicates that “Dugges” is the appropriate term for cows’ teats – meaning either the entire udder or only the elongated nipples – but not for humans.³⁸ Although Gail Kern Paster’s claim that “Dugs are not aesthetic; dugs are breasts whose erotic appeal has been removed by maturity and lactation” (*Body* 230), her statement must be qualified: this conclusion applies only to some definitions/descriptions of “dugs.” Perhaps seeing such confusion about “dug” meaning both women’s breasts and cow’s udders/teats one might well draw the same conclusion.

2.1.2 Symbols

As well as selecting appropriate medical terminology, writers used common early modern symbols to describe and discuss women’s breasts. The most common symbol, consistent with the early modern examination of nature’s bounty, is fruit. Indeed, fruit

Cowper was “held in great esteem by his contemporaries” and “was noted also for his knowledge of comparative anatomy, his use of wax injections in anatomical preparations, and for his anatomical illustrations” (Kornell). His text “became a standard work on anatomy of the period” (Kornell).

38. If that link is based on breast function, then the equivalency would place women but not men in a subhuman category. However, several other medical writers do employ the term “dug” for men’s breasts, negating that hypothesis.

This English edition of Guillemeau seems to be a translation from the French text *De l’heureux accouchement des femmes* (1609). Guillemeau was “a royal surgeon held in high esteem in the French court” (Domínguez-Rodríguez and González-Hernández 933) who “became protégé and, in 1574, successor to the then French royal surgeon Ambroise Paré” (933).

symbols for women's breasts pervade the texts.³⁹ The pairing of nature with women's breasts is not surprising given the historical medical and humoural correlations between the human body and nature, the ostensible purpose of anatomy to expose nature's secrets of the human body, the cultural practices of mimetic representation of nature, and the tradition of personifying nature as female.⁴⁰ Importantly for the lay reader, writers' use of commonly found items such as fruits ensured wide-spread familiarity and therefore wide-spread understanding of the descriptions of size, shape, colour, and texture of human breasts. The association of breasts with fruits also recalls what several writers refer to as the secondary purpose of women's breasts – beautification – and invokes the classic motif of external beauty representing moral goodness: “the beauty of the female body is said to reflect the beauty of the soul” (Maclean 17).

The connection of women's breasts with fruit makes them round(ish) and sweet-tasting, pleasing to the palate and eye, which affirms the adoration of women's breasts as ornamental and as suitable for a pleasant experience of breastfeeding for the infant – and presumably attractive to men. For example, in *Practical Physick; Fourth Book in Three Parts* (1664), as translated by English physicians Culpeper and Abdiah Cole (1610-1670), German physician Daniel Sennert (1572-1637) refer to women's nipples as “strawberries” (223; R8r). In the translation of his anatomy, Diemerbroeck suggests

39. “‘Nature,’” Berman states, “is seen as female: controlled, used, and exploited by the scientist or ‘man.’” (226-27). However, this singular interpretation of Mother Nature does not represent accurately the multiple uses found in the texts studied here.

40. Sixteenth-century physiology was not just “the study of the activities and processes of the body,” confirms Nutton, but “investigations into nature as a whole” (“*Physiologia*” 28).

nipples are the size and colour of mulberries and bryar berries (282; Nn3v); in *The Anatomy of Humane Bodies Epitomized* (1682) English physician Thomas Gibson (1648/9-1722) also refers to “Mulberry” (212; P2v), adding “Raspberry” (212; P2v) in describing nipples. In the 1615 edition of [*Mikrokosmographia*], anatomist Helkiah Crooke (1576-1648) refers to women’s healthy breasts as being “like pleasant Apples” (157; P1r); Bartholin and Salmon (*Synopsis medicinae*, [1681]) also use the apple metaphor (86; Cc1v and 1107; Bbbb2r, respectively). In the marginalia of his book Berengario uses Latinate terms for women’s breasts, but explains his usage by associating women’s breasts with fruit: “The *Author* taketh *Mamilla* from *Mamillana*, a kinde of Figs like Dugs” (120; I4v). This cornucopia of fruit descriptors helps writers explain size, colour, and possibly texture, to lay readers who are familiar with such fruits.

Besides providing such practical information, the comparison of women’s breasts with fruit alludes to the assumed primary purpose of breasts described in most of the texts – their nurturing function – by associating leaky breasts with fruits dripping (questionably) healthy, drinkable juices. From a humoural perspective, fruit was cold and moist, matching the complexion of women, according to Paul S. Lloyd (559). This humoural connection makes breast milk similar to fruit juice, both providing natural sources of nutrition for humans. However, “if fruit was to be consumed, not a great deal of it should be eaten,” according to Joan Fitzpatrick, because fruit, being mostly water, was thought potentially to “cause a harmful imbalance in the body” (130). Similarly, medical writers frequently warned of the dangers of babies ingesting too much breast milk. Additionally, juices extracted from fruit were frequently used as medicinal

ingredients and to improve the taste of other medicines (Lloyd 559), a practice consistent with the medicinal uses of breast and animal milks.⁴¹

Further, given the use of nature in early modern literature, medical writers also adapted poetic conventions about nature to describe women's breasts. Invoking the idyllic pastoral, for example, fruit symbols suggest an image of the natural and beautiful breast in a representation that elides any negative representations of women's breasts that might be seen in medical texts. These writers presented women's breasts as innocently attractive and aesthetically pleasing.⁴² Such poetic renderings also associated the colours of women's breasts and nipples – and their humoural correspondence – with the lily white breasts and the rose red nipple connoting innocence and love, respectively. Not surprisingly, medical anatomization echoes blazoning poems popular in the period, in which the male lover itemizes the beloved's body, ostensibly for adoration, overlooking aspects of corporeal anatomization.⁴³ In medical writing, blazonic cataloguing becomes the isolation of women's breasts separated from the body that necessarily interrupts the breasts' functionality. Just as the Petrarchan lover's body becomes fixed into its poetic

41. Interestingly, early moderns might have considered “raw apples difficult to digest” (Fitzpatrick 131), preferring to cook fruits and juices. Humourally, this correlates with the body using unrefined digestive fluids – those in the stomach – to produce useful fluids – such as breast milk – through heat (or concoction).

42. Several fruits, particularly red ones, ranging in size, appear in early modern love poetry. For example, in the blazon within Sonnet 64 of his *Amoretti*, Edmund Spenser writes, “Her goodly bosome lyke a Strawberry bed” (line 9) and “her brest lyke lillyes, ere theyr leaves be shed, /her nipples lyke yo[n]g blossomd lessemynes” (lines 11-12 E1v).

43. In the famous *carpe diem* poem, “To His Coy Mistress,” Andrew Marvell's speaker vows he would spend one hundred years worshipping his lover's eyes and forehead, but “Two hundred to adore each Breast” (line 15 19; E2r).

description – as the alabaster beauty – women’s breasts become fixed in medical anatomizations – as the discursive specimen – without their human essence and their functionality.⁴⁴ The short season and lifespan of fruits, also suggests the fleeting beauty – as well as the limited period of fertility – that constitutes the central argument of *carpe diem* poetry – and reflects the medical discussions of saggy post-lactation breasts.⁴⁵

Fruit symbols might also invoke negative connotations of women and their bodies associated with Christian concepts about the fallen Eve. By the early modern era, some Christian dogma attributed the descendants of Eve with uncontrolled passions and their innate susceptibility to sin and evil influence demonstrated by Eve’s consumption from the forbidden tree.⁴⁶ From this perspective, the medical association of women’s breasts with fruit might imply a suspicion of women’s sexuality and morality. Readers might interpret the breasts’ delicious juices dripping from fruits described above as a sign of men’s sexual desire of breasts and of women’s lust. Still, such interpretations are countered by pleas to readers emulate Mary. Even if readers conjure Eve’s position as first sinner, the association of women’s breasts with the wholesome and plentiful bounty of the Garden of Eden provides a counterpoint to such a negative interpretation. In her midwifery manual, for example, Sharp makes a connection between the metaphor and the

44. Even so, the breadth of descriptions of women’s breasts related to their life stages would, at least, suggest more than one fixed female body; however, there is no commonly accepted fixed description of any woman at any age among writers.

45. See Marvel’s “To His Coy Mistress.” “Saggy” breasts will be discussed below.

46. However, just as not all fruit is forbidden, not all women are associated with lasciviousness or immorality, evident in the discussions about choosing wet nurses. See Chapter 4.

uterine/breast sympathy writing that menstrual discharge is “named Flowers because Fruit follows” (*Midwives* 288; T8v), perhaps reminding readers of the fruit of the womb, ultimately Jesus made flesh by Mary.⁴⁷ Extrapolating to Mary’s suckling of Christ, women’s breasts can be seen as the providers of literal and moral sustenance for mankind – at least on Earth.⁴⁸ Interpreted in these ways, nature symbols allowed writers to reiterate the indivisible bond between women and their corporeality but also to place them within with nature’s and God’s design.

While fruit symbols relate women’s breasts to nature, other symbols in the medical texts signify other cultural images. “Hemisphere” and “semisphere” might refer to mathematics and geometry, the correct proportions of body parts and humoural fluids being key to maintaining good health. Tieleman indicates that “Therapy, then, is aimed at restoring the natural balance between qualities. The good Galenic doctor, for his part, having identified the essential symptoms, will derive his therapeutic *indication* therefrom” (61; original emphasis) based on the Aristotelian idea that opposites are cured by opposites. For example, of women’s breasts Salmon writes, “Their figure is roundish, representing as it were an Hemisphere” (*Synopsis* [1681] 1107; Bbbb2r), while Scottish

47. In his anatomy Vesling entitles an entire section on female generative anatomy “Of the Fruit of the Womb” (G3v; 30), alluding to the Lord’s Prayer. The use of flower may also be related to the Latin verb *fluere* meaning “to flow.” This connection reaffirms the alleged connection between the uterus and breast milk.

48. As the so-called second Eve, Mary provides women’s redemption, illustrated in Christian art convention of Mary – or Jesus – holding an apple or pear. See, for examples, the early sixteenth century paintings *Virgin and Child* by a follower of Hans Memling in which Mary hands an apple to Jesus and Lucas Cranach’s *The Virgin and Child under an Apple Tree* (ca. 1530) in which Jesus holds the apple.

physician and anatomist James Keill (1673-1719), in *The Anatomy of the Humane Body Abridged* (1698), notes that “The Dugs are like two Semispheres, situated upon the Pectoral Muscles, in the upper Part of the Chest, one on each side” (99; F2r).⁴⁹ Further, “Empirical verification based on dissection of human cadavers created a revolution in anatomy and launched the movement that brought about semantic mapping of the human body” (Klairmont-Lingo, “Fate” 335). In an England that was invested competitively in global exploration, anatomical exploration of the body easily loaned itself to corresponding language.⁵⁰ The comparison works in reverse as well; as Jennifer L. Morgan notes, Italian explorer Cristoforo Colombo (1451-1506) “wrote that the earth was shaped like a breast with the Indies composing the nipple” (12).⁵¹ As explorers created the world through illustration and language, so medical writers created the female body.

Further, astronomical symbols encompassed the early modern period’s changing perceptions of man, nature, God, and the universe as scientific theories and evidence

49. The appearance of breasts as semispheres is obviated in the illustrations below. Guerrini writes, “Keill was a successful medical practitioner, whose noble patients included Lord Leominster, the duke of Leeds, and Earl Ferrers.” Keill’s 1698 *Anatomy of the Human Body Abridged*, according to Guerrini is “an anatomy textbook, largely translated from the French *Nouvelle description anatomique* (1679) of Amé Bourdon.”

50. The use of descriptors to imply globes is also a convention in Petrarchan blazoning. In “Elegy 19. To His Mistress Going to Bed,” John Donne’s narrator rapturously refers to his virginal lover as a land to be explored and conquered: “O my America! My new-found-land” (line 27 98; H1v).

51. C. Colombo’s reference to the Indies as “nipple” is confusing. Colombo writes, “*y qu’esta parte d’este peçón sea la màs alsa e más propinca al cielo* (215). “*Peçón*” means nipple. Rather than Ptolemy’s notion of the spherical planet, Colombo’s conceives earth as shaped as a bulge with the east being a nipple – a kind of peak that is closest to heaven. Consider how Berengario indicates an ovoid body when describing the female breast: “the inward concavity of [the breast] is like to the hollowness of half an egge, cut obliquely through the breadth, the part whereof is sharper toward the neck” (119; I4r).

began their revolutionary transitions. Humoural theory's systematic pairs and tetrads, Noga Arikha claims, reflect "the alchemical correspondences between microcosm and macrocosm, between body and world" (135).⁵² According to Leonard Barkan, the proliferation of anatomies helped "to uncover in the cosmos an endless series of analogous constructions at once multiple and harmonious" (50).⁵³ "Indeed," Brian S. Turner contends, "the body has been seen as the centre of a set of relations which provide the link between embodiment and the natural order" (27). Such astrological associations prevailed in English medical texts well into the seventeenth century. Barkan claims that the unification of man and astrology allowed "a microcosmic vision of man containing a vast but orderly quantity of the cosmos" (36) and made man as close spatially and mimetically to God as possible. The male body maintained a divinely ordained mathematical harmony under a terrestrial sign system.⁵⁴

Yet earthly Nature is interpreted as female. In an anonymous translation of *His Aurora & Treasure of the Philosophers* (1659), Swiss physician and alchemist Paracelsus writes of Nature, "I have seen the Light that is in her, and have approved [or made it

52. "The stars were signs that helped direct and regulate one's life and it was important," Arikha explains, "to establish some ways of predicting their health, relying on the connection between their humoral selves and the celestial bodies" (130).

53. In *Paradise Lost* (1667), John Milton's Raphael tells Adam about God's cosmos: "... how gird the Sphear / With Centric and Eccentric scribbl'd o're, / Cycle and Epicycle, Orb in Orb" (7.719-21 Bb4v).

54. The titles of many of the medical texts reflect the cosmological shift from theocentric to androcentric philosophy. For example, Berengario and Crooke entitled their anatomies [*Mikrokosmographia*] while Turner's is called [*Mikrokosmos*]. Crooke's [*Mikrokosmographia*] was printed at least five more times in the first half of the seventeenth century.

good] in the Figure of the Microcosm, and have found it so in her world” (74; E1v).

Although the male/Earth and female/nature appears to be an inconsistency, one could interpret these correlations as representing the accepted scientific paradigm of the male providing the essence (the whole) and female the matter (the material matter).⁵⁵ Terms such as orbs and spheres used to describe earthly and celestial landscapes might also align women’s breasts with planetary shapes: Bartholin’s translator and Gibson both refer to women’s breasts as half globes (86; Cc1v and 212; P2v); Riolan’s translator uses the term “Orbe” (96; P4v).⁵⁶ If one extends the geographical metaphor to its extreme, medical writers described women’s breasts through comparisons with the cosmos, the expansive metaphor fashionable in and indicative of an age of significant scientific achievement.

Ultimately, the literal and symbolic geometric figure central to the early modern world order was the circle. The reliance on what David Rosen calls “the power of the image of the circle” (198) effectively illustrates the idealized image of the human body and its parts is supported by the Ptolemaic system of epicycles that Copernicus retained

55. Harvey and Krier explain that Luce Irigaray employed Copernican theory “to establish how gender relations are based on supposedly stable scientific paradigms (man as the centre of the universe, woman as the planet orbiting around him)” (5). This scenario parallels the concept of man’s body being normative and stable while woman’s body is abnormal/underdeveloped and malleable, as well as the dichotomy of dry and leaky bodies. See Longhurst’s *Bodies: Exploring Fluid Boundaries* and Shildrick’s *Leaky Bodies and Boundaries: Feminism, Postmodernism and (Bio)Ethics*.

56. Consider that the excised breast tissue in Figure 2.1 looks like a perfect, self-contained sphere – or globe – dripping blood. Although I am interpreting “globes” and “Orbe” as astronomical symbols, they might also represent mathematical/geometric shapes or even (poetically) eyes.

in his construction of the universe.⁵⁷ As shown above, medical writers frequently used circular images to describe human breasts, especially the nipples and areolae. For another example, in *Practical Astrology* (1679), John Middleton indicates various bodies shapes and sizes of women under Venus – “the Governour” of the breasts and milk (183; N4r) – for each sign of the zodiac.⁵⁸ As a Taurus woman would be “a comely well-proportioned person” (43; D6r), but as Capricorn, she is “a lean spare person” (45; D7r) and as Cancer she has “a Body something inclined to fatness” (43; D6r). One might extrapolate the relative sizes of women’s breasts according to such descriptions as he insists that Jupiter causes “Imposthumes” (185; N5r) in breasts. Further, Salmon writes, “*Venus* is cold and moist, phlegmatick: she rules the Womb, Yard, Testicles, all the Instruments of Generation, the Reins, Bottom of the Belly, Throat, Womens Breasts” (*Synopsis* [1681], 9; B5r). In Christianity, the circle also illustrates the alpha and omega of God and eternal life as well as the marriage contract signified by the ring. Vesling calls women’s areolae “Halo” (36; H2v), alluding to both cosmological circles and Christian saintliness.⁵⁹

Just as many medical writers insisted that women’s medicine must be researched

57. Pinto-Correia describes Ptolemy’s eccentrics and epicycles as “layer upon layer of circles within circles” (245).

58. This book might be an early modern edition of fifteenth-century physician John Middleton. However, there were many men named “John Middleton” then, and in the early modern period.

59. Problematically, the perfection of the circle fails when German astronomer Johannes Kepler proves mathematically that orbital patterns are, in fact, elliptical, denying “the perfection held by the spheres” (Pinto-Correia 246) and subsequently the entire circular organization of the universe. However, the ellipse *is* a perfect geometric form – being regular and permanent – that can be represented mathematically. It is even symmetrical, but not on every plane of division, as the circle is; it is symmetrical along a bilateral plane, just as the human body is.

and practiced differently from – rather than adjusted in relation to – men’s medicine, Paracelsus’ two astronomical worlds for women and men implies a differentiation between women’s and men’s bodies, anticipating the two-sex model of human bodies.⁶⁰ Hildegard E. Keller notes that Paracelsus sees a need for “gynecological specialization” represented in “an exact opposition of his fundamental principle: The whole woman constitutes a world of her own (“Seeing” 93-94). Further, this consideration turns the male-controlled uterocentric female cosmos into a gynocentric one that may be on par with the androcentric cosmos: women’s breasts, areolae, and nipples naturally invoke early modern English concepts and ideas associated with the universe (H. E. Keller “Seeing” 94) – perhaps a feminized “microcosma.” In *Aristoteles Master-Piece* (1684), the anonymous writer states, “Physicians that have narrowly contemplated Mans Nature, constitute four different times wherein this Microcosm or little World is framed and perfected in the Womb” (17; A9r). The first occurs when the womb grasps the seed; second, when the fetus feeds *in utero*; third, when the flesh is added to the fetus; fourth when the child is perfected and ready to be born (18-19; A9v-A10r). Again, this correlates with the uterus/breast connection.

The Milky Way may be another cosmological metaphor used by early modern

60. Several of the medical texts have entire sections devoted to women’s illnesses. Everard Maynwarding writes, for example, that women experience more breast pain than men do because women’s breasts are “spongy, soft and porous” (*Pain* 64; E8v), implying that the tissue of men’s breasts is different than that of women. Later he states that the vessels for lactation, not present in male breasts, make women’s breasts more likely to be painful (*Pain* 65; F1r).

medical writers to describe and discuss women's breasts.⁶¹ "Galaxy" comes from a short form of Hellenistic Greek meaning "milky circle" (*OED*, n., etymology) making women's role as nurturers central to the organization and functioning of the early modern universe. The expression "milky way" (*OED*, n., etymology) has been a poetic euphemism for women's breasts at least since Cicero's use of *lacteus orbis* and Pliny's *lacteus circulus*. However, vernacular usage comes even earlier, in Geoffrey Chaucer's *House of Fame* circa 1380 ("Milky Way"): "See yonder, lo, the Galaxyë, / Which men clepeth the Milky Wey, / For hit ys whyt" (lines 936-38).⁶² Further to this literary association, mythology also makes the Milky Way part of female cosmology.⁶³ Given the humoural similarity between sperm and breast milk shown above, the wasteful spilling of woman's milk figuratively imagined as spraying across the night sky might suggest woman's moral failure and dubious ability to ascend to heaven.⁶⁴ On the other hand, some medical writers, such as Welsh physician John Jones (fl. 1562-1579) in *The Arte and Science of Preserving Bodie and Soule in Al Health, Wisedome, and Catholike Religion* (1579), recommended the spilling of unhealthful breast milks, such as

61. Given the limited telescopic technology and low-quality lenses, astronomers views of the stars would have been blurry, or, one might say, milky.

62. Havelly suggest that Chaucer is alluding to Ovid's tale of Phaëton in *Metamorphoses* as well as the myth of Icarus (164).

63. See also, for example, the painting by Peter Paul Rubens entitled *The Birth of the Milky Way* (1637), in which Juno/Hera removes her breast from the infant Hercules/Heraclès spilling milk across the sky.

64. Shakespeare illustrates the shameful wasting of sperm in Sonnet 129: "Th'expence of Spirit in a waste of shame" (line 1 H3v). Bevington glosses the line to explain, "Lust being consummated is the expenditure or dissipation of vital energy in an orgy of shameful extravagance" (1739). One might consider breast milk, as a comparable fluid, in the same way.

colostrum.⁶⁵

The early modern medical works examined here reveal several quandaries facing writers as public demand for vernacular medical resources increased throughout the early modern period. First, the lack of established medical terminology necessitated the frequent use of vernacular expressions packed with cultural connotations that made descriptions of women's breasts potentially subject to accusations of indecency and misunderstanding. The mixing of terms from various sources produced an ambiguous medical lexicon that inconsistently connected women's breasts with sexuality, generation, and lactation. Second, despite the realization that male and female flesh do not exhibit visual or physical differences, writers often used gendered terminology, distinguishing the difference between female and male breasts.⁶⁶ Third, the texts demonstrate that writers used familiar early modern symbolism – those of English patriarchal culture – to discuss the breast, its structure, and its functions. Although such symbols might suggest men's corporeal superiority over that of women, the same symbols allow for reimagining women's bodies on par with men's, at least in medical terms. Bicks' statement about the "naked truth" becomes an amusing but accurate pun in

65. See also Aristotle *The History of Animals* (IX(VII).5, 585a.33).

Jones was a Welsh physician of some eminence. "He also appears to have travelled, for the purposes of practice, to Bath and Buxton and to have been patronized by Henry Herbert, second earl of Pembroke, and George Talbot, earl of Shrewsbury" (Thompson Cooper "Jones").

66. Female muscle, for example, has the same structure as male muscle; fat is fat; bone is bone. According to Paster, "Renaissance anatomists would not claim to distinguish male and female tissue with their scalpels" (*Unbearable* 41), because there is no biological difference.

analyzing descriptions of women's breasts in early modern medical texts. Indeed, medical writers presented the "naked truth" about women's bodies through the smoke and mirrors of figurative language.

2.2 The Internal Breast

"The anatomist cuts, dissects, flays, tears, and rips the body in order to know it"
(Hodges 5).

Despite the limitations of early modern dissection, anatomists discerned the internal structure of the breast in considerable detail.⁶⁷ As we have seen in writers' development of language to disseminate information more easily about the external parts of the breast, terminology used in describing the internal parts of the breasts are confusing, inconsistent, and often vague. Writers generally described the internal anatomy of women's breasts and nipples in relation to female-gendered bodily functioning and placed those descriptions in sections relating to obstetrics and sometimes beauty regimes.⁶⁸ Significantly, in the early modern period, the increasing availability of illustrations based on anatomized bodies and the improvement and use of magnifying technologies, scientists fostered an opportunity to verify or dismiss the anatomical claims of their colleagues as well as historically held assertions about the human body.

67. In addition to direct observation through anatomy, by the early seventeenth century technological advancements, such as microscopes and magnifying glasses, illuminated details of the body invisible to the unaided human eye. Cowper's illustration of the dissected breast represents a magnification of six.

68. In [*Mikrokosmos*] (1654), Turner claims there are four parts of the breast (or thorax), namely, "skin, muscous flesh, the paps, and bones" (18; Cv).

Nevertheless, the continued publication of older texts with and without updates as well as inconsistent translations of European texts muddled the dissemination of anatomical advances. For women, more investigation into the internal structures of breasts promised improved preventative health care and treatment in the future.

One example of late seventeenth-century anatomical illustrations of women's internal breast anatomy is Cowper's anatomy (K2v).⁶⁹

69. See Figure 2.1.

When Govart (or Govard) Bidloo's book, *Anatomia humani corporis* (1685) failed, Cowper bought 300 of the extra printing plates with drawings by Gérard de Lairesse and engravings by Abraham Booteling and Peter Stevens van Gunst (Rifkin *et al.* 132). For his part, "Bidloo, who was notoriously irascible, was incensed, and in the war of pamphlets that ensued accused Cowper of plagiarism" (132). However, Kornell claims, that Cowper changed the text considerably: "Cowper provided a commentary to the plates [...] supplied a new text in English and an appendix of nine extra plates of subjects he felt were lacking or poorly delineated [...] included observations derived from his surgical practice, experiments, wax preparations, and his research in comparative anatomy." Evidently, Cowper also added red ink "to the plates to accommodate [his] added observations."



Figure 2.1 Dissection, human breasts, “Nineteenth Table,” from William Cowper’s 1698 *The Anatomy of Humane Bodies* (K2v), British Library Board 8° R 21 Med (with permission of the British Library and ProQuest; image produced by ProQuest as part of *Early English Books Online*).

In his address to, Cowper writes,

These Figures were Drawn after the Life, by the Masterly
Painter *G. de Lairess*, and Engrav'd by no less a Hand, and
Represent the Parts of *Humane Boides* far beyond any
Exstant; and were some time since Publish'd by *Dr. Bidloo*,
now Professor of Anatomy in the University of *Leyden*. I
shall take the Liberty here to acquaint the Reader, That in
these Tables I have added above Seven-hundred
References. (D1r)⁷⁰

In Figure 2.1, the first two of Cowper's five breast images, which he labels *Fig. 1* (the upper right-hand image) and 2 (the upper left-hand image), respectively represent the initial dissection in which part of a skin flap has been peeled away and the complete breast. The corresponding text reads, "One of the *Mammae* or Breasts of both Sexes; some distinguish them by their Denominations, calling that of a Woman *Fig. 1. Mamma*, and that of a Man *Fig. 2. Mammilla*: We commonly call them Breasts; but in Woman

70. Given the purchase of Bidloo's plates by Cowper, it is likely that the illustrations did not arise from Cowper's own direct observations. His address to the readers seems to confirm this. On the other hand, Rifkin *et al.* suggest that Cowper did not use these to illustrate his text, claiming that Henry Cook drew new plates, with engravings by Michel van der Gucht (131). If Cowper did use new drawings and engravings from his own dissections, his purchase of the plates may have been an effort to prevent another writer from publishing an illustrated anatomy before Cowper could. The comments on the figures are legitimately Cowper's.

Dugs” (Nineteenth Table; K1v).⁷¹ Because Cowper is discussing the internal anatomy of a female breast, one might assume that the excised but intact breast would be a female one. However, Cowper’s own words indicate that the undissected breast is, in fact, a male breast with no visible differences from the female breast except height. Subsequent images represent a decidedly female breast because the aim of the dissection is to see the internal tissues associated with lactation, which, presumably, do not exist in male breasts.

The lower right image (*Fig. 3*), Cowper indicates, represents the dorsal perspective of the nipple and areola with the skin pulled back, magnified six times. Both the image and the text imply that there is a compositional difference in the breast tissue and the nipple tissue. The lower centre image (*Fig. 4*) represents the “External Glandulous Membrane of the *Papilla*, separated and expanded” (“The Nineteenth Table” K2r) and supported by the mammary glands from a lateral perspective, magnified by six. Cowper explains that the circular structures represented as two concentric rings around the nipple (labelled E through G in the figure) are unlike any found elsewhere in the body and that “a vast Number of Blood-Vessels which every where adorn the *Papilla*” cause the nipples to “strut out” for nursing (K1v). Rather than indicating that the nipple returns to its previous shape and place post-lactation, Cowper insists that the nipples are “Limp in those who discontinue giving Suck” (K1v).

The final figure (the lower left figure, *Fig. 5*) represents what Cowper calls, “The Inferior and Internal Part of the *Areola* and *Basis* of the *Papilla* after Dissection from the

71. Cowper does not explain why this terminological distinction is necessary.

Mamma” (“The Nineteenth Table” K2r). Although not clear in the copy of the illustration, *Fig. 5* shows the circumference of the areola (labelled “A”), the glands under the areola (“B”), and the lactiferous tubes leading to the nipples (“C”). After describing the method of dissection, Cowper makes the following claim:

I must confess I never yet saw these [lymph] Ducts Arising from the *Mamma*, yet I can’t doubt of their Existence on that Part, when I reflect on what Use they are of in General, in the Animal *Oeconomy*, of which elsewhere. The Communication between the Lactiferous Tubes and Blood-Vessels, is demonstrated in the above mention’d Experiment, by Injecting Mercury into the Former, and its Running out again by the Later. The Opinion that the Chyle is transmitted to the *Mamma* immediately from the Thoracick Duct is now altogether Exploded, and the last mention’d Experiment seems to evince the Milk to be deriv’d immediately from the Blood within the *Mamma*.

(K1v)

Based on experimentation, the description refutes the belief that breast milk production is associated with the uterus. Despite admitting that he has not seen the ductal system in women’s breasts, Cowper continued to investigate the origin of breast milk and his

hypotheses about how the corporeal machine functioned.⁷²

Prior to the seemingly most up-to-date information of Cowper's text, various opinions and discussions about women's breasts appear throughout the early modern period. English surgeon Thomas Vicary (d. 1561) begins his discussion on internal breast anatomy stating "that the flesh of the Pappes differeth from the other flesh of the body; for it is white, glandulus, and spongeous" (*The Surgions Directorie* [1651], 53; E4r).⁷³ Vicary is not necessarily stating that the skin covering the bulk of the breast differs from that of the rest of the body – a simple visual inspection confirms this fact. Rather, he is describing the tissues under the skin. However, when writers discuss the tissues of the nipples and areolae – both of which are of a different colour than the skin covering the breast and the rest of the body – there is disagreement. Alexander Read claims that the nipple is

of a fungous substance, that it may admit distension and contraction. It hath many holes: which appeare when the milk is pressed out. It is rougher than the other parts of the

72. For Cowper, the biological knowledge of the human body was not static but develops over time as anatomists and experimenters made new discoveries. Not all writers, as will be shown, were willing to challenge the *status quo*.

73. Vicary (also Vicars, Vickers, Vycars, and Vycary) was a surgeon, "a member of the Barbers' Company of London" and held posts there over several years (Murray). After successfully treating an ailment of Henry VIII, "he was appointed a royal surgeon" and "continued sergeant-surgeon to Edward VI and Elizabeth, and in 1554 he was appointed surgeon to Philip" (Moore).

dug [...] It is framed of the reduplication of the skin.

(*Manuall* 281; N3r)⁷⁴

Not only does Read indicate that the skin of the nipple is rougher and thicker than other skin – likely to protect the nipple during breastfeeding – he mentions the “many holes” through which he believed the breast would excrete milk. Bartholin also considers the skin of the nipple, writing

Riolanus believes that the Skin [of the nipple] is doubled, and as it were compressed: but the doubling would make it thicker [...] Only in old women it grows thick. Nor is the Nipple any other where made of the skin straitned or folded. (86; Cc2v)

Although Bartholin denies that nipples have a double layer of skin, he suggests that as women age, their nipple skin becomes thicker. Winston also refers to older ideas about nipples, claiming the “*Papilla* or Teats, [are] of a spongy substance, according to *Vesalius*, which *Riolanus* denies, and says that they are a double skin with a production of the membrane of the glanulous body” (141). Winston’s statement does not clearly indicate if he agrees with Vesalius, Riolan, or neither. Vesling describes the tips of the nipple as being “endewed with a Membrane” covered by “a thin skin full of holes, and stick out” (36; H2v).

74. Here “funguous” may simply mean a spongy, porous quality. However, in seventeenth-century medical usage it can also mean “Of abnormal tissue growth” (OED n.1b).

All the writers who describe the internal anatomy of the breast acknowledge the types of tissues under the skin as being like those elsewhere in the body, yet they do not always provide the same common terms or Latin names.⁷⁵ Riolan names “two Veins, viz. *The Vena^a Mammaria*, or Dug-Vein; and the *bEpigastrica*: and also by the *Venae^c Thoraciicas*, or Breast-Veins, which are Branches of the *Vena^d Cava*” (97; Tr;) The superscripted letters refer to items in an illustration that does not appear in this edition of the text. Read refers to the *tubuli lactiferi* as the “conduits of milk” (*Manuall* 274-75), the *Thoracicae superiores* as “the upper-most brest veins” (275) and the *mammariae* that “Spring from the rami subclavii” (275).⁷⁶ Significantly, however, these writers describe vessels for milk transportation and the existence of glandules, or kernels, associated with milk production. Keill writes, “The Nipple is made of a fibrous and spongius Substance, thorow which the *Tubuli Lactiferi* pass: It has several Nerves, Veins and Arteries” (100; F2v).⁷⁷ Although other writers are uncertain about the mechanics of milk storage, Gibson claims, “Pipes, which are the Store-houses wherein the Milk is reserved, and through

75. Winston writes that the breasts “have externall veins *ab axillari ramo*; and internall à *subclavio*, for their nourishment: and arteries for their life. Yet *Riolanus* doth deny the teats to have either veins or arteries. Nerves for exquisite sense à *Costalis*” (141) While Paul Barbette (1620-1666) suggests that one of the inferior branches of the *subclavia* is the “*Mammaria*, which is carried to the breasts” (223; Q2v).

76. The existence of arteries, veins, fat, and other tissues were well established. For example, as early as 500 BCE Alcmaeon of Croton may have distinguished veins from arteries. See also “Historic Timeline of Manual Medicine” by the American Academy of Manual Medicine, *The Oxford Companion to the History of Modern Science*, edited by Heilbron, and “History of Medicine Timeline” by Rachel Hajar.

77. Vicary’s description agrees: the breast is “white, glandulous, and spongeous: and there is in them, both Nerves, Veines, and Arteries” (*The English-mans Treasure* [1633], 35; F2r).

which as by Conduits it flows to the Nipple when the Child sucks” (214-15; P3v-P4r).⁷⁸ Further, Gibson adds “Nerves” and “Lympheducts” as part of the internal breast tissue (213; P3r). This becomes particularly important when writers consider the possibility of male lactation.⁷⁹

The matter of glandules in breasts is also debated. One would expect some connection between the veins/arteries and the glandules, but few of the texts name or describe them. Diemerbroeck contends, “The milky vessels, quite different from the veins and arteries are for the most part observed to be intermixed with the glandules of the breasts” (283; Nn4r). Further, most writers agree that fat surrounds the glandules and contributes to the bulk of women’s breasts. Gibson, for example, writes, “The spaces between the Glands are filled up with fat” (212; P2v). In a section specifically about women’s breasts, Riolan writes,

The Dugs are made up of a company of Kernels very like the Kernels of Prune-Stones, clustered together, and disposed confusedly in heapes upon a Membrane proper to themselves, in the midst of which there lies one Kernel greater than the rest, under the Teat. (95; P3r)

Diemerbroeck states his contradiction of Riolan, yet, as the above quotation shows,

78. Anatomists variously define “pipes” as vessels, canals, tubes, or channels. Early modern physicians that believed the veins and arteries functioned as transportation conduits for all humoural fluids and vapours, leading to and from various parts of the body.

79. See section 3.2

Riolan's description, in fact, agrees with Diemerbroeck's:

*Riolan and Wharton contrary to ocular Testimony, deny this multitude of Glandules, and aver that the whole Breast is composed of one sole Glandulous Body, divided into no distinct Globes; yet in the mean while they grant that in Breasts that are not sound, little Globes may be discerned, which certainly would not be perceived in Breasts unsound, unless they were really in sound Breasts, which are less tumid. (282; Nn3v)*⁸⁰

By the end of the seventeenth century, anatomists were able to glean much information about the internal anatomy of female breasts. And with the aid of the microscope, more details began to emerge. Despite these advances, however, observations seen through technical manipulation as well as interpretations of prints of drawings of anatomies and the reprinting of outdated materials prevented definitive answers about the internal structures of men's or women's breasts. Significantly, anatomists' inability to find a physical link between the female breast and the uterus made possible the undoing of some of the negative understandings about women, their

80. Keill writes, "The Substance of the Dugs is composed of a substantial number of Glands of an oval Figure, of which some are much bigger than others; these Glands lie in a great quantity of Fat, of Veins, Arteries, and Nerves, the Vessels make several Plexus's about them, and terminate also in them. They have each an Excretory Duct, which as they approach the Nipple, join and unite together, till at last they form 7, 8, or more small pipes called *Tubuli Lactiferi*, which have several cross Canals by which they communicate with one another" (100; F2v).

breasts, and breasts. Without the breast/uterus connection, many of the theories about women's breasts and the creation of breastmilk would require serious revision. Further, this discovery provides an opportunity to debunk some arguments about women's breasts used to inferiorize women.

2.3 The Illustrated Breast

“[A]natomy was becoming a subject of serious artistic study” (Bergin and Speake 16)

Adding to the written representations of human corporeality, illustrations of human bodies developed in the early modern period from the knowledge gleaned by direct observation, through reproduction of previously created artistic and didactic images, and as facsimiles of views aided by magnification technologies. Within the medical texts, frontispieces, title pages, individual and paired male and female bodies, and dissected body parts allowed readers – and even illiterate observers – a non-verbal way to learn about human bodies as well as basic concepts of body mechanics and simple medical procedures. Just as English medical writers and translators borrowed stylistic and figurative strategies from various discursive genres, medical illustrators applied various techniques of visual artistry in their renditions of human bodies.⁸¹ With a limited access to human corpses, however, illustrators may not have observed anatomical structures

81. Rifkin *et al.* indicate that Berengario's *Commentaria super anatomia Mundini* (1521) was the first full-scale anatomical book (13). Based on the work of anatomist Mondino da Luzzi (Mundini; c. 1270-1326), Berengario is credited with adding commentary to illustrations (Cunningham 78)

developing out of new knowledge and technology.⁸² As Bert S. Hall suggests, medical

Engravers themselves often had no models to rely upon except earlier printed works, and in the absence of any laws or customs prohibiting such plagiarism, even those plates freshly cut for a new work sometimes simply repeated older published materials. This can result in some very scrambled relations between text and images. (17)⁸³

For a culture that obsessively focussed on vision – mirrors, portraiture, spectacle, spectatorship, microscopy, telescoping, and mimetic representation – anatomical illustration promised to illuminate new understandings of human bodies and therefore new ways to present bodies visually.

Some twentieth and twenty-first century critics insist on describing early modern medical illustrations negatively. Andrea Carlino, for example, claims that in medical illustrations, women were drawn “in manifestly lascivious and ecstatic positions,” indicating that the “anatomical representations are an explicit expression of the latent association between eroticism and anatomy” (26), endangering the reader’s self-control. The illustrations presented here, however, do not present women as particularly lascivious. Further, Benjamin Rifkin *et al.* claim that, unlike those for the nude males, “there is a moralizing undercurrent in many of Berengario’s woodcuts, particularly the

82. See Chapter 1 regarding corpse availability for dissection.

83. The reproduction of older illustrations in newer texts is another example showing how readers did not necessarily receive the newest medical information and why older theories maintained a foothold even when more recent observation disproved them.

female cadavers illustrating the reproductive organs, whose draping seems to suggest both shame and modesty” (4). In the illustrations discussed here, however, draping cloth, as I will show, does not imply shame, or, in some cases, not even modesty.⁸⁴ Hall claims that viewers “routinely assume ‘prettier’ drawings contain more accurate information than ‘uglier’” (16), even in didactic illustrations, whatever those categories might imply.

Indeed, Devon L. Hodges suggests that, rather than being lascivious or shameful, the aesthetically pleasing illustrations indicated “the ability to see how each part of the body revealed the divine purpose of its creation” (4), even in images of dissected body parts.⁸⁵ Still, illustrated medical representations of women, Sugg contends, were less detailed, showing women in a “coolly detached manner – entirely, transparently knowable just because she is so two-dimensional” (125). However, the same might be said of the male figures because as didactic illustrations they too are styled to provide a quickly understandable two-dimensional knowledge.⁸⁶ Furthermore, the artistic translation cannot attain the realities of changeability, interactivity, porosity, living tissue, which change even after death; no illustration can capture the essence of the body. In some illustrations, artists draped the bodies in clothes resembling ancient Greek attire and posed *in vivo*, presenting men and women as if alive. A realistic illustration of a cadaver

84. See Pender’s *Early Modern Women’s Writing and the Rhetoric of Modesty* (2012).

85. Da Vinci’s famous Vitruvian Man drawing (circa 1490) symbolizes the perfection of the human body as well as man’s body as microcosm – everything in its correct geometric and astronomical proportions, or as Barkan phrases it, “man’s body is a measuring stick for either the natural or the man-made world” (125).

86. Even da Vinci’s illustrations were “sparse outlines with dry, mechanical hatching, form without an atmospheric context” (Rifkin *et al.* 8). Da Vinci, allegedly “dissected dozens of cadavers” (8).

– whatever that might be – particularly with its discolorations and partial decomposition and without modern embalming fluids and cosmetics, might not appear beautiful. Yet even the inevitable mimetic failure that might have served as a contained, almost sterilized replacement for what might be objectionable *in vivo*, contributed to anatomical clarity and meaning, especially when textual notes accompanied the images. The illustrations shown here are a representative example of types found in early modern medical texts.⁸⁷

Aesthetically pleasing cover images would also lure potential buyers: for sellers of vernacular medical texts, the “most convenient apparatus for advertising a book was its own title page” (Olson 619), upon which much information and symbolism can be placed. The frontispieces presented here indicate the prevalent presentation of women’s breasts as decorative – making the editions appealing to buyers – but not overly sexualized. The first frontispiece illustration under discussion here is that of the 1559 English translation of Vesalius, entitled *Compendiosa totius anatomiae delineatio*.⁸⁸ In the middle of the picture sits an impenetrable noblewoman, fully clothed and dignified. Indeed, this figure represents Queen Elizabeth I, in honour of her 1559 coronation.⁸⁹

87. Note that most texts did not contain illustrations and that most illustrations were copied repeatedly in the publications of various writers.

88. See Figure 2.2. Although the frontispiece of Vesalius’s *De humani corporis fabrica libri septem* (1543) has a detailed woodcut of an anatomization of a woman in an anatomy theatre, scholarly analysis already exists. See Canalis and Ciavolella, for example.

89. To change the woodcut quickly, details and accuracy had to be overlooked. The face seems to be that of recently deceased Queen Mary, suggesting the significance of the frontispiece as a political statement that has nothing to do with Vesalius’ anatomy.

Andrew Belsey and Catherine Belsey describe portraits of Queen Elizabeth I as invoking her regal and womanly “impenetrability”: she is “Powerful precisely to the degree that she is inviolable” (157). The image on the frontispiece captures the strength of this important monarch, implying some (real or imagined) authority of the writer and a tacit regal acceptance of the material within.

However, several less detailed female figures surround this central image. To the left and right and above this central woman stand “Justicia,” “Prudentia,” and “Victoria,” all personifying royal qualities and showing all women in a positive light.⁹⁰ Although they are dressed according to their respective roles, their gossamer clothing reflects the fashion of low, horizontally cut necklines “encircling the bust and baring the shoulders,” as C. Willett Cunnington and Phillis Cunnington describe, with the bosom possibly “draped by a variety of diaphanous scarves” (170).⁹¹ The breasts of all three characters are clearly visible as simple circles with dots to represent nipples – hardly lascivious.

90. Figure 2.3 shows the detail of “Prudentia.”

91. The appearance of female breasts through thin cloth or sitting above the garment’s edge reflects some of the various fashion trends of the early modern period. Cunnington and Cunnington explain fashion as that of the “diaphanous scarves, above, and suggest that at other times, the neckline of a woman’s garment was “Round or U-shaped, and very low [...] Extreme décolletage exposing the breasts” (82).



Figure 2.2 Title page of Vesalius' 1559 *Compendiosa totius anatomiae delineatio* (with permission of the Cambridge University Library and ProQuest; image produced by ProQuest as part of *Early English Books Online*).



Figure 2.3 Title page detail, “Prudence,” from Vesalius’ 1559 *Compendiosa totius anatomiae delineato* (with permission of the Cambridge University Library and ProQuest; image produced by ProQuest as part of *Early English Books Online*).

The lone male figure, in his reposed position with a trilobal leaf covering his genitals, sits on the right side of a banner reading “Dieu et mon droit”: God and my right. This male does not oppress woman but is her helpmate, and her partner is generation, appropriate within a Christian marriage.

In comparison with the previous image, the title image inside German physician Johann Remmelin’s (1583-1632) *A Survey of the Microcosme* (1675) – nearly eighty years later – presents a collage of images more closely resembling the form of the anatomical pictures found inside an early modern English medical text than those of frontispieces, perhaps because this Latinate book was intended for male medical practitioners.⁹² The complete frontal nude male – with his genitals covered with the typical leaf image, preserving his modesty – on the left side of the page is the definition of bodily normativity. However, the male and female figures are facing each other, appearing to hold hands underneath the overlaid dissection image, joining the male and female in their different but similar corporealities. Although each figure is well labelled, there is no corresponding description in the text, which is not surprising as this image is carried over from a previous text.⁹³

92. See Figure 2.4. Although the text names Michael Sapher as co-author, *EEBO* cites only Remmelin. In this text, the image is the *Visio Prima*; *EEBO* refers to this as the “Coat of arms” illustration. However, it is also the title page of the Latin text.

93. The seal at the top of the figure gives the title *Accuratissima: Corporis humani*, which is Vesalius’ collection of anatomy figures. No date is given.

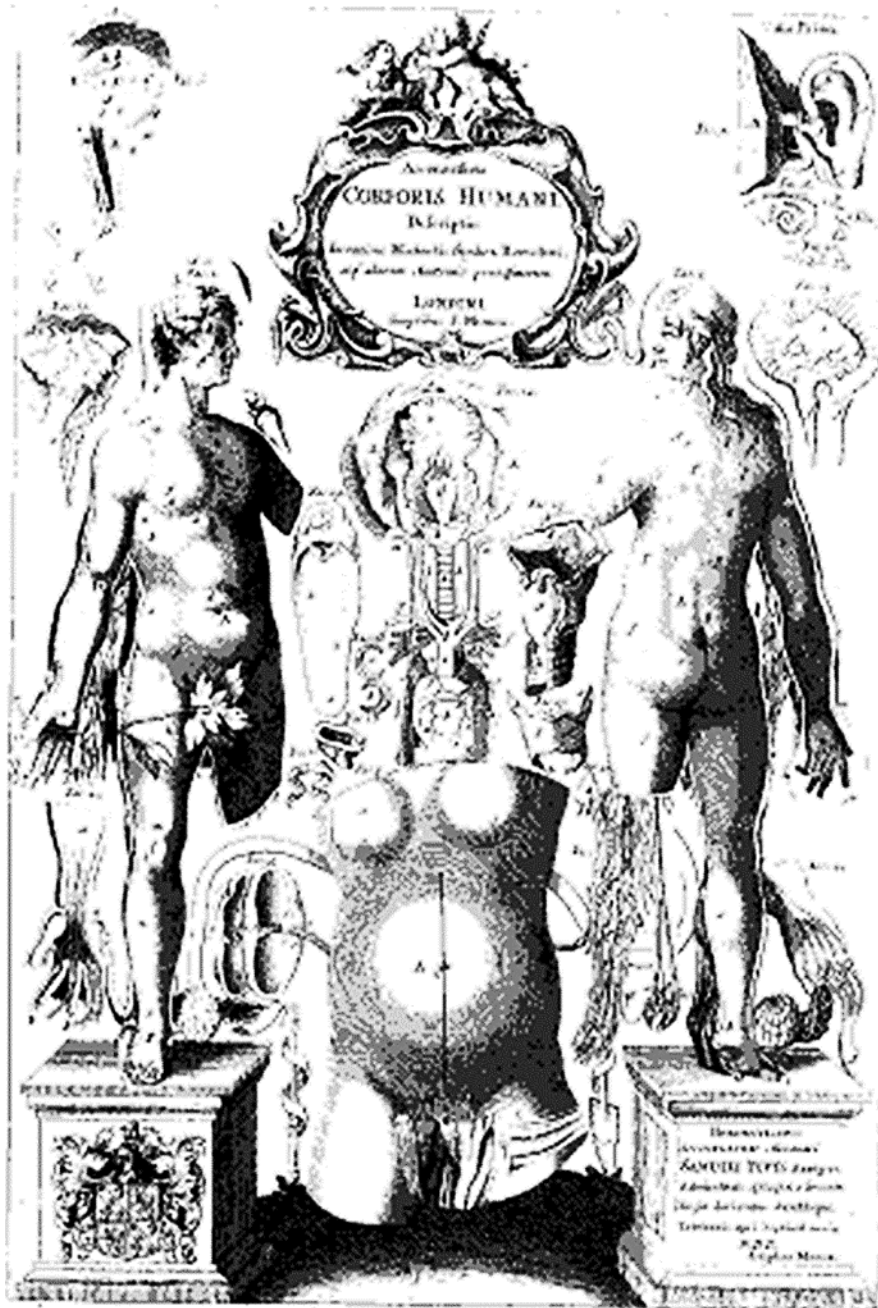


Figure 2.4 Title page of Johann Remmelin's 1675 *A Survey of the Microcosme* (with permission of the Wellcome Library and ProQuest; image produced by ProQuest as part of *Early English Books Online*).

The female figure in the illustration on the right coincides with the standing male nude. While he is forward facing, she is backward. A dorsal view allows the hiding of the breasts and genitals. The position of the female figure might indicate that woman is, at least to some degree, subordinate to man even in medical consideration. Whether or not this is the case, the relative position of the images artistically duplicates the organization of most of the texts examined here: body parts under discussion are explicitly denoted male until the different, but analogous, body parts – the reproductive organs and lactating breasts – require discussion of a female body. The frontal nude torso at bottom centre is not representative of a female body but of a vessel of generation, and with no head, there is no personal modesty to consider perhaps because it is unnecessary for the image’s didactic purpose. Note that the breasts on this figure are part of the separated image of generation, just as female breast anatomy is discussed within textual descriptions of generation despite their not being (directly) part of the reproductive system. Further, these female breasts are extremely stylized – as if a male chest had been altered by simply topping it with two circles.⁹⁴

More fantastical is the representation of women’s breasts on the frontispiece of Italian philosopher Giambattista della Porta’s (ca. 1536-1615) *Natural Magick* (1658), an older text maintaining its presence among newer texts.⁹⁵ On the right side of the title stands statuesque “Nature,” partially robed with breasts exposed.⁹⁶ The taut breasts have

94. Consider the imagery of the circle discussed above.

95. See Figures 2.5 and 2.6. Porta is also known as Giovanni Battista della Porta.

96. For a discussion on natural magic in the early modern period, see Arikha.

shading and crosshatching to show dimensionality; they are perfectly round, pale like the cold marble of a statue yet with darker circular nipples. However, this Mother Nature has not two, but six breasts arranged in three rows of pairs descending the torso. This image resembles other statues and images, especially those depicting the goddess Artemis, meant to illustrate plentiful, bounteous nature – a common early modern trope – and potential fecundity of the nation.⁹⁷ Alternatively, an early modern woman might compare this image to the popular mythical goddesses, particularly Diana/Artemis, one of the most commonly used myths for praising women in the early modern period.⁹⁸ However, the presentation of woman with six breasts also reminds one of a truth about anatomical texts in the early modern period: the use of animals for comparative anatomy. The artist arranged these breasts as they would be on most mammals that have litters; perhaps this symbolizes fecundity. To a woman, the figure might be disturbing both in its relation to animal physiology and to male fantasies about the eroticized breast.

97. See, for example, the statues in the Ephesus Archeological Museum such as *The Colossus Artemis* and *The Beautiful Artemis*, each having at least eighteen breasts, representing the bounty of feminized nature and possibly a supplication for fertility.

98. In Greco-Roman mythology, Artemis or Diana was the goddess of the moon (Luna/Selena/Phoebe) and the hunt, associated with virginity (Hamilton 27). The moon symbolism associated with Diana/Artemis fits in with the astrology of humoral theory (see Chapter 1).



Figure 2.5 Frontispiece of Giambattista della Porta's 1658 *Natural Magick* (with permission of Harvard University Houghton Library and ProQuest; image produced by ProQuest as part of *Early English Books Online*).



Figure 2.6 Frontispiece details “Art” and “Nature” from Giambattista della Porta’s 1658 *Natural Magick* (with permission of Harvard University Houghton Library and ProQuest; image produced by ProQuest as part of *Early English Books Online*).

Further, this representation of woman is quite different from that of man, located on the right of the title, above the caption “Art.” Art is fully dressed, while Nature is gracefully draped with cloth, each attired according to their relative roles in several early modern dichotomies, such as brain/body, spiritual/corporeal, and reason/emotion. Further, while Nature exposes her abundance, Art is poised to interpret and improve upon Nature (that is, mimesis), as he holds a small sickle in his hand.

Moving from the frontispieces to illustrations within the medical texts, companion illustrations show woman in her place beside man, usually highlighting her fleshier abdomen but without overly plump breasts. The first, Figure 2.7, comes from the 1553 English version of Vesalius’ *Compendiosa totius anatomiae delineatio*. In the image a man and a woman are represented as Adam and Eve complete with an apple in Adam’s hand and the Satanic snake coiled on a skull – perhaps as *momento mori* – hissing at Eve. The image reminds the viewer of Eve’s responsibility in the Fall, and that post-lapsarian women must look to men as being superior and rely on male controlling influence for earthly happiness and heavenly salvation. Note that Adam’s face is cast down. One could trace his gaze to the hissing snake, interpreting his expression as one of regret for losing Eden or of subservience to God. Adam’s gaze might also be extended to Eve’s hidden genitals – the reminder of their shame in Eden or, more positively, the place of regeneration. Eve is looking at Adam imploringly. Eve’s body is less muscular than Adam’s, yet her breasts are not much bigger than his, reinforcing the medical idea of the

beauty of modest breasts.⁹⁹ Curiously, her breasts do not have much detail, and, indeed, Adam's nipples are more prominent than Eve's. This is an artistic effort to demonstrate the soft sponginess of her breasts. Further, one hand covers Eve's genitals while Adam's are fully exposed, perhaps another display of her modesty.¹⁰⁰ Note that these figures do not have labels and no text describes the various body parts. The purpose of this illustration is not to disseminate medical knowledge, but to place man and woman within a particular worldview.

The following illustration comes from the anonymous text, *The Anatomie of the Inward Parts of Man* (circa 1650) but was copied repeatedly, appearing in other medical texts and in anatomical single sheets both earlier and later, making the image well-known to early modern readers.¹⁰¹ Several aspects of the illustration are worth noting. First, the partially robed male and female are pictured together seated in a bath house – variously deemed in popular literature both healthful and harmful. As part of the illusion, draped cloth allows for covering of body parts that may be considered obscene, objectionable, or ugly. Further, this image originally had “flaps” – cut out illustrations attached to the basic image that could be lifted to see what was beneath the skin in a sort of paper anatomical

99. Pender states, “The modesty tropes employed by English Renaissance authors carry a long and recognizable classical lineage” (20) and, in part, represents women's acceptance of “their culturally proscribed position at the margins of social and political power” (26).

100. Eve's pose here is similar to the Venus pudica pose: “the figure's vulva is partly concealed by her right hand; the left hand covers her left breast but cannot reach her right. This results in her fingers effectively pointing to, highlighting, her genitals and right nipple” (Heyam 623).

101. The anatomical sheets were one-page texts readily available for public consumption. See Figure 2.8.

theatre dissection with no blood or flesh and no odor.¹⁰² This particular image captures the male with his flaps torn off, so the viewer sees his interior. The woman's flaps are down, showing her exterior abdomen. When her flap is lifted, the uterus is visible, while her face is not, because the flap conceals it. The sign held by the woman, reads "Knowe thyself." This sign reminds the reader that the images and their meanings are intended for public awareness, that everyone must know his or her body and take control of one's health. Even without labels, the illustration succeeds in its didactic purpose, which may allow the viewer to understand his/her own body better without being overwhelmed with information and without the embarrassment of more sexually suggestive images. Note that, like those in other illustrations, the female breasts are modest, and even appear as artificial appendages.

102. Heyam states that there was a "popular tourist trade in 'flapprints' of Venetian sex workers" (628) in England.

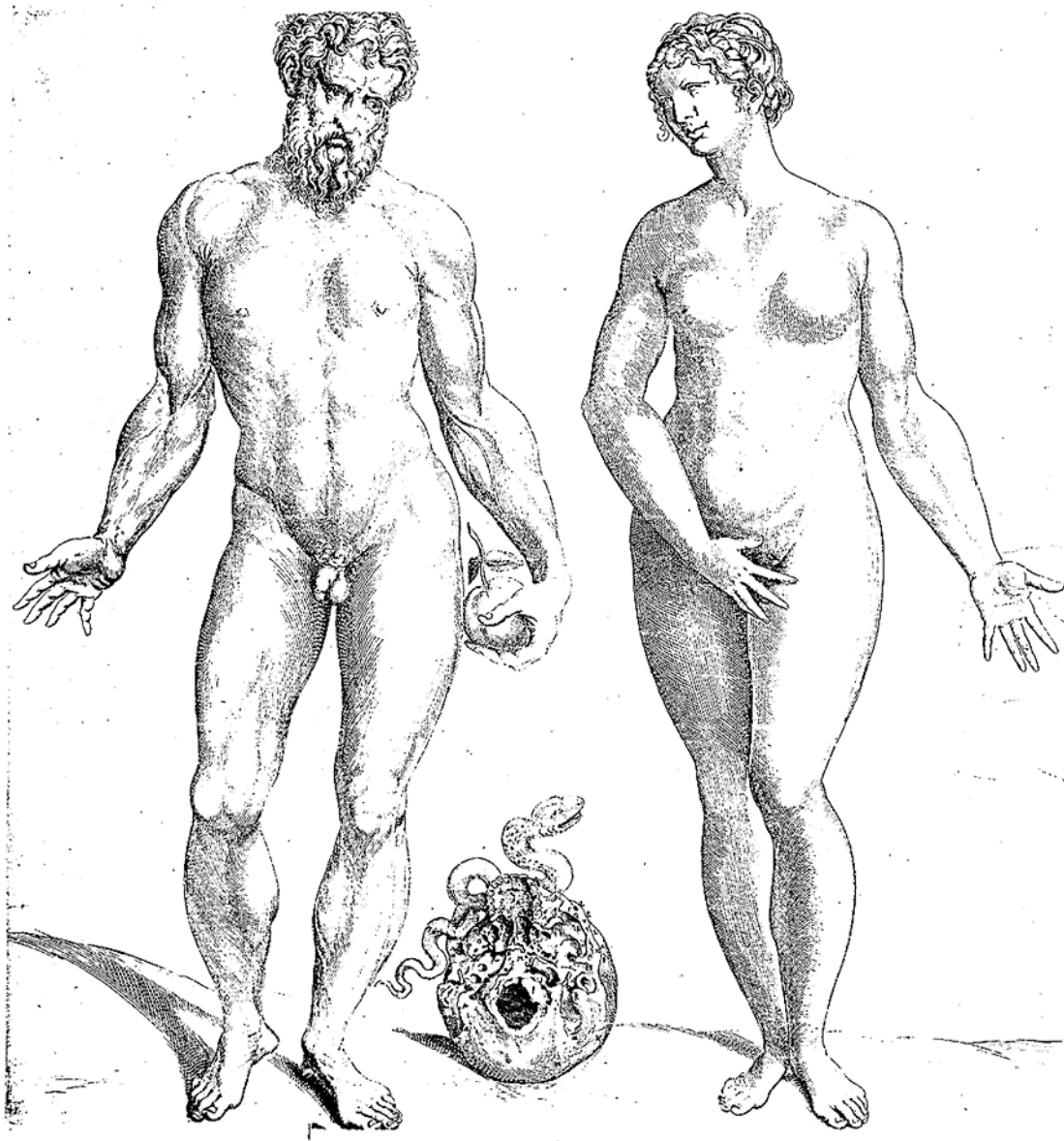


Figure 2.7 Complete frontal nudes, male and female, from Vesalius' 1553 *Compendiosa totius anatomiae delineatio*, Bodleian shelfmark Douce G Subt. 45, I.i verso (with permission of the Bodleian Libraries, University of Oxford and ProQuest; image produced by ProQuest as part of *Early English Books Online*).

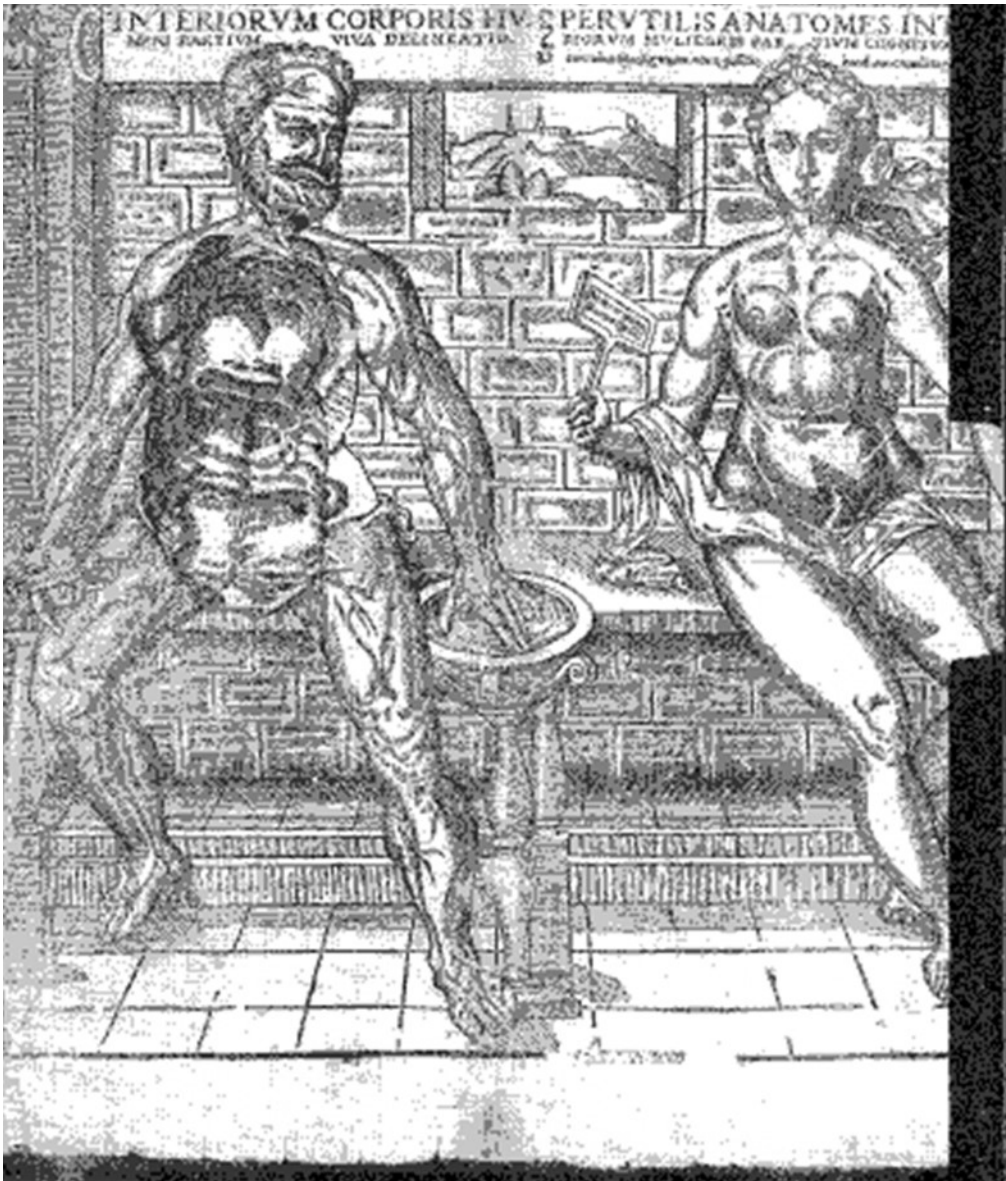


Figure 2.8 Complete frontal nudes, male and female, seated from *The Anatomie of the Inward Parts of Man Lively Set Forth and Diligently, Declaring the Principall Veins the use of Letting Bloud*, Anon. circa 1650 (with permission of the Library Company of Philadelphia and ProQuest; image produced by ProQuest as part of *Early English Books Online*).^a

^a The same image appears on the final page of Vesalius's 1559 *Compendiosa totius anatomiae delineatio*.

Similar to the Vesalius illustration but without a male figure, Helkiah Crooke's [*Sômatographia anthrôpinê*] (1616) presents a full-frontal nude female, posed, as if alive, with her abdomen incised.¹⁰³ Such an image is typical of anatomical illustrations in medical texts that contain sections on generation. The pregnant figure is pretty, artistically drawn, and pleasing to the viewer, in accordance with Hall's correlation of visual beauty and truth noted above. The dissection image, however, is stylistic rather than realistic, showing a rounded womb and its general location in the abdomen as the focus of the image. Thus, one hand covers the genitals for modesty, while the other obscures one breast, leaving the second very unrealistic breast completely exposed. The visible breast appears almost as a paper cone attached to the chest surface, similar to the geometric breasts seen elsewhere. The inclusion of the breast here might indicate the humoural sympathy between the uterus and the breast as well as the nutritive function of woman in connection with pregnancy.

The next figure is that of a woman from Rummelin's *Survey*.¹⁰⁴ The positioning of the body, at first, seems odd, particularly in relation to the poses of the previous images shown, because a skull elevates one foot. One realizes, however, that this is meant to elevate the leg and draw attention to the illustrated anatomy of the inner lower leg and, although macabre, the skull allows the writer to discuss features of the bottom of the skull.

103. See Figure 2.9 (The image is located between pages 129 and 130; S1v). This is the illustrative part of the [*Mikrokosmographia*].

104. See Figure 2.10.

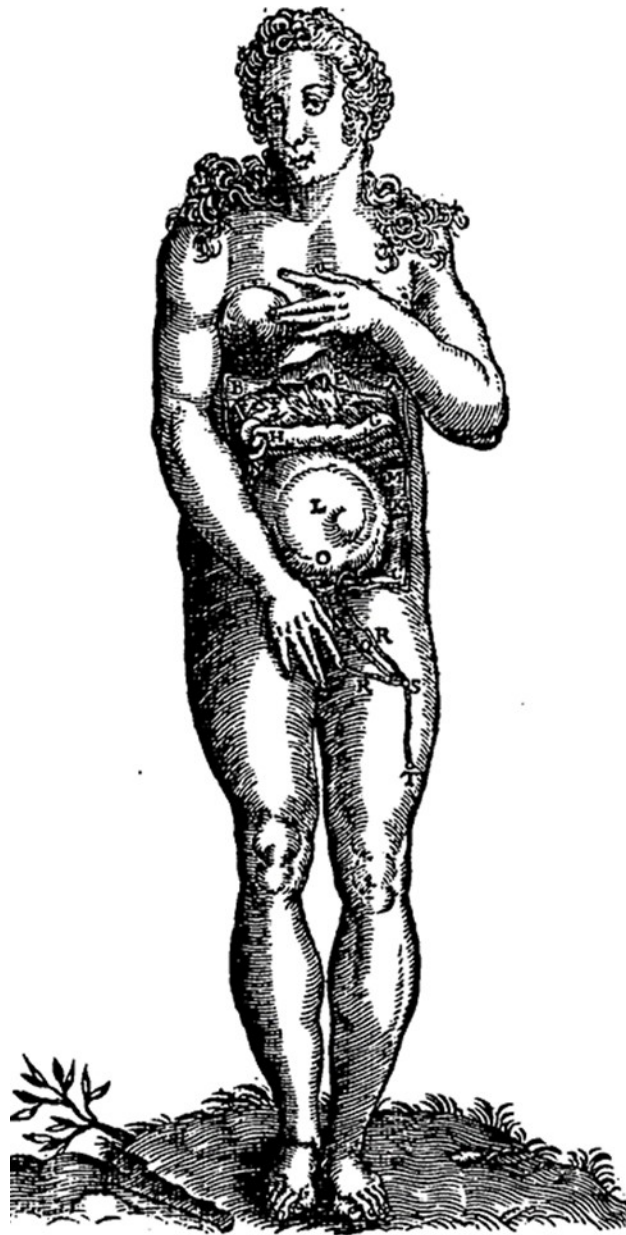


Figure 2.9 Complete frontal nude, female with dissected abdomen, from Helkiah Crooke's 1616 [*Sômatographia anthrôpinê*], Bodleian bookshelf 8° R 21 Med, Table VII (with permission of the Bodleian Library and ProQuest; image published by ProQuest as part of *Early English Books Online*).



Figure 2.10 Complete frontal nude, female, from Johann Remmelin's 1675 *A Survey of the Microcosme* (with permission of the Wellcome Library and ProQuest; image produced by ProQuest as part of *Early English Books Online*).

The surrounding images are the illustrations of the various internal parts of the woman's body. Although barely discernable in the illustration, the text defines these labels: "● The right bosome" and "c The left bosome" (Visio Tertia Fac. 1). The intention of the image is to demonstrate the internal parts of the woman particularly as they apply to generation – the breasts are not a significant concern for the illustrator, but the distended pregnant abdomen even shows the *linea nigra* often observed near the middle to end of gestation. Further, the artist does not represent these breasts in a sexualized or immodest way, but simply as befits the anatomical representation of the woman's body.

The image from Vesalius' *Delineatio* (1553) presents the well-defined internal anatomy of female reproductive organs.¹⁰⁵ In the upper image, the female breasts are whole, the focus on the opened abdominal cavity. In the lower image, one breast is skinned, showing the fleshy tissues and vessels under the skin, labelled "D": "Karnelles and fatnes sprede abrode everye where on the karnelly body marked with C" (Di.ii.v). Although these two images are didactic, the separation of the text from the illustration makes difficult the reader's task of interpreting and understanding the anatomy. The dissection image in Thomas Chamberlayne's *The Complete Midwife's Practice Enlarged* (1680), however, presents text in tabular form facing the illustration.¹⁰⁶ Even though the discussions of the anatomical parts are elsewhere in the text, the table facilitates the reader's comprehension.

105. See Figure 2.11. The image is located between D.iiii.r and D.v.r.

106. See Figure 2.12.

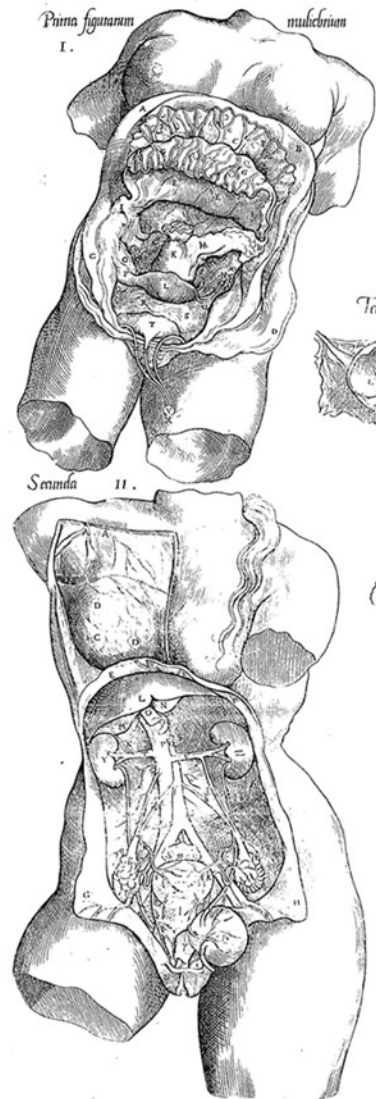


Figure 2.11 Dissections, female torso, from Vesalius' 1553 *Compendiosa totius anatomiae delineatio*, Bodleian shelfmark Douce G Subt 45 (with permission of Bodleian Libraries, University of Oxford and Proquest; image produced by ProQuest as part of *Early English Books Online*).

The Explication of the Figure.

The parts of a Woman that are useful to generation, are represented in their natural Position: and the inward structure of the Breast is shewed in this Table.

- A A. The Liver in its Sex.
 B B. The Sadder of the Gall.
 C. Part of the Intestinum Duodenum.
 D D. The Intestum-bread, by which the Vessels go to the Spleen.
 E. The Body of the Spleen.
 F F. The Trunk of the Vena Cava descending and its Divarication.
 G G. The Trunk of the great Artery descending, varicosly divided lower.
 H H. The Smallest Vessels.
 I I. The two Kidneys.
 K K. The supplying Kidneys.
 L L. The Ureters descending to the Bladder.
 M. The bottom of the Bladder of Urine.
 N. The Inflection of the Urachus.
 O. Part of the Intestinum Rectum.
 P P. The preparing Veins on each side.
 Q. The rising of the preparing Arteries out of the Trunk.
 R. The place of the Divarication of the Trunks of the Cava and Aorta, where the Arteria comes upon the Vein.
 S S. Part of the Umbilical Arteries.
 T. The bottom of the Womb.
 Y Y. The Testicles of Women.
 X X. The Vessels that bring down the Seed from the Testicles to the Womb.
 Z Z. The Falx of the Womb.
 Y Y. The two inferior Ligaments of the Womb that are like the wing of Hair.
 a a. The two inferior Ligaments of the Womb, round, cut off from the Pubes.
 b b. The Cavity of the Os Illium which in Women is larger than in Men.
- The Explication of the Characters of the Womans Breast.
- C C C. The Vessels sprinkled through its superficies.
 d. The greatest and middle of the Glandules.
 e. The Pap.

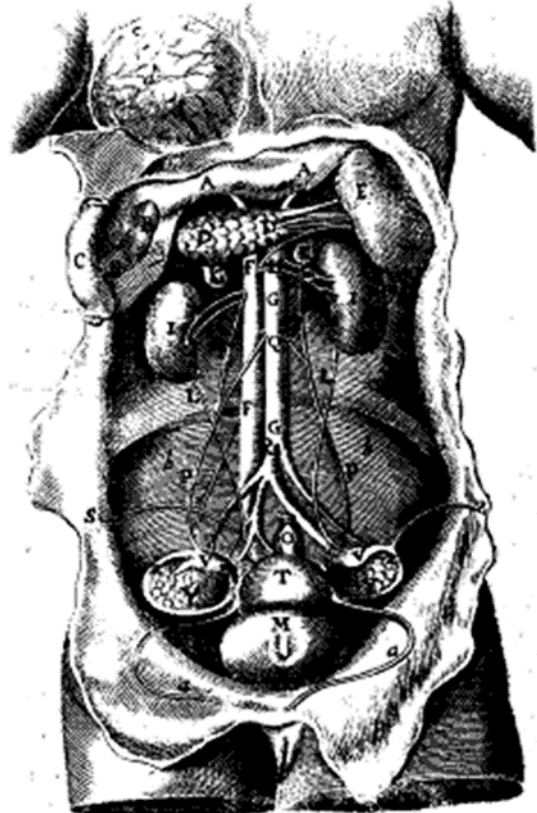


Figure 2.12 Dissection, female torso, with explicatory table from Thomas Chamberlayne's 1680 *The Complete Midwife's Practice Enlarged* (with permission of the Wellcome Library and ProQuest; image produced by ProQuest as part of *Early English Books Online*).

Note that the table begins with the parts of the uterus, leaving the naming of breast parts at the bottom:

The Explication of the Characters of the Womans Breast.

CCC. *The Vessels sprinkled through its superficies.*

d. *The greatest and middle of the Glandules.*

e. *The Pap.* (B5v)

Like Vesalius' dissection, the didactic purpose of the illustration is obvious.

The final illustration shows the opened pregnant uterus, as if the baby is actually not within the body, but laying on the body – the skin flaps looking more like leaves than tissue. Typical of many texts – and reprinted frequently – this illustration comes from Sharp's *The Midwives Book* (1671).¹⁰⁷ Typically, the artist obscured the vagina and labia with a flower and long stem for modesty. The woman's breasts pop up around the top of the excised abdominal skin, reminding the viewer of their place in the scheme of generation. Similar to many of the other illustrations, these breasts are part of women's uterocentricity. The breasts provide the corporeal link to "female," proving to the viewer that the tissue under consideration was definitively female and potentially bearing some difference from male tissue.

107. See Figure 2.13.

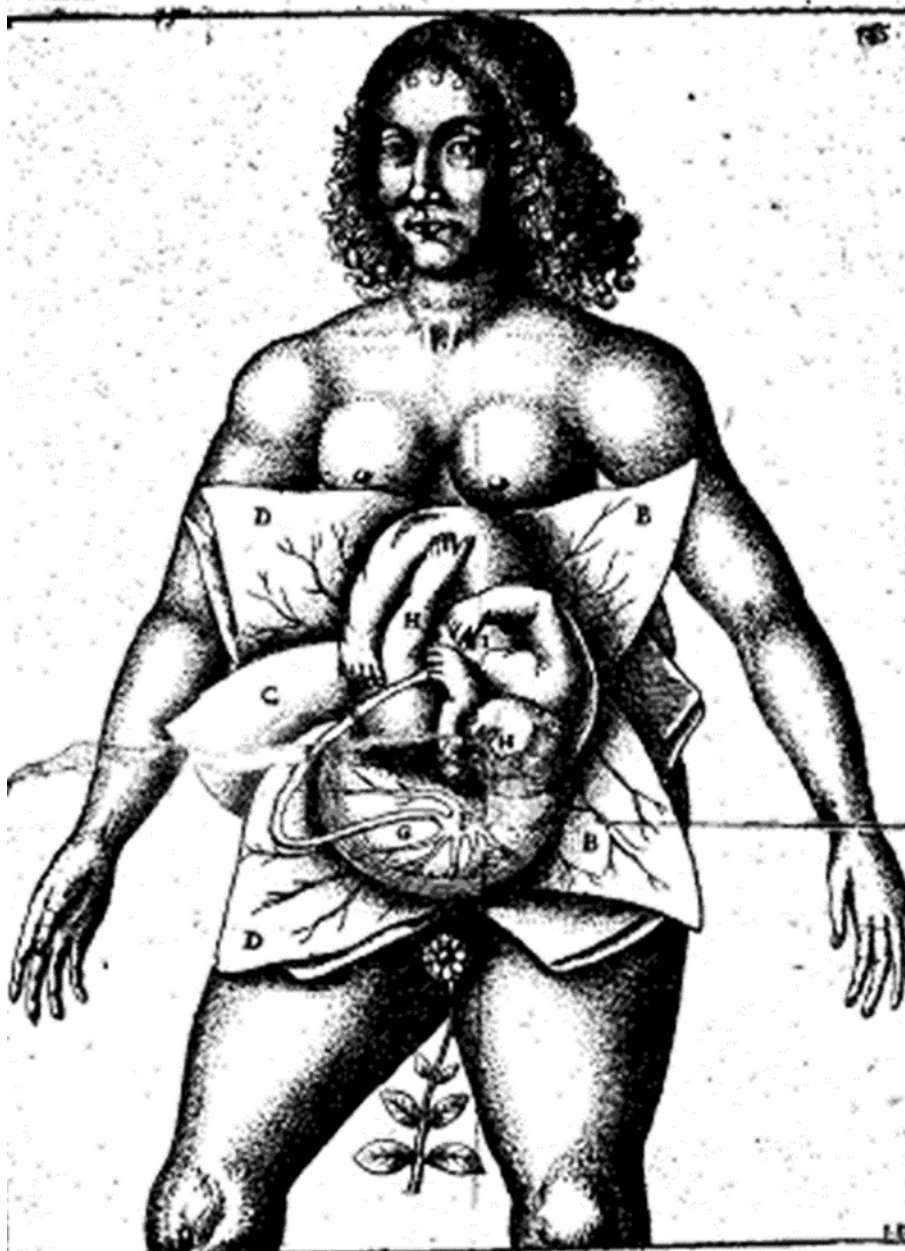


Figure 2.13 Dissection, pregnant female, from Jane Sharp's 1671 *The Midwives Book* (with permission of the Huntington Library and Proquest; image produced by ProQuest as part of *Early English Books Online*).

Although some early moderns may have interpreted illustrations of female nudes as highly sexual, these images of women and their breasts reinforce the modesty expected of a respectable medical text. The presence of the female breast in didactic figures that do not illustrate breast anatomy merely remind the viewer that, rather than a male body, the anatomist is dissecting a female one – the female breast identifies femaleness. Further, these images in popular texts show that the requirement for simplified images for didactic purposes exceeds the need for materially accurate illustrations of the woman's breasts.

This chapter demonstrates several problems arising from the increasing popularity – and apparent necessity – of vernacular medical information and dissemination of developing knowledge from anatomical investigation of human bodies and reformations of investigative protocols. Despite attempts to create a lexicon that conveyed an objective reading of nature's design, a lack of specificity in writers' definitions and inconsistent use of terminology frequently obfuscated meaning. The resulting confusion may have served to protect writers from censorship as well as gloss over areas of physiology and function not clearly understood. While struggling to develop a new lexicon, writers applied symbols – from the simplest fruit symbols to the place of humans in the cosmos – associating women's breasts with overlapping sign systems that could lead to both negative and positive interpretations of women and their breasts. In addition, the didactic illustrations – in complex frontispieces, sex differentiating companion pieces, internal anatomy exercises, and female generation images – also attached meanings associated with English cultural worldviews. The confusion with vernacularization, the development of anatomical information, and the increasing usage of images in these texts reveal a

potential space in which writers could endorse the *status quo* of early modern medical understandings of women and their breasts or one in which writers could resist older paradigms and provide a more favourable image of women's bodies and promote better health care for women and their infants.

CHAPTER 3: LIVING BREASTS

“The use of the Dugs is to separate the Milk for the Nourishment of the Foetus”
(Keill, *Anatomy* [1698] 101; F3r).

“The use of the Dugs, is first, to be a safe-guard to the Heart. Secondly, for Beauty and Ornament. Thirdly, to breed Milk” (Salmon, *Synopsis* [1681] 1109; Bbbb3r).

“[I]n man the paps defend the spirituals from outward annoyance; and by their thicknesse they comfort the naturall heat; and in women there is the generation of milk”
(Turner, [*Mikrokosmos*] [1654] 18; C1v)

As we have seen in Chapter 2, the increasing popularity of early modern medical texts in England demonstrates writers’ many difficulties such as a shared vernacular lexicon and a discursive mode for describing women’s breast anatomy and function that were didactic, informative, and easily understood, while avoiding that which might be interpreted as lascivious or likely to encourage fraudulent medical practices.¹ Expanded information relating to women’s breasts undoubtedly – eventually – improved the medical care of women, evident in the discussions within the texts. Some writers/translators’ explanations of some facets of female breast anatomy, function, and treatment expose significant adherence to out-dated, but generally accepted, medical theories. In part, this lag results from the continual printing of older texts without emendation, the reliance on premises set forth in classical texts, and the inherent

1. For example, many writers feared the inappropriate production and sale of medications – which were, at best, inert or, at worse, lethal – by mountebanks, charlatans, and quacks. See Chapter 1.

difficulties of presenting new medical information in print.² Further, as we have seen, secular medicine collided with Christian beliefs and morality, imposing additional pressure upon writers. Although arguing that anatomical dissection allowed early modern man to “see God” (Cunningham 232), often writers’ understandings about women’s body parts and functioning were informed by cultural beliefs predicated on woman’s secondary creation as presented in Genesis, classical natural philosophy, humoral medicine, and patriarchy.³

In this chapter, I will discuss – as the quotations above show – how and why early modern medical writers defined reasons for the existence of breasts on female and male bodies. All three writers state the obvious – that female breasts are for making milk. Robert Turner suggests that both male and female breasts protect the inner body. William Salmon claims that the female breast is also for ornamentation.⁴ Considering the anatomical information from Chapter 2 and the overlapping purposes of female and male breasts – especially when some writers claim male lactation is possible – questions immediately come to mind. Where do women’s breasts fit in the Christian creation story or in the new understanding of the androcentric universe? Are men’s breasts corporeally inferior to women’s? How do medical writers place the extra fleshiness and functionality

2. Refer to section 1.1.

3. Aughterson notes that early modern medical writers contextualized their evidence “within the dominant theological framework” (104) of multiple sects of Christianity.

4. Ornamentation of women might mean more than being attractive to men. As part of nature’s/God’s plan of beauty, women should be beautiful. As we will see, female breast beauty is highly subjective, even in the medical texts, and some writers also deem ornamentation a reason for the existence of men’s breasts.

of female breasts within a system of human corporeality that uses “lack” to inferiorize women’s bodies?⁵ This chapter explores questions of medical control over women’s breasts through recommendations for every aspect of the breast, the medical comparative of women’s and men’s breasts, and the connection between women’s breasts with health, illness, dysfunction, and deformation.⁶ I posit that the texts reveal a medical uncertainty about the care of and meanings indicated by women’s breasts, distinctions between male and female bodies, and the relationship among women’s breasts, humoural theory, and illness.

First, I will examine what medical writers say about the physical parameters of breasts – size, shape, colour, location, and number of breasts – that factored into writers’ medical considerations and theories about why women’s breasts look and function as they do. Writers may have seen the setting of standards – emphasized in the repeated insistence in the texts of a physically ideal female breast – as demonstrating the physical qualities of good English women. The delineation of specific boundaries for women’s breasts might also suggest writers’ notions about controlling women’s breasts – and their entire bodies – with medical authority. On the other hand, the notion of an ideal female breast also provides a standard for women’s good health within the context of women’s self-care, midwifery practices, and motherhood. Associated with the parameters set out

5. See the discussion of the Aristotelian lack in Chapter 1.

6. The ill-making breast is decidedly female – men’s breasts are not discussed as being culpable in this way. Further, any problems associated with breast milk (see Chapter 4) can only be ascribed to men’s breasts if, as we shall see, men can lactate – or if men’s breasts were attached to a uterus.

for women's breasts, medical writers used breasts as diagnostic tools, showing that the external characteristics of women's breasts allowed one to see internal humoral imbalances, distinguish between real and false (or spontaneously aborted) pregnancy, and determine the sex of the fetus.

Next, I analyze how and why medical writers described differences between female and male breasts and what arguments were employed to place their descriptions within or beyond the cultural paradigms prevalent in early modern England. The hierarchical positions of male and female breasts, nipples, and areolae that reinforce God's and nature's organizational scheme are challenged, particularly with some writers arguing not only that men can lactate, but that in fact they do lactate, sometimes replacing the need for female lactators completely. Not surprisingly, however, such claims are not reinforced with facts, but tend to rely on hearsay and anecdotal evidence.

Finally, the long-held belief in the humoral connection and sympathy between women's breasts and uteri allowed writers to reaffirm older notions of women's breasts being predisposed and susceptible to illness, and, through breastfeeding, causing illness in others. I also investigate the association of breast deformity – especially in relation to breast size and appearance – and dysfunction within the early modern concept of monstrosity. “The monster is the bodily incarnation of difference from the basic human norm,” Rosie Braidotti argues; “it is deviant, an anomaly; it is abnormal” (62).⁷ Medical writers' discussions of mutilation/amputation connected women's breasts to early modern

7. In part, this explains some need to exercise control over women's breasts that do not fit within the prescribed parameters.

cultural beliefs about monstrous breasts – such as medieval female martyrs, hermaphrodites, and witches – in ways that that they do not use to discuss male breasts.

These texts indicate that early modern medical writers did not universally project suspicion of women’s corporeality in their discussions of breasts. Neither did they present a cohesive understandings of women’s breast development and changes – particularly those associated with life stages – the association of women’s breasts receiving injury and causing or curing illnesses, or whether lactation was exclusively the province of women.⁸ Some writers indicate that women’s breasts do not fit within prescribed parameters because of humoural imbalances and physical limitations and flaws in women’s characteristics. Other writers suggest that external factors such as diet, social circumstance, climate, cultural practices, and race affected breast sizes, functioning, and illness. Overall, writers agree that a humoural middle is the most appropriate and beneficial size for women’s breasts, particularly for women who will breastfeed. Further, the reading of the breasts for signs about pregnancy is not particularly scientific but relies on folklore – and generations of midwives’ and mothers’ experiential knowledge. If one considers that medical practitioners “read” urines, however, the reading of breasts is in line with early modern practices.

8. Even though seventeenth-century midwife Jane Sharp extensively plagiarized passages from male-authored texts, she “expose[s] the artificial rhetorical handling whereby early modern bodies became subjects dressed in gender markers” (Bicks 3) by mocking historical medical knowledge, male ignorance of biology, and re-ordering the normative hierarchy of human bodies. Further, Sharp adds her own sections, employing and reversing androcentric knowledge and its gendered representation. Regardless, Sharp copies significant portions of male-written texts.

The medical contention that lactation is not strictly the province of women, is variously legitimized and repudiated by writers. Significantly, the arguments supporting male lactation lack specificity in how, when, where, and under what particular circumstances men make milk since it is not a regular occurrence in England. Given the consistently stated differences between male and female breasts and the concept that breast milk is made of uterine blood, writers give no explanation for lactation in undeveloped, male breasts that are not attached to a uterus. Further, writers do not describe male lactation in terms of male age, breast size, or any other factor that they use to describe female lactation. Clearly, then, the arguments for male lactation are not substantiated in any of the texts. Rather than being a claim of biological fact, the suggestion of male lactation seems to be a method of redeeming or elevating – in some way – the inferior, dysfunctional male breast.

Finally, the writers associate women's breasts with deformity, dysfunction, and illness based on medical truisms – such as the connection between women's breasts and the uterus – and cultural ideas associated with the debate about women. Most significantly, three conclusions can be drawn from these accounts. First, writers reinforce the presumed humoral inferiority of women to explain illnesses particular to women. Second, writers employ myths associated with deformed breasts – and extra breasts/nipples – to demonstrate that women's bodies are the “monstrous” versions of men's perfect ones. Writers' discussions about bodies of indeterminate sex, two-sexed bodies, and sex changing bodies reveals a medical uncertainty about the differences between male and female bodies as well as the distinction of the line between of those

differences. Third, most writers do, however, express real concern for serious breast ailments such as cancers and use the breasts as signs of illness to begin medical treatment in the early stages of illness. Throughout the chapter we can return to the above quotations to understand the causal relationships stated – and implied – about women’s and men’s bodies, and perhaps see more clearly how writers proceeded beyond disseminating practical anatomical knowledge and added their ideological biases to their texts.

3.1 The Informed/Informing Breast

“[M]ilk glands are what matters when it comes to milk production, not breast size”
 (“Resources”).

Delving deeper into the medical discussions about women’s breasts, beyond the basic anatomy of female breasts, past the naming and describing of internal and external parts, the medical texts demonstrate that there is much more to know about women’s breasts, many aspects of which are associated with ideological influences rather than scientific information. Even a cursory investigation of the popular medical texts obviates the degree to which writers described all aspects of women’s breasts. Several writers claimed that size, shape, and color can signal much about women’s lifecycles: girl to nubile young woman to lactating mother to woman past childbearing years. Although the writers who defined parameters of breast size, shape, and colour, and so on provide (mostly humoural) explanations, there is much disagreement within the texts. The only consensus about women’s breasts comes to a humoural medium as best, most importantly

for breastfeeding, then for diagnostics, and finally for the relative degree of beauty among women. Because humoural theory postulated an optimal proportion of humours within the body for optimal functioning and a balance with all of the body's systems, the supposition of an ideal breast might seem to be an appropriate hypothesis. Several writers – as I will show – proposed a medical parameters for women's breasts, assigning restrictions associated with early modern culture and aesthetics as well as ideologies within medical theory and case studies of breastfeeding.

In proposing ideal parameters of a body part, however, writers qualitatively correlated women's breasts with cultural notions about morality, eroticism, aesthetics, and lactation. Further, if feminine beauty was, as Sara Matthews Grieco contends, "extolled as being a guarantee of moral probity and an inspiration" ("Breast" 90) in the early modern period, then the ideal female breast – in whatever form that might take – could signify patriarchal interpretations of the ideal English woman. By extension, one might also understand that women whose breasts did not conform to this ideal were themselves less than ideal. Naturally, despite writers' concepts of a hypothetical but non-specified ideal, women's breasts often thwarted the definitions and parameters laid out by humoural theory and cultural assumptions. Making the suboptimal female breasts representative of the "grotesque body," as Suzanne Scholz argues, "identified [women] with animality, excessiveness, and untutored nature" (21). I would alter Scholz's point to

argue that such breasts were potentially associated with monstrosity for *some* women.⁹

Medical explanations for deviations from the standards of the smooth, white breasts with red nipples of a particular size ranged from humoural dysfunction, disease, injury, and breastfeeding to excess desires, lack of self-control, or even supernatural connotations.¹⁰

3.1.1 Defining the Breast

First, let us consider commentaries on what early modern medical writers considered to be “small” breasts and nipples.¹¹ More often than not, writers disapproved of small breasts – without defining “small” – for women, largely because they theorized that smaller breasts produced less milk.¹² In his encyclopedic *Mercurius compitalitius* (1682), which appeared in English as *A Guide to the Practical Physician* (1684), for example, Swiss anatomist Théophile Bonet (1620-1689) writes, “Some condemn little Breasts, and not without reason, because they breed less milk” (322; Ttv).¹³ The limited production of milk was a significant marker of female malfunction because, as Johann

9. Some writers, who discuss women’s breasts that are outside prescribed parameters, are replicating the consequences of humoural imbalance brought about by breasts’ natural tendency to attract excess humours.

10. See, for example, M. Hester’s *Lewd Women and Wicked Witches: A Study of the Dynamics of Male Domination*.

11. Grieco indicates that in the sixteenth century, women’s clothing offered a vision of the ideal female body as “plumper, wide-hipped, and full-breasted model of feminine beauty” (“Body” 55) than in earlier times. She also contends that “thinness was considered ugly, unhealthy, and a sign of poverty” (55). Such a view would imply that smaller breasts signified illness. Riolan claims, “If the Dugges be small the Women are sickly, and if the Nipples look pale the Womb is Diseased” (30; G3v).

12. The idea that breast size indicates the transition from girl to woman, small breasts might indicate problematic physical maturity.

13. *EEBO* notes that the translator is L. Chouët.

Vesling claims in *The Anatomy of the Body of Man* (1653), as many writers do, “The office of the breasts in women is to breed milk” (36; H2v). In *The Anatomy of Human Bodies* (1694), Isbrand van Diemberbroeck comments that small breasts “denote frigidity” (282; Nn3v), perhaps suggesting that small breasts do not have enough heat to concoct milk or small-breasted women are too cold to muster or incite sexual attraction.¹⁴

Alternatively, Diemberbroeck may be suggesting that this frigidity – if he means a lack of internal heat – prevents some women’s bodies from growing larger breasts. Commenting on the more practical issues of breastfeeding, physician James Wolveridge (active 1670) indicates, in *Speculum matricis hybernicum: Or, The Irish Midwives Handmaid* (1670), that small nipples could lead to serious infant deformities or illnesses:

if the nipple be too small, the child is apt to let it slip out of the mouth, and cannot handsomely hold it, so that the infant being frustrated of suck, and yet still exercising sucking, hurts the cheek, and attracts some kind of humors thither, which oftentimes become praeternatural tumours; and oftentimes the cheeks of the infant seem as if they were stirred out of their places. (141-42; K7r-v)

These writers clearly indicate that women with small nipples or breasts do not make good breastfeeders.

At the other end of the size spectrum, writers considered the implications of large

14. The pages are misnumbered in the text.

breasts – as with small breasts, writers do not specify what “large” means. For breastfeeding, writers differed on their opinions of large breasts.¹⁵ The anonymous writer of *The Problemes of Aristotle* (1595), however, uses humoural reasoning to claim that large breasts do not make more milk:

In the great ones the heate is dispersed, and there is no
good digestion of the milke; but in small ones the power
and force is strong, because a vertue united is strongest, and
by a consequent there is a good working and digestion of
the milke. (D2v)¹⁶

In *The Expert Mid-wife* (1694), Scottish physician James M^cMath (also Macmath; 1648-1696) considers big breasts appropriate for breastfeeders, to a certain degree.

Commenting on the necessary qualities of a wet nurse, he writes, “As to the Form of her Paps, they are required *indifferent big*, fleshy, firm, yet not dense, neither flaggy, ponderous and hanging, as Some who have them the length of their Bellies, or can turn them over their Shoulders” (391; Cc3r; my emphasis). M^cMath’s statement indicates that big breasts are acceptable for breastfeeding but put women at risk of having loose post-lactation breasts.

Wolveridge wavers somewhere in the middle of the debate, recommending a big-breasted nurse, if one can be found, but acquiescing that a smaller-breasted nurse will

15. In contrast to the writers above who suggested small breasts were unacceptable, writers who rejected large breasts implicitly laud breasts that are, by definition, smaller.
16. Sharp states, “Some womens breasts are too small, when the blood cannot find a way to the breasts but is repelled” (*Midwives* 341; Z3r).

suffice:

But it is ever best. That she abound, rather than want milk;
and then it this case it is best they be big, though all Nurses
need not have big breasts; for there may be as much milk, if
not more, in a lesser breasts than in a great one. (142-43;
K7v-K8r)

He is, however, concerned about excessively large nipples. Discussing the criteria for a wet nurse – which could also apply to the breastfeeding mother – Wolveridge states,

Let not her nipples be great, lest it make the child of a wide
mouth, because it cannot suck without the contraction of
the lips together; and, lest by forcing the tongue into too
narrow a compass, it hinders the swallowing of the milk.”
(141; K7r)

Just as he remarks about small nipples, Wolveridge implies that large nipples have the potential to deform the suckling infant – such as deforming the child’s mouth – and limits the infant’s milk intake.

Even without the potential difficulties big breasts or nipples could impose on milk production and breastfeeding, some writers present an unattractive picture of women with large breasts. In *A Sure Guide* (1657), Jean Riolan , invoking the authority of Hippocrates, writes that large-breasted women “are of an ho[t] Co[m]plexion, lustful and lovers of Wine and good Liquor. If they happen to be of a cold Co[m]plexion, the swel[l]ing of their Dugs, comes from an Wheyish Humor which they suck in like

Spunges” (96; P4v). Riolan’s explanation complies with humoral theory, implying that large breasts attract excessive humours. Although the attraction of humours to the breasts is necessary for lactation, Riolan invokes the notion of the unhealthy excess as well as the attracting the wrong type of humour. Further, Riolan explicitly states which excess appetites cause large breasts: sex and alcohol. Thus, large-breasted women are liable to be unhealthy and should maintain their physical health through diet, exercise, medical intervention, and control of their passions.

Riolan also argues that carnal desire causes the breasts to swell – perhaps making a connection between woman’s alleged disproportionate sexual desire, love sickness, and the wet/cold humoral complexion.¹⁷ Riolan states that in “ripe Virgins” the breasts

become more soft and swelling, when they are transported
with a burning desire of carnal Embracements: and by how
much the higher they swel without pain, and the fuller Orbe
that they make, strowting and Kissing one another, the
greater is their desire after bodily Pleasure, and it may be
gussed that they have tasted the Sweetness of Mans-Flesh.
(96; P4v)¹⁸

17. Indeed, sex could result in larger breasts for women – if coitus leads to pregnancy. As shown in section 2.2, anatomists realized that breasts contained significant amounts of fat, making diet a significant factor in breast size. Writers also claim that men who are too fat have large breasts, as will be shown below. Further, breast illness can also cause breasts to swell as we will see below.

18. One can see how Riolan’s statement “they have tasted the Sweetness of Mans-Flesh” might cause an early modern reader to be shocked or sexually stimulated.

More problematically, Riolan insists large breasts indicate a loss of virginity, an assumption that places women in a precarious situation because they have, in fact, little control over the size of their breasts at any stage of their lives. The accusation of lost maidenhood potentially had dire consequences in early modern England – exile, ostracism, impoverishment, or worse – possibly forcing unmarried women to employ means to shrink or hide unacceptably large breasts or train them with clothing.¹⁹

In *Practical Physick* (1664) Daniel Sennert also derides women’s large breasts. Sennert claim that, in addition to the naturally loose structure of women’s breasts drawing in too much humoural fluid, women’s behaviours exacerbate the attracting of excess humoural fluids to the breasts. He writes,

The Causes of over-great Breasts, is much blood, and strength of heat attracting and concocting it; these are remote causes, but the immediate cause is the largeness of

19. For example, Gabelkover provides this recipe “To Keep Breasts Small in Maids”: “When [the breasts] beginne to increace, and they desire to have them noe bigger, she must as then boyle Coentes, & wine, & then afterwarde distille them. With this water must she annoyncte the Brestes 8 dayes after other, everye yeare 8 dayes. Heerwith allso may we washe litle whelpes which we desire to have continue little” (266; Z.i.v). “To Reduce Large Breasts,” an anonymous author writes, “[T]hey are cured by diet first, wherein the use of Astringent meats is to be recommended, so that they be not windy by repercussion of the humours, and blood, which flow to that part, such are the juyce of Hemlock, and the anointing of the place with Partridge-Eggs: Or you may use this following Cataplast; Take of the Juyce of Hemlock three ounces, of white-lead, Acacia, and Frankincense, of each three drams, of Vinegar one ounce, mingle all these together, to which you may adde powder of Sponge, burnt Alum, burnt Lead, Bole Armoniack, and of these with a sufficient quantity of Wax, and Myrtle, make a very proficable Oyntment” (*Compleat Midwife’s* 174-75; L7v-L8r). Bole Armoniack “is a soft friable fatty earth, usually of a pale red colour” (*OED* adj. 1b).

the passages and looseness, which is in the first conformation, and furthered by *idleness, much sleep*, and few terms, and *often handling of the Breast* by which the blood and the heat is drawn to the Breast. (204; Q6v; my emphasis)

Further, by placing “few terms” – meaning a lack of consistent menstruation – in the same prepositional clause as “idleness” and “much sleep,” Sennert implies that menstrual flow and cycling is as much in women’s control as personal habits are. Additionally, the yoking of large breasts’ capability of attracting excess humour with poor menstruation – a fault in the elimination of superfluous sanguineous fluids – indirectly confirms the breast/uterine connection and associates large breasts with both illness and dysfunction.²⁰ Similarly, Jane Sharp contends that large breasts cause woman’s illnesses in addition to producing unacceptable milk. She writes, “large breasts are in danger to be cancerated and inflamed; besides that the milk is not so good, because their wants a moderate heat” (337; Z1r).

Thus, consistent with notions of humoral balance, most writers advocated the physical “medium” for women’s breasts sizes, without clearly defining the parameters of what medium might entail – the unspecified middle-sized breast was a woman’s best option, if she could accomplish it. In a period before standardized measurements existed,

20. Echoing Sennert, Sharp states, “The immediate causes of great Breasts is partly natural by birth, the passages being loose and large; and sleep and idleness furthers it, and much handling of them heats and draws the blood thither” (*Midwives* 337; Z1r).

nature metaphors provided instant visualization of sizes, shapes, and colours of women's breasts, nipples, and areolae, characteristics that writers repeatedly discussed in passages about women's breasts.²¹ Although such references offered descriptions easily understood by lay readers, variation – to a limited degree – in nature was also common and understood. However, women's breasts not only varied within but also beyond prescribed limits.

Further, medium as an ideal is ultimately indeterminate, physically and temporally. Some writers laid out appropriate breast sizes for girls/women at various times in their lives, or as Riolan states, “The dugs are to be considered at divers seasons” (96; P4v). In *Bartholinus Anatomy* (1663), Thomas Bartholin, for example, describes the presumably normal (or average or typical) development of female breasts from birth to old age:

As to their Magnitude. In Girls new born, there is only a Print or Mark visible on the breast, and afterwards by little and little it swells, and in little wenches hardly any thing appears beside the teats, until by degrees they grow to the bigness and shape of Apples; and when they are raised two fingers high, their Courses begin to flow. In old women they wither away, so that nothing appears but the Nipples,

21. Recall the fruits used to describe breasts and nipples in Chapter 2. “Measurements before the Enlightenment and the age of standardization varied widely. While some terms had wide adoption, others were highly regional and idiosyncratic” (“Early Modern Measurements”).

the Fat and Kernels becoming consumed. (86; Cc1v)²²

Similarly, Diemerbroeck writes,

in middle ag'd Women, [breasts] are lesser or bigger
according as the Women breed or give suck; or as they are
such that neither breed nor give suck: for that the one
require larger Breasts than the other. (281; Nn3r)

Diemerbroeck also describes the sizes of nipples as being “more prominent at the time of giving suck, than at other times” (282; Nn3v). These statements make the timing of having large breasts significant. Even so, breast sizes are highly variable among pregnant and nursing women, and indeed among all women.

Writers also encouraged the acceptable middle size of women’s breasts when they delineated the best attributes of wet nurses. If one chooses to employ a wet nurse, Diemerbroeck, for example, recommends “A Nurse with moderate Breasts” (282; Nn3v) because such breasts suggest good functioning.²³ On a similar tack, M^cMath prescribes, “The Niples must be of a middle Magnitude and Length, for the Infants Mouth, being a Funel to convey the Milk thereinto: of a moderate firmness, yet not hard or grisly” (392; Cc3v). Sennert agrees, stating, “The Figure of the Breasts is round pointed at the Nipple a little, it ought not to be soft nor hard, and of indifferent bigness [...], and when they are too big, they have not a temperate heat” (203-04; Q6r-v). Again, these commentaries indicate breastfeeding – including the necessity of the infant’s ability to latch on – as a

22. What constitutes “old” is left to the reader’s interpretation.

23. The pages are misnumbered.

primary consideration in what size women's breasts should be.

Although the breasts of English women vary, in comparison with darker women of warmer countries, they should remain within the limits of acceptability. "The bigness of the breasts is varied, not only by years and their performing their office," Vesling writes, "but also by the humors that flow thither, and the diversity of the climate" (*Anatomy* 36; H2v). "In the Women in Europe," Vesling continues, the breasts "are more contracted, but in the Arabian and Indian Women they are so long that they can give their Children suck over their shoulders" (36; H2v). Vesling, however, does not expand on his reasoning, perhaps assuming that readers would understand how hot climates affected the humours. Similarly, William Salmon, in *Synopsis medicinae* of 1681, writes, "In the Kingdom of Sengea, Womens Dug hang as low as their Bellies, in the Isle of Arnabo, it is said they turn them over their Shoulders, and suckle their Children that way" (1107; Bbbb2r).²⁴ While Vesling predicates his comment on hot climates, Salmon seems to be suggesting something else. Rather than simply claiming women from Sengea and Arnabo have large breasts, Salmon writes that the breasts of these women "hang as low as their bellies." Salmon might be suggesting that these women birth more children, the breasts drooping more with each child; or these women continue to have children past the typical age of English women, their breasts sagging due to age and overuse; or these women, not

24. Referring to William Towrson's 1555 narrative of his Guinea voyage *The First Voyage Made by Master William Towrson*, Morgan writes, "This was, perhaps, the first time an Englishman in Africa explicitly used breasts as an identifying trait of beastliness and difference" (181). Morgan's text includes an illustration of Brazilian women performing "over-the-shoulder breastfeeding" (184) from Theodore de Bry's 1562 travel narrative *Historia Americae*.

being civilized, do not bind their breasts, making them sag. Regardless of why women from hot countries would have bigger or longer or saggier breasts, the image of women breastfeeding over their shoulders would be quite a curiosity to English readers.²⁵

In addition to women's breast sizes, medical writers discuss, at length, breast colour.²⁶ Writers frequently emphasize the contrast of the white of the breast skin and the red of the nipple as being a humourally significant one. Speaking in general, Riolan explains the colour significance in humoral theory:

The Color of the body is diligently to be marked, for such a Color as flourisheth in the Skin and Countenance, the same is predominant in the Humours, and therefore Sanguine people are Red, Chollerick Yellow, Mellancholly Black or brown and dusky, Flegmatick are pale: a brown and ruddy color are preferred before pale, which argues softness of body. (30; G3v)

More specifically discussing women's breasts, in [*Mikrokosmographia*] (1664), Jacopo Berengario writes, "every one of them turneth the humour in them contained to its own likeness in nature and colour: of this blood, being made white, the one part nourisheth the

25. Readers might also picture a woman suckling a child on her back as able to continue in her manual labours.

26. Despite the lack of discussion on the areola, its colouring also marks age and sexual status. Justification for this change in colouring may be the influx of blood prior to and during breastfeeding, or injury and illness might result in permanent discoloration and scarring.

teats, and the other is milk, and this is a profitable superfluity” (121; I5r).²⁷ Grieco indicates that the culturally traditional white and red combination gives “an impression of health” (“Body” 62-63), explaining, “White was the color associated with purity, chastity, and femininity. It was the color of the ‘female’ heavenly body, the moon” (“Body” 62). Significantly, constructions of women’s bodies in early modern English sonnets – particularly the poetic anatomies called blazons – also invoke the codified red and white aesthetic.²⁸ Breasts of the Petrarchan beloved, as Grieco explains, were to be “firm, round, and white, with rosy nipples” (*Body* 58).²⁹ Accordingly, in the sixteenth century, nipples were sometimes “cosmetically reddened to contrast more sharply with the artificially whitened face and breast” (Paster *Body* 205) – showing that women’s breasts were – figuratively and literally – on display.³⁰

27. Of the breast veins Gibson writes, “these are they that look so blue in the Breasts of fine-skin’d women” (213; P3r).

28. In a blazon within “Epithalamion,” Edmund Spenser, for example, makes use of the white/red colour codification of women’s bodies:

Her forehead yvory *white*,
 Her cheekes lyke *apples* which the sun hath rudded,
 Her lips lyke *cherryes* charming men to byte,
 Her brest like to a bowle of *creame* uncrudded,
 Her paps lyke *lyllies* budded,
 Her *snowie* necke lyke to a *marble* towre,
 And all her body like a pallace fayre.” (lines 172-78 G8v; my emphasis)

29. Ever the rebel, William Shakespeare presents the anti-Petrarchan woman in his Sonnet 130: “If snow be white why then her brests are dun” (line 3 H4r), or brown.

30. Della Porta provides a recipe to make skin “as white as Milk” (251; MM2r): “Take things that are Milk-White, as Almonds, Pine-Kernels, Melon and Gourd-Seeds, and the like. Therefore bruise bitter Almonds, Pine-Kernels, and Crums of Bread: and make Cakes of them with Barley-water, wherein Gum Tragant hath been soaked. You may use this for sope” (251; MM2r). “Tragant” is a “whitish gum, parially soluble in water, obtained from several species of the genus *Astragalus* [...] used as a binding agent” (*OED*, n1).

Writers also thought nipple colour indicated age and sexual status. In his 1682 anatomy, Thomas Gibson more fully explains differences in colour of female breasts: “There is a little circle that surrounds [the nipple] called *Areola*, which in Virgins is pale and knotty; in those that are with Child or give suck, brown; and in old Women, black” (213; P3r). Agreeing with most medical authors, Bartholin writes that the colours of nipples

in Virgins is red, in such as give suck it enclines to black and blew, and in them also they are more sticking out, by reason of the Infants sucking; in such as are past Child-bearing, the Nipples are of a black colour. (86; Cc1v)³¹

Medical writers did not, however, agree on the reasons for colour changes. Claims of the humoral sympathy between women’s breasts and uteri supported the correlation of colour and health, as Sennert submits: “Now because there is a great consent between the Womb and Breasts, if the Womb be distempered, the Nipples are discoloured” (223; R8r).³² Further, just as the size of the breast may imply a woman’s loss of virginity, so too could changing nipple colour: blue and black descriptors, in particular, allegedly

To remove skin spots, Thomas Jeamson writes, “Bath them for three mornings together with allum dissolved in oile of Tartar, wash after with lye and lupine meale” (*Artificial Embellishments* [1665], 59; E6r).

31. “Black” (*OED*, adj., A.I.1.b) can mean “Of a very dark colour (esp. a shade of red, brown, or purple) closely approaching black.”

32. If that were so, then one would extrapolate that the nipple should become white when a woman is lactating.

indicated a loss of virginity.³³ Others, however, are quick to warn practitioners not to read colour in this way, as seen in this passage by Sennert:

The change of colour in the Nipples, is not a sign of the
loss of Virginity: for they are blew in them that give suck:
black in old Women: and in them that have known Venery,
it is natural, and red as a Strawberry. (223; R8r)

Likewise, Jane Sharp claims, “The Nipples are red after Copulation, red (I say) as a Strawberry, & that is their natural colour” (360; Aa4v). This statement contends that the nipples of virgins and sexually active women are the same: red.³⁴

Besides descriptions of breast and nipple size and colour, early modern medical writers expressed considerable interest in the location and number of the breasts on the human body. In his anatomy, Gibson writes, “Dugs are granted to both the Sexes, and are seated in the middle of the Thorax, on each side one, upon the pectoral Muscle that draweth the Shoulder forwards” (211; P2r). Another description cites a crucial and practical difference between human and beast: “Because a woman hath two legges only, and therefore if her dugges should bee belowe her breast, they would hinder her going: but other beasts have foure feet, and therefore they are not hindered in their going” (*Problemes* D2r). Additionally, Bartholin cites the unique needs of the human infant:

33. Likely, these blue and black colours are codified colours that indicates injury, rather than an accurate description of hue.

34. Suggesting that there is no colour difference in the nipples of virgins and sexually active women nullifies the notion that one can detect whether a woman is a virgin or not simply based on nipple colour.

“because the Infant cannot presently walk after the manner of Brutes, but being embraced in his Mothers Arms, it is applied to the Dugs” (86; Cc1v).³⁵ Given that physicians based much of their knowledge about human anatomy on comparative dissections of animals, discussing human breasts in relation to those of animals would not be surprising.

Other reasons given for the physical location of the breasts likewise refer to maternal requirements. Several authors note that the breasts must be located where they are for a mother to hold her infant in her arms. Furthermore, in *The Manuall of the Anatomy Or Dissection of the Body of Man* (1638), Alexander Read gives more power to and approval of women by claiming that the location of the breasts allows women to hold the suckling child at her breast:

In Men, Women, and Apes, which carry their young ones
in their armes, they are seated in the brest:

1. That the mother should take pleasure by beholding the child.
2. That by the talking of the mother, the child should learne to speake, and be endued with reason.
3. That being neere to the heart, they should receive plenty of heat.
4. For beauty.

35. Bartholin does not consider that human infants, in their complete helplessness, are inferior to animal offspring that can, as he mentions, walk immediately after birth, and are more completely developed.

5. For convenient giving of suck, for the child cannot presently goe when it is borne; but must be borne in the armes and applyed to the teat.
6. For the commodity of the act of generation.
7. For the defence of the vitall parts.
8. For the incitation of lust.
9. To be a receptacle of excrementitious humours. So women are often troubled with cancers.

(279-80; N2r-v)³⁶

Curiously, Read provides two (possibly) unexpected reasons for the location of the breasts on the upper torso: “For the commodity of the act of generation” and “For the incitation of lust” (280; N2v). One might infer that nature placed women’s breasts where women could make best use of them to attract a mate. Read’s comment, however, fails to clarify whether the lust created by the breasts is woman’s or man’s, or both. If Read means men’s lust, one might conclude that women are the initiators of the generative act, their breasts playing an important role in reproduction even before pregnancy.

Nipple location likewise receives no small attention. Berengario indicates that the nipples’

Situation is in the Breast, because it is broad, not carinated, in which t[he]y may fitly bee placed; and also because the

36. Over-the-shoulder breastfeeding invalidates most of these reasons.

superfluity of the Members above passeth not into Hairs,
neither into the Teeth, nor into the Horns, as in brute
Beasts. (121-22; I5r-v)

Berengario's reasoning is twofold: there are no physical obstructions – such as hair follicles, cartilage, or the hard keratin of nails – to growth and there are no nearby structures that might take humours away from the breasts during infant suckling. Riolan explicitly assigns a more emotionally charged reason for the location of the breasts and nipples:

The Dugs are placed upon the Brest, not to defend the
Heart nor to adorne and beautifie the Woman, but that the
Infant may be more conveniently nourished, while the
Mother embracing it in her Arms laies it to the Dug, and
the Child Tickling her Nipple with its sucking provoks her
the more to love it, and to express her Love by frequent
Kisses. (95; P4r)³⁷

Not surprisingly, breastfeeding figures largely in explanations of nipple location, necessarily leaving men's anatomy out of consideration. Given that most medical writers report that the location of women's breasts is primarily for the convenience of breastfeeding, readers might consider that men's breasts are placed in the upper torso to

37. This convenience contributes to the bond between mother and infant and may encourage the character formation of the child, but also alludes to some sort of eroticization of breastfeeding.

match the location of women's breasts. In turn, this notion could make women's breasts the model of normalcy, and man's the dysfunctional, inferior counterpart.

Early modern medical thinking also questioned why humans have two breasts when beasts – except primates – usually possess more than two teats, according to the medical texts. The two-breast question effects a numbers game consistent with the mathematical organization of the universe and the economy of nature. Animals that have litters of several offspring, require a correspondingly large number of teats for feeding. Most commonly, however, women give birth to a single infant at the end of each successful pregnancy. Thus, women need only one breast. The requirement for two breasts is also part of nature's design, for at least two reasons. First, as Diemerbroeck writes, women's breasts "were formed two in number, partly that there might be sufficient Nourishment, for a double off-spring, partly that, if one should prove defective through any distemper or any other accident, the other might supply the want" (282; Nn3v). Riolan attributes this ingenious architectural design to Nature, whom he appropriately genders "our bountiful Mother" (95; P4r), as not being wasteful in providing two breasts if one would be sufficient. The frequency of breast injury, indicated in medical texts and treatises suggests that there was legitimate need to alternate breasts when suckling infants. Oddly, however, these writers fail to mention the body's bilateral symmetry as a reason for humans having two breasts.

3.1.2 Reading the Breast

Medical writers interpreted changes of size, colour, and density in women's breasts – even in ideal ones – as diagnostic signs of various (female) medical circumstances from pregnancy and fetal sex to spontaneous abortion and serious illnesses. Humoural theory presupposes a natural sense in body parts that transmits information about and to other body parts, making the diagnostic capability of breasts and breast milk part of women's normal corporeal functioning. In addition to early modern understandings of reading humours, some writers declare predictability based on the linkage of the breasts and uterus as well as superstitious folklore, Christian mythology, and misogyny. As Ronald Huebert argues in his discussion of literary representations of women's breasts, women's breasts may even be read as “a marker of demonic influence” (218). This comment likely refers to the idea that supernumerary nipples – or warts or skin tags – might be interpreted as being used to suckle evil familiars. As signifiers of vital medical information in addition to generative and nutritive potential, women's breasts, observed and described by men and women, could be the source of male anxiety about women.

Beyond descriptions of size and colour, medical writers suggested that breasts also functioned as indicators of pregnancy and health of the fetus. As one might expect, for example, several texts indicate the swelling, tenderness, and hardness of women's breasts as a long understood early sign of pregnancy. In *A Directory for Midwives* (1684) Nicholas Culpeper, for example, writes, “The Breasts begin to swell and wax hard, not without pain and soreness” (101; H3r). He continues to indicate that in pregnancy, “The

tops of the Nipples look redder than formerly,” and “The Veins of the Breasts are more clearly seen, than they were wont to be” (101; H3r), perhaps because of the preparing of the breast for lactation. Although indicators such as breast pain were important, signs of true conception were even more so. Because spontaneous abortion and infant mortality rates were comparatively high, early modern English medical practitioners and women themselves looked for indications of false conception and miscarriage, as well as fetal health.³⁸ In *Dr. Chamberlain's Midwives Practice* (1665), for example, Peter Chamberlen (1601-1683) claims,

by the inspection of the Breasts, the condition of the womb may be known: Witnesse Hippocrates, who saith: If the Nipples of the Breast, and that which is usually red about them, grow pallid or yelldowish, the is the womb diseased. (63-64; E8r-v)

In addition, Chamberlen indicates that women's breast can indicate much more:

by the inspection of the Breasts, the Age and Sex of the Child in the Womb is demonstrated: Hippocrates saith, as soon as the Infant beginneth to move, the milk acquainteth the mother with it, for presently upon the motion, the

38. Often writers referred to the “Mole,” which seems to be a catch-all word meant to signify a growth of some kind and signalling various situations, such as a mistaken pregnancy, an ectopic pregnancy, a spontaneous early or late-stage abortion, a tumour, or something else. Guillemeau describes several types of moles. Of “False conception” or *mola*, he writes, “their breasts which were swollen at the beginning, doe fall, and dayly wax soft, limber, and lanke, and without milke” (15-16; B4r-v).

Breasts swell, and the Nipples strut out: If therefore the
Breasts declare the time of the Infants moving, then do they
also declare the Age; for a man-child moveth the third
month, and a maid-child the fourth. (64; E8v)³⁹

Writers also applied the duplicity of right over left to the uterus.⁴⁰ For example, again making a connection between female breasts and uteri, Wolveridge states,

males are generated in the right side of the matrix; but
females in the left, and out of the left testicle; for the right
side, by reason of the Liver is hotter, but the left cooler; but
principally the abundant of heat of seed is the cause of the
generation of males. (21; C3r)

Citing Hippocrates, in [*Child-Birth or,*] *The Happy Deliverie of Women* (1612), French surgeon Jacques Guillemeau states,

if the right breast be harder and firmer, the nipple hard, red,
and more eminent, the milke white and thicke, which being

39. Further, Chamberlen claims that “the inspection of the Breasts, do foretell the health, or sickness of the Infant: For if in a woman with Child, the Breasts do suddenly fall swamp, or flaggish, then will she abort or miscarry” (64; E8v). If a part of the body is “swamp,” it is one “that may be or is normally distended: That has sunk and become flat; thin from emptiness, as the breasts” (*OED* adj.)

40. Right is associated with good, man, and God. The books of the Bible frequently refer to the power associated with the right hand. In the gospels, Mark writes, “So then after the Lord has spoken unto them, he was received up into heaven, and sate on the right hand of God” (Mark.16.19). Similarly, Luke writes, “And David himselfe saith in the booke of Psalmes, The Lord said to my Lord, Sit thou on my right hand” (Luke 20.42). See the caption in Figure 2.2.

milked or spirtled against a sleek-stone, or some such smooth thing, continues in a round forme like a pearle, and being cast even into water it dissolveth not, but sinks directly to the bottome: and if you make a cake with the said milke and flower, and in the baking it continues firme, and close, it is a signe the woman is with child of a boy. (9; Br)⁴¹

Invoking the authority of Aristotle, the anonymous author of *Aristoteles Master-Piece* (1684) writes,

After Conception, and the Child be come to some perfection, so that the Sex may be distinguished, if it happen to be a Male Child, then the right Eye of the Woman will, to appearance, move swifter, and sparkle more than the left: the right Pap will rise, swell, and be more hard than the left [. . .] and the Teats colour will change more suddenly. (121; F1r)

In addition, surgeon François Mauriceau contends in *The Diseases of Women with Child, and in Child-bed* (1672), that if the infant is male, the “right Breasts fill before the left” (44; C6v).⁴² The seeming bilateral symmetry of the external parts of the body becomes, in

41. Also citing Hippocrates, Mauriceau states that if a woman is pregnant with a girl, “her left brest is bigger then the right; and the top of the nipple blacke. The milke which comes forth of her brests is blewish, thin, and watrish” (10-11; Bv-B2r).

42. Mauriceau was the “best known of the French *accoucheurs*” (Karamanou 20).

fact, the complementary bilateral right/male, left/female divide, identified through the prognosticating breast.

Furthermore, similar to their considering of women's portending breasts, early modern medical writers viewed breast milk as an indicator of pregnancy as well as fetal health and sex. In *Aristoteles Master-Piece* (1684), the anonymous writer suggests "the Women ought to consider whether she have any Milk in her breasts; if she have, it is a sign of a true Conception" (127; F4r) by the third or fourth month of pregnancy. If milk-laden breasts were the sign of true conception, then early modern medical practitioners interpreted the "flagging" or decreasing size of the breast as a sign of miscarriage. The anonymous writer of *The Whole Aphorismes of Great Hippocrates Prince of Physicians* (1610) claims, "If milke flowe plentifully out of the dugs of a woman bearing a child in her wombe, it signifieth that the childe is weake: but if the paps be hard and stiffe, they declare a stronger conception" (99; F2r). The expulsion of prenatal breast milk indicated that the fetus was not consuming enough humoural nutrition *in utero*, leaving the excess to be flushed by the body. Claims also existed about pregnant women's breast milk revealing the sex of the fetus, just as the size, colour, and shape of the breasts and nipples could. In *Aristotle's Compleat and Experienc'd Midwife* (1700), the anonymous writer indicates

If she would know whether she hath conceived of a Son or
a Daughter, let her milk a drop of her Milk into a Bason of
fair Water; if it spreads and swims a top, it is certainly a
Boy; but if it sinks to the bottom as it drops in, round in a

Drop, it is a Girl. This last is an infallible Rule. And in all it is to be noted, that what is a sign of Male conception, the contrary holds good of a Female. (28; B2v)

Writers predicated such diagnostics on humoural assumptions as evidenced by the many medical texts on the reading of urines: interpretation of excrement indicates the fluid action within the body.⁴³ Again, that there are no scientific data to support the conclusions, and even though such methods must have proven inaccurate, medical writers still considered these diagnostic tools valuable.

As this small example of comments shows, medical discussions of women's breasts size, colours, and shapes reflect cultural associations of breast size, age, and sexual status of women as well as classical, humoural, and out-dated medical theories. What has the potential to be ideal, purposeful, beautiful, and a sign of woman's goodness, must have its negative counterpart through which "a specifically gendered form of social and bodily inferiority" (Paster, *Body* 205) arises. Some narratives reiterate women's innate inferiority based on breast size and imply that some women's breasts, not just those of women from exotic lands, are unwieldy in relation to men whose bodies and body parts exemplify normalcy. Women's breasts were unstable, changing according to numerous circumstances and defying standardization. Further, the more complicated anatomy of women's breasts and the notion that men's breasts were made in number and placement to correspond to female normativity, as some writes imply, could indicate the

43. Aristotle states that "all moisture becomes a mirror of color" (Arist. *Problems* I.1 865b10-11), making colour reading of urine – and breast milk – plausible.

disruptive possibility of women, their breasts, their nutritive capability, and their value relative to men. The medical insistence on an undefined ideal based on the size of a body part over which women have little control, and writers' suggestion of methods to force some control moderates this potential disruption of the hierarchical chain of being. The lack of a clear understanding of human biology complicated writers' attempts to provide reasonable explanations associated with the differences between male and female breasts, and among women's breasts.

3.2 Male and (Fe)Male Breasts

“A body's sex is simply too complex. There is no either/or. Rather there are shades of difference” (Fausto-Sterling 3).

Despite the realization that male and female tissues such as muscle, adipose, bone, and skin do not exhibit visual or structural differences, as anatomization and experience have shown, writers, as we have seen, also drew on theoretical and cultural assumptions and textual knowledge. Further, the mixing of old and new medical and social understandings of human breasts complicated the place of women and their breasts and the value of breastfeeding in relation to the alleged structurally, functionally, and intellectually complete male form. However, the lack of any functional ability of men's breasts, especially in comparison with women's highly functional breasts, might lead to the conclusion that men's bodies, at least in this capacity, are inferior to women's, or at least that women's bodies may not be as inferior to men's as medical writers understood.

In addition, since some writers denigrated the lack of functionality of women's

breasts that do not produce milk – suggesting cures for this dysfunction – they should also denigrate the uselessness of men’s breasts.⁴⁴ Arguments justifying the necessity of the non-lactating male breasts reflect writers’ concerns of maintaining the patriarchal idea about the functional superiority of the male body. Some writers, therefore, proposed fantastical explanations for the difference between male and female breasts/nipples. According to some superstitious beliefs, when women have superfluous nipple-like structures on their bodies – skin tags, warts, and other external protuberances – they are sometimes accused of witchcraft, the nipples available for the suckling of evil familiars (Yalom 60).⁴⁵ As Roger French claims, in a 1643 witch trial, physicians Harvey, Read, and William Clowes, in addition to midwives, were assigned to examine women who had such superfluous “nipples” (“Harvey”).⁴⁶ Yet there is no suggestion that men’s nipples or other protuberances are associated with such a purpose. Although many writers associated non-functionality of women’s breasts with abnormality and the supernatural, they rationalized non-functionality of men’s breasts as being normal, placing dysfunction into the model of male perfection.

Yet early modern writers frequently deny arguments that might posit male

44. See Chapter 4.

45. See Harley’s “Historians as Demonologists: The Myth of the Midwife-Witch” and Garrett’s “Witchcraft and Sexual Knowledge in Early Modern England.”

46. Despite his “lack of formal qualifications” (Murray), Clowes (1543/4–1604) became a member of the Company of Barbers and Surgeons in 1569 and was “part of the shift towards Paracelsianism in the writings of surgeons during the period 1570–90.” Further, Murray notes that one of Clowes’ missions “was to remove the abuses perpetrated by incompetent surgeons, mountebanks, and quacks who did so much harm and lowered the standing of the profession in the public eye.”

functional disability or inferiority in relation to female functionality.⁴⁷ The disputed existence of milk-making glandules in men's breasts hints at a possibility of male lactation that would nullify notions of female superiority based on breasts. If one believes, however, in the existence of a physical conduit between the uterus and breast as part of concoction of blood into milk, male lactation is impossible.⁴⁸ Without the possibility of male milk production, writers provided an alternative purpose for the male breast that required no mechanical operation: ornamentation. However, even the concept that the male breast is the exemplar of natural beauty fails to prevent the potential of the female breast to place women's corporeality above man's.

Nevertheless, the perceived influence of women's bodies and breast milk culminated in the medical contention that men can overtake female nutritive power by producing breast milk themselves. Richard Crashaw's poem that we saw at the start of this thesis represents the saving power of Christ as an inversion of the Virgin Mary's nutritive power: "The Mother then must suck the Son" ("Luke 11.[27]," line 4 17; Clr). This contention locates male lactation firmly in the realm of attainability theologically, if not biologically. Several medical writers report that male lactation is indeed physically possible, contending that men could take over women's responsibility in feeding infants. "The nursing father," Kirk Read purports, allowed male writers to "masculinize

47. The presence of men's nipples and glandules and the similar tissues of men's and women's breasts creates a space for the argument that men have the *potential* to lactate.

48. Women's nutritive functioning enabled by biological components in women's breasts developed *in utero*, at puberty, and during pregnancy – components that, in men, are either significantly underdeveloped or missing entirely.

maternity” (71-72), implying early modern male fear of the power associated with women’s nutritive and maternal abilities.

In [*Mikrokosmographia*] (1664), Berengario explains that “sometime there is Milk made in a man by reason of the abundance of Nutriment, especially in one that hath great and strong Teats” (122-23; I5v-I6r).⁴⁹ Diemerbroeck claims that Aristotle and Avicenna “teach us that Men many times give a great quantity of Milk. They that have travelled the new World, report that they have found some Countries there, where the Men had the greatest store of Milk, and gave the Children suck” (286; Oo1v).⁵⁰ James Keill, in *The Anatomy of the Humane Body Abridged* (1698), not only suggests that men might lactate, he claims, “I have seen some Men who have had Milk” (101; F3r) in their breasts. He does not elaborate on the circumstances of this observation.⁵¹ Similarly,

49. In stating that a man “hath great and strong teats,” Berengario not only contradicts the visual evidence of size differences between men’s and women’s breasts, but also the humoural and anatomical explanations for those differences. If men’s breasts are large and can make milk, then men’s and women’s breasts must be functionally and physically equal. Further, the fact that most women can lactate, but few men do, implies that men must attain the perfection of women’s breasts to accomplish lactation. Note that Berengario attributes “abundance of Nutriment” for the male ability to lactate, yet most medical writers suggest that female lactation depends on low quality blood.

50. Male lactation is possible. In their research, Kunz and Hosken show that, if at the critical time in foetal development mammary glands develop and if at the onset of puberty hormonal stimulation leads to milk duct and tissue development, a male mammal can lactate (81). In addition, certain metabolic conditions such as severe alcoholism can result in male lactation (82).

Avicenna (980-1037) eventually “came to be known as the ‘prince of physicians’” (Aminrazavi 1119), combining “Ptolemaic and Aristotelian systems[and] adopted the Islamic astronomical view based on the nine spheres” (1119). As Aminrazavi concludes, Avicenna “left an indelible mark on the history of science, medicine, and philosophy” (1120).

51. Not all writers agree that male lactation is a possibility. Crooke denies the possibility of male lactation because he denounces the suggestion that men have milk-producing

writing about male lactation, Alexander Ross comments, “I have read of men that have had milk in their breasts, which is likely, if they were of a cold, moist, and feminine complexion, abounding in blood” (88; G4v). A significant degree of male lactation in early modern England seems unlikely.

Yet, having stated that men can lactate, Bartholin carefully qualifies his assertions about men’s breasts, reporting that they do not “ordinarily” make milk and men’s breasts “commonly” (86; Cc1v) do not have kernels, leaving open the possibility of male lactation. Bartholin’s qualification, however, places male lactation within the realm of abnormality. In *A Plain Introduction to the Art of Physick: Containing the Fundamentals, and Necessary Preliminaries to Practice* (1697), John Pechey also deems male lactation abnormal – and perhaps even an imperfection – stating that men may have milky breasts because of “the largeness of the passages of the Breasts, the laxity of the Glands, and the abundance of Chyle” (16; B8v).⁵² Finally, Thomas Winston disqualifies male lactation

glands: “The Pappes of men have no Glandules, neyther do they generate milke; the Testicles of women are perfect Glandules” ([*Mikrokosmographia*] 283; Bb4r), as anatomical dissection would show.

52. Pechey does not fully explain the expression “laxity of the glands.” He may be suggesting that men have underdeveloped mammary glands, making that aspect of man’s body inferior to that of women. On the other hand, he may be suggesting that all mammary glands are lax because women’s bodies are soft, reaffirming the imperfection of women’s bodies. Regardless, Pechey’s statement that men’s breasts have milk-producing glands and milk-transporting vessels in their breasts negates most writers’ reasoning for women’s larger breasts: the presence of lactation glands and vessels. In 1687, Pechey became partner in a joint practice in Cheapside – a group that included German physician Joannes Groenveldt (also Groenveld; bap. 1648-d. 1715/16). However, Cook writes, “From the start the censors of the Royal College of Physicians disliked the repository practice and its members” (Cook “Pechey”), particularly when the group collectively published *The Oracle for the Sick* (1687), “which contained a series of medical questions mimicking the questions that a doctor would ask on seeing a patient,

completely. Having claimed to have heard – in his readings rather than his observations – that some men exude a milky substance, he notes that such an excrement is not actually milk: “in some men who have *carnem spissam*, says Aristotle [...] there is found a certain moisture like unto milk, but unfit for nourishment” (140).⁵³ Although most writers never mention male lactation, these few examples indicate the lack of consistent and clear understanding of physiology and the mechanism of milk production, the possibility of male lactation providing a theoretical functional capacity for male breasts.⁵⁴

Without claiming male lactation, however, writers described various reasons why the complete human form has seemingly underdeveloped breasts. For example, consensus – and common sense – shows, as Riolan notes in his guide to physick, “The Papps of Men, ought to be depressed, but in Women swelling round, and Glandulous, rather than Fatty, or Fleshy” (30; G3v). Explaining the relatively small size of men’s breasts, Bartholin attempts clarification without correlating breasts and menstruation. He writes that men’s breasts

which could be filled out and sent to the repository through the penny post system; remedies and instructions on use would be sent in return” (Cook “Groenveld”). Groenveld himself was convicted of malpractice, fined and imprisoned at Newgate, but eventually received a pardon.

53. “*Caro spissa*” is dense or compact flesh. A. Read concurs: “If in man a whitish substance representing milk, be found which hath been seene [...] it is unprofitable, and unapt to nourish” (*Manuall* 273; M10r). Such explanations that men excrete a substance like milk but not actual milk, matches the explanation given for observations of virgin lactation.

54. Other than the occasional reference to male lactation, the texts do not indicate the frequency of male lactation. Although writers, such as Keill, declare they themselves witnessed this phenomenon, such claims required no proof, relying heavily on the lack of knowledge about how women produced milk.

do not rise so high as in women, because ordinarily they were not to breed milk [yet because of the equality of the kind, it was convenient that men should have them as well as women.] And therefore in men, the Dugs are commonly without Kernels: yet in burly people, the Fat which is under them raised the breasts. (86; Cc1v; brackets original)⁵⁵

Bartholin claims that when men's breasts are large, the cause is fatty tissue, but some fat is acceptable.⁵⁶ Note that Bartholin claims that men and women have similar physiological structures: the tissues of the chest or thorax are alike in "kind." He cannot state, however, that men's and women's body parts are the same because women's breasts have kernels or glandules and produce milk. Further, Bartholin seems to forget the order of human creation in Genesis: if God created man first, men's bodies could not be created to complement women.⁵⁷

Diemerbroeck explains the breast size difference in terms of humoural complexions and relative activities of men and women:

The largeness of it is different according to the bulk and size of the Persons, and difference of Sex, as being of less extent in Women, especially Virgins than in Men; for that

55. The convenience to which Bartholin refers is, in part, purposeful: "General in Women and Men, to be safeguards to the Heart" (88; Cc2v).

56. "The Chest ought to be large, of an Oval Figure, and the Back-bone straight, the breast ought to be somewhat convex, not sharp, not flat, not depressed" (Riolan 30; G3v).

57. One might take this line of reasoning a step further to infer that if man was made to resemble woman and is the image of God, then God's celestial body is female.

Men having a hotter Heart and Blood, and more laboriously employed require a greater Respiration. (280; Nn2v)⁵⁸

Curiously, Diemerbroeck equates the appearance of male and female breasts:

The two breasts, as well in Men as in Women, are spread upon the middle of the Thorax, of each side one, above the Pectoral Muscle drawing the Shoulder, and cover it, by that means perfecting the handsom shape of the Body. (281; Nn3r)

Diemerbroeck's statement implies that the relative sizes of men's and women's breasts provide the appropriate – natural and perfect – overall body shape or silhouette. In describing the tissues of the breasts in his published anatomy lectures, Thomas Winston writes, “The composition and the end is not the same in men and women, although the seat be the same, and fixed upon *Pectoralis musculus*, to take from women that bragge, that they should have an ornament which men want” (140). Winston's commentary not only emphasizes the natural difference between the male and female breast, but also implies that men would not aspire to have large breasts.⁵⁹

Also, in *The Surgions Directorie*, Thomas Vicary agrees that men's breasts, despite their seeming dysfunction, serve a specific – and valuable – purpose. He writes,

58. The anonymous text, *The Problemes of Aristotle* (1595) focuses on difference in observing that men's breasts are smaller: “Because a man hath no monethly tearmes, and therefore no vessell deputed for them” (D2v).

59. The ornamental for men, however, might be muscular chests. Fatty tissue could hide muscular male chests and make them appear similar to the larger, feminine breasts.

I find a certaine profitableness in the creation of the
Pappes, aswell in man as in woman; for in Man it defendeth
the spirituals from annoyance outwardly, and another by
their thicknesse they comfort the naturall heate in defiance
of the spirits. (54; E4v)⁶⁰

Similarly, in another description of women's breasts, found in *The Anatomy of the Body of Man* (1653), Vesling states that the breasts need be "neerer to the Fountain of Vital Heat" (36; H2v) for allopathic benefit as dictated by humoural theory. Surely these two statements apply to women's breasts as well. There is something within these statements that suggests a common coldness of women's and men's breasts, contradicting the humoural argument that assigns women's corporeal inferiority based their colder complexions. If the breast is cold and moist, one can argue that the breast is inherently feminine. Further, if the same qualities in the breast are necessary for maintaining the body's comfort – in both men and women – then the feminine breast becomes important and necessary.⁶¹

In another way to explain why men have breasts, even without excessive humoural substances and glandules, or function, Keill, like others, contends that "The

60. Vicary writes that blood contains "the spirit of life" (*Surgions* 13; B7r), but here he must mean external spirits – the *spiritus mortualis* – which exists within all things (Kalff 186). In humoural medicine, the spirituals are the "the movement of the passions" (Donini 192), one of Galen's three divisions of the "soul" of the human body. The rational function resides in the brain, the spirituals in the heart, and the nutritive in the liver.

61. In a similar contradiction, concoction of humours into milk and the warmth of the suckling infant requires vitality and heat in the breast.

Dugs in Men are very small, they are chiefly for an Ornament” (101; F3r).⁶² There must be internal tissue covered by skin on the upper bodies of men, but it is unclear whether the dugs to which Keill is referring are the entirety of the breasts or the nipples and/or areolae. If he meant male breasts, he can hardly be describing them as ornamental since they are the same colour as the rest of the body and do not protrude, except in cases of excess fat.⁶³ James Keill must be referring to male nipples, which would provide a visual difference on the torso through colour and, perhaps height. Nipples emphasize the bilateral symmetry of the body – the idea of mathematical harmony in the universe was a common early modern trope – and they appear as the centre point in the breast, a bodily circle. Further, if Keill is referring to male nipples, then he is employing commonly understood colour codifications that reinforce cultural representations – and humoural mechanisms – about women and their breasts.⁶⁴ Clearly, the medical writers struggled to determine why men have breasts that have no function.

In the texts, the problematic differentiation between male and female body parts is

62. Winston agrees: “The use of the Teats in men is altogether for beauty sake” (141). A. Read concurs, writing, “Dugs are granted to both the sexes, in men they are framed of the *cutis*, the *membrana carnosae*, fat, and the nipple and serve onely for beauty” (*Manuall* 272-73; M10v-M11r).

63. Riolan writes, “In Men there are only the marks of Paps or Dugs, in Women they are Parts made not only for a feminine ornament, but to nourish the Infant” (95; P4r). Of course, the pectoral muscles – particularly on male bodies – can be considered ornamental and indicate health and strength. In heavier men, the pectorals can also sag, perhaps even seem effeminate. However, women also have pectoral muscles, which are covered by their breasts.

64. The white of the breast skin and the red of the nipple are also humorally significant. See Berengario’s comment above.

represented by the figure of the hermaphrodite.⁶⁵ Central to maintaining the legitimacy of patriarchal hierarchy was the contention that women's bodies were not finite in their construction, because, at least theoretically, they can transgender to achieve the ultimate level of human corporeality, maleness.⁶⁶ Donald Beecher writes, "That women might be transmuted into men was a standard Renaissance medical topos based initially on a set of anecdotes from Hippocrates and Pliny concerning sex changes that physician-philosophers of the sixteenth century were pleased to explain as natural phenomena" (991). In his discussion "Of the Universal Matter of the Stone of the Philosophers," for example, Paracelsus writes, that the stone is "animal, the which also they have called their Adam, who carryes his inv[i]sible Eve hidden in his own body, from that moment of time wherein they were united by the power of the most high God" (*Aurora* 50; D1v), making Adam hermaphroditic. The duality of Eve – first as sinner and then as helpmate – seems also to be within the man.⁶⁷

Medical writers may have assumed the existence of half-man/half-woman individuals as fact:

65. Commenting on Ovid's *Metamorphosis*, a text immensely popular in early modern English culture, Hillman notes that hermaphrodites threaten "an ever-present potential slippage between male and female" (43). Furthermore, Shakespeare frequently dramatized the erasure of the corporeal distinction of male and female, as in the inability of nobles to distinguish fraternal twins Viola and Sebastian in *Twelfth Night*.

66. The theoretical possibility of women improving their corporeality parallels the assumptions in medieval thought about women's ability to reach male perfection by disavowing their sexual and maternal functions.

67. McClive contends, "The very fact that masculinity was on trial reflects wider socio-cultural anxieties in the face of the potential uncertainty caused by the elevation of these secrets" (47).

How are Hermaphrodites begotten? Ans. Because there are three principall cels in the wombe, one in the right side, another in the left, and the third in the middle, into the which when the seed doth fall, a Hermaphrodite is said to be begotten in this manner. (*Problemes* E7v)

Medical writers perceived hermaphrodites as evidence of women transforming into men and the possibility that men – the perfect but malleable form – could transform or degrade into women. Ross gives a case example of such a transformation:

As there be some masculin women, so there are some feminate men; such was he who from twenty to forty five, had his monthly vacuation of blood, as women have; by which it seems his constitution was altogether feminine, moist and cold; therefore was smooth skinned, having no Beard, not hair at all on his body. (85; G3r)

Despite this statement, Ross assures his readers that, in fact, women cannot transform into men nor men into women.

He does, however, admit that the hermaphrodite is a female to male transformation, explaining that, in fact, the person was a male whose genitals had failed to descend:

The vessels of generation in the male and female, are not the same, as some have thought, supposing they differ only in scituation, the one being inward, the other outward;

which is not so, for they differ in figure, number and scituation, as may be seen in Anatomies. Therefore these stories which tell us of maids turned into boyes, are false and ridiculous, except they mean Hermaphrodites, in which are the vessels of both sexes, which are not discerned while they are young, because of the weakness of heat in them; so at first some young boyes have been taken for maids, because the yard and testicles for want of heat, have not appeared outward” (Ross 46; D7v)

Without this clarification, readers might assume that if women’s generative organs are inverted versions of men’s – remaining internal due to lack of heat and humoural processing – then the possibility exists that women can, at some point in their lives, externalize their genitals, transforming into males. Note that it is at puberty when the hermaphrodite’s secret is exposed – by the presence of the yard and testicles – but only when the clothes are removed, such as for a medical examination. During this same phase of development, the female breast begins to show its difference from the male breast – even while clothed.⁶⁸

However, emasculation of women’s breasts requires a different process. Because the enlargement of the female breasts depends on the surge of female hormones at

68. Some writers, such as Cowper, discuss puberty in girls but fail to mention the budding of the female breast. Aristotle writes, “a boy actually resembles a woman in physique” (Arist. *Generation of Animals* I.20, 728a18-22). Boy performers enacted this concept playing women’s roles in early modern English theatre.

puberty, breasts of such individuals do not develop, in what might appear to be the child's breast – not yet gender specified – naturally developing into the male breast. Although Merry E. Wiesner-Hanks contends that “After 1600, physicians generally discounted stories of such gender transmutations of women into men” (60), the lack of neo-natal care and the extent of inbreeding suggests a potentially statistically significant number of such anomalous yet possible phenotypes. And while Wiesner-Hanks insists that “at no time did they describe the opposite process of a man becoming a woman” (60), the theoretical hermaphrodite reconciles the separation of the matter and spirit, usually split between man and woman. Further, gynecomastia, obesity, and ingestion of certain plants result in over-development of men's breasts, making them appear to be transforming into women, evidenced by Albucanus' reference to a “treatment of the male breast when it resembles the female” (362). Fears of female/male and male/female transformations – whether the entire body or just the breasts – repudiates the paradigm of male corporeal superiority and acknowledges female nutritive capability, augmenting the breast's potential disruption of patriarchal hierarchy.

In trying to reconcile the anatomical reality that male and female breasts are physically the same – both being malleable and having the potential to become abnormal – and the apparent superior functionality of women's breasts, medical writers provided variable accounts of the structure and development of human breasts. While the argument that a breast/uterus connection is a scientific truism eliminates men from lactation entirely, later evidence that excludes the uterus from milk production and claims that men's breasts have the glandules or kernels necessary to process humoral fluids into

milk reopens the possibility of male lactation. Such anomalies surely perplexed observers, writers, and readers.

3.3 The Deformed, Dysfunctional, and Unwell Breast

“[I]llness touches upon universal paradoxes of human existence, which are mediated by particular cultural conceptions and values” (Comaroff 51).

Based on the pre-conceived notions of the tendency of the female body toward humoural imbalance and the breast/uterus connection, many medical writers associated women’s susceptibility to humoural and emotional instability and immoral influences with a susceptibility to illness.⁶⁹ In addition, Christianity significantly shaped notions about illness and treatment, perceived by early moderns as both a divine gift and punishment.⁷⁰ Justifying divine interference, early moderns considered illness an appropriate punishment for humanity’s post-lapsarian state: “the fallen condition of mankind,” as Roy Porter explains, “was blamed for the ubiquity of sickness, suffering and death” (“Patient” 95).⁷¹ Medical writers considered a patient’s moral constitution an

69. Abnormal humoural balance or processing varies for each person relative to the individual’s normally balanced humoural complexion. In addition, many physicians believed nutrition, climate, and age as well as the movement of the planets affect individual bodies. Determining the cause of an illness was, therefore, extremely difficult.

70. In *Devotions upon Emergent Occasions*, John Donne writes, “As yet God suspends me between heaven and earth, as a meteor; and I am not in heaven because an earthly body clogs me, and I am not in the earth because a heavenly soul sustains me” (I.III.Exp1.3: 21).

71. Additionally, physicians attributed sorcery – perhaps God manipulating Satan’s influence on mankind – as the cause of illness, “the result of *maleficium*, or spells cast by witches, or of satanic or demonic possession” (Porter, “Patient” 95), again placing the

influential determinant in corporeal and mental health, because, as Porter indicates, “sickness was interpreted as packed with moral, spiritual and religious messages” (*Disease* 21).⁷² In addition, the secondary creation of women and their place within multiple Christian interpretations of Eve and Mary and other biblical women make women’s soft and malleable bodies destined them “to psychological softness” (Maclean 42) and capricious fancy as well as infection and imbalance.⁷³

Additionally, because of their changing physical dimensions, outward appearance, and nutritive function, women’s breasts defy writers’ attempts to understand them or fix them as stable, unchanging body parts more so than most body parts and, importantly, more so than men’s breasts.⁷⁴ Writers frequently positioned women’s corporeality as complicit in their illness and breast milk as transmitters of disease and sickness. Yet because of their nutritive capabilities, women – or, more accurately, breast milk – also appeared in discussions of treatments.⁷⁵

In *The Problemes of Aristotle* (1595), the anonymous author writes, “Doth nature

blame on women. Porter suggests, however, that by the seventeenth century the belief that sorcery caused illness remained only with the lower classes (“Patient” 95).

72. See Elmer’s comments on the “priest-physician.”

73. Churchill states that “the female body was considered by practitioners to be capable of manifesting, transmitting, and responding to disease and treatment in ways that the male body could not” (3).

74. Dale writes that “desire for the [male] body to be constructed as a firm, definitely bounded entity whose ‘edge’ is clearly held in place by the physical boundary of the skin the singular individual” (139). However, that there are several important, openings on the human body, and that, in fact, skin is composed of pores. And with the need to absorb, imbibe, and expel externally generated materials, the human body is highly permeable despite its enclosing skin.

75. Illnesses associated with breast milk will be discussed below.

make any monsters? Answer. She doth” (E8r). Riolan describes a monster: “of women also who have had four breasts, all full of milk: which is probable. Seeing there be many monsters, that have superfluous members, according to the superabundance of the parents seed and prolifical blood” (88; G4v).⁷⁶ The monstrous side of the common notion that external beauty signified internal morality and goodness, physical unattractiveness regardless of varying subjective definitions signified internal immorality, uncontrolled appetites, and susceptibility to sin.⁷⁷ As Véronique Nahoum-Grappe contends, “there was no point in asking whether a particular ugly woman was virtuous” (86); her outward appearance made the statement for her. Extrapolating this social implication, a woman who is born with an immoral character or unbalanced complexion will necessarily develop monstrous or unappealing breasts. Making the connection between medical anatomization and poetic blazoning, Kathryn Schwartz notes that “the disease and deformed breast is the other side of the Petrarchan mirror” (157). The same nexus applies in the medical texts, beginning with the monstrosity of the large breast demonstrated by the writers’ insistence on maintaining, but not defining, the ideal medium.⁷⁸ As Linda I. A. Birke states, “Constancy is normal; perturbations represent disease” (43). Women’s breasts are inconstant: leaky and changeable. Humourally, as Ambroise Paré notes in *The*

76. “[T]he late Renaissance interest in the anomalous nature’s finest workmanship, reflected both in the contents of the cabinetry of curiosities, and in Francis Bacon’s plan for a natural history of ‘pretergenerations’” (Daston and Park 13).

77. According to Helkiah Crooke, “In some [women] they grow even a monstrous greatness” ([*Mikrokosmographia*]157; P1r).

78. Sennert instructs, “It is easier to keep them from growing great, then to abate them when too big, with good diet and Topicks that repel by cooling, and binding and drying” (204; Q6v).

Workes of that Famous Chirurgion Ambrose Parey (1634), the breasts “are of a cold and moist temper” (138; N3v), consistent with the general humoural complexion of women. Furthermore, “dryness is linked to the formal, masculine, active, and bright aspect of Creation,” writes Sergius Koderer, “humidity is associated with the material, female, passive, and dark side of Creation” (148). Female coldness and moisture are natural and appropriate within humoural theory, yet also have negative connotations.

“Ugly” breasts, according to the medical texts, result from breastfeeding, age, illness, diet, and hyper-sexuality, and a lack of self-control. As mentioned above, some writers deemed excessively large breasts visually unattractive and dysfunctional. In *The Idea of Practical Physick in Twelve Books* (1657), for example, John Johnston (1603-1675) explains, “The *Magnitude of the Paps* (unseemly as it is) is exposed unto the sight. It ariseth from the often handling and stroaking of them, and especially from the great abundance of Flatulency and windiness, the Retention of the Courses, etc.” (IX.25; X3v). Not only does Johnston indicate that large paps are unsightly – and difficult to hide – but he implies that at least some of the reasons for their magnitude could – and should – be tempered. While Johnston refers to size and humoural fluids, Bartholin comments on the parameters of location and number, writing, “*Walaeus* in a certain woman observed three Dugs, two on the left side of her Breast, and one on the right. And *Cabrolius* observed in a certain woman four Dugs, on each side two” (86; Cc1v).⁷⁹ Although Bartholin mentions these abnormalities, he does not provide commentary. Ross, who claims to have read

79. In contrast, see Della Porta’s *Natural Magick* (1658), Figure 2.5 and 2.5, in which female Nature’s six breasts seem to indicate bountiful goodness.

about women with more than two breasts, associates them with the monstrous: “who have had four breasts, all full of milk, which is probably, seeing there be many monsters, that have superfluous members” (88; G4v).⁸⁰ Such claims might reflect the tradition of anatomizing animals, most of which have more than two teats for suckling multiple offspring, may be evidence of fantastical male desire for more women’s breasts, or, indeed, something else entirely.

Citing another form of breast abnormality, Sennert claims – without specific evidence – that “Hairs, Stones and Worms have been found in the Breasts” (216; R4v). The hairs that Sennert describes as being in the breast, might, in fact, be *on* the breast – or even ingrown hairs. “Stones” may refer to abnormal masses within the breast, such as fibrous cysts and both benign and malignant tumours. Further, although twenty-first century readers might find the presence of worms in women’s breasts strange, parasitic infection can result such a condition.⁸¹ In *The Pearle of Practice* (1594), John Hester (d. 1593) likewise reports that some women’s have “tettters” or worms in their breasts (16; C.iv.v).⁸² He also provides a cure:

They took five spoonfulls of Madder, and boiled it in ale,
and then strained it cleare, without pressing it at all, and

80. Sennert also mentions abnormal female breasts: “Though Nature hath ordained two in all women: yet some have Breasts like Men, others have had two on each side that had Milke” (203; Q6r). See also Riolan’s statement above.

81. Of course, all three of these – hairs, stones, and worms – might also be observed in men’s breasts.

82. Worms in the breast could be diagnosed, for example, by observing the movement of worms closest to the skin.

dronke thereof, three or foure mornings. Then with the
foresaid ointment, they used to annoint the partes grieved,
and thereupon (with Gods helpe) were quicklie healed. (16;
C.iv.v)

An ingestible formula would be necessary to kill such a parasitic infection, but for early moderns prayer and grace are valid parts of a cure. Regardless, the repeated testimonials to abnormal breasts portend the female breast beyond the limits of natural, as deformed and/or dysfunctional.

Bartholin, and others, apply humoural theory to understand the substance and motion of female nipples, as well as reasons why these are more frequently injured than other female body parts. He writes,

Papilla the Teat or Nipple, being spongy, like the Nut of a
Mans Yard, and therefore it will fall and rise when it is
suckt or handled. For it hath an excellent and exquisite
Sense of feeling, because it is as it were the Centre, into
which the Ends of the Nerves, Veins, and Arteries do meet.
Which is apparent from the Delicacy of its Sense, and the
redness of its colour, a sure token of Blood brought in by
the Arteries. (86; Cc1v)⁸³

Bartholin warns that “the Skin is exceeding tender, easily rubbed off, and apt to be pained

83. Clearly copied from text to text, this reference occurs in several early modern English medical texts.

when a Child sucks very freely” (86; Cc1v), a plausible reason for the frequency with which women’s nipples become injured or inflamed. His explanation also reflects humoural assumptions that the flesh, being under the influence of the four humours, is sensuous – a characteristic that leads to the early modern belief that the uterus has the sense of smell.⁸⁴

Further, Bartholin claims the sensitivity of the female nipple is purposeful: “to serve for a pleasing Titillation, whereby Mothers and Nurses are enticed to more willingly, and with a certain Sense of pleasure to give their children suck” (86; Cc1v).⁸⁵ In this comparison, Bartholin equates the nipple with the glans (or “nut”) of the penis (or “yard”), invoking sensuality, sensitivity, and purposeful – and specific – functionality: gendered generative and nutritive capability.⁸⁶ Yet the metaphor works for both women’s *and* men’s nipples, making the gender comparison more complicated. Even more dramatically, breast mutilation or removal provided a terrifying image of monstrous female corporeality. The anatomical process and writers’ subsequent descriptions of the female breast separated from the body literalize this deformity, as do discussions and illustrations of the mastectomy procedure, no doubt also terrifying to women

84. Plato contends, “A woman’s womb or uterus, as it is called, is a living thing within her with a desire for childbearing” (*Timaeus* 91c). As a “living thing” the uterus has some of the physical senses.

85. According to the American Academy of Pediatrics, oxytocin released during breastfeeding generates feelings of happiness and satisfaction (497).

86. Because the mechanism of blood engorgement for erection is consistent for the nipple and the penis, the commonality between the two body parts resides in the mechanics of human corporeal motion.

themselves.⁸⁷

A Christian signification of the removal of the female breast makes this type of disfiguration of the female body a threat to morality, for, as Jodi Mikalachki states, “Breast mutilation was a punishment known from classical antiquity through the Middle Ages and into the early modern period when it was recorded in the religious wars” (130). Also annexing such disfiguring to faith and virginity, many female Christian martyrs, such as Saint Agatha, purportedly endured breast amputations at their trials/murders. Marilyn Lueke indicates that “misogynist medieval theology had idealized women who were dissociated from reproductive activity, often through literal or figurative separation from the breast” (241). Lueke contends that female breast amputation functions as a corollary to male castration (130), evoking fear for both men and women. Just as castration threatens to emasculate men, “so breast mutilation functioned as a symbolic defeminization of women” (130). Nevertheless, medical breast amputation might cure an otherwise mortal illness.⁸⁸

87. See the illustrations demonstrating the mastectomy procedure in Figure 3.1 from Scultetus’ *The Chyrurgeons Store-House* (1674; 172; L6v). The corresponding text indicates that the procedure is necessary because the breast is “affected with an ulcerated Canker” (172; L6r). Scultetus indicates that the removed tissue in “Fig. III” weighs approximately six pounds. Figures V to VII illustrate the perforation of a “Fistula of the Thorax” (171; L6v) on a male specimen. Note that the illustrations of the woman’s procedure include a woman’s head and face, but those for the man’s procedure are headless.

88. In *A Hundred and Fourtene Experiments and Cures of the Famous Phisition Philipus Aureolus Theophrastus Paracelsus* (1583), Paracelsus states, “A certaine woman having a coroding ulcer in the left breast with great paines, by meanes that shee had not her naturall sicknesse, she had also in the right breast, necke and arnepits, certaine kernels and harde tumors, and chiefly the left arme was astonied or taken” (93; B7v).



Figure 3.1 Mastectomy procedure, “Tabula XXXVIII” from Johannes Scultetus’ 1674 *The Chyrurgeons Store-House*, Bodleian shelfmark 8°B 45 Med (with permission of the Bodleian Libraries, University of Oxford and ProQuest; image produced by ProQuest as part of *Early English Books Online*).

Cultural associations with Amazons also complicated the probability of male control over women's bodies. Considering the extraordinarily monstrous image of the deformed female body missing its breast or breasts, early modern belief in the existence of the legendary Amazon tribe extended male anxiety from the realm of mythology to real life potential. The seemingly earliest conceptualization of this one-breasted warrior race of women derives from the eighth century B.C. in Homer's *Iliad* (Yalom 22). Significantly, the right breast – reflecting male according to the medical texts as we have seen – was amputated to develop the strength of the pectoralis major and make weapons easier to use (Yalom 23); the left breast – reflecting female – was kept intact and used to suckle the female infants while the male infants were abandoned, killed, or otherwise removed from the community. The female breast separated from the body anatomically and discursively, then, reminds readers of the potential for women to masculinize themselves as well as the existence of effeminate men.

In addition, many medical writers who believed in the existence of the breast/uterus conduit, associated uterine mischief of the so-called wandering womb with all manner of women's illnesses.⁸⁹ The uterus was dangerous because “it was intimately connected with other important organs of the body,” according to Mary E. Fissell, and “it

89. “To maintain good health,” Porter avers, however, “one needed to ensure proper diet, exercise, evacuations, adequate sleep, a healthy environment and one had to regulate one's passions” (“Patient” 95).

Writing on the health of poor women, Massaria contends that because women endure illnesses specific to their sex, he writes his text for their education, “the cause of bringing this so much necessary work to every ones capacity. And to treat peculiarly of the Diseases, and Infirmities incident to women, which as they want a particular Treatise, so they require a peculiar and proper Cure” (B1r-v).

was an active organ that could cause trouble in other parts of the body” (59).⁹⁰ Although Ian Maclean points out that “Two external forces are said to act on the uterus: the moon and the imagination” (41), the major influence of the uterus connected women’s illnesses with sexual experience. The mysterious illness known as suffocation of the womb allegedly resulted in any number of illnesses because the “greedy womb” (Paster “Unbearable” 423) desired the heat and fluids obtained through coitus. Not surprisingly, then, virgins and widows were frequently thought to be afflicted with lust and its related health problems (Peterson 156).⁹¹ Although sexual activity was the approved treatment for women within Christian marriage, physicians believed that women should not have sex too frequently because of the loss of their bodily heat and fluids to the womb (Paster, “Unbearable” 423).⁹² Further, some medical writers associated psychological imbalance to the dysfunctioning of women’s breasts – just as hysteria was linked to the uterus.⁹³ Indeed, in *Dr. Chamberlain's Midwives Practice* (1665), Chamberlen, citing Hippocrates (Aphorism 40, Section 5), writes that “those women, who have bloud gathered about their Breasts, are in danger to grow mad and raging” (63; E8r). Koderá suggests the connection

90. For example, women get more headaches than men because “their monthly tearmes, which men are not troubled with, and so a most uncleane and venomous [fume is] dissolved, the which [seeking] a passage upward, doth cause the head to ake” (*Problemes* B2r).

91. See the description of “green sickness” in Chapter 4.

92. This course of reasoning leads to similar conclusions about why breastfeeding and intercourse are contraindicated. This will be discussed in Chapter 4.

93. The anonymous author of *The Compleat Doctress* (1656), for example, confirms that the breasts “are apt to entertaine any crude, and melancholy humours, flowing to them either from the *Matrix*, or from any other parts” (45; D5r), thus extending uterine threats of illness to the breast. These humours, “if they are not rightly, and duly expelled, they breed painefull, yea malignant and cankerd *Ulcers*” (45; D5r).

between breasts and the uterus and illness may in part explain why medical writers insisted on controlling breast size and appearance: changing the breast could change a woman's psychological disposition (262) and her physical condition.

Usually, physicians attributed these illnesses to the failure of women to excrete or transmute excess humoural fluids. In *The English Midwife Enlarged* (1682), for example, the anonymous writer states that breasts "suck up a great quantity of [menstrual blood], which swelling them causes this pain which she feels" (209; P1r). Consider, however, Riolan's statement concerning the limiting of women's breast size:

Large and ponderous Dugs, do hinder Breathing, by burthening the Chest. So the swelled Breaths [*read* Breasts] of Ancient Virgins and married women, are liable to the same Diseases. For either by reason of a Flux of Humors or of some brui[s]e, they are inflamed and impostumate: sometime they become Scirrhus and Knobbed [...] Because the Dugs are ful of Kernels and spungy, and therefore ordained by Nature to receive superfluous Humors. So that such Women as have them dried and shrunken up, are unhealthy and much troubled with spitting. (96; P4v)⁹⁴

94. "Ancient Virgins" might refer to women who chose the celibate life to attain proximity to men by denying their feminine corporeality in accordance with the Neoplatonic hypothesis, mentioned previously. "Scirrhus" means the tissue is "abnormally hard" (*OED*, adj.1), perhaps a lump as serious carcinoma.

At the beginning of his statement, Riolan indicates that large, heavy breasts, because they are situated on the chest, impair women's breathing. Riolan also establishes that injury to the breasts – here he does not specify injury due to breastfeeding – impacts women's health. Although he does suggest that humoural fluctuations in the breasts contribute to women's illnesses, he testifies to the natural and necessary characteristic of the breasts to receive excess humours. Thus, rather than the excess of humours, Riolan indicates that deficiency and movement of the humours contribute to illness in women's breasts.⁹⁵ Indeed, Riolan implies that a lack of humoural fluids is problematic, and he concludes that if women's breasts are "dried and shrunken" – perhaps because of post-lactation involution or a lifetime's lack of breastfeeding – they are more susceptible to illnesses such as consumption.

In his account of breast pain in *Pains Afflicting Humane Bodies* (1682), English physician Everard Maynwaringe (b. 1627/8) attributes six causes of breast pain that might happen in "both Sexes, but most commonly it happens so to women (except from external causes, blows or falls) and thus it is upon a sixfold account" (64; E8v).⁹⁶ He

95. According to Hippocrates, "Pain is felt when one of these elements is in defect or excess or is isolated in the body without being compounded with all the others. For when an element is isolated and stands by itself, not only must the place which it left become diseased, but the place where it stands in a flood must, because of the excess, cause pain and distress. In fact, when more of an element flows out of the body than is necessary to get rid of superfluity, the emptying causes pain. If, on the other hand, it be to an inward part that there takes place the emptying, the shifting and the separation from other elements, the man certainly must, according to what has been said, suffer from a double pain, one in the place left, and another in the place flooded" (*Nature* IV.30).

96. "By 1663 Maynwaringe had moved to London, where he established himself [...] as a 'doctor in physic and hermetick phylosophy'. An advocate of chemical medicine, Maynwaringe dedicated his first works to two prominent patrons of Helmontian

relates the causes of women's sore breasts to the nature of the breasts, including their "capacious" ability, porosity to "receive any vagrant humor coming to this part" (64; E8v) and lactation vessels that are "more liable and obnoxious to disorder" (65; F1r). In addition, he attributes the susceptibility of women's breasts to the "impressions of cold" due to their "tender soft nature, and being by them more frequently exposed to the air" (65; F1r) ensuring women have at least some culpability in their own pain.⁹⁷

Maynwaringe also attributes pain to the association between women's breasts and the uterus: "From the communication and intercourse between this part and the Womb, whose diseases and distempers may affect the other by consent" (65; F1r). Further, he suggests that suckling attracts ill humours "which otherwise would not resort to that part" (65; F1r) and the "Pain seizeth this part in Women from the various conditions of their milk" (65; F1r).⁹⁸ Maynwaringe's list not only indicates how women's breasts might become unhealthy, but also that such a likelihood seems almost unavoidable.

Medical writers also define the faults of the breast by women's nipples. The writer of *The English Midwife Enlarged* (1682), mentioned above, contemplates the problem of women's injured nipples, writing,

medicine" (Clericuzio). Maynwaringe "often censured unlearned chemists as well as empirics [...] also engaged in a series of polemics against apothecaries, claiming that physicians should prepare their own medicines." (Clericuzio)

97. This statement may also be a commentary of women's vanity, exposing their breasts in fashionable attire. See Chapter 1.

98. Etmüller provides yet another reason for women's illness. Extrapolating from the notion that pregnant women's imaginations can negatively affect the fetus, Etmüller claims that women's breast tumours result from "the quick Retreat and Perturbation of the Animal Spirits through Grief and Fear" (628; Sf2v).

Women are subject the first time to have their Nipples chop'd, which is unsufferable, and the more if hard milch'd as the first time, when the Milk hath not yet made way through the small holes of the Nipples, which are not yet thorowly open'd, and then the Child takes more pains to suck; and sometimes these chops do so encrease by the Childs sucking, that the Niple's taken quite off the Breast, and there rests an Ulcer very hard to be cur'd. This may happen from the Childs being so dry and hungry that it hath not patience to suck softly, but finding the Milk not speedily to follow as they desire, bite and pinch the Niple so hard that it becomes raw, and at last take it quite away. (265; S5r)⁹⁹

The writer suggests that the late opening of the holes in the nipples causes the infant to labour in sucking, resulting in nipple injury.¹⁰⁰ Either through direct observation, reading other texts, or listening to midwives, the author might have been considering the initial breast secretion of colostrum, discussed below, in his negative comments about rate and

99. Gabelhover suggests a warmed mixture of “Honye, and Hoggesmarrowe” (266; Z1v) to anoint chapped nipples. However, “chop'd” might be more serious than nipple fissures. The *OED* also denotes “cut small or short, chopped; beaten small” (“Chapped,” adj.1.2).

100. In fact, the nipple has a large, permanent opening and, along with the areolae has many smaller openings through which milk may be expressed. Furthermore, sebaceous glands under the areolae provide lubricating protection of the skin.

extent of milk flow. Further, to suggest that infants bite off nipples is noteworthy, considering that most infants are born without emerged teeth, and that by the time teeth arrive both mother and baby have usually developed a working relationship.¹⁰¹

Although the rubbing raw of nipples and areolae does occur during breastfeeding, necessitating alternating breasts and applying cataplasms and ointments, the likely culprit of serious breast or nipple illness is the lack of basic hygiene, a fall or blow, as well as corseting – by the rich – and binding – by the poor. Mauriceau contends that women and girls should not be made to wear tight corseting:

In the beginning we ought to leave the whole work to
Nature, and the Woman must only have a care she receives
no blows upon those parts, which are then very tender, nor
be straight laced with her Bodies, or other stiff Wastcoats,
that might bruise and wound her. (77; E7r)

Mauriceau's comment indicates his awareness of noblewomen's valuing fashion over health, yet he does not provide direct evidence for his claim.¹⁰² Poorer women may have resorted to the custom of binding the breasts with cloth as a substitute for the more

101. In a fantastical story *The Famous, True and Historicall Life of Robert Second Duke of Normandy, Surnamed for His Monstrous Birth and Behaviour, Robin the Divell* (1591), Lodge writes of an infant born with all his teeth: he “was inchannted, for in stead of drawing nutriment from his Nurse, hee bit off her nipples, and being kissed in a cradle by the Ladie of Sanserres, hee bit off her nose” (4; B4r-v).

102. Woolley advises, “Nurses, whilst they too straitly do lace the breasts and sides of children on purpose to make them slender, do occasion the breast-bone to cast it self aside, whereby one shoulder doth become bigger than the other” (*Gentlewomans* 80-81; E8v-G1r).

expensive and elaborate corseting, as Sennert advises, above.

Once a male physician or a midwife or some other medical professional diagnosed a breast condition, treatment might be available. Early modern treatment of illness, Teun Tieleman states, was “aimed at restoring the natural balance between qualities” (61) according to the Aristotelian principle of allopathy.¹⁰³ Writers presented such cures in terms of breast beauty and sexual appeal. Healing of women’s bodies means also to beautify the body and, in keeping with cultural, religious, and literary concepts that equate beauty with goodness and morality, also beautify their character.¹⁰⁴ Indeed, Kodera reveals that, in the absence of natural beauty, “beauty brought about by artificial means (and preferably under the guidance of an experienced magus/physician) becomes a rational means to improve one’s moral disposition, a way to become a better human being” (265). Most medical texts, particularly those specifically targeting women readers, thus included copious receipts for aids to physical beauty.¹⁰⁵

Many of the texts examined in this thesis provide medical receipts, cures, and treatments that women could use at home, and, sometimes, surgical procedures. For

103. Galen also employs this principle: “opposites, while to a body with the best constitution, apply those things that are similar in their powers” (*Hygiene* II.85).

104. However, in *Charmides*, Plato’s fictional Socrates claims that even if a person who is perfect outwardly, is only beautiful “If he happens to have a well-formed soul” (154d).

105. John Jeams Wecker provides a recipe for “A Liniment to smooth flaggy, wrinckled Breasts” (118; I3v). He advises one to “Take Lees of Oyl, as much as is sufficient, Gum-arabick, Tragacanth, Mastick, each a little, Camphure a very little, mix them” (118; I3v). Culpeper offers a method to make breasts round(er): “A Garland made of Ivy-leaves laid to the breast of a Woman that hangs flagging, gathers them up decently, and makes them round” (*Last Legacy* 267; S5r). “Mastick” is “An aromatic gum or resin which exudes from the bark of the lentisk or mastic tree” (*OED*, n.1a).

example, Giambattista della Porta offers a receipt “to restrain Virgins Brests, and not let them grow big” (250; Mm1v), insisting that the alluring breast is desirable for its visual signification of potential maternity. Writers also indicate that women need to reshape their breasts to prevent the natural result of pregnancy, altering their breasts after lactation to prevent the appearance of wrinkles and/or sagging, because, he explains, “Amongst the Ornaments of women, this is the chief, to have after Child-bearing, round, small, solid, and not flagging or wrinkled Brests” (250; Mm1v). Della Porta suggests a reshaping a married women’s breasts once they were no longer breastfeeding and offers a receipt that “will not onely hinder Virgins Brests from increasing, but will fa[st]en the loose Brests of Matrons, and make them firm” (250; Mm1v).¹⁰⁶

In another example, in *Most Excellent and Approved Medicines & Remedies for most Diseases and Maladies Incident to Man’s Body* (1651), A. Read provides “An excellent Remedy for a Woman that hath great Brests”: “If a Woman anoint often her Paps with the Juice of Succory, it will make them round and hard: if they be hanging or bagging, it will draw them together, whereby they shall seem like the Paps of a Maid” (125; I7r).¹⁰⁷ Like Della Porta, Read suggests that after breastfeeding women can restore their breasts to resemble those of maidens. Both statements, however, imply that the ideal breast is the sexualized nubile one rather than the maternal one.

106. Della Porta suggests one take “water distilled from green Pine-Apples, will draw in loose Brests, and make them like the round, hard, solid Brests of Virgins” (251; Mm2r).

107. Also known as chicory or endive, succory is “[t]he plant *Cichorium Intybus* (N. O. Compositae), with bright blue flowers, found wild in England, esp. by roadsides. Also, its leaves and roots are used medicinally and as food” (*OED*, n.1).

In the set of texts under investigation here, medical writers contradicted each other as they grappled with positive and negative connotations of breast appearance, function, and health. Already noting that large breasts were undesirable, some writers believed large breasts to be more susceptible to illness. In discussions of women's illnesses, writers cited amounts and types of humours, the uterus and abnormal menstruation, blocked milk passages, and cold complexions as leading causes of women's breast illnesses. In their rationales for breast illness and cures, medical writers relied on antiquated medical theories and cultural paradigms and in the process reinforced culturally established representations of women and their breasts. Still, many of the medical books offered recipes that would improve the overall health of women and by instructing women how to care for their own breasts.

Most of the writers studied in this chapter analyze every physical aspect of women's breasts – from size to colour to location – providing explanations attached to humoral theories, anatomical information, corporeal anomalies, Christian ideologies, mythologies, and cultural superstitions. Central to their arguments are the alleged reasons for the existence of female breasts, including decoration and lactation. The physical qualities, diagnostic usages, and nutritive capability of women's breasts represented anxiety for some writers: female breasts might be more structurally and functionally complete than male breasts and thus had the potential to disrupt the established hierarchical order of human corporeality. However, taken together, the texts are contradictory, combining accurate information, observation, feasible advice, and appropriate terminology with disproven theories, nonsense, false explanations, and poor

translations. For some, their motivation was simply greed; for others, writers were trying to combine the developments of continental and English medicine.

Some writers condensed their theories into descriptions of an indeterminate ideal breast for the ideal English woman. These descriptions are not only vague, but vary among writers, demonstrating a lack of consistent interpretation of evidence and theory. Further, many writers offer ways for women to alter their breasts – at puberty; before, during, and after labour and delivery; after weaning their infants; and in old age. Other writers, however, indicate that women’s breasts should be left to nature, refuting claims that control of women’s breasts was medically necessary.

In addition, these discourses indicate how medical writers associated female breasts with illness and, conversely, cures. Writers’ discussions about female breast abnormalities demonstrate the early modern notion of the monstrosity – that which is defective, beyond acceptable parameters, or not consistent with normal female corporeality. In addition to monstrously large breasts and monstrous abnormalities, medical writers theorized about female breast health in association with cultural understandings of hermaphrodites, Amazonian myth, and Christian martyrs. Even the most positive discussions associated abnormality, dysfunction, and illness with the breasts.¹⁰⁸ Medical writers that identified illness associated with or indicated by the breasts, however, allowed for medical exploration of female breasts that could provide better healthcare for women.

108. Still, some writers considered whether deviations from the mid-sized “ideal” breasts warranted the label “monstrous.”

Regardless of the potential for early modern writers of English vernacular medical books to challenge or support patriarchal suppositions and gendered medical discourse about women, their bodies, and their breasts, theoretical conclusions did not necessarily translate into medical practice or readers' actions. Although Maclean insists that by the end of the sixteenth century, "many doctors are convinced that the notion of woman has changed, and that by removal of the taint of imperfection she has attained a new dignity" (44), he is quick to indicate that woman in early modern England did not achieve corporeal equality with man; rather, "Her physiology and humours seem to destine her to be the inferior of man, both physically and mentally" (44). Even so, these writers provided readers with important considerations of women's breasts that might progressively lead to better preventative and restorative medical care for women into the eighteenth century. Like their physical descriptions of women's breasts seen in the development of a scientific mode through which to disseminate information to lay readers in Chapter 2, the medical writers – particularly as printing of books overlapped old and new information – do not reach consensus about which breast is best.

CHAPTER 4: LACTATING BREASTS

And though Lascivious Virgins, and Widows wholly intent
to Lustful Cogitations, and much in thinking of Breasts,
Milk, and their Sucking, wantonly rubbing, tickling, or
Sucking thereof, may have got Milk in them (yea thus some
men also) especially with a Suppression of Courses, yet
that is most rare, and is but a Crude Ichorous sort of Milk,
or rather a Serous Milky like Liquor, or Humour. (M^cMath,
31-32; C8r-v)¹

In this excerpt from *The Expert Mid-wife* (1694), Scottish physician James M^cMath (1648-1696) challenges the early modern concept of the inextricable link between the sexual and maternal female breast.² He seemingly connects sexual desire

1. The *Oxford English Dictionary* (*OED*) defines “Ichor” (n., 2) as “Blood; a fluid, real or imaginary, likened to the blood of animals” and gives an obsolete meaning “the serum of the blood.” Noah Biggs’ (fl. 1651) *Mataeotechnia medicinae praxeus* (1651) provides an example of its meaning in pathology: “A watery acrid discharge issuing from certain wounds and sores” (*OED*, n., 3). This definition indicates pus, a sign of infection. Similarly, “Serum” is “watery animal fluid, normal or morbid; *spec.* blood-serum, the greenish yellow liquid which separates from the clot when blood coagulates” (*OED*, n., 1a). These definitions imply that discharge from the breasts of virgins and men is related to some internal illness or external injury. It seems odd, however, that one might mistakenly identify such a fluid as milk.

Biggs, a Helmontian, “advanced the spiritual philosopher's alchemical operations, which focused on the purification of substances by fire, known as the art of pyrotechny” (Oster) and was part of “the puritan effort to reform natural philosophy, medicine, and education.”

2. *Early English Books Online* (*EEBO*) spells the name Macmath.

with maternal nurturing contending that “Lustful Cogitations” and fondling of the breasts stimulate milk production in presumably non-sexually active women: virgins and widows.³ M^cMath’s conclusion that what may be mistaken for milk is actually a white excremental humourally distinct from breast milk, however, separates the sexual and maternal according to the two main functions of women’s breasts outlined by many medical writers: ornamentation and lactation.⁴ Consequently, M^cMath’s description of this false milk implies its existence as resulting from internal humoral imbalances associated with lack of sexual activity, such as green sickness, rather than the consequence of sexual activity: pregnancy and maternity.⁵ Further, M^cMath’s parenthetical notation that some men excrete this same milky substance through their breasts, as women do, might betray a suspicion that men’s bodies can become womanly, questioning the language that markedly distinguishes between male and female bodies. The inclusion of men in M^cMath’s commentary on breast milk suggests an anxiety about the possibility that men can lactate, particularly for those men who already seem effeminate.⁶

3. Interpreted another way, the conjunction of milk and lust in a woman’s imagination could represent the desire of the virgin to have a child and the widow’s remembrance of mothering a child.

4. See Chapter 3.

5. Schleiner explains that green sickness – now understood to be chlorosis – and hysteria “were understood to be forms of love sickness, related to love melancholy” (“Green Sickness” 661). Hannah Woolley recommends the following cure: “Take a Quart of Claret-wine, one pound Currans, as handful of young Rosemary-tops, with half an ounce of Mace, see the these to a pint, and let the Patient drink thereof three spoonfuls at a time, Morning and Evening, and eat some Currans after” (*Gentlewoman* M8v).

6. See, for example, the satirical works *Haec-vir* (1620) and *Hic mulier* (1620), the womanly man and the mannish woman, respectively.

M^cMath's statement provides an appropriate introduction to this chapter on early modern medical discussions associated with breast milk and its production and use.⁷ I argue that regardless of the extent or accuracy of anatomical knowledge, medical conclusions about lactation were contradictory to and often incompatible with early modern paradigms about human bodies and the alleged superiority of the male form. By the end of the seventeenth century, revised knowledge of female anatomy – particularly that refuting the breast/uterus connection – and experimental observations contradicting humoural theory provided opportunities for medical writers to alter significantly theories about human bodies. Although writers collectively acknowledged the importance of breast milk, the medical works illustrate both admiration and disparagement of breast milk, breastfeeding, wet nursing, breastfeeding mothers, non-breastfeeding mothers, and wet nurses.

The medical works studied here indicate that, for some writers, women's nutritive capabilities encroached on male fears of English nationalism, cultural purity, and paternal authority. If Englishness was maintained, in part, through women's complete obedience within male hegemony, then women's moral characteristics and duty within the social system advanced through loving maternal nurturing. Indeed, breast milk may have "represent[ed] a source of authentic Englishness" (187), Rachel Trubowitz theorizes, because "Englishness" could be physically, intellectually, and emotionally transmitted

7. Of course, philosophical and medical discussions of breastfeeding did not necessarily apply to actual breastfeeding practices. Likely, women of the lower classes had few options, usually breastfeeding their own children except in extenuating circumstances such as maternal death.

through breastfeeding. In *Of Childrens Diseases* (1675), for example, well-known German physician Franciscus Sylvius (1614-1672), makes the argument that the breastfeeder imprints her suckling.⁸ Here, he illustrates the consequence of the imprinting by such a nurse:

For it is strange and as true, that Infants not only suck the
constituti[o]n of body whether good or bad, but also [t]he
manners of mind whether good or bad [w]ith the milk: and
do imitate their Nurses more than their Mothers
Constitution of body, and Manners [of] Mind. (41-42;
D5rv)⁹

Even more complicated, Trubowitz submits, were the morality and social codes of the nursing mother and the concepts associated with the ideal breast mentioned in Chapter 3. “The idealized ‘natural’ nursing mother,” Trubowitz contends, “shores up normative English identity interpolating her children into the natural order” (191) of English patrilineal society.¹⁰ To rely on women for transfer of morality, reason, and strong national character was potentially dangerous, if men believed the legitimacy of the allegations of women’s corporeal faults.

8. Also called Franciscus de le Bos, Franz de Le Boë, or Du Bois. “In the history of medicine, however, Sylvius was the most brilliant representative of the iatrochemical school, founded by Paracelsus and continued by J. B. van Helmont” (“Sylvius” 223)

9. The date on the title page is 1682. *EEBO* gives 1675 in the catalogue listing. The book is tightly bound, obscuring some letters.

10. Stephanie Chamberlain argues that there was a “generalized cultural anxiety about women’s roles in the transition of patrilineage” (73).

Similarly, breasts and breast milk could threaten social stability by excluding men from imprinting morality and character on infants themselves, potentially exposing infants to indecorous female fancies, and jeopardizing the physical health of infants, children, and adults. Indeed, writers frequently designated breast milk as a source of corruption and illness that potentially imperilled national health. Elizabeth Grosz suggests breastfeeding invoked images of “the polluting powers of the other’s bodily fluids” (*Volatile* 192). Furthermore, lactation could signal women’s empowerment if women themselves decided whether to nurse their own children, to choose their wet nurses, or even to become wet nurses themselves thus diminishing male authority and husbands’ control over their wives. Consequently, the potential for women to influence and demand control of themselves, their children, and families, and to earn income as wet nurses likely inspired some male trepidation.

In the works examined here, writers devoted significant space advocating for and against milks – human and animal – as well as the implications of breastfeeding and wet nursing practices. Covert and overt medical deprecation of women’s breast milk and nursing practices and concomitant attempts to control breastfeeding decisions suggest some writers’ perceived need to enforce patriarchal control of women’s bodies even at this most natural juncture. On the other hand, writers’ commendation of breast milk demonstrates an assurance of nature’s or God’s design in supplying the most natural and humourally appropriate food for infants. Further, the approval of wet nurses – under certain conditions – may be interpreted as an aid to women and a legitimate alternative to

maternal nursing.¹¹ Additionally, adherence to rules about choosing wet nurses might help ensure the safety and wellbeing of mothers, wet nurses, and infants. Despite the ambiguous and conflicting messages within the works under investigation here, I can make at least two conclusions. First, early modern medical writers held no consensus regarding breast milk or lactation practices, or whether breastfeeding was appropriate for all classes of women. Second, more important than sorting out the scientific understanding of breast milk, the question of (noble) women's choices about breastfeeding was a matter of serious debate in early modern England.¹²

4.1 The Anatomy of Breast Milk

“I just don't understand why it's a 'thing.' [...] We're providing food to the human species.” (Graff quoting Agrawal)¹³

The works analyzed in this study indicate that medical writers held varying and inconsistent notions about the production, composition, and quality of women's breast milk throughout the early modern period. Because internal female anatomy was still very much a mystery for most of the sixteenth and seventeenth centuries, and the technologies to analyze the production and composition of breast milk were centuries away, early

11. Midwife Jane Sharp, for example, advocated for professional wet nurses: “it will not be amiss for [nurses] when they have too great plenty to do so, if they be poor, for it will help them with food, and not hurt their own child” (356; Aa2v).

12. Wiesner-Hanks writes, “The vast majority of women during the early modern period nursed their own children, often until they were more than two years old” (91).

13. Agrawal is the co-founder of menstrual underwear brand Thinx. Her statement refers to her experience at the 2017 Burning Man Arts and Music Festival in Black Rock Desert, Nevada, in which she argues for women's right to breastfeed publicly.

modern medical writers based their theories about breast milk on inspections of milk – by sight, smell, and taste – abstract medical theories, long-held infant nursing practices, and cultural beliefs that included superstition, folk tales, and Biblical stories. Unfortunately, early modern medical discourses about breast milk are as confusing, contradictory, and difficult to comprehend as those about breast anatomy discussed in Chapter 2, a problem exacerbated by the alleged humoural correlation of breast milk and uterine blood that often made the characteristics of breast milk questionable and controversial regardless of scientific knowledge. Gail Kern Paster alleges that a woman’s breast “never completely loses the class and other attributes of the body of which it is a part” (*Body* 200); neither does breast milk lose the gendered assumptions and attributes with which it is associated, evidenced by the following analysis of discussions about breast milk in the early modern medical books.¹⁴

4.1.1 The Production of Breast Milk

The most commonly held medical opinion regarding breast milk production developed out of the assumption of a physical connection between the uterus and the breast. Humoural theory provided abstract but not empirical evidence of the sympathy between breasts and uteri, or what the anonymous writer of *The Problemes of Aristotle* (1595) describes as “a certaine knitting and coupling” (D3v), rendering logical the

14. In addition to gendered medical representations, the writers debated breast milk as if they – or women – had control over every aspect of lactation.

conversion of menstrual blood to breast milk.¹⁵ In *Arcana microcosmi* (1652), Scottish clergyman and writer Alexander Ross claims that “Such a consent there is between the matrix and breasts of women, that sometimes blood hath flowed from the breasts instead of milk, and milk hath been voided downward instead of blood” (46; D7v). One might more simply explain the presence of blood in breast milk as the result of chapped nipples, or bite lesions – such injuries were also apparent in the texts – while the alleged appearance of milk in the urine may be a misinterpretation of lochia, which changes in colour over the time of its expulsion, or an infection, problematic pregnancy, tearing of the cervix, or any of several issues not related to breasts.

In *A Sure Guide* (1657), Jean Riolan describes the physical breast to uterus linkage using Latin medical terminology to lend authority and legitimacy to his conclusion about the existence of various transportation vessels in women’s bodies:

There is a great League, and fellow-feeling, between the Dugs, and the Womb, by reason of two Veins, viz. The *Vena Mammaria*, or Dug-Vein; and the *Epigastrica*: and also by the *Venae Thoracicae*, or Breast-Veins, which are Branches of the *Vena Cava*, which in the bottom of the Belly, affords the Hypogastrick Vein unto the Womb. (97; T1r)

Although these veins exist within the body, we now know the *Vena Mammaria* and the

15. See fn 65 in Chapter 1.

Venae Thoraciae are the same vein, and while it does attach to the epigastric vein as Riolan notes, the vein has no physical connection to the uterus as later anatomization would show.¹⁶ Despite the non-existence of a physical connection between the internal breast tissues and the uterus, many early modern medical writers, like Riolan, described such a conduit. Misrepresentation of internal body parts implies a lack of experience in viewing and interpreting the body, an underdeveloped scientific methodology, as well as a limited knowledge base.¹⁷ Regardless, the purported truth of the link reflects early modern medical *a priori* assumptions based on humoural theory: women's breasts were associated humourally with the uterus, so a physical connection must exist and physicians would, therefore, find the link in subsequent anatomizations. Further, an unwillingness to defy the authority of classical authors and Galen often directed writers' anatomical observations, limiting potential avenues of interpretation.¹⁸

For those medical writers who deemed the breast/uterus connection a truism of anatomy, understandings of the process of milk production developed from the humoural concept that the gastric organs processed food and sent the resultant fluids and vapours to other parts of the body for various uses. In *A Plain Introduction to the Art of Physick* (1697), John Pechey explains,

16. According to Keill, these *venae lacteae* were discovered in 1622 (47; C12r).

17. Remember, however, that the medical works investigated here cover a two-hundred-year period. Early writers obviously could not know about newer evidence that proved or disproved the existence of such a connection. Unrevised reprints and extensive copying of text ensured the propagation of false and outdated information.

18. "The epistemic tool of the blood-milk analogy," Orland suggests, "managed to survive the shift from a humoural to a hydraulic body concept" (443) – one associated with chyle.

A Natural excrementitious Humour, is divided into useful and unuseful; a Natural excrementitious Humour is useful, when of it self it is some way serviceable to the Body, as Milk, Seed, Menstruous Blood, the Mothers Blood, yellow Choler, Melancholy, Serum, the Humour of the Pericardium, the acid Humour of the Stomach, Spittle, Pancreatic Juice, Lympha, and the slime of the Guts. (14; B7v)¹⁹

For lactation, sanguine fluid derived by the gastric processing of food travelled to the uterus for a second refining transmutation. This more refined fluid ran, through the breast/uterus conduit, to the breasts for further purification, as Thomas Vicary describes in *The English-mans Treasure* (1633): “in women there commeth from the Matrix into their Breasts many Veynes, which bring into them Menstruall blood, the which is turned through the digestive vertue” (35; F2r).²⁰

In *Etmullerus Abridg'd* (1699), German physician Michael Etmüller (1644-1683) describes the process of concocting uterine blood into breast milk, also called “Milk-feaver,” in more detail:

19. “Unuseful” humours are “Urine, Sweat, Tears, Snot, the Blood of a Woman in Labour, the Blood of Hemorrhoids, and the Wax of the Ears” (Pechey, *Plain Introduction*, 14; B7v).

20. Vicary’s text, also called *A Profitable Treatise of the Anatomie of Mans Body and The Surgions Directorie for Young Practioners*, was “a compilation from an earlier anatomical manuscript of the fourteenth or fifteenth century reduced into the form of a text-book” (Gunther 85). By 1651, at least eleven editions had been published.

The nutritious Juice that was wont to be measur'd out for
the Child in the Womb, stagnats in the Blood when the
Womb is empty'd and contracted. This Stagnation is
follow'd by a Fermentation, or Milk-feaver, and that by a
Precipitation of Serum, which being strain'd thro the
Glandules of the Breasts, and thicken'd by their acid
Ferment, is converted into Milk, and fitted for the
Nourishment of new-born Infants. (627; Ss2r)²¹

This description explains how women's bodies converted/cooked fluid into food for the fetus *in utero* and milk for the infant *ex utero* despite women's alleged humoural coldness.²² However, because nature created everything with purpose, a legitimate reason to retain this menstrual fluid within the body must exist, such as its transmutation into breast milk. Medical writers used secondary evidence read through the lens of humoural balance to prove that breast milk was composed of menstrual blood: pregnant women did not menstruate, so superfluous uterine sanguineous fluid must have remained in the body.

21. The translator is unknown. The alternate title is *Instutiones medicinae*. Milk fever, however, also refers to a condition suffered by a woman before her milk has fully come in. In *Culpeper's Directory for Midwives* (1676), Culpeper writes, "A Feaver from milk comes the fourth day" (198; Q3v). Culpeper reassuringly adds, "A Feaver from milk is without danger, and ceaseth the eighth or tenth day" (198; Q4r). The text is Culpeper's version of part four of Sennert's *Practical Physick*.

22. Note that Etmüller's theory implies breast milk *only* appears after delivery of the child despite the common occurrence of pre-labour lactation as noted in other early modern medical works, particularly, as we saw in Chapter 3, for fetal sex and health predictions. Culpeper claims that "About the fourth month, the child moveth, which is not in a Mole the breasts after that swel with milk" (*Culpeper's Directory* 156; N6v). He does not, however, suggest that this milk is excreted antenatally.

Humoural theory reasoned failure to excrete a superfluous fluid of any kind dangerous to health, evidenced perhaps by first trimester illnesses prior to the expression of breast milk. Practitioners could interpret any bloody spotting or illness during pregnancy as excremental menstrual blood remaining unpurified in the body.

Complicating the blood concoction theory of milk production, several writers contended that women's uterine blood was divided within their bodies with only a portion being transmuted to milk. In *The English Midwife Enlarged* (1682), for example, the anonymous writer claims the authority of Hippocrates and Galen and writes that menstrual blood

presently after conception, is discerned by a three-fold difference. The first and purest part of it the young one attracts for nourishment. The second, less pure and thin, the womb forceth upwards by certain veins to the breasts, where it becomes milk, by which the infant is nourished so soon as it is born. The third, and more impure part of the blood, remains in the womb, and floweth out with the secundine, both in the birth, and after the birth. (16; B8v)²³

Note that here the author is not merely dividing the blood for separate purposes, but also ranking the blood according to its quality. Although the writer does not indicate how the

23. If the sanguine fluid available for milk production was not the best quality despite its multiple concoctions, as claimed, then breast milk must be inferior to intrauterine nutrition and certainly less pure than sperm men produce through a complementary but supposedly complete sanguine concoction.

division of uterine blood is made or why blood of a secondary quality would be used to make breast milk, this theory explains the three natal replacements for menstruation: internal and external infant feeding and lochia. Such texts sustained the belief that women's breasts and unruly uteri were humourally and physically connected and worked together within the body to produce milk – and illness, as will be shown below.

Despite the prevalence of texts endorsing the uterine sanguineous process of milk production, some physicians – particularly in the mid to late seventeenth century – argued the impossibility of such a conversion.²⁴ Pechey – who most extensively constructs the argument – makes use of several lines of reasoning, within the context of humoral theory, to disprove theoretically the uterine involvement in breast milk production. Pechey posits that the amount of blood required to make a quantity of milk sufficient to breastfeed one child would cause a lack of blood for the mother's nutrition and place her health in significant danger: “a Woman would consume away if Blood were the Matter of Milk” (*Plain Introduction* 15; B8r). The economy of nature also negated the blood conversion system, he notes, because prenatal milk excretion – relatively common in the third trimester – would deprive the fetus of its nutrients, wasting valuable humoral fluid

24. In the texts studied here, texts up to and including 1682 – such as the anonymous *The English Midwife Enlarged* and Maynwaringe's *Pains Afflicting Humane Bodies* – reiterate the existence of the breast/uterus connection. Although several seventeenth-century writers do not specifically mention the breast/uterine conduit, they maintain that blood is the precursor of breast milk. The earliest mention of chyle as the precursor of breast milk is Vesling's 1653 *The Anatomy of the Body of Man*, later observed in Bartholin's 1663 *Bartholinus Anatomy* and Gibson's 1682 *The Anatomy of Humane Bodies Epitomized*. All subsequent new texts – except the anonymous 1684 *Aristoteles Master-Piece* and Etmuller's *Etmullerus Abridg'd* 1699 – claim chyle as the source of milk and do not mention the breast/uterine connection.

(*Plain Introduction* 14; B8v).²⁵ He also denies the widely accepted notion of breast/uterus sympathy, stating that menstrual blood does not come “from the Womb through the Epigastric Vessels to the Breasts, for these do not at all communicate one with another” (*Plain Introduction* 14; B8v). Most importantly, Pechey employs the most recent – and indisputable – anatomical discovery available to him to disprove the blood transmutation theory, stipulating that “Circulation refutes this” (*Plain Introduction* 14; B8v). Once William Harvey (1578-1657) proved and explained the paths of blood circulation in 1628, medical theorists had to reconsider the uterine origins of breast milk because the two mechanisms were incompatible.

Indeed, several writers indicate their irritation that outdated theories had not been abandoned completely. Agreeing with Pechey, for example, Thomas Gibson, in *The Anatomy of Humane Bodies Epitomized* (1682), succinctly and authoritatively writes,

It was an old opinion that Milk was made of Bloud sent from the Womb by the Epigastrick vessels ascending, and as was thought inosculating with those branches of the *Mammariae* that descend towards the Navel. But as later Anatomists have found those anastomoses only imaginary (invented to serve an Hypothesis;) so it is generally denied that either Bloud sent from the Womb, or from

25. Aristotle comments, “The milk that comes before seven months is useless; but the babies come fertile and the milk useful at the same time” (*The History of Animals* IX(VII).5, 585a30-33).

wheresoever, is the true matter out of which Milk is made.

For not to mention (which yet is very considerable) that it is incredible that the Mother could every day endure the loss of so much Bloud (suppose a pound and half) as the Child sucks daily Milk from the Breasts. (216; P4v)²⁶

He concludes, “We shall not therefore spend further time to refute so improbable (and now obsolete) an opinion” (216; P4v). Gibson leaves no doubt that he believes the uterine blood conversion model was discredited experimentally and those who continued to profess the theory were fools.²⁷ Writers required a new theory about milk origin, production, and transportation, making possible the elimination of negative medical interpretations based on the connection between breasts and uteri. Such a theory should also have negated the very qualities of breast milk attributed to a low quality of blood. Yet the denial of the breast/uterus connection, rather than removing such negative understandings of women’s breasts and breast milk, allowed the reframing of some of the gendered biases affiliated with women’s breasts and breast milk. Medical opinions did not change quickly.

Medical theorists who refuted the uterine theory of breast milk production most

26. Anastomosis is an “[i]nterconnection between two vessels, channels, or distinct branches of any kind, by a connecting cross branch” (*OED*, n).

27. Curiously and without specificity, Gibson suggests that invention of the uterine blood theory supported “an Hypothesis.” He may be commenting on the practice of other writers to interpret corporeal evidence to fit humoral medicine rather than theorizing beyond the limits of an aging paradigm, particularly when that evidence contradicts humoral assumptions.

commonly promoted chyle as milk's source according to the humoural principle of like-to-like interactions, connecting concocted food (chyle) with food (milk), bringing us back to the M^cMath quotation that introduced this chapter.²⁸ German anatomist Johann Vesling's *The Anatomy of the Body of Man* (1653) is the earliest text in my sample to promote chyle as the origin of breast milk.²⁹ To summarize the theorized process, however, I cite Gibson's anatomy, which is clearer and more complete. According to Gibson, chyle ascended to the *Ductus thoracicus* to the subclavian vein, where it was mixed with sanguineous blood and circulated through the heart.³⁰ Some of this chyle and sanguine mixture was sent out of the heart to the glands of the breasts where it was "strained or filtrated" (217; P5r) into the vessels that carried it to the nipples.³¹ According

28. In his dictionary, Phillips defines "Chyle" as "a white substance or milky Juice, into which the nutriment is converted by the heat of the stomach, and which being there, brought to that perfection, passes thence away through the Mesariack Veins into the Liver" (*New World* K3v). This definition lacks specificity, suggesting that chyle is any or all digested fluid. Blankaart defines chyle as "a white Juice in the Ventricle and Intestines, proceeding from a light Dissolution and Fermentation of Victuals, especially of their Sulphur and Salt, with which Edible things abound, and which by the Intervention of the Acid Humour in the Ventricle, becomes white" (64; E8v). Further, "Chyle" is "The white milky fluid formed by the action of the pancreatic juice and the bile on chyme, and contained in the lymphatics of the intestines, which are hence called *lacteals*" (*OED*, n.1) and "Chyme" is "The semifluid pulpy acid matter into which food is converted in the stomach by the action of the gastric secretion" (*OED*, n.1). See also fn95 in Chapter 1.

29. Vesling's *Syntagma anatomicum* was originally published in Latin in 1641. The text had many printings in Latin, Dutch, German, and English. The text used here, edited by Culpeper, is the first English printing.

30. Pechey writes, "I suppose the Thoracic Duct is the passage of the Chyle to the Breasts, from whence some small branches are reflected about the Clavicles, towards the Breasts" (*A Plain Introduction* 15; B9r).

31. Vesling states, "The Origin [...] of the *Venae Lacteae* is at the Sweet-bred, and the branches pass to the Liver and Guts" (16; E4v), which produces chyle.

to this theory, milk was food that had been processed at least six times – in the mouth, stomach, liver, pancreas, heart, and breasts – ensuring its (near) complete concoction and thus purity and nutritive value. Although the initial substance in the production of breast milk was different in the two theories, the mechanics were similar.

Having suggested this pathway of milk production, Gibson laments a lack of scientific evidence to prove this alternate model, making the theory “not agreed” (215; P4r) among physicians. He writes, “The truth is, it is no wonder they should not agree concerning their rise, seeing the opinion is grounded more upon rational conjecture, than ocular discovery” (215; P4r).³² In addition to Vesling and Gibson, Pechey, William Salmon, James Keill, Isbrand van Diemerbroeck and Dutch physician Paul Barbette advocated chyle as the principal source of breast milk.³³ In the 1694 translation of *The Anatomy of Human Bodies*, for example, Diemerbroeck stipulates that the milk vessels are connected among the glandules of the breast and have communion with the other chyle channels. He also reiterates that the connection between the breast and the womb “is meerly fictitious, for we never could find it our selves, neither could any body else

32. The majority of texts examined here – even those of the mid- to late- seventeenth century – maintain the uterine blood concoction mechanism for milk production, particularly as older texts were reprinted without updated information. See section 1.1.

33. Barbette’s text to which I refer is *Thesaurus chirurgiae: The Chirurgical and Anatomical Works of Paul Barbette, MD. Practitioner at Amsterdam* (4th ed., 1687), translator unknown. The original was “Written in High-Dutch by Raymundus Minderius” (Title page). Another English edition was published in 1676, but the text is combined with another text and that version is missing the introductory pages. *L’Academie Française* was “published in successive volumes” (Supple) beginning in 1577. *EEBO* provides several alternate titles, including *Chirurgie nae de hedendaeghse practijck beschreven*; *Medicina militaris*; *A Military Chest*; *Chirurgery according to the Modern Practice*; and *Body of Military Medicines*.

ever shew us any such thing” (283; Nn4r). As subsequent generations of researchers continued to challenge Galenic humouralism and technologies provided a clearer image of internal functioning, new theories about milk production separated the breast from the uterus.

4.1.2 The Quality of Breast Milk Is Strained

Even with the confusing and limited knowledge about the production and composition of breast milk illustrated above, many early modern medical writers – as well as midwives and mothers themselves – acknowledged the obvious importance of breast milk in the development, growth, and nutrition of infants and employed various arguments in favour of the practice, whether by the mother or a wet nurse. Breast milk is, according to Alexander Read in *The Manuall of the Anatomy* (1638), for example, “in taste pleasant, which is easily concocted by the stomack, and doth speedily and plentifully nourish” (282; N3v). Further, the belief that breast milk was a purified humoural fluid signalled nature’s or God’s place in providing all things. In the English translation of *The Second Part of the French Academie* (1594), eminent moral philosopher Pierre de La Primaudaye (1546-1619) invokes the divine in his support of breast milk, writing

For wee see howe they hang there in the breast of the
mother and Nurse, as it were two bottles, having nipples
and holes made fit for the infants mouth, that hee might
take holde of them, and drawe and sucke the milke that is

within the dugges, which are filled presently after the child is borne, so that hee is no sooner come into the worlde, but hee may hath such foode and nourishment readie drest as is meete for him. For albeit the infant bringeth his teeth wit h him from his mothers wombe, yet because they are hidde within the gummes, and are not yet come foorth, hee must have such meate as needeth no chewing, but may bee sucked, which God hath provided for him. Wherein wee have a woonderfull testimonie of the care hee hath over us, and what kinde of Father and cherisher hee is. (55; D4r)³⁴

He concludes that God would not make breast milk if it was not useful and good and in accordance with his scheme of generation. From a humoural perspective, which contends that nature is organized to function at optimal harmony, the mere fact that women produce breast milk proves that breast milk is the natural food for infants. In addition, breast milk's natural species affinity and role in emotional parent-child bonding, as well as the lack of suitable alternative infant food sources all supported the early modern arguments approving breast milk as the appropriate source of infant nutrition.³⁵

34. La Primaudaye's translator, however, does not present a flattering picture of lactating breasts. Indeed, by stating the breasts "hang there" like "two bottles," the unnamed translator reduces women to feeding machines. La Primaudaye was an "eminent representative of the enthusiasm for moral philosophy which characterized the late 16th c. in France" (Supple 440). The French text is *L'Académie Française* (ca. 1577).

35. For an interesting analysis of artificial foods for infants, see Obladen's "Pap, Gruel, and Panada: Early Approaches to Artificial Infant Feeding."

In *The Method and Means of Enjoying Health, Vigour, and Long Life* (1683),

Everard Maynwaringe seems perplexed about differences he has observed in breast milks:

Milk in it self is a clean wholesome good food; affording much nourishment, and light in digestion; generally agrees, and is desired, by all Children, and most young folk: but this innocent food as it is easily concocted, so it is soon corrupted; and therefore not convenient for all persons: for milk coming into foul bodies is quickly depraved, and makes the Body worse.

Milk is cooling, and moistning; both pleasant, and good for lean, hot, and dry Bodies: but for cold, phlegmatic, fat, and gross bodies not so fit. (*Method* 76-77; F6v-F7r)

He acknowledges that breast milk, when properly made, is entirely wholesome – even past infancy – “as it is most natural to mankind” (75; F6v). Yet he also notes milk “is very subject to alterations and change from distempers and various dispositions of the Body” (*Pains* 65-66; F1r-v). Whether Manwaryinge means that women’s distempers and dispositions alter the milk – imperfect bodies creating imperfect milk – or the milk, correctly made, is corrupted in the body of the imbiber is unclear. However, he implies that women and their bodies are more than likely to ruin that which nature would make perfect: “this innocent food [...]is soon corrupted.” One might explain such diverse assessments of milk through the context of humoural medicine: women’s bodies, being

soft, pliant, and porous, were susceptible to infection physically, morally, and spiritually, potentially corrupting their milk. Maynwaringe's statement also implies that the drinker of the milk might cause the corruption, especially he concludes, if the recipient has a humoural complexion incompatible with milk. Even so, this comment does not seem to apply to infants but to older people who are "fat" and "gross" – that is, unbalanced. Similarly, surgeon Guido Lanfranco of Milan (1250-1306), in *A Most Excellent and Learned Woorke of Chirurgerie, Called Chirurgia Parva Lanfranci* (1565), writes

The best mylke is very whyte, and without sensible
temperament: that is hauing no odor or little, and the same
pleasant: but hauing in taste some swetenes, lyke holsome
bloude. As that which is in any wyse therunto contrary, is
always euell. (57; Xi r)³⁶

Without direct scientific evidence, medical writers struggled interpreting such characteristics of breast milk.

Regardless of which initial substance writers accepted as the primary substance of breast milk, the assumed cold humoural complexion of women led to the common conclusion that their bodies could not transmute humoural fluids – even breast milk – completely. For example, Maynwaringe claims that "Milk is bloud digested and altered a

36. This reference comes from page 57 of the glossary rather than the page 57 in the main text. Lanfranco is also known as Lanfranchi or Alanfrancus. The translator of this edition is not known. Lanfranco's text *Chirurgia magna* was first written in 1296. Thornton cites the original translation of *Chirurgia parva et magna* (1296) in 1380 as the "first important anatomical work to appear in English" (22). This edition also contains English translations of Galen's *Treatise on Anatomy*, Books 1- 6.

second time, by the transmuting power of the *ubera* dugs; therefore, as the blood is better or worse, so is the milk” (*Method 75*; F6r).³⁷ If women have blood of varying qualities, as mentioned above, then breast milk must be equally variable. Referring to the concept of different qualities of milk, Ettmüller gives advice on feeding a child bad – in this case “fat” – milk to an infant:

Fat thick Milk at first, is pernicious to the Child, and apt to curdle into an acid Crudity. Nature has wisely provided against this Consequence by the thin purgative Beestings that prepare the Child’s Stomac, and by degrees inable it to digest the thick elaborate Milk. (633; Ss5r)³⁸

Similarly, the author of *The English Midwife Enlarged* claims that if breast milk is too thick, one must induce vomiting to avoid phlegm in the nose and eyes as well as loss of appetite (278; T3v).

Surprisingly, one anonymous author claiming the authority of Aristotle verifies that the cold complexion of some English women causes them to function less efficiently than other English women in his advice on surrogate nursing: “Question. Why is the milke of browne women better, then of white women? Answer. Because that browne women are hotter then others, and because the heate doth purge the milke sufficiently,

37. According to humoural logic, if men produced milk, theirs would be of higher quality than that of women because their hotter humoural complexions would more completely concoct the original substance.

38. “Beestings” is the “thick protein-rich milk produced by a” mammal (*OED* n1) or what we now call colostrum.

and so the milke is the better” (*Problemes* D4v).³⁹ This writer overtly states that the milk of “browne women” is better than that of “white women,” potentially inverting the ordering of human worth accepted within early modern English society. Paré also notes this difference: “as blackish or browne ground is more fertill than the white; even so a browne woman hath more store of milke” (*Workes* 908; Gggg4v). In another confusing explanation of variable milk quality that may be a tacit statement endorsing noblewomen’s use of wet nurses, Riolan insists that “White colored Women, because they are Flegmatick, have but bad Milk” (30; G3v). Riolan’s statement evaluates breast milk based on a humoural complexion visible through skin colour. Such a theoretical code system of blood and milk may reflect the cultural and religious ranking of women’s overall relative qualities. The assumptions that outward beauty revealed inner goodness, women of higher social classes were innately superior, and obedient Christian wives had good moral characters provided a space for – or allowed – writers to rank women within a medical context according to their milk. Beyond these three criteria – beauty, class, and piety – medical writers did not explain how one determined the quality of one woman’s blood in relation to that of another woman.⁴⁰ Breast milk quality, however, could be determined by its effect on infants and by analytical procedures already in practice.⁴¹ As

39. “Brown” (*OED*, adj., 3.b) “as an individual peculiarly among ‘White’ races; either nature (dark-complexioned, brunette), or as an effect of exposure (sunburnt, tanned).” “Browne” might also refer to non-English women or women from hot climates.

40. Recall that phlegm is the cold, wet humour (see Chapter 1). Someone with a “Flegmatick” temperament would be characterized as unemotional or stoic.

41. Even within one feeding a woman’s breast milk changes: “Foremilk, at the beginning of a feeding session, contains less fat and more water” while “Hindmilk, later in the

a warning, however, in *The Byrth of Mankynde* (1540), Eucharius Rösslin contends that the bad qualities of the nurse “be parnicious and hurtfull to the mylke corruptyng it and passe forth through the mylke in to the chylde makynge the chylde of lyke condition and manners” (Fol. LVII; D.iii.v).

Additionally, early modern medical writers drew parallels between the claims about women’s breasts with the narratives about breast milk.⁴² In *The Problemes of Aristotle*, the medical interlocutor responds to a question about the optimal breast size for milk production and breastfeeding:

In the great ones the heate is dispersed, and there is no good digestion of the milke: but in small ones the power and force is strong, because a virtue united is strongest, and by a consequent there is a good working and digesting of the milke: and therefore the small ones are better then the great ones: but yet the meane ones are the best of all, because that every meane is best. (D2v)

The answer, in keeping with humoural balancing and corresponding to similar comments made about breast size discussed in Chapter 3, is an undefined ideal or medium. In *Mercurius compitalitiuus: Or, A Guide to the Practical Physician* (1684), Théophile Bonet also comments on the relationship between breast size and milk production:

feeding, contains more fat and is higher in calories” (La Leche League Canada). See Chapter 3.

42. Milk could be read, for example, in a process similar to early modern urinalysis.

Some condemn little Breasts, and not without reason,
because they breed less Milk. And I know not why great
Breasts should be counted bad: for they afford a large
quantity of Milk, which may be good; And it is not the
capacity of the Breasts, but their temper, which alters the
Milk. (322; Tt1v)

Bonet interprets humoural theory as dictating that proper functioning depends on humoural characteristics rather than on breast size itself.⁴³

Many early modern medical writers also contended that there are differences between the milk of the left and the right breasts and buttressed their conclusion by positing what Janet L. Engstrom *et al.* call a “fluctuating symmetry” (89).⁴⁴ Such a deviation from bilateral symmetry might not be welcome in early modern England, where what one might call a “stable symmetry” affirmed the perfection of nature, the universe, and God.⁴⁵ Nevertheless, these early modern medical practitioners confirmed such lateral differences without acknowledging any reasons why such deviations should occur.⁴⁶ The

43. Refer to Chapter 3.

44. See section 3.1 in which Guillemeau, as well as the author of *Aristoteles Master-Piece*, discuss external differences of left and right breasts during pregnancy, and Mauriceau insists on colour differences in the milks of the left and right breasts. Also recall the significance of left and right breasts in the sex predictive abilities of breasts and the contention that the fetus resides on a particular side of the uterus depending on its sex.

45. The controversial considerations of hermaphrodites, androgyny, virgin women emulating men, the potential for women to become men, and feminine men also had the potential to destabilize that stable symmetry.

46. Engstrom *et al.* claim that even twenty-first century research indicates “differences in the milk output from the right and left breasts are common, and that milk output is often greater from the right breast” (83). In addition to the possible existence of an anatomical

contention that there is a connection between fetal gender, milk production, and bilateral asymmetry symbolically reinforced the binary opposition of man as the corporeal norm, and woman as inferior form.

In addition, in concert with humoural analyses and arguments about breast colour, the colours and tastes of milk indicated whether the milk was nutritious, substandard, putrid, or not really milk at all. In *The Arte and Science of Preserving Bodie and Soule in Al Health, Wisedome, and Catholike Religion* (1579), John Jones cites his predecessors' authority to make such conclusions about breast milk:

as *Galen, Avicen* and *Aetius* teache: contrarily that which is evil, is eyther thicke and cheesie, or watry and whayey; or blew & leadie, or in tast sowre, harsh, rough, salte, bitter or sharpe; or of some other evill qualitie of these compounded, or in smel ungrateful: Yet *Aristotle* seemeth to praise the milke that is blewe, before that which is white.

(7; B.iv.r)⁴⁷

In *The English Midwife Enlarged*, the author discusses consistency, taste, smell, and colour and describes how to evaluate the milk. "As to the milk, let it be a mean, betwixt thick and thin," he writes, "let it be sweet, and pleasant, both to the smell and taste" (275;

difference, other factors may produce a difference: cultural nursing practices, maternal handedness, or the infant's preferred direction of nestling.

47. As described in association with breast illness, blue might be a codified hue that reifies the belief in various conditions of milk associated with morality, social status, and health.

T2r).⁴⁸ He continues, “Let it be candid to the sight, in it self equal in each particles, not infested with brown, yellow, green, blue, or any other evil colour” (275; T2r). No writer explains how breast milk might attain such colours – either within the body or through experimental chemical reactions.

Besides visual characteristics and potential moral sensitivity, the pleasant taste of milk derived from successful production, while sour milk resulted from women’s improper or incomplete transformation. In *The Regiment of Life* (1544), French physician Jean Goeurot (d. ca. 1551) expresses the direct connection between taste and quality: “Lykewyse when ye taste it in youre mouthe, yf it be eyther bytter, salte, or soure, ye may well perceyve it is unwholsome” (B.iii.r).⁴⁹ The pleasant taste of milk reflecting its goodness was easily attributable to humans’ instinctive rejection of bad tasting food for self-preservation. But this taste/quality association was also part of a traditional aesthetic correlation, just as size, colour, and texture indicated “good” breasts and outward beauty demonstrated inner morality. In *Practical Physick* (1664), Daniel Sennert recommends caution when considering the taste of milk, for “There are divers tasts, scents and colours in milk from variety of Diet” (228; S2v). The taste of milk, he implies, may simply be

48. In stating that breast milk should be “mean,” the author maintains the humoural preference for proportion and balance.

49. According to Thornton, the text is a translation of the French edition entitled *Regium sanitates Salerni* (in Latin, *Chirurgiae Magistri Rogerii*) and is “[t]he first book written in English on paediatrics” (75). The original Latin text by Rogerious Salernitanus (1140-1195) was *Practica chirurgia* (ca. 1170) The Salerno School “was linked to Benedictine monasticism” (Pasca 478). Although activity dates back as far as the tenth century, “the most productive period of the Salerno masters was in the 11th-13th centuries” with translations of “classical texts from Arabic into Latin” (Pasca 478).

resultant of women's food intake rather than a consequence of faulty metabolism.

Consistent with such uncertain views about milk quality, colour, and taste, the disapproval of colostrum, or first milk, is prevalent in early modern texts. As Valerie A. Fildes indicates, "The 'taboo' against colostrum is probably related to its appearance, which differs in colour and consistency from later breast milk" (*Breasts* 81). Indeed, Jones notes that colostrum is thin and watery: "Milke after birth is most thinne, as *Galen* declareth, and is therefore then unwholesome" (*Arte* 8; B.iv.v).⁵⁰ In *A General Treatise of the Diseases of Maids, Bigbellied Women, Child-bed-women, and Widows* (1696), Pechey concludes that the difficulty of labour and delivery prevents women from fully concocting the blood into milk immediately after birth:

if the Woman do Suckle the Child, she give not the Breast
the same day as she is brought to Bed, because then all her
Humours are extreemly moved with the pains and agitation
of the Labour; therefore let her defer it at least till the next
day; and it would be yet better to stay four or five days or
longer, to the end the fury of the Milk. (137-38; G9r-v)

Like the contradictory claims about the origins and production of breast milk, arguments abounded regarding whether this excremental breast secretion is in fact milk. As indicated above, women's failure to fully concoct substances – because of their lower

50. Yet J. Jones stresses, "nature doeth nothing in vaine" (8; B.iv.v). He proclaims, "God doth al things for the best. And certaine it is, that as soone as the Babe is borne, it coveteth to sucke, and wil take the pappe feately into his preatye mouth, where never any thing entred before, and wil readilye also swallow the mylke downe" (8, B.iv.v).

heat or because their breasts had attracted excess humours – occasionally resulted in the presence of blood in their milk. This same theory – with the addition of humoral disturbance during labour and delivery – explained colostrum as a product of female insufficiency. Furthermore, Aristotle claims “The first milk is also salty” (*The History of Animals*. IX(VII).5, 585a.33), and therefore of unsuitable complexion – choleric rather than sanguine – and unsuitable for consumption by infants. Some writers, such as Riolan citing Spigelius, rejects such concerns, and supports feeding colostrum to the newborn: “this first Milk is no bad milk, and that a Mother ought not to refuse to nourish her Child therewith” (97; T1r). Similarly, Goeurot asserts that “Wherfore as it is agreeing to nature, so is it also necessary and comly for the owne mother to nource the owne child Whyche yf it maye be done, it shall be moost commendable and holsome” (B.ii.v). In any case, it is likely that most women put their infants to the breast soon after birth.

The supposition that colostrum was not milk or was unwholesome milk potentially led to a host of infant care problems, the most significant of which was what to feed the infant between birth and when the “real” milk came in, a question that had social, economic, and scientific considerations. Alternatives to breast milk, whether that of the infant’s mother or a wet nurse, were extremely limited in the early modern period. Most foods deemed acceptable for infants had specific usages because of their humoral complexions and associations with the organs. In *Queen Elizabeths Closset of Physical Secrets* (1656), for example, A. M. suggests that “there be given unto the Infant new born Honey to lick, after let it be nourished with the Mothers Milk, which of all things best

agreeth with it” (18; D1v).⁵¹ However, A. M. also suggests a more substantial substitution: “paps made of Bread, with Milk, and Sugar, to which may be added a little Fennel-seed” (19; D2r). Such receipts for paps reveal a lexical equivalency between women’s breasts and prepared infant food.

In addition, medical writers approved a fairly wide use of animal milk, particularly that of goat, ass, cow, and sheep. Regardless of such fears, Maynwaringe writes, “The difference of milk in kind and goodness is various: there are five sorts chiefly used by man: the womans milk, Cows milk, Goat, Sheep, and Asses milk” (*Method 75*; F6r).⁵² In the 1574 translation of *A Direction for the Health of Magistrates and Studentes*, Italian alchemist Guglielmo Gratarolo (1516-1568) concurs, stating, “whereas there be many sortes of Milke of all others, womans Milke is the excellentest” (K1r-v). He then ranks animal milks – goat, camel, ass, cows, sheep – according to the benefits they derive: “if the beast that géeveth it, féede in good and wholesome pastures” (K1v). The medical books – along with the herbals, receipt books, and other texts – reveal that animal milk was deemed appropriate for human infants throughout the early modern period.

Analysis of these texts through close reading illuminates the variables medical writers considered in evaluating breast milks. In medicalizing breast milk, writers varied widely on descriptions of the workings of women’s breasts and on their conclusions

51. Fitzpatrick indicates that honey was “praised for its medical powers and for being very nutritious” (136).

52. Note that Maynwaringe fashions his statement to privilege the usefulness of milks to man.

about the composition, quality, and value of breast milk. These discussions repeat the lexical and scientific problems encountered by medical writers in producing accurate and informative information about women's breasts, as I have shown in Chapters 2 and 3. While writers conceded that women's breast milk was natural, wholesome, and nutritious, interpretations of the origins of breast milk in the absence of observational proof depended on the interconnectedness of vital organs and humoral substances.⁵³ Medical writers who projected negative connotations onto women's milk based their claims on humoral theory: women's inability to fully concoct milk because of their lower heat and particular complexions and their bodies' potential to corrupt good milk and divide blood for different purposes leaving a suboptimal quality of blood for milk production. In addition, the thickness, colour, taste, and smell of breast milk provided diagnostic clues about the quality of milk being produced, just as the external clues on breasts enabled various diagnoses in Chapter 3.

4.2 Breast Milk: Healthful and Sick-Making

“Breast milk also had a cultural history, one conditioned by the practice of wet nursing and reflecting the social status of its producers” (Golden 81).

Negotiating the authority of early modern theoretical science and culturally accepted concepts about women and their bodies, medical writers debated the benefits

53. Although there is a change of knowledge and understanding over time, the continued printing of old texts clouded discussion and dissemination of newer theories and information.

and detriments of breastfeeding and breast milk for women and their infants or wet nurses and their charges. As will be shown, some writers used the notion of women's Christian duty as well as Biblical precedent to encourage positive perceptions of breastfeeding, especially maternal breastfeeding. On another positive note, some medical writers discussed breastfeeding as an act that provided mothers with several health advantages.⁵⁴ Yet despite the obvious importance and necessity of breast milk as a natural and appropriate food for infants, some writers attached both breast milk and breastfeeding to many of the negative cultural stereotypes and humoral assumptions about women. Even without direct evidence, several medical arguments framed breastfeeding as a potential source of injury and illness for both women and infants describing putrid milks as well as milks that bore contagions.⁵⁵

One important and contentious aspect of breastfeeding associated with the uterine blood concoction theory impacted patriarchal succession. Some writers seem to have understood the effect of breastfeeding on women's reproductive capabilities based on

54. In his support of maternal breastfeeding, for example, Gibson considers how the bond between mother and infant aids in the wellness of the mother, observing that "many Women are more chearfull and healthfull when they give suck, than at other times" (217; P5r).

55. For example, "Vomiting in Children proceeds sometimes from too much Milk, and sometimes from bad Milk" (Anon., *Aristotle's Compleat* 115; F2r). To avoid infant diarrhea, "The Nurse must be caution'd that she eat no green Fruit, nor things of a hard Concoction" (t 119; F4r). This author also writes that epilepsy or convulsions – "This is a Distemper that is the Death of man[y] young Children" (120; F4v) – "comes from bad milk" (120; F4v). In addition, Bartholomaeus claims "of corrupt milke of the Nurse, commeth unkindly sores are griefs in the childes lyttle body: and this is by reason of the tendernes of the childes kind, and also for the easie changing of milke foode" (Book VI; N.vi.v).

inadequate quantities of blood for both feeding and preparing the uterus. Further, because sexual activity during breastfeeding potentially corrupted the milk, intercourse was contraindicated during the entire breastfeeding period, which could be two years or longer.⁵⁶ As Sennert writes, “Let [the nurse] keep a good Diet, and abstain from hard Wine and Copulation, and passions; these chiefly trouble the Milk, and bring diseases upon the Child” (226;S1v). Thus, breastfeeding women were to avoid sexual activity. The increased spacing between children resultant of a longer period of abstinence would be a significant health benefit to mothers – and, in fact, their infants. Therefore, medical endorsement of these practices shows some degree of care for mother and child even if writers contradicted social and domestic demands placed on women.⁵⁷ Yet the delay of women’s return to fecundity impinged on the imperative to produce enough offspring to ensure a living heir. Consequently, the demand to reproduce often lead to the employment of a wet nurse, at least for wealthy women who could afford to hire one. For poorer women, breastfeeding delayed the woman’s return to the full range of expected domestic duties.

Just as significantly, many medical writers repeatedly, and with emphasis,

56. P. Chamberlen writes, “Many have undertaken to prescribe rules for the Sucking of Children, and to appoint a certain time how long they should suck: but all that pains might well have been spared, for there can be no certain rule laid down for the particular time of Childrens sucking: although it is usual to let them suck a year: but that may be in some less, and in others it must be more” (275; T2r).

57. A. Wilson notes that beyond the period of labour and delivery (which included three days to two weeks of bedrest), the “upsitting” (27) period began, in which the mother was sequestered within the community of women for another seven to ten days. This ritualistic seclusion period “was constructed and maintained by women *because it was in the interests of women*” (*Making* 29; emphasis original).

discussed the dangers breastfeeding allegedly caused mothers. As demonstrated above, humoural theory provided that breast tissue attracted excess sanguineous fluids of secondary quality to transmute into breast milk, enabled by the additional heat provided by the fetus and for milk fever. Some medical writers rationalized that not all excess fluid attracted by the breasts was concocted effectively or even at all, resulting in blood exuding from the nipples.⁵⁸ Worse, some writers believed that excess fluid polluted the breast tissues, causing a condition termed “milk fever.”⁵⁹ In *The Store-house of Physical Practice* (1695), Pechey writes,

But this Intemperies occasioned by the coming of the Milk
is somewhat heightned, and continues longer, when the
Milk flows plentifully to the Breasts, and is not milkt out,
but repelled: For by its going back as well as its coming,
there is a Disturbance in the whole Body usually, which
comes more certainly, if the Milk be driven violently back.

(425; Ee4r)⁶⁰

58. For example, in *The Family Physitian* (1696), George Hartman suggests the following poultice for bleeding nipples: “Take Gum Arabick, cut it in thin slices, then dry it and powder it, of this powder she put upon her Nipple with her finger, being first moisten’d with her own Spittle” (401; Dd1r). Commenting on a circumstance in which a woman, having breast feed a long time and therefore her menses “stayed long before, at the length the menstruous blood ranne a pace out of her breasts” Paracelsus claims, “I healed her by extracting blood out of the vaine of the foote called *Saphena*” (*Hundred* 23; B2r).

59. Note that “milk fever” is the same term employed for the heat the produces breast milk described earlier.

60. Bonet provides a slightly different explanation: “The Milk fever arises, because when the Breasts are filled and much distended with Milk, the blood-vessels are compressed so

Humoural medicine indicated that inflammation of the breasts – perhaps this is what writers mean as milk fever – resulted from the physicality of labour and the unsettling of the body’s humours as well as excess fluid in the breasts. The anonymous author of *The English Midwife Enlarged*, for example, claims,

Because her Body was much mov’d dureing Labor; in the beginning of Childbed her Milk is not well purified, and is mixt with many other humors, which, if they are then sent to the Breasts in too great quantity, cause an Inflammation.

(262; S3v)

In *Dr. Chamberlain's Midwives Practice* (1665), Peter Chamberlen adds impostumes and “other distempers in the breast” (258; Sv). Such conclusions do not necessarily imply that milk itself was unhealthy, rather that accidental presence or excess of other humours saturated the breast tissues, which then became “clotted” or clogged leading to breast pain, dysfunction, and illness.

In addition, medical writers warned midwives and birth attendants to limit the amount of food consumed by a labouring woman for fear of exacerbating this fever:

In the first place, let the Woman keep a temperate Diet, by no means overcharging her self after so demonstrate an Evacuation; and to say true, her Diet must be equal to that

that they cannot easily transmit the bloud that flows that way” (221; Ff3r). He claims that this condition self-rectifies over time. Blankaart calls this distention “*Sparganosis*” (264; S5v).

Intemperies means the “[d]isordered condition of the body” (*OED*, n.).

of wounded persons, not being ruled, or giving Credit to unskilful Nurses, who admonish them to feed lusty, the better to repair the loss of Blood, for that Blood is not for the most part pure, but such as has been detained in the Vessels or Membranes, better avoided for the health of the Woman than kept, unless there happen an extraordinary Flux of Blood; for if her nourishment be over great, it will indanger her falling into a Feaver, nay more, it will increase the Milk to superfluity, which Curdling often times turns to Apostumes, wherefore it is requisite for the first five days especially, that she take moderately Ponado broath, Poach'd Eggs, Gelly of Chickens or Calves feet, French Barley-broath, each day somewhat increaing her allowance.

*(Aristoteles 158-159; G8r-G8v)*⁶¹

61. For apostumes/impostumes (abscesses) in the breast, M^cMath provides a receipt for a medicinal plaster: “Cataplasms of Althaea roots, roots of Lillies, rosted Onions, tops of both Mallows, Boars-Breach, Wood Sorrel, Flowers of Chamemel, of Melilot, Meal of Wheat, of Linseed, Faenogreek, Yolks of Eggs, Figs, Saffron and the like; with Oyl of Lillies, Chamemel, Oyntment of Althaea, Basilicon (a little whereof may be applyed alone about the Place of Suppuration) Butter, Marrow, Fat or Grease, Plaister of Diachylon, of Mucilages compound, and the rest: to be applyed and continued, till a perfect Suppuration, or Ripness: Which is known by the whiteness, softness, fluctuation of the Matter (unless it be very gross) a pointing of the Tumor, and abating of the Feaver, Pain, Tension, Hardness and the other Symptoms” (301-02; U6r-v).

Ponado is “A dish consisting of bread boiled to a pulp in water, and sometimes flavoured with sugar, currants, nutmeg, or other ingredients” (*OED*, n.1). Basilicon is any of “several ointments [that] possess ‘sovereign’ virtues” (*OED*, n.). Diachlyon is “the name of a kind of ointment composed of vegetable juices” (*OED*, n.)

The worst-case scenario resultant of the failure of women to excrete concocted and non-transmuted fluids is the hardening of those fluids into potentially cancerous tumours.⁶² In

The Idea of Practical Physick in Twelve Books (1657), John Johnston explains,

The Coagulation or Curdling of the Milk is then Caused,
when the more thin and subtile parts do by little & little
exhale, & the thicker remain behind; from whence the
Glandules or Kernels wax hard, and swellings, yea and also
impostumes arise. (IX.26; X4r)

He also describes the resultant tumour: “An Inflammation, which is a hard swelling. It is known by the redness, the pain, the pulse or beating, and the heat thereof; by which it differeth from what we cal the Clotting or Curdling of the Milk, and the overgreat abundance thereof” (IX.24; X3r).⁶³ Problems with milk flow and storage, therefore,

62. For example, for “knobs” (lumps) on or in the breast, Gabelkover suggests a plaister: “Take iuyce of Pepperworte, & Sallet-oyle of each a like, & as much honye as both of them are, mixe therwith Rye-meale to a pappe, spredde it on a cloth, & applye it on the knobbes, & if then ther be more knobbes then one, applye on each one a severalle playster doe this as often till the Breste breack open, & healeth agayne” (250; X.v.v). For breast cancers, Hartman writes, “Take an old mellow Pippin, cut off a cap at the top of it, and then take out the Core leaving the sides of the Apple whole; that the melt’d Grease may not get out; Fill the whole with Hog-grease, then cover it with the cap, and set the Apple to rost, when it is well rost’d to pap, take it and pare off all the paring, and break and mingle perfectly all the pap, that it may spread well, and be a uniform pulp; spread it thick upon Linnen, and lay it warm upon the Sore, putting a Bladder over it” (400; Cc8v).

63. To prevent curdling, “Take the Roots of Althea half a pound, boyl them in White-wine Vinegar, strain them through a fine Seive, adding to the liquid part Bean flower one ounce, powder of Rue and dried Mint, of each a dram, Oyl of Mastick two ounces, boyl them again till they come to the thickness or plyableness of an Oyntment” (Anon., *Aristoteles* 176; H4v).

To unclog the breasts, Peter Levens recommends one “Take Wheat mingled with Rue,

presented potentially serious illnesses for women.

Further, the implied hypothetical ideal female breast of the right size, shape, and colour discussed in Chapter 3 became attached to breastfeeding and the health of or injury to the infant. Jones writes that during breastfeeding

great pappes or teates hurte the gummes, and the small the jawes, bycause that through the one they are constraigned to open the mouth too wide, over-stretchyng the sinewes, causing griefe, muche like to the Crampe: through the other, in that they can not easily of the Infant be catched, making it wide mouthed, over wayward and angry, and as I have often noted, to weepe verie much. (*Arte* 12; D.ii.v)

Although one might have difficulty believing that a woman's nipple could be so big or hard as to hurt the mouth of her infant, the passage implies that large breasts and nipples can be so monstrous that they cannot even perform their natural function, but prevent the infant from latching on. Such monstrosity provided another reason to delineate normal breast and nipples sizes, and to encourage women to ensure their breasts and nipples remain suitable for breastfeeding.

Superstition also made its way into the medical discussions about breastfeeding.

Parallel to the notion that women's imaginations and frights during pregnancy resulted in

and sodden in water, and lay it to a womans hard breasts that be curded with milk, and it will soften them" (*A Right Profitable Booke for All Diseases, Called, The Pathway to Health* [1596] K1v; this page is opposite page 56). "Rue" is a type of "European dwarf shrub" (*OED*, n.2.1a).

deformed children, Johnston suggests that women's milk causes infants to experience "Fears in sleep, which because they arise from impure and filthy Vapors mixt with the Animal Spirits, and troubling them, raised from the Stomach, therefore they happen to Infants that do greedily suck" (XII.8; L11r).⁶⁴ An early modern edition of medieval writer Albucanus' text describes the result of such imagination in an anecdote that signifies women's power to impress characteristics onto the suckling infant: "The women of Campania had this custom, that when they would give theyr teates to a child, first they did annoynt the nipple with the blood of an Hedgehogge, to the end that children might be fierce and cruel" (252r).⁶⁵

At the other end of problematic breastfeeding, physicians invoked the perfect – but undefined – humoral medium to advise women to take care not to produce too much milk. Because of the belief that excess milk could not be concocted and excreted sufficiently, physicians attributed breast ailments and injuries as well as infant illnesses to the excess production and flow of breast milk just as they did for clogged milk and

64. Culpeper claims, "Many are the forms which Authors have left to posterity, of monstrous Births; some altered in respect of Sects, as *Hermaphrodites*, in form bestial; some double-bodied, some maimed" (*A Directory* 1656, 109; H7r). He suggests that "the imagination of the Woman to be a great cause, by beholding either such Monsters, or such Pictures" (109; H7r). He "refers it to the Judgment of God alone, which if true, without the help of Nature, then is every Monster a Miracle" (109; H7r). However, in *The Problemes of Aristotle*, the creation of a monster is part of nature's plan. Monsters come about "through the evil disposition of the matter, and the influence of some speciall constellation, not being able to bring forth that which she entended, bringeth forth that which she can" (E8v).

65. Even though medical knowledge had advanced from the medieval period to the early modern, reprinted texts such as this one contributed to the on-going dissemination of questionable concepts and practices.

insufficient milk flow. Consequently, many medical writers provided at least one method or receipt for reducing the production of milk.⁶⁶ In *The English Midwife Enlarged*, the writer asserts that “clodding comes mostly because the Breasts are not fully drawn” (263; S4r). The writer implies that the body stored milk, but this storage could spoil the milk and/or clog the breasts. Many writers recommended having the milk sucked out – by the infant, the mother, or some other person – and applying a drying poultice. In addition, the production of too much milk could allegedly result in stretching the breast skin, producing more evidence of involution once breastfeeding ceases, making the post-breastfeeding mother’s breasts unable to return to their erotic form.⁶⁷ Once women’s breasts are no longer desirable and have ceased their nutritive function, they might become markers of women’s old age and diminished worth.

Considering breast milk itself, some medical writers indicated that women could corrupt their milk even if it had been properly concocted.⁶⁸ Several texts discuss this

66. To produce less milk, Langham claims that “Hempe: the seede expelleth windinesse” (306; U1v) and causes “Milke to abate” (307; U2r). He does not give a specific preparation.

67. To avoid sagging breasts, R. Turner recommends the following: “Ladies Mantle is hot and dry in the second degree at least, very astringent and drying, an herb of Mars: the decoction thereof drunk, and the green herb outwardly applyed, helps the flagging, and over-greatness of Maids and Womens Breasts, bringing them to their due bigness” ([*Botanologia*] 171; M6r).

68. Johnston, for example, attributes mothers’ susceptibility to astronomical movements still associated with medicine: “Somtimes in human bodies [the guts] are rendred such by the occult influences of the stars; hence sucking children, who never came into the open aire, and were only nourisht with their Mothers Milk, are somtimes taken with a Dysentery” (X.24; Aa4v). Johnston defines dysentery as “a frequent, bloody, and Purulent going to stool, with a Pain in the Belly, and Exulceration of the Guts, from a sharp corrodng matter peculiarly offensive to the Guts” (XII.24; Aa4v).

problem, often defined by the common term “curdling.” The writer of *Aristotle’s Compleat and Experienc’d Midwife*, for example, insists that milk is curdled if it is not fully purified “because of the great Commotion her Body suffered during her Labour; which affected all the Parts, and it is then mix’d with many other Humours” (99; E6r), just as the author of *The English Midwife Enlarged* claims above. Although he suggests that milk might become contaminated by the woman’s body “as sometimes it may be, by being either too hot, or too cold,” he admits the milk may “happen to be corrupted by any Accident” (125; F7r).⁶⁹ Humoural theory, however, attributes humoural imbalance to the malfunction, injury, and disease of the breast tissues, implying that women’s own bodies – at least in part – are responsible directly for women’s illness and disfigurement and sometimes death, as in cases of malignancy.⁷⁰

Many medical writers also emphasized that the feeding of breast milk to infants, whether by mother or wet nurse, was potentially dangerous because of women’s presumed mental and physical corruption, inferiority, dysfunction, and susceptibility to sin and disease – all signified by women’s breasts – passing on to the infant. Such assumptions allowed writers to attribute copious infant illnesses and (im)mortality to women. In the 1672 translation of *The Diseases of Women with Child, and in Child-bed*, for example, François Mauriceau, whose medical practice focussed on obstetrics,

69. M^cMath declares “bad Milk can never be mended, save when it happens so by ill Dyet” (393; Cc4r).

70. The writer does not indicate whether the temperature changing occurs naturally in women’s bodies or a result of another illness or injury or something else. Neither does he mention the frequency with which such corruption occurs.

suggests that infant stomach ailments result from the inconsistency between *in utero* and *ex utero* nutrition: “as to that which is the general cause, the too sudden change of the nourishment” (389-90; Bb4r- v).⁷¹ Etmüller further contends, as many of the writers do, that too much breast milk and consumption of “vicious Milk or Pap receiv’d into the Stomac, degenerat into an acid Crudity; which if imprison’d in a viscid Vehicle, displays its force within, and if diluted with a thinner Serum, breaks out upon the Skin in various Eruptions” (635; Ss6r). Despite the undeniable importance and value of breast milk, such writers continued to associate breast milk with infant infirmities.

Although Sylvius indicates that breast milk potentially causes infant ailments as well, he contends that women can make the choice to consume healthy foods to produce healthy milk:

The same sowre humour may be increased in Infants after birth, when their Mothers or Nurses use the fore-named sowre sauces, and liquors, &c. too much; the harm of which is greatly conveyed with the milk into sucking Infants: let none think, that the Infants health wholly depends upon the womans milk; which is to be esteemed before all other food, if it be healthy and laudable; which moreover becomes easily and often very hurtful, when the Mother or Nurse is unhealthy, or doth not use a good diet,

71. Recall that *in utero* the best blood feeds the infant but after the birth the best blood nourishes the mother while the second-best blood is concocted into breast milk.

whether by their own or others fault: especially any
vehement motion of their Mind hurts the Infants. (39-40;
D4r-v)

Sylvius reminds women of their responsibility in choosing a good diet, but food availability, production problems, poverty, and so on, often makes food consumption one of need rather than choice. At the same time, Sylvius implies that women's corporeality and what he considers their emotional states can be sources of illness for infants.

Similarly, in *The Workes of that Famous Chirurgion Ambrose Parey* (1634), Ambroise Paré insists that the "flegmatick" humours naturally issuing from the infant's mouth corrupts the breast milk:

It will bee very profitable to rub all the inner side of the
childes mouth and pallat gently with treacle and hony, or
the oyle of sweete almonds extracted without fire, and if
you can, to cause it to swallow some of those things: for
thereby much flegmatick moysture will bee drawne from
the mouth, and also will bee moved or provoked to bee
vomited up from the stomacke; for if these excrementall
humours should bee mixed with the milke that is sucked,
they would corrupt it, and then the vapours that arise from
the corrupted milke unto the brain would inferre most
pernicious accidents. (907; Gggg4r)

Despite recommendations in the texts, however, for most English women, diet was not

likely a matter of moral or medical decision, but one of food availability.

Some writers deemed women made bad milk or corrupted milk, making female breasts the vehicles for infants' physical deformity as well as contagion. Jacques Guillemeau maintains in [*Child-Birth or,*] *The Happy Deliverie of Women* (1612), that breastfeeding can cause "*Hydrocephalos*, which is, when the head becomes big, by reason of some waters therein contained" (II.31; Oo3r). He claims this condition arises from "the ill nourishment which the child receiveth from his Nurse, whose milke is either serous and watrish, or over-heated, which causes divres vapours, to ascend up into the brain" (II.31; Oo3r). Some writers attribute the transmission of smallpox – a virulent and life-threatening illness known to destroy women's beauty by scarring the face – to breast milk. In the 1686 William Salmon translation of *Systema medicinale*, for example, German physician Johann Doläus (1651-1707) alleges,

there is a certain Principle implanted in us, in regard
whereof no Man can escape the Small Pox; the cause of it
[Ettmüller] derives from the Nutritive Milk, suckt by
Children, as well in as out of their Mother's Womb, in as
much as this, after the manner of all things made of Milk, is
apt to corrupt, and turn to an Acid, Saline Liquor. (IV.110;
Ggg7v)

Agreeing with Ettmüller, Doläus not only claims that breast milk is responsible for the transmission of the disease, but he alleges every person has been infected through consumption of corrupted nutriment during breastfeeding and/or intrauterine feeding. If

those two sources of contamination failed to infect someone, which contradicts his own contention, every food that contains milk – presumably he means human milk – has the potential to infect the consumer.

Other writers mention sexually transmitted diseases in the discussion of breastfeeding in a comparable way. In *A Briefe and Necessarie Treatise* (1585), for example, William Clowes (1543/4-1604) – “one of the most eminent surgeons of his day” (Murray) – discussing how a child might become infected with *Morbus Gallicus*, or syphilis, writes,

But it is not to be doubted but that she received the infection either from the parents, or else was infected (as divers and many are) by sucking the corrupte Mylke of an infected Nursse, for that suche Mylke is engendered of infected bloud. (3; A.iii.r)⁷²

Peter Lowe (fl. 1590s), in *An Easie, Certaine, and Perfect Method, to Cure and Prevent the Spanish Sicknes* (1596), shows that infection also goes from child to nurse: an infected child “sucking the Nurse, did infect her, and sundry other Nurses, one after another, who by giving suck to other chyl dren, did infect them” (B2r).⁷³ Just as women’s breasts metonymically become illness, so their milk becomes contagion.

72. Lindemann indicates that in the sixteenth century syphilis was “especially malignant” and “uniquely virulent” (55).

73. At the beginning of his text, Lowe writes, “This Spanish sicnes, is one indisposition against nature, bred cheefely by carnall copulation, & contagion ioyned with venenositie” (B1r). Later he writes, “Amongst the Frenchmen it is callede the Spanish sicknesse, in England the great pocs” (B1v).

In opposition to the infectious potential of women's milk, however, many writers argued that as a medicinal ingredient milk can be ingested as is or after boiling or used topically without harm.⁷⁴ Gratarolo, for example, indicates that women's milk is the most healthful "because it is very good and beneficiall to mans bodie, namely to the brayne, for it is thought to increase it merveylously, and preserveth agaynst consumptio[n]" (K1v). In *The Haven of Health* (1584), physician Thomas Cogan (or Coghan; c. 1545-1607) adds extra authority to his contention that women's milk is a general curative regardless of one's age, reporting "a notable example was shewed of late yeres in the olde Earle of Cumberland, who being brought to utter weaknesse by a consuming Fever, by meanes of a Womans sucke" (154; U1v) was restored. Many of the herbals give medicinal recipes incorporating milk for cures. For example, in *This Is the Myrroure or Glasse of Helth* (1546), Thomas Moulton (fl. 1546) gives a cure "For a pynne and the webbe in the iyen" (Gi.i.v).⁷⁵ Johnston prescribes a breast milk preparation for the ears as well. German writer Oswald Gabelkover, in *The Boock of Physicke* (1599), has a cure "For defecte in Hearinge" (64; F.ii.v).⁷⁶ Goeurot indicates milk is useful in clearing the

74. Spiller comments that in Galenic medicine, "how something tastes is connected to medical efficacy" (67). Physicians may have believed that milk tempered medicine "to bring them into fuller humoural balance" (67).

75. Slack contends Moulton's text was the most popular medical work of the sixteenth century, with at least seventeen editions between 1530 and 1580 (237).

For sore eyes, "[t]ake a curtesy of clene claryfyed honye & as moche of womans mylke that noryssheth a mayde chylde and for the woman the man chylde and sethe them togyther and whan it is colde put it in a glasse and close it from the ayre and thus do.ii.or.iii.dayes.ii.or.iii.tymes every day and he shall be hole" (Moulton G.ii.v-G.iii.r).

76. Gabelkover provides a recipe for ear drops: "Take the Gaule of a Hare, & the Gaule of a Pickerelle, with butter of womans Milcke, mixe them well together, and invngate heerwith rownde about thy Eares, & also dropp some therof therin" (64; F.ii.v).

skin. In his section entitled “The Boke of Chyldren,” he claims, “it doth appeare, that the mylke and nouryshyng hath a marveyulous effecte in chaungyng the complexion” (B2v). In some cases, writers suggested that women’s milk is excellent for making butter and cheese, suggesting that at least some women produced more milk than needed by their infants. Lanfranco contends that milk

is of temperament, meane betweene bloud and phlegme,
consisting of three substances dyverse, and in effectes
contrary. Namely whayey, whiche is colde and moiste, and
loseth the bely: Curdie, whiche is tough, and byndeth the
same: and fatty, wherof butter is made. (“Glossary” 56-57;
Xi r-v).

Further, writers did not limit the use of breast milk to medicinal mixtures. For several conditions, writers advised direct suckling by adults. The writer of *Aristotle’s Compleat and Experienc’d Midwife*, for example, suggests direct suckling woman to woman during labour, to ease the new mother’s pain and weakness and to accelerate delivery (57; C9r).⁷⁷ Dorothy McLaren states that “the suckling of ailing adults was also practiced” (29). Despite qualms about infection and corruption, medical writers took advantage of a readily available, natural food and curative. Surely the medicinal use of women’s breast milk – particularly in pediatric medicine – elevated its perceived worth.

77. To aid a labouring woman, “[g]ive a Woman in such a case another Woman’s Milk [t]o drink; it will cause speedy delivery, and almost with-[o]ut any pain” (Anon., *Aristotle’s Compleat* 57; C9r).

In some medical receipts, however, writers name the ingredient “milk” with no specification whether it be human or animal milk, the context not providing any clarification. Doläus writes that when other medicines “fail us, we must come to Milk, which hath recoverd many. Either the Patient may suck Womens Milk from the Teat, or Drink Asses Milk warm, which is best, or Cows Milk” (IV.68; Eee2v). The equivalency of women’s milk with animal milk was pervasive in these texts.

Whether the medical writers perceived women’s breast milk as good or bad, however, they realized its obvious necessity in infant feeding. As a result of the importance of breast milk in the nutrition of the nation, therefore, medical writers extensively discussed solutions to breastfeeding difficulties experienced by women, providing receipts and procedures for each problem systematically.⁷⁸ Yet despite the positive commentaries on women’s breast milk and breastfeeding, physicians and theorists also mediate their approval of female nutritive capability through the same cultural and medical biases and assumptions that dictated the size, shape, and colour of women’s breasts and the argument that women and their bodies must be controlled.⁷⁹

78. Inverted and damaged nipples necessitated the use of nipple glasses and pipes. When the milk will not flow easily, however, one must not subject the infant to excessive attempts to draw out the milk. Etmüller recommends “suckling a toothless Puppy” (631; Ss4r), which was, likely, not a practice women were eager to accept.

79. See Chapter 3.

4.3 The Early Modern Woman Debate Expressed

“Breastfeeding is a human rights issue for both mother and child”
(Chantry *et al.* 408; original emphasis).

“In the 20th century,” Gabrielle Palmer proclaims, “women were presented with an illusion of liberation through the artificial feeding of babies, only to find their breasts appropriated by men and popular culture” (3). Palmer’s statement, which succinctly illuminates one of the most wide-spread appropriations of women’s bodies, is also relevant to early modern English medical considerations of women, their breasts, and breast milk. Berit Åström argues it is “not actual practice, but ideas and advice that reproduce cultural attitudes and notions about the female body” (574). The majority of women in early modern England nursed their own children, following advice of midwives as well as the collective wisdom of female relatives. Wealthy women had the option to feed their infants via wet nursing – the child being sent to live with the nurse or vice versa. Nevertheless, many medical writers appealed to women directly, alluding to the possibility of female self-regulation – with some level of male approval. Further, as many of the medical texts show, contradictory Christian tenets contributed to women’s dilemma of obedient wife or dutiful mother in relation to maternal breastfeeding and infant weaning. Thus, women could be caught between a desire to breastfeed and obedience to their husbands. Although Fildes confirms, “Royal children automatically had wet nurses; usually highly born and carefully selected” (*Wet* 76), noble women, as

Elizabeth Clinton illustrates below, sometimes breastfed their own children.⁸⁰

Most early modern medical texts offered mothers encouragement, reflecting the belief that breastfeeding not only reinforced the natural mother/child affiliation but led to the mental and physical wellness of mothers and their infants as well as a significant lack of alternatives. Fildes notes, however, that in medical discussions of breastfeeding, “The emphasis was still upon the child rather than the mother” (114) attaching breastfeeding to women’s corporeal utility inherently endorsed by the androcentric theory of reproduction. Indeed, Petty Bange *et al.* claim that women were “looked on with favour as long as [they] had a *function* to fulfill” (24) as propagators of heirs, as objects of their husbands’ sexual desires and, one could add, as providers of infant nutrition. While allegedly empowering women to choose, medical writers also might have been manipulating women by reinforcing patriarchal and Christian ideologies, interpreting medical science accordingly, and reaffirming the biases upon which women’s alleged inferiority was founded. Based on my readings of the early modern English medical texts, however, I would argue that many of the writers imply women’s value by making this vital information available to women, especially midwives. Further, many of the writers based their arguments on significant medical problems in a time when pregnancy, birth, and infancy posed real threats to women and children.

80. Although not a medical professional, Clinton’s position as countess makes her voice one that can be heard by English noblewomen and commoners. She states she bore eighteen children (18; D1r). See also Harley’s “From Providence to Nature: The Moral Theology and Godly Practice of Maternal Breast-feeding in Stuard England.”

4.3.1 To Nurse or Not to Nurse

“Many husbands take such pity on their tender wives, that they provide nurses for their children” (Paré, *Workes* 908).

Many writers presented legitimate medical arguments against maternal breastfeeding. Medical writers’ exhortations of maternal duty must have been directed towards women of the upper classes who could afford to employ wet nurses. One might employ a wet nurse due to the death of a mother, to allow a woman to resume her domestic duties more quickly, or to enable subsequent impregnation. Jones, for example, indicates that if a mother is too ill to breastfeed her infant or has multiple infants, then “follow *Aetius* counsell in the choyce, who greatly commendeth for a Nurse, such a woman as hath brought forth not only one, but two or thrée children alive and sound” (*Arte* 5; B.iii.r) – that is, one with experience and a proven ability to nurse and pass on appropriate humoural qualities.⁸¹ Elsewhere, Johnston concludes that infants “must not be put to a nurse, unless the mother be weak, subject to sickness, or bad manners” (I.25; F1v) – a good wet nurse is better than a bad mother. Employment of a wet nurse would also be necessary if, as discussed, mothers should/could not to breastfeed immediately after giving birth. Also, choosing to send one’s infant out to nurse in the country could be a wise decision for urban mothers because, as Fildes states, they believed “the bad

81. An anonymous writer also indicates that curdling occurs “from taking cold, or not covering her Breasts” (*English* 263; S4r). Humourally, the covering of the breasts would help keep them warm, significant because of the heat needed to concoct the blood into milk. Etmüller agrees reporting, “The Milk of a sickly Woman, whether Mother or Nurse, is improper” (633; Sf5r).

atmosphere and conditions in towns and cities were regarded as dangerous to the lives of children” (*Wet* 81).⁸²

Further, physical abnormalities of the breasts frequently prevented women from breastfeeding their own infants. Fildes indicates, for example, “Women in this period probably did suffer more frequently from inverted nipples than women do today because of the tight-fitting corsets which they wore, from the age of about three years, during all their waking hours” (*Wet* 90).⁸³ To draw out a nipple, some physicians recommend applying a suction device, the nipple cup. German physician Johannes Scultetus (1595-1645) writes

The nipples of those that give suck (I) are oftentimes so hid within the breasts, that the Child new born can neither take hold of them with its mouth, nor suck any milk out of them. In such a case let either the childs nurse set either the bottom of the glass (pictured Table XVI. Fig.1.) to the nipple that lies hid, and lay hold of the mouth of the pipe with her mouth, and draw forth the nipple by sucking; or one that is of years shall set the long glass (K) to the nipple,

82. Londoners, generally, “sent their children to parishes up to 40 miles away to be nursed” (Fildes, *Wet* 74).

83. The custom of corseting would, of course, have only applied to elite women. Poorer women, at least some of them, would have bound their breasts with cloth. This fact becomes evident when writers describe the problems associated with letting the breasts hang loose. For example, Salmon claims that due to not binding their breasts, Irish women could suckle their infants over their shoulders: “in *Ireland* many such Women are to be found” (*Synopsis* [1681] 1107; Bbbb2r).

and with a band shall bind it fast to the breast; and when
this is done, let her take the narrower end of the glass
between her lips, and drawing as before, let her suck forth
the nipple that lieth hid. (*The Chyrurgeons Store-House*
[1674] 170; L5v)⁸⁴

However, considering that women (normally) have two breasts – as so many medical writers have discussed – damage to one breast does not necessarily affect the other or require a substitute lactator.⁸⁵

Another argument in favour of employing wet nurses was the recommendation that a breastfeeding woman should abstain from sexual intercourse, delaying her return to fertility, as mentioned above.⁸⁶ Although there was no evidence that sexual activity affected breast milk, humoural reasoning supported the hypothesis that sexual intercourse could change the amounts and directions of fluids in the body, and that the potential disruption of the uterus itself could lead to substandard manufacturing of breast milk. Although women’s fecundity and sexual obligation to their husbands might imply a demand for an immediate return to her pregnable body, the churching period, which would certainly be a healthy situation for women by providing valuable recuperative breaks between pregnancies, was indeed regularly practiced. Jane Sharp writes, “if the

84. This edition was translated by E. B.

85. See Chapter 3.

86. Palmer specifies, “As long as the baby is suckling at least six times a day, amounting to 65 minutes in total, and including some night feeding, a woman is unlikely to release a ripe egg from her ovary” (136).

child be a boy she must lye in thirty dayes, if a girl forty daies, and remember that it is the time of her purification that her husband must abstain from her” (*Midwives* 211-12; P2r-v).⁸⁷ If “the lactating breast physically interrupts erotic relations with evidence of woman as mother,” Marilyn Lueke suggests, “[t]his could prove distasteful for the husband” (245). Such a subconscious inability to separate the maternal from the erotic, coupled with a general understanding that breastfeeding decreased women’s fertility as well as the detrimental outcomes attributed to breastfeeding and breast milk discussed above, might result in a decision – by man or woman – to employ a wet nurse.

Even so, McLaren claims, “There is no doubt that the fertility of rich women between 1570 and 1720 was often appallingly high. It was not uncommon for a rich woman to bear twenty children” (22). Further, women among the upper classes may have seen maternal breastfeeding as incompatible with their social positions. For example, breastfeeding mothers could not “dress fashionably and what clothes they did wear they believed would quickly become soiled” (Fildes *Breasts* 101). Indeed, “The most frequently repeated statements,” Fildes confirms, “were that women did not breastfeed because it would have adverse effects on health, figure and beauty, believing that

87. While Sharp may have intentionally implied that women should have a longer recovery from labour, delivery, and nursing, she may have merely copied this advice from other sources. New mothers were confined to bed from three to fourteen days in a dark room and then another seven to ten days in the room, but not confined to bed; then she was allowed to move about house and slowly resume her household tasks. It would be another ten days before she was allowed outdoors. These times were dependent on the overall level of the mother’s strength (Wilson *Making* 27). Note that again the sex of the fetus/infant plays a role in conclusions about women’s bodies.

suckling would make them look old before their time” (100). Such excuses against maternal breastfeeding – even when made by women themselves – focus on women’s beauty and fashion trends rather than on real concerns about the health of mothers or infants.

Despite medical and cultural reasons against maternal breastfeeding, many medical writers – perhaps realizing that most women in England had no choice other than breastfeeding their own children – employed numerous arguments in favour of mothers feeding their own infants. One potentially effective strategy was to direct medical advice about the health and well-being of infants toward mothers themselves, appealing to their maternal sympathies. At the beginning of his chapter “Of a Nurse,” M^cMath writes,

It were best, all Mothers might nurse their own Children,
not only because of a mutual agreement of the
Temperaments, the far greater Analogy of their Milk, with
the Food received in the Womb, but also for their greater
bowels of Love and Tenderness towards their own Fruit,
being inflamed with an Affection almost invincible, panting
after their welfare, as their own. (387; Cc1r)⁸⁸

Advocating for the child in the anonymous *The English Midwife Enlarged*, the fictional midwife speaks extensively on maternal breastfeeding, telling her examiner,

tender Infants can neither make choice of their Nurses

88. Recall the fruit symbols for women’s breasts in Chapter 2.

themselves; nor discover, or plead for their wants: Their own Mothers, surely, (if they are able) both by duty, and nature, being the most fit to Nurse their own Children; which the greatest Ladies may do, with the greatest conveniences; by reason of their plenty of all things; besides, their attendance of servants, who can bring their Nurseries to them at all hours, be it by night or day, and take it from them again, not to disturb their rest. (281-82; T5r-v)

The midwife's statement supports both the Christian and biological imperatives for women to breastfeed and she severely chastises upper-class women who either prefer not to nurse or do not try to influence their husbands' decisions to employ wet nurses. These appeals to mothers also allude to women's natural responsibility towards the infant whose only agency is crying. Further advocating maternal breastfeeding, the fictional physician in the text agrees with the midwife and responds that a breastfeeding mother "having much more love for it, she will be much more careful then an hired Nurse" (*English* 284; T6v).

The author's statement adds a significant factor in the maternal breastfeeding problem – humoral sympathy – reflecting the argument that breast milk is in consent

with the uterus.⁸⁹ If most poor and lower-class women already practiced maternal breastfeeding and wealthier upper-class women employed wet nurses, then medical writers must have been directing such comments to the latter group. The anonymous writer may be contemplating the internal biological differences in the make-up of high- and low-class women – a natural part of their world order – predicting a humoural mismatch between low-class women’s milk and upper-class infants. Indeed, humoural theory and infant imprinting through breast milk would indicate that to allow one’s infant to feed from a lower-class wet nurse would necessarily corrupt the infant’s natural body and character and disrupt social hierarchical boundaries. On the other hand, as mentioned above, some writers believed that brown women produced better milk, thus implicitly assenting to sending an infant out to a nurse of lower class. Such appeals, however, may have been made to align more closely medical advice with the breastfeeding practices of upper-class women, women – or their husbands (Wiesner-Hanks 92) – who may be patrons of the writers. Given that the upper classes did not seem to have followed medical advice about breastfeeding, people may not have taken such concerns as seriously as medical writers did.

Another avenue of persuasion for early modern writers depended on Christianity. Although McLaren states that “the conjugal debt had priority above the welfare of the infant, the church had condoned wet-nursing” (27), most of the medical works engage

89. The “‘natural’ continuity of the processes of conception, childbirth, and lactation,” Lueke explains, “figuratively reconnects the breast to the female reproductive body, its functions and fluids” (243).

women's Christian duty to demand maternal breastfeeding. Minister Henry Newcome (1627-1695), author of *The Compleat Mother* (1695), claims

not only that it is every Preachers Duty to exhort Mothers to Nurse their own, but also that it is the Duty of Mothers to comply with their Exhortations, and that if they do otherwise, they betray an unjustifiable Contempt of these learned and pious Reformers of and Martyrs for our Holy Religion. (11-12; B6r-v)⁹⁰

Clearly women were meant to obey male clerics. Further, Newcome indicates that wet nursing “is the way to alienate the Childs Affections from its Mother. Some Grammarians derive the Latin word *Lac* (Milk) from *lacio* (to allure) as concluding no way so likely to allure the Child to love its Mother, as Nursing it with her Milk” (56-57; E4v-E5r). In *The Amendment of Life* (1595), minister Jean Taffin (1529 – 1602) invokes the priest as physician trope and maternal instinct to persuade women to take all steps necessary to breastfeed their own children: “albeit the nipples of a womans brest should be so sore, that she could not suffer her child without great pain to take them, yet would she indure all to suckle her child: even so must pastors deale with theyr flockes, and have patience, as S. Paul requireth them” (394; Cc5v).⁹¹

90. This text is not a medical one, but a religious tirade, using Christianity as a tool to persuade women to breastfeed their own children.

91. Further, Taffin fervently insists, as several medical writers do, “remember that God hath given her two brests, not that she should employ them for a shew or ostentation, but in the service of God, and to bee a helpe to her husband, in suckling the children common to them both” (286; T7v). Taffin's statements imply a way for women to participate in

Also arguing against the use of wet nurses by upper-class women, Clinton – herself a noblewoman – advocates effectively for maternal breastfeeding in *The Countesse of Lincolnes Nurserie* (1622). Importantly, Lueke confirms that “Clinton’s depiction of motherhood shifts our attention away from pregnancy and childbirth, that is, the womb, to the breast as the site of ideological conflict around contending notions of motherhood in early modern England” (241). In other words, Clinton refocused the nursing debate on the mother and her infant(s). She calls women who refuse to breastfeed their own children “more savage then the Dragons, and as cruell to their little ones as Ostriches (8; B4v).⁹² But whose decision is it whether to breastfeed or hire a nurse? Paré’s statement at the beginning of this section implies that in some households, at least, men make the mother/wet nurse decision.

In association with the God/nature imperative, potentially endorsements of maternal breastfeeding as a means of women’s redemption – for the Fall, for her imperfection, for her excesses, for her sexuality – suffuse the medical texts. Lueke contends, “Reformation representations of motherhood as a blessed, nurturing activity also utilized the strategy of separating the spiritualized breast from the material female body” (241). Clinton claims,

Christian caretaking; his analogy implies a certain practical and powerful position for obedient women.

92. Compare with the biblical version: “Even the dragons draw out the brests, and give sucke to their yong, but the daughter of my people is become cruell like the ostriches in the wildernesse” (Lam. 4.3) and “the ostrich: Which leaveth his egges in the earth, and maketh them hote in the dust, And forgetteth that the foote might scatter them, or that the wilde beast might breake them” (Job 19.16-18). People believed ostriches abandoned their nests or clumsily stomped on their own eggs.

Wee have followed Eve in transgression, let us follow her
in obedience. When God laid the sorrowes of conception,
of breeding of bringing forth, and of bringing up her
children upon her, & so upon us in her loynes, did shee
reply any word against? Not a word; so I pray you all mine
owne Daughters, and others that are still child-bearing
reply not against the duty of suckling them, when God hath
sent you them. (19; D2r)⁹³

Clinton instructs women that although God punished Eve with painful childbirth and the
“sorrowes” of motherhood, children themselves are not part of God’s punishment.⁹⁴

With the use of Eve as evidence God’s ordination of breastfeeding, naturally
many writers also claimed the redemptive power of Mary’s breastfeeding of the saviour
of humanity, Jesus Christ, as well as other Biblical exemplars. For example, Taffin
writes,

They might take example by Anna the mother of Samuell,
who suckled her child till the daies of weaning: By Sarah
the wife of Abraham, as Moses noteth, where hee

93. Recall, however, the different Christian opinions about Mary discussed in Chapter 1.

94. Clinton’s case continues, “it is the expresse ordinance of God that mothers should nurse their owne children” (2; B1v), calling those to refuse to breastfeed their own children women of “monstrous unnaturalnesse” (10; C1v).

Also citing Biblical authority, Thickstun concludes that early modern motherhood was not perceived as “a gracious activity in which saved women exercise their gifts; instead, it places women under the old covenant of worlds as the participate in the fallen procreation of Eve” (9).

attributeth to her these speeches [...] And for the words of
the woman that said unto Jesus, Blessed is the wombe that
bare thee, & the pappes that gave thee sucke. (286-87; T8r-
v)⁹⁵

However, although a corporeal and sinful human woman can emulate the actions of the Biblical fallen woman, to make oneself in the image of a virgin mother is impossible. Michelle Boulous Walker explains that Mary is “the de-sexualized mother of masculine mythology” (136). Further, no infant is the breastfeeding Christ. Therefore, as Evelyne Berriot-Salvadore indicates, “Woman’s redemption lay in the maternal sacrifice, which, though it redeemed her soul, did nothing to rehabilitate her body” (385). If the breast did have some redemptive ability, it was an asexual breast – the lactating, nourishing breast – separate (that is, discursively anatomized) from the sexualized breast.

This tension between asexual and sexual maternity and lactation leads to what twenty-first-century readers might consider a very odd question prevalent in the early modern medical texts: “Whether is Milk in the Breasts a sign of Virginitie lost?” (Sennert 99; K2r).⁹⁶ Some practitioners, however, voiced concern that assuming a woman was sexually active and possibly pregnant because her breasts leaked would lead to the condemnation of innocent women. Indeed, several writers posited that, although uncommon, a maid may express a small amount of breast milk and maintain her status as

95. See Crashaw’s poem at the beginning of Chapter 1.

96. Palmer asserts that “many women, whether they have given birth or not, can stimulate lactation” (19). Virgin lactation could be the result of eating plants that have “estrogen-like compounds” (Kunz and Hosken 82). Recall the question of male lactation above.

virgin, because milk excretion could simply be a way to rid the body of unnecessary and harmful humoural fluid, especially in between menstruations. Sennert insists,

Some say that Virgins may have Milk, and urge this
Saying of *Hippocrates* 'If any have Milk when she is
neither with Child nor breeding, their Terms are stopt.'
Galen is of the same Opinion [...].

We shall not contradict *Hippocrates* and Experience,
but there is a twofold Milk. The one of Virgins, the other of
those that have brought forth or conceived. The first is
made of blood, that cannot get out at the Womb, but goes to
the Breasts; and this is nothing but a superfluous
Nourishment of the Breasts that turns to Milk by the faculty
of the Breasts, without the company of a Man or
Conception. (99; K2v)⁹⁷

Walker refers to the construction of a virgin mother – or here, a virgin lactator – as “phallic mimicry,” which she defines as “The idealisation of the asexual yet productive Virgin counter[ing] the threat of aggressive sexuality embodied in Eve” (136). That is, the potential to lactate as a loving Christian mother mitigates the erotic excess that the maid’s alluring breast suggests.

97. This passage cites Hippocrates Aphorism 39, Book 5.

4.3.2 How to Choose a Nurse

The usual way for rich people is to put forth their children to nurse, but that is a remedy that needs a remedy, if it might be had; because it changeth the natural disposition of the child, and oftentimes exposeth the infant to many hazards. (Sharp, *Midwives* 353; Aa1.r)

As with other areas of breast anatomy and function, medical discussions about wet nursing also contributed to questionable and varied medical analyses.⁹⁸ Like Sharp, the writer of *Aristotle's Compleat and Experienc'd Midwife* – after his discussion on generation and childcare – indignantly writes, “But considering that many Women of the highest Rank (and even those of lesser Quality too) do think it too great a Trouble to Nurse their own Children: Therefore take these few Directions in chusing a Nurse” (123; F6r).⁹⁹ The only step for supporters of maternal breastfeeding who realized that cultural preference and current fashion outweighed medical argument was to give advice about the necessary qualifications of wet nurses to ensure the health and safety of infants – sometimes without consideration of the mother’s or the wet nurse’s personal health and care. According to Fildes, “wet nurses gradually became something of a status symbol for wealthier families” (*Breasts* 23) – these women became utile possessions. Setting aside, for a moment, the monetary and ethical considerations of wet nursing, medical arguments

98. Of course, statements about wet nurses could also apply to mothers.

99. Biblical support of wet nursing exists in the stories of Moses, Naomi, and Deborah (Fildes, *Breasts* 7).

regarding the practice of wet nursing and the prescriptions for choosing wet nurses set – more than a few – strict qualifications, at least in theory. Note that a wet nurse might keep the infant at her own abode during the entire nursing period and continue to care for the child until her marriage. The child/wet nurse bond can develop into a strong and lasting one.

For choosing a nurse, most medical writers used the argument of matching humoural complexions, temperaments, and affinities between mother and nurse – if the women are humourally similar, their milks will also be similar. Thus Pechey insists that

the first and principal of all the Qualities in a good Nurse,
is, That she be the own Mother of the Child, as well
because of the mutual agreement of their Tempers, as that
having much more love for it, she will be much more
careful than an hired Nurse. (*Store-house* 436; Ff1v)

Similarly, Jones writes that the nurse must be chosen “according to the temperature of the babe. For if the childe shall be of a perfite constitution, it must be kept by the like, or be amended by the contrarye” (*Arte* 4; Bii v). A. M. further advises that parents choose a wet nurse who is “neither younger than four and twenty yeares, nor elder than five and thirty, of a white and ruddy complexion, which is not infected with other vices, nor yet hath too lately been brought to bed, nor hath not long given suck” (*Queen* 18; D1v). In *The English Midwife Enlarged*, the anonymous author demands that the wet nurse be “black hair’d, or of a Chesnut brown” (287; T8r) and comments that nurses’ milk, “must be of a sweet and pleasant smell, which is a sign of a good temper; as may be seen in red

hair'd Women, whose Milk hath a sour bad scent" (289; U1r).¹⁰⁰ Given the significance of humoural colour theory, these medical statements provide logical advice.¹⁰¹

Not surprisingly, writers reiterated the requirements demanded of mothers' breasts for wet nurses' breasts. Most medical writers suggest that nurses should have breasts of a non-qualified middling size. Pechey, for example, writes, "Her Breasts ought to be pretty big, to receive and concoct there a sufficient quantity of Milk, but not big to excess" (*Store-house* 439; Ff3r). Pechey is, however, typically imprecise in a description no more specific than "pretty big" but "not big to excess." Riolan addresses the question of size in asking "Whether are large breasts to be chosen in Nurses, or such as are mean in bigness?" and answers his question saying, "because they are Fat, neither have they plenty of Milk; and therefore, Fat Nurses are not to be preferred before such as are Lean, and Juicy" (30; G3v). Here, Riolan suggests that fat women do not produce more milk than thin women, so the nurse's overall size should not be a selection criterion. Fildes proposes a different reason to avoid choosing a fat nurse: "large and flabby breasts might suffocate the child by covering its mouth and nose" (*Breasts* 14), but this explanation hardly seems a realistic threat.

In addition to size concerns, the shape and health of the breasts and nipples were

100. Upon what this hair colour argument is based is unclear, but it might be a reference to "inferior" British peoples, the Irish and the Scots.

101. In addition to humoural considerations, some writers mention more practical ones. In *Aristotle's Compleat and Experienc'd Midwife*, the writer prefers a nurse that loves company, is slow to anger, who plays and sings, and likes children (123; F6r). Sennert suggests employing a nurse who has had more than one child herself (226; S1v), so that she is experienced in infant care.

important in finding a suitable wet nurse. A wet nurse's breasts "must be sound and free from Scars proceeding from former Impostumes; they must be indifferent firm and fleshy, and not flaggy and hanging," Pechey asserts, and "the Nipples they must be well shaped, they must not be too big nor too hard, nor grisly, nor sunk too deep, but they must be a little raised and of a moderate bigness and firmness, and with many little holes" (*Store-house* 439; Ff3r).¹⁰² Further, Sennert advises that "her Breasts be well fashioned with good Nipples, that the Child may take them with pleasure" (226; S1v). Examination of wet nurses' breasts for outward signs of illnesses and damage may prevent improper and ineffective suckling, ensure the infant receives healthy nourishment, and allow prophylactic breast care. Although the expression "flaggy and hanging" seems derogatory, such an appearance of breasts may reflect a concern that the nurse might be past her own child-bearing years, and thus may not be able to produce milk adequately.

The "other vices" to which A. M. refers above are unspecified. Goeurot, however, insists the nurse be "no dronkarde, vycyous nor sluttyshe, for suche corrupteth the nature of the chylde" (B.iii.r). In addition, referring to the accepted belief that breast milk – and, apparently, early life contact with a woman – imparts bad character, Sylvius contends that the danger of corruption increases when the infant is put out to the wet nurse: "Infants not only suck the constitution of body whether good or bad, but also the manners of mind whether good or bad with the milk: and do imitate their Nurses more than their

102. Despite the lack of definition of "moderate," the writers adhere to Plato's insistence on "the quality of moderation" (*Phaedo* 68c) as well as Galen's ideal of the body being "well-balanced" (*On Temperaments* II.2).

Mothers Constitution of body, and Manners of Mind” (41-42; D5r-v). Warnings about wet nurses being mercenary, of low moral character, and, indeed, evil, pervade the medical texts. Consequently, authorities suggested examining wet nurse for mental illness and immorality as well as physical illness.

Furthermore, in considering wet nurses, writers repeatedly imply that milk produced by the mother of a male infant is different than that by a mother of a girl. Consequently, Jones alleges that “it seemeth best for the male the males milke, for the female the females, for as much as in al things we should follow nature not vitiated” (*Arte* 11; D.ii. r). Jones gives no explanation for this conclusion, but the underlying assumption seems to be that male and female infants require different nutrition and, perhaps, that the heat generated by a fetus to concoct humoural fluids is different between the sexes. However, Goeurot claims that all wet nurses should have recently given birth to a male child (B.iii.r), again without explanation. Goeurot’s presumption that milk resultant from a male pregnancy is superior to that of a female one reifies male superiority. This idea, however, could complicate the maternal versus wet nurse controversy because his conclusion implies that if a woman gives birth to a daughter, she should employ a wet nurse who delivered a boy rather than breastfeed her own child.¹⁰³

Once the wet nurse was chosen, writers’ rules for maintaining the quality of her milk and the health and safety of the child were extensive. Indeed, the sections pertaining

103. The authors of *Aristotle’s Compleat and Experienc’d Midwife* (124; F6v) and *The English Midwife Enlarged* (275; T2r) both subscribe to the gendered nursing theory without providing explanation.

to how to control the wet nurse – her desires and excesses, for she is, after all, a woman, and likely a woman of a lower class than the child’s mother – make up the bulk of material written about infant care. In *The English Midwife Enlarged* the anonymous writer states,

If then the qualities of the milk pass into those that suck them, (as without any doubt they do) it is easie to gather, that other impurities follow thither also, neither is it improbable. Surely then, we ought to take no less care of the Nurse than of the Child; as in her diet, exercise, physick, &c. since, whatsoever conduceth to the benefit of the Nurse, tends to the good and welfare of the Infant. (281; T5r)

During the time of her employment, the nurse, as Sennert recommends, must “keep a good Diet, and abstain from hard Wine and Copulation, and passions: these chiefly trouble the Milk, and bring diseases upon the Child” (226; S1v).

M^cMath is particularly harsh in his vitriol:

hired *Nurses* please themselves too much, and are kind only as they are set by and rewarded: whence oft-times from the perverseness of their Minds, unruliness of *Dyet*, secret *Maladies*, naughtiness of their *Milk* and other *Debaucheries*, many *Infants* (especially these given out) are either pitifully killed, or gets what they never claw off, but

lives miserable lives. (387-88; Cc1r-v)

McMath's opinion of wet nurses is obviously based on his assumption that, like prostitutes, they sell their bodies for money merely to satisfy their greed. The medical texts illuminate an inherent fear about wet nurses or "mercenaries" (77; F7r) as Newcome called them. The anonymous writer of *The English Midwife Enlarged* adds to the contempt for wet nurses claiming another excessive and uncontrolled appetite:

So also, by the use of their Husbands the Courses are stirred up, by which both the plenty and goodness of milk is derived another way; and so the Child robbed of its nutriment; or else the Nurse conceiveth with Child, and so the Infant becometh diseased and Ricketty, by sucking curdy and unwholsome milk, and is worse for it during life.
(274; T1v)

This author blames the wet nurse's inability to control her sexual desires and thus carelessly ruin her milk, suckling her charge regardless of the adverse consequences.

Writers who denigrated wet nursing were unable to consider that a nurse might be a valuable resource for women who cannot or should not breastfeed, or that a wet nurse might be desperate for money to care for her own family. Being grateful for the economic stability, wet nurses might, in fact, extend extra care in their practices. Further, those who write about wet nurses generally do not recognize the potential for a woman to care about their charges out of genuine affection. Although Fildes treats these remarks rather lightly, stating that "given the climate of opinion of the time, it is more likely that in many cases

the wet nurse was simply the obvious scapegoat” (*Wet* 194) for the high infant mortality rate, such beliefs were undoubtedly informed by prevailing ideas about gender and class.¹⁰⁴

From an economic perspective, wet nursing in early modern England, although contentious, was an important occupation for women whose “breast milk was essential because it was free, and money could be made by selling it” (Gowing 200), and for the upper-class women and children who benefited from their services.¹⁰⁵ Women’s work, both in supplying breast milk and caring for children, nevertheless held a tenuous position. Within a patriarchal society, the uncertain social acceptance of this type of women’s work, Walker states, “privileges those values associated with productivity” (135). Harry Berger maintains, through the exploitation of breast milk, “woman’s sexual power is de-emphasized, male desire is oriented toward the art of exchanging women as commodities” (142). In addition, patriarchal control of women and their bodies and the production from those bodies reduces women to business property, their milk to a commodity to be bought and sold. Lueke contends, “In the emerging capitalist mindset, the breast itself figures as part of the family capital, ‘common goods,’ controlled by the male head of the household” (244), if indeed the man was the head of the household.

As commodities, women, their bodies, and their breast milk were subject to the demands of men’s trade practices. Hence, as medical texts show, commerce demanded

104. Buchholz and Key estimate that by the end of the sixteenth century, approximately 12% of infants died in their first year (263).

105. In fact, breast milk production is not costless because women must consume extra food to produce milk.

“Stereotyped ideals of breast shape and size” (Palmer 33), some sort of measurement upon which to negotiate price for quality. Because of economic necessity, Fildes claims, “Competition was fierce for such an important role” (*Wet* 76). Yet being a wet nurse, as the comments above suggest, made those women suspect in many ways (Lueke 251).¹⁰⁶ Referring to twentieth-century infant food manufacturing, Pam Carter states, “The influence of socialist feminism can be seen in the main form of activism in relation to infant feeding, which is concerned with reducing the impact of capitalism” (*Feminism* 24). This, I think, is similar to the activism of those early modern English medical writers – and Clinton – who confirm to the illegitimacy of patriarchal demands for wet nursing and of those who demean the women who nourish the children of the upper classes.

Palmer asks,

Why, after about a million years of survival, has one of the principal evolutionary characteristics by which we identify ourselves as mammals become so damaged? Have women been freed from a time-wasting biological tyranny to lead nobler, more fulfilling and more equal lives? (1)

Why, indeed. The characteristic to which Palmer alludes is the ability to produce nutrition for offspring, yet the question whether to breastfeed or hire a wet nurse remains unresolved in early modern England. Choosing to breastfeed their own infants – if allowed the choice – did not elevate women’s worth as nurturer nor free them from their

106. P. Carter affirms that “in order to create surplus value capitalism devalues natural products like mother’s milk” (*Feminism* 25).

supposed inferiority, according to several writers. The excessive requirements writers placed on women who were wet nurses may have allowed writers to demonstrate negative connotations about women, their characters, and their corporeality. Further, by placing breastfeeding within the traditionally male commercial realm, men's appropriation of women's production is complete, making breast milk – a feminine body fluid – a commodity for the wealthy.

Throughout this chapter, I have demonstrated the inconsistent arguments made by medical writers about breast milk and breastfeeding. With the tenets of humoral theory still heavily influencing medical research and discourse, writers necessarily concluded that the production, storage, and use of breast milk could cause negative health outcomes through the disruption of humoral balance, corruption of bodily fluids, and transmission of infectious diseases. The increasing evidence refuting the connection of the breast/uterine connection, although not fully supported in the popular medical texts by the end of the seventeenth century, certainly heralded a change in medical thinking about women's breasts, breast milk, and breastfeeding – and women themselves. Adding to this repudiation of uterine involvement in milk production, the new understanding of blood circulation demanded reconsideration of lactation that could eliminate many of the assumptions about milk and breastfeeding implied by the inferiority of women's bodies as well as their subjugation. Further, the medical endorsement of women's ability to make choices about breastfeeding provided an opportunity to elevate women's voices on issues directly connected with their bodies, children, and domestic authority.

CHAPTER 5: CONCLUSION

“We’ve turned away from our bodies, shamefully taught to ignore them, to strike them with that stupid sexual modesty; we’ve been made victims of the old fool’s bane”
(Cixous 134).

By examining English vernacular medical texts, in this thesis I have argued that women’s breasts figured prominently in the early modern debate over women – representations of breasts, breast milk, and breastfeeding serving as microcosm of medical and cultural understandings of women and their bodies.¹ Significantly, the English book trade that presented medical texts in vernacular during the sixteenth and seventeenth centuries led, increasingly, to dissemination of human anatomical knowledge well beyond the universities, allowing non-educated medical practitioners as well as lay people to learn about men’s and women’s bodies, illnesses, and cures to a degree never before possible. In addition to lengthy medical texts, midwifery manuals, herbals, anatomical lecture digests, and receipt books also debated questions of women’s breasts, breast milk, lactation practice, and women’s and pediatric medicine. The development of this industry, along with increasing anatomizations and mechanical experiments, created

1. Academic research on women’s breasts in early modern England is more developed in criticism of literature and visual arts. Across the entire early modern English medical canon published between 1500 and 1700, I included medical texts that had some mention of women’s – and/or men’s – breasts, breast milk, breastfeeding, or wet nursing, and were available in vernacular. In addition to lengthy medical texts, midwifery manuals, herbals, anatomical lecture digests, and receipt books also debated questions of women’s breasts, breast milk, lactation practice, and women’s and pediatric medicine. These books include original early modern English vernacular texts, translations of texts written in Latin and continental languages, older texts – with and without emendation – and translations or interpretations of classical texts. See section 1.1.

a medical debate seen here through discussions and descriptions of women's breasts and their functionality. Depictions of female breasts provide invaluable insights into the way writers and illustrators interpreted and disseminated information about the female body within the wider context of English patriarchal culture. Yet even the amount of material on women's breasts is variable among texts. While some writers provide complete descriptions of breast structure and functioning, some writers only discuss lactation, others contribute to the question of wet nursing, and still others do not discuss women's breasts at all. Writers' perspectives, analyzed here, were multiple, inconsistent, and conflicting, complicating arguments about women from internal breast anatomy all the way to the level of basic terminology.

Significantly, my analysis departs from traditional academic examinations of these medical texts by focussing on descriptions of and discussions about women's breasts, theories about the production, storage, and transportation of breast milk, and recommendations for breastfeeding practices rather than the more commonly studied uterus and the structural and functional relationships between male and female genitalia. Writers' representations of and discussions about women's breast anatomy and lactation reveal complicated and multiple understandings of female corporeality and women's place within nature's or God's schema. As anatomical developments and experimental evidence began to show fissures in aging medical theories – such as Galenism and Paracelsianism – and repudiate medical truisms that alleged women's natural inferiorization, however, these texts show there is no conclusion to the women debate moving into the eighteenth century.

As an interdisciplinary investigation, this thesis contributes to several avenues of research. From a literary criticism perspective, I directly analyzed the textual materials available to early modern literates – the vernacular medical books. Importantly, the close reading of the texts has demonstrated that scholarship needs to focus on the early modern texts themselves to better understand early modern medical understandings of women and their bodies, particularly because the difficulties in vernacularizing medical texts and the language itself speaks to many cultural aspects of the debate about women, as I have shown.² Further, contributing to the history of medicine, gender studies, and body theory, this thesis reveals considerable early modern English knowledge about women’s breasts, breast milk, and breastfeeding that had been left unexplored in such a wide sample of medical texts. In addition, the observed medical discussions of causes and cures – as well as preventative care – of women’s breast illnesses reveals a community of scientists and medical practitioners genuinely invested in advancing women’s medicine, even if some scholars contend the infant rather than the mother was the impetus for discussions of breast milk and breastfeeding.

First, I contextualized the texts within the classical and theological underpinnings of early modern medical theory, the vernacular book trade, and the significance of the female breast as the singular – and powerful – sign of women and their bodies in the debate about women. Next, I discussed why writers composed vernacular texts and what

2. Throughout, I have discussed concerns about the control of knowledge, the distinction between male and female, the place of men and women in society and religion, and proto-feminism, for example.

opposition and criticism they faced. In Chapter 2, I showed that those who wrote about women's breasts struggled to develop a vernacular medical lexicon for the internal and external parts of breasts that was understandable to lay readers yet not coloured with inappropriate connotations that could be interpreted as blasphemous, seditious, or licentious. Although one might suggest that some writers relied on ambiguity and obfuscation to position discussions of female anatomy in accordance with cultural assumptions that insisted on women's corporeal, mental, and spiritual inferiority, I have shown that such problems with terminology developed from natural difficulties in translating the scientific mode of discourse – terminology, symbols, descriptions, and illustrations – to one for readers who were not university educated but required or wanted medical instruction.

Next, I delineated writers' use of cultural tropes and images as a means of explaining breast anatomy in easily recognizable symbols and terms. The many nature symbols adopted by medical writers imply that women's breasts should be naturally well shaped, beautiful, sweet, and appealing. These descriptions demonstrate repeated commentaries about woman's breasts existing for the specific purposes of ornamentation, generation, and nutrition, as well as the correlation with the female personification of nature and the female idol in pastoral poetry. Yet the symbolic language of nature also alludes to the negative sides of nature such as those associated with the fallen Eve, mortality, monstrosity, and superstition. The three-dimensionality of women's breasts invariably led to the use of geometric metaphors – particularly appropriate for a readership familiar with the order of their world. Additionally, the early modern

conceptualization of man as microcosm suggests woman as “microcosma,” providing an elevated placement of women within the perfection of circular objects, if women could develop and maintain the loosely defined ideal breasts suggested in the texts. These three sets of symbols afford some praise for women and their breasts yet might remind readers of the ideological assumptions within which writers developed their theories and disseminated their information.

Further, as analyzed in Chapter 2, the medical illustrations – often placing women’s breasts in the context of generation – reveal some of the characteristics typically presented in vernacular medical books. Although some critics argue that illustrations of women in the texts are provocative – or even lascivious – the illustrations of breasts examined in this thesis appropriately reflect their didactic purpose and present several common symbols – such as those described above – without direct interpretation by writers. Images of regal women and allusions to the virgin hunter goddess Artemis/Diana depict positive connotations, while other images, such as snakes, produce multiple meanings both positive and negative.

In Chapter 3, I established that the medical writers debated reasons for the location of breasts on the upper torso and contemplated the significance of humans usually having two breasts placed bilaterally on the chest. While most writers attributed the location and number to natural beautification and humoral need, others employed concepts from the comparative mammalian biology and the human/beast hierarchy. More importantly, I demonstrated that the writers vaguely specified ideal sizes, shapes, and colours of female breasts, nipples, and areolae, and used these parameters as signs of the

inner workings of the body – indicating pregnancy, miscarriage, illness, and so on. The suggestion of an ideal female breast implies that women should control their breasts through medical procedures, cosmetic applications, clothing choices, and breastfeeding practices.

Yet comparisons of the structures and functional capabilities of male and female breasts revealed some male trepidation about the possibility of interpreting nonfunctioning men's breasts as inferior, resulting in contentions that men can breastfeed. Some medical writers drew on common early modern tropes and superstition – such as the problematic deviation from man's perfect body and the association of women with black magic – to establish women's breasts as potentially dangerous. Demonstrating the monstrous images of breast mutilation and amputation literalized in anatomical dissection – and even the monstrosity of overgrown breasts – such medical writers associated women and their breasts with existence of hermaphrodites who could seemingly transmute sexes and androgens who displayed both sexes. Further, I have shown that medical writers wavered in their belief in the uterine/breast connection and sympathy, leading to debates about the correlation between women's breasts and illness, providing a space within which medical theorists could propose proto-feminist hypotheses of wider scope.

Finally, Chapter 4 revealed an ongoing issue central to the early modern debate about women: breastfeeding. Consistent with the muddled definitions and descriptions of the breasts, discussions about the composition, production, and dispersal of breast milk are equally vague and contradictory, writers unable to reach a consensus. Writers

upholding the breast/uterus connection had ample opportunity to yoke women, their breasts, and their nutritive power to illness, infant mortality, and moral corruption. Some medical writers reprovved breast milk as corrupting infants' characters and promoting disease. Once William Harvey's blood circulation theory gained acceptance and demonstrated that breast milk could not be made from concoction of uterine blood, however, the argument of inferiorizing women's bodies based on the breast/uterine connection no longer stood up. Indeed, the new hypothesis that milk was concocted chyle – food purified into other food – disabled the humoural argument that maintained the dichotomy of men's generative and women's nutritive capabilities – ejaculate and breast milk as the most purified bloods in men and women, respectively. In a similarly divisive way, some writers diminished any potential economic or commercial power or individuality women might derive from performing as wet nurses. I have shown that the writers proposed various arguments against wet nursing, some endorsing maternal breastfeeding as a woman's Christian duty and a wife's obedience, others denigrating the motives – and quality – of potential nurses. Some writers demonized nurses as mercenary, cold-hearted, and violent, while other writers endorsed the safe and legitimate utility of wet nurses, women who had already experienced breastfeeding and love for an infant.

Overall, arguments made by medical writers about breast milk and breastfeeding were inconsistent across the early modern period. With the tenets of humoural theory still heavily influencing medical research and discourse, writers necessarily concluded that the production, storage, and use of breast milk could cause negative health outcomes

through the disruption of humoral balance, corruption of bodily fluids, and transmission of infectious diseases. The increasing evidence refuting the breast/uterine connection, although not fully supported in the popular medical texts by the end of the seventeenth century, certainly heralded a change in medical thinking about women's breasts, breast milk, and breastfeeding – and women themselves. Adding to this repudiation of uterine involvement in milk production, the new understanding of blood circulation demanded reconsideration of the process of lactation that could eliminate many of the assumptions about milk and breastfeeding implied by the inferiority of women's bodies. In addition, some writers addressed their concerns directly to noble women, implying some degree of women's choice in breastfeeding practices, especially when women – such as midwife Jane Sharp and noblewoman Elizabeth Clinton – began disseminating their own evidence and opinions. Such medical endorsements of women's ability to make choices about breastfeeding provided another opportunity to elevate women's voices on issues directly connected with their bodies, children, and domestic authority. Nevertheless, slow changes in acceptance and publication of new paradigms about breastfeeding practices and breast milk ensured the propagation of unfavourable – or at least indeterminate – perspectives about women into the eighteenth century.

Ultimately, these medical representations of women's breasts suggest that early modern English anatomical observation provided more knowledge about the structure and function of women's breasts than ever before. However, working within a system aimed at upholding male superiority and patriarchal hegemony, medical writers grappled with how to represent and disseminate knowledge about female breasts, which

information ought to be discussed, and who should be reading these vernacular texts. Many of the texts signify the importance of disseminating obstetrical, gynecological, and pediatric knowledge directly to women so that they must “know themselves.” Despite a significant degree of adherence to patriarchal ideologies, the texts signal a movement toward a more objective interpretation of observation and a reconsidering of old beliefs about women, their breasts, breast milk, and breastfeeding practices. However, the ideologies endorsing the inferiority of women and their bodies – classical natural philosophy, Christian dogma, Galenic humourism and patriarchal culture – persisted, in part, due to the wide availability of reprints and translations of older texts from the sixteenth century and earlier. Thus, outdated – and possibly harmful – information continued to influence medical professionals, lay practitioners, and literate people, with representations about women’s breasts remaining ambiguous and contentious throughout the period and into the eighteenth century.

From a unique interdisciplinary perspective – employing methodologies and concepts from literary criticism, the history of medicine, English history, gender studies, and art history – I have examined representations of women’s breasts in early modern English vernacular medical texts, showing that women’s breasts – as represented by writers – are a visible and powerful site of contention in the early modern debate about women. Within the contexts of humoral theory, medical experimentation and anatomization, and a transition to an androcentric world view, women’s breasts serve as the constant reminder of multiple medical understandings about female corporeality, allowing writers to attribute both negative and positive characteristics to women. This

dissertation, therefore, provides new and useful information to researchers in several disciplines.

Future research into early modern English representations of women's breasts might take several directions. As mentioned in the section 1.1, despite having read more than two hundred texts and consulting several bibliographies and websites, I cannot be sure to have accessed all extant medical texts, particularly those that have not been electronically copied or transcribed. Most obviously, then, locating additional texts would augment the present analysis as would incorporating non-published works written by women for women. As well, published and non-published materials produced by members of the Royal Society might also prove fruitful in better understanding early modern English medical representations of women's breasts in terms of actual research performed in the period – such as the experimentation of the mechanical functioning of the body.³

Further, I have not been able to work through all the bibliographic information about these texts sufficiently to provide insight into the degree to which older theories were propagated and better identify specific timelines of important medical revelation to the readers of these text – or indeed the suppression of information. Such information might also be developed through a more comprehensive examination of the paratextual materials, which may elucidate writers' objectives, the implications of patronage and political affiliations, information about intended readership, and concerns about

3. My initial investigation into *Transactions* has failed to discover any material related to breasts.

malpractice. Other materials describing medical practice, social health programs, and attempts to educate women – materials that have not been included here – would also be useful in examining medical perspectives about women’s breasts, breastfeeding, and breast milk. One might also search for published or unpublished responses to these texts as well as collate what is known about who owned copies of the texts. I would like to develop a more complex linking of chronologies, translations, and editions; the extent of textual plagiarism and reuses of illustrations; the frequency of word and symbol usages among the texts; and the correlation of translations from Latin, Greek, and European texts.

With the expansion of travel to other parts of the world, expressions of travelers’ findings might further illuminate how images of foreign women’s bodies were perceived and constructed – by the English and Europeans and by their own cultures – as well as reveal foreign gynecological and obstetrical practices – and herbology – that might have been considered for use in England, or how English medical ideas about women’s breasts were transmitted to other cultures.⁴ This might include indigenous medicine as well as different practices necessitated by practicalities such as climate and available flora. Such texts might also describe what medical practitioners from non-European countries made of these English medical descriptions, symbols, and illustrations. Textual materials may be insufficient, however, for peoples who used oral or illustrative communication.

From my literary criticism background, I have – to some degree – referenced

4. Cultural, climatic, and geographical differences could be considered in such research..

literature and visual arts – including fashion – in comparison with the medical texts’ presentations of women’s breasts, breast milk, and breastfeeding. A closer analysis of the associations between the medical texts and artistic sources might elucidate a wider range of opinions of women’s breasts. Sixteenth and seventeenth century visual arts and fashion wavered between modest images of women’s breasts and sultry ones. Theatrical endeavours of the period reflected cultural considerations and medical ones, several playwrights being familiar with humoral theory, dietary regimes, and a host of other medically related concepts. Additional comparative studies with literature, paintings, sculptures, and fashion trends in England and abroad might prove fruitful. Finally, well educated in rhetoric and writing, some medical writers and practicing physicians wrote literary and poetic texts that might also be examined for references to and insights on women’s breasts, breast milk and breastfeeding.⁵

In this interdisciplinary study – in which I combine literary criticism, the history of medicine, and feminism – I have shown that women’s breasts are the visible and powerful site of contention as represented in the early modern English vernacular medical texts analyzed here. These texts reveal a palpable tension as medical writers not only grappled with a way to disseminate accurate information to a literate public, but also as they muddled through a plethora of contradictory knowledge and information – hampered by the overlapping of old and new texts – about women’s breasts, lactation, and breastfeeding practice. Negotiating with tenets of culture, religion, classical philosophy,

5. For example, physician John Collop wrote *Poesis rediviva: Or, Poesie Reviv’d* (1656).

and humoralism – all of which present subordinate female corporeality – medical writers did not uniformly represent women’s breasts as inferior to men’s.

I have shown that despite a lack of consensus on specifics, writers delineated medical parameters dictating theoretical control over every aspect of women’s breasts, implied the possibility of an ideal – albeit indeterminate – female breast, and contended that lactation is not strictly the province of women. Additionally, I have demonstrated how the humoral idea of breast milk being concocted uterine blood is challenged in the mid- to late-seventeenth century, and the texts confirm some suspicion of breast milk: some authors claiming it is poorly made, can easily be corrupted or cause illness and disease; some writers heralded breast milk as nature’s provision of nutritious and medicinal. Finally, in analyzing the maternal/wet nursing debate, I show that medical writers stipulate specific guidelines to ensure an acceptable standard for a nurse, or a mother; some writers arguing that women should have the choice whether to breastfeed or not. As anatomical knowledge began to refute long-held medical truths, physical experiments revealed the mechanics of human bodies, and Europe began its transition to an androcentric worldview, medical understandings of women’s breasts began to change, affording a moment in which to advocate parity between male and female bodies. By the end of the seventeenth century, however, medical writers did not achieve consensus about women’s breasts, breast milk, breastfeeding, or women’s corporeality. This study furthers academic knowledge by showing how early modern medical writers understood women and their bodies and represented every aspect of women’s breasts in an era of significant change that anticipated paradigm-shifting scientific knowledge and practice in the

eighteenth century.

Let the physicians tremble, we're going to show them our breasts!⁶

6. "Let the priests tremble, we're going to show them our breasts!" (Cixous 133).

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4. Possibly translated by Stephan Hobbes.

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25. The title page spells the author's name Philippe Sidnei.

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26. The date given on the title page is 1682. *EEBO* uses 1675 in the catalogue listing. Also known as Frans de Le Boë.

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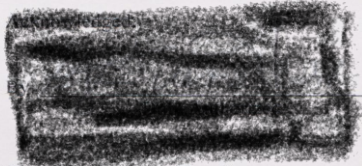
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Figure: Mastectomy procedure Table XXXVIII (**Image 96**)

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The Chyrurgeons store-house furnished with forty-three tables cut in brass, in which are all sorts of instruments ... useful to the performance of all manual operations ... together with a hundred choise observations of famous cures performed : with three indexes 1. of the instruments, 2. of cures performed, and 3. of things remarkable / written by Johannes Scultetus ; and faithfully Englished by E.B.
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Scultetus, Johannes, 1595-1645.[16], 389, [11] p. : London: Printed for John Starker, 1674.

2. Vesalius' 1553 *Compendios a Totius Delineatio*

Figure: Female reproductive organs and dissection, female torso, "Table of the organs of nourishing" (**Image 84**)

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Figure: Complete frontal nudes, male and female(page I.i verso) (**Image 5**)

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1. Johannes Scultetus, *The Chyrurgeons Store-House*, 1694 Figure: Mastectomy procedure Table XXXVIII (Image 96)

2. Vesalius' 1553 *Compendiosa Totius Anatomiae Delineatio* Figure: Complete frontal nudes, male and female (page Li verso) (Image 5)

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2. Jan Groenveldt's 1685 *The Oracle for the Sick* Figure: Complete frontal nude, male "Figure A" (page 24 recto) (Image 20); Complete frontal nude, female "Figure C" (Image 21)

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2. Jane Sharp's 1671 *The Midwives Book* Figure: Dissection of pregnant female (Image 84)