CHAPTER TWO

Physiological Motherhood: The Wandering Womb

The construction of motherhood, as institution and ideologies, is based in part upon physiological assumptions about what mothers are. Such assumptions are themselves historical constructions varying widely over time, among cultures, and even within cultures: there can be significant differences between male and female or learned and popular descriptions of female anatomy and the reproductive processes. Physiological assumptions are building blocks in belief systems that define the moral, social, and emotional characteristics of motherhood. What is known and believed about conception, pregnancy, birth, and lactation not only describes what mothers are but colors expectations of what they should be, shaping our judgments of "good" and "bad," "natural" and "unnatural." The facts of life, like other scientific data, are not discovered and interpreted in an ideological vacuum. They may be presented as accounts of objective reality, but scientists, like other people, see what they are looking for and what they are able to see, given their perspectives, contexts, and socialization.¹ Profound and powerful presuppositions about gender, sexuality, and parenthood color observations of maternity in its physiologi-

THE OLDEST VOCATION

cal as well as its psychological and social aspects. I am describing a circular phenomenon: beliefs shape or even dictate perceptions, and the perceived "facts" in turn shape ideologies.

In the late twentieth century, for example, we know that each biological parent contributes half of the chromosomes that determine the genetic constitution of a child, and we believe that children belong to two families. On the other hand, certain ancient Greek thinkers and their medieval disciples knew that an embryo received its "form" from the male parent—and in fifth-century Athens a father had the power of life and death over "his" child. Today we know that mother’s milk supplies valuable antibodies to the newborn infant, and we believe that nursing encourages maternal bonding and contributes to the infant’s psychic health. Fifteenth-century Italians knew that moral, intellectual, and physical characteristics were transmitted in milk, making the choice of a wet nurse a crucial responsibility for middle-class parents. The legal, emotional, and theological ramifications of physiological systems are important aspects of the history of motherhood.

As we confront the implications of late twentieth-century science, it is obvious that ethics and social theory have not kept pace with reproductive technology. Who is a mother: the donor of an ovum, the woman who carries a fetus to term, or the person who raises a son or daughter to maturity? With the new possibility and reality of so-called "surrogate" motherhood, ancient distinctions between biological and adoptive parents are no longer adequate or clear. Rapid developments in physiological "facts" are experienced as threats to psychic and social stability; new technology forces us to abandon outworn assumptions and to recognize the power of our belief systems. The relationship of physiology to social and domestic ideology has never been so apparent, or so complicated.

In the chapters that follow, I examine certain intersections of the history of Christianity and the history of motherhood in medieval Europe and, in this chapter, some of the physiological notions

2. Twentieth-century feminists have raised the question of men’s ability to "mother" and its implications: see Chodorow, Reproduction of Mothering; and Dorothy Dinnerstein, The Mermaid and the Minotaur (New York: Harper & Row, 1976).
Physiological Motherhood

prevalent in that time and place. I do not suggest that motherhood or reproductive physiology was a primary focus of Christian thought and activity. The Church Fathers did not design a program for Christian mothers or write handbooks of obstetrics, gynecology, or infant care. (They had a great deal to say about sexuality and parenthood from moral and theological perspectives, but that is not the subject of this chapter.) However, the absence of a Christian biology does not imply an absence of biological assumptions. To take one well-known instance, at the end of the sixth century c.e., Pope Gregory the Great wrote to the Roman missionaries in England in response to their anxious questions about baptism, marriage, and the pollution of sacred space. Gregory's moral and ecclesiastical judgments were rooted in a set of inherited beliefs and assumptions—among them, the association of menstruation with disease and discomfort, and the notion that women should not be sexually active while they were nursing babies.³ The pope was concerned primarily with the conversion of new Christians and secondarily with church order and domestic morality, but he approached these concerns with a distinct set of ideas about "nature."

Early and medieval Christians, along with their Muslim neighbors, were heirs of classical Greek science, although their inheritance was modified, diluted, and in some cases transformed over time. The works of Aristotle were translated into Latin and introduced to the learned elite of western Europe in the twelfth and thirteenth centuries, but the nuances of classical biology were not understood or appreciated until the sixteenth century at the earliest. Incompatible theories survived side by side, and the interest and erudition necessary to recognize inconsistencies, much less to resolve them, were not available. Medieval Europeans inherited a complex and diverse set of ideas that included widely different interpretations of basic processes: the opposing Aristotelian and Galenic descriptions of conception are perhaps the best-known but by no means the only example. Varied and conflicting views survived in different medieval texts and schools, and even

within single texts. There was no systematic reproductive biology, not even among learned people.

The more difficult questions about the physiological beliefs of medieval people do not ask what the assumptions were but whose they were. Mothers did not read Aristotle or Soranus, nor did the women who delivered babies and provided most of the available gynecological care. Our sources for the history of ideas about reproductive physiology, like those for most of the history of ideas, have traditionally been confined to the writings of learned men and a few unusual women. Much has been done in recent years to expand the sources and enrich our appreciation of the world of medieval people, but we cannot discover directly what most women believed about the physical meanings of motherhood. The writings of the learned tell us little about the experience of mothers, and until recently, few women wrote books at all, much less books on biological theory or obstetrics—although there are a few interesting exceptions, as we shall see.

Mothers did not write about motherhood, but their lives and experience were profoundly affected by the work of those who did. Certainly Aristotle’s definition of women as defective men, which was argued in terms of biological “facts,” cast a long shadow. Greek gynecological texts, cited and copied and rewritten for many centuries, influenced the care given to women. Still, most midwives learned their trade from their own mothers, or from teachers who did not read. A few women were trained by doctors who knew the Greek and medieval texts, but not the vast majority of those who delivered their own daughters’ or their neighbors’ babies. Ironically, the closer we are to the texts, the farther from most women’s experience. Nonetheless, these writings do provide clues, in some cases our only clues, to a world of thought and opinion about the physiology of motherhood. We have to extrapolate from scattered and diverse sources and to expect the picture to be indistinct. The aim of this chapter is to gather together some of the major themes that appear and reappear in certain significant

4. In “Women’s Medical Practice and Health Care in Medieval Europe,” Signs 14 (1989), 434–473, Monica Green calls for a more careful account of women as healers and patients; the assumption that medieval women’s health care was entirely women’s responsibility may be oversimplified.
ancient and medieval sources. Without attempting to impose system where there was none, it sketches some persistent notions about women's bodies and about conception, pregnancy, birth, and lactation.

However mothers may be characterized, they are always female parents—that is, they are women, and scientific and other knowledge about women pertains also to mothers. As a matter of fact, women are frequently perceived as mothers or potential mothers even if they have no children, and medical writings especially tend to focus on their reproductive organs and capacities. In the Hippocratic writings, women appeared most often in gynecological contexts; in discussions of injuries to the head or the feet, references were generally limited to male patients. The shadowy figure of Hippocrates retained immense prestige during the Middle Ages, although the treatises known by his name were actually produced by many authors between the late fifth and early fourth centuries B.C.E. Certain fundamental and long-lived ideas about women can be found in these Hippocratic works—for example, the assumption that the womb is directly connected to other bodily systems. One of the Hippocratic "aphorisms" recommends a test for sterility that depends on such a connection, and variations are found in many medieval works: "If a woman does not conceive and you wish to know if she will conceive, cover her round with wraps and burn perfumes underneath. If the smell seems to pass through the body to the mouth and nostrils, be assured that the woman is not barren through her own physical fault."\textsuperscript{5}

We tend to assume that medieval ideas about the nature of women were based either on religious doctrine or on social theory and practice. Certainly medieval thinkers did justify denunciations of women by castigating Eve's sin; and they did look around, see women subordinate everywhere, and conclude that female subordination must be "natural." They were informed of female weakness and inferiority, however, not only by theologians and

philosophers but by biologists who discussed women’s nature in physiological language. In the classical scientific legacy, women appeared as human creatures with wombs, defined by their likeness and unlikeness to men. Sexual difference was perceived and described from the male point of view.

In the *Timaeus*, the only Platonic work available in Latin in the medieval West, Plato included the creation of women, along with heterosexual passion and sexual difference itself, among the consequences of wrong-doing:

All those creatures generated as men who proved themselves cowardly and spent their lives in wrong-doing were transformed at their second incarnation, into women. And it was for this reason that the gods at that time contrived the love of sexual intercourse by constructing an animate creature of one kind in us men, and of another kind in women.

Plato explained that semen is spinal “marrow” provided with an outlet through the penis:

The marrow, inasmuch as it is animate and has been granted an outlet, has endowed the part where its outlet lies with a love for generating by implanting therein a lively desire for emission. Wherefore in men the nature of the genital organs is disobedient and self-willed, like a creature that is deaf to reason, and it attempts to dominate all because of its frenzied lusts.

He imagined that the womb must be similarly self-willed and difficult, as anxious to bear children as the penis to beget them:

Whenever the matrix or womb . . .—which is an indwelling creature desirous of child-bearing,—remains without fruit long beyond the due season, it is vexed and takes it ill; and by straying all ways through the body and blocking up the passages of the breath and preventing respiration it casts the body into the uttermost distress,

6. This point was made by Vern L. Bullough in “Medieval Medical and Scientific Views of Women,” *Viator* 4 (1973), 485–501.
Physiological Motherhood

and causes, moreover, all kinds of maladies; until the desire and love of the two sexes unite them. 7

The sense of a rebellious, quasi-autonomous power in the flesh, so striking in the writings of male Christians, apparently touched a common or even a universal aspect of male experience. In his letter to the Romans (7:23), St. Paul wrote, “I see in my members another law at war with the law of my mind and making me captive to the law of sin which dwells in my members.” The traditional response to anxiety about loss of control is to attach such fears to women, blame women for arousing rebellion, and assume that the womb is as troublesome as the penis. The habit of analyzing female physiology from a male perspective was well established in the Greek texts.

In the entire legacy of the classical world, no scientific writings approached in influence the works of Aristotle, who was venerated as “The Teacher” and “The Philosopher” by medieval scholars. Between the twelfth and sixteenth centuries, but indirectly much longer, Aristotle’s assumptions, vocabulary, categories, and modes of thought dominated learned discourse, especially in the logical and scientific fields. His views about women and sexual difference shaped not only medical knowledge but Christian teaching about human minds and bodies. Aristotle’s biological theories were not universally accepted in his own time, and the disagreements are instructive, but his ideas about men and women survived in fields far from biology. They did not stand alone but endured as intrinsic elements in a towering system of philosophy and natural history.

On the physiological differences of the sexes, Aristotle wrote: “The male is that which has the power to generate in another . . . while the female is that which can generate in itself.” In itself, not of itself, for the female is “that out of which the generated offspring, which is present in the generator, comes into being.” 8 Males and females have different functions, therefore different

parts, and these differences are of the essence. Aristotle asserted that castration is more than the loss of an organ, for it changes the entire nature of a castrated male; this convinced him that "it is not merely in respect of some casual part or some casual faculty that an animal is male or female. It is clear, then, that 'the male' and 'the female' are a principle." Males can be made effeminate by castration, but females can never be made masculine, for maleness is identified with a deficiency—the inability to generate. Aristotle elaborated on this theme in many ways—for example, "A boy actually resembles a woman in physique, and a woman is as it were an infertile male." In this world view, sexual difference is central to all of nature, and to human nature most of all.

For Plato, on the other hand, women were somewhat like men, with different but analogous organs. In the Timaeus, despite its assumption that cowardly men were transformed into women and its alarming account of the behavior of the womb, it is evident that men and women, with all their differences, are more alike in their humanity than different in their sex. This conviction stands at the heart of the famous passage in the Republic concerning the education of guardians:

If it appears that the male and the female sex have distinct qualifications for any arts or pursuits, we shall affirm that they ought to be assigned respectively to each. But if it appears that they differ only in just this respect that the female bears and the male begets, we shall say that no proof has yet been produced that the woman differs from the man for our purposes, but we shall continue to think that our guardians and their wives ought to follow the same pursuits.11


Physiological Motherhood

Such reasoning was impossible for Aristotle, for whom the difference between conceiving and begetting was of monumental importance. For him, there was one normative human being, the adult male, and women were inherently (that is, biologically) inferior. Aristotle’s biological views, like Plato’s, were carried into political theory. His ideal state was based on the family, in which men “naturally” rule: “The male is by nature superior and the female inferior, the male ruler and the female subject. And the same must also necessarily apply in the case of mankind as a whole.” Men and women shared almost nothing, not even virtues, and here again Aristotle diverged from Plato: “The temperance of a woman and that of a man are not the same, nor their courage and justice, as Socrates thought, but the one is the courage of command, and the other that of subordination, and the case is similar with the other virtues.” 12 The education of women ought to be completely unlike the education of men because their destiny was different, and the goal was not to overcome but to recognize and affirm the essential (biological) division.

Soranus of Ephesus, who studied medicine in Alexandria and practiced in Rome in the second century C.E., wrote a treatise on gynecology that was translated into Latin in the fifth century and circulated in several versions in medieval Europe. Soranus belonged to a sect that comprehended human physiology in terms of relationships between dry or constricted and fluid or relaxed states; medical practice consisted mainly of maintaining an appropriate balance. His sect did not believe in theoretical anatomy or physiology, and the practical tone of Soranus’s writings is appealing to a modern ear. He disagreed with those who ascribed too much independence to the uterus: “Although the uterus is not an animal (as it appeared to some people), it is, nevertheless, similar in certain respects, having a sense of touch, so that it is contracted by cooling agents but relaxed by loosening ones.” Soranus disapproved of many contemporary therapies—foul-smelling fumigations, or blowing air into the vagina with a blacksmith’s bellows,

or banging metal plates near the patient to frighten the uterus into its proper place: "The uterus," he said, "does not issue forth like a wild animal from the lair, delighted by fragrant odors and fleeing bad odors."  

Galen of Pergamos, a near-contemporary of Soranus, was more directly influential in medieval Europe, and he too disagreed with Plato on the "wandering womb." (The Platonic imagery and the skeptics' responses reappeared in the nineteenth century in arguments over hysteria and women's "nature." ) Galen identified himself with Hippocrates and with the tradition of humoral medicine that predated the Hippocratic writings. Humoral theories divide the material world into four elements—fire, air, earth, and water—and four opposing conditions of heat, cold, dryness, and moisture. These conditions are associated with bodily "humors"—blood, yellow bile or choler, black bile, and phlegm—and these in turn with temperamental states or moods: sanguine, choleric, melancholy, and phlegmatic. For centuries, adjustment of the humors was the primary task of medical theory and practice.

Heat, cold, dryness, and moisture were not balanced opposites or equivalents, for it was generally assumed that hot and dry were preferable to cold and wet. Men were believed to be hotter and drier than women, and according to Aristotle and his followers, lack of heat accounted for the basic female deficiency—the inability to generate. In the early Middle Ages, through Latin translations and compilations, these ancient Greek ideas about the humors and their association to notions of male superiority became established assumptions, at least among learned men.

The book of the legendary Trotula of Salerno, however, opens with a statement of sexual difference based on humoral theory but in spirit unlike the writings of the classical theorists. Expressing appreciation of God's chosen method of perpetuating the human species, Trotula said: "He made the nature of the male hot and


14. Rose E. Frisch has demonstrated that in fact men are not drier than women but wetter: the ratio of total body water to body weight is higher in males. See her "What's Below the Surface?" *New England Journal of Medicine* 305 (1981), 1019–1020.
Physiological Motherhood
dry and that of the female cold and wet so that the excess of each
other's embrace might be restrained by the mutual opposition of
contrary qualities. The man's constitution being hot and dry
might assuage the woman's coldness and wetness and on the
contrary her nature being cold and wet might soothe his hot and
dry embrace." Trotula is not generally accepted as a historical
figure, at least not (as legend claims) as a medical practitioner
and professor at the medical school of Salerno in the eleventh
century. Whoever the authors of the various versions of Trotula's
Diseases of Women, the treatises survived in many manuscripts
and in printed editions of the sixteenth century. The originality
of "Trotula" rests less on diagnoses and prescriptions than on
insight into the situation of women. The treatises emphasize
women's weakness and express sympathy for their difficulties
with male doctors:

Since then women are by nature weaker than men it is reasonable
that sicknesses more often abound in them especially around the
organs involved in the work of nature. Since these organs happen to
be in a retired location, women on account of modesty and the
fragility and delicacy of the state of these parts dare not reveal the
difficulties of their sicknesses to a male doctor. Wherefore I, pitying
their misfortunes and at the instigation of a certain matron, began
to study carefully the sicknesses which most frequently trouble the
female sex.17

Hildegard of Bingen, undeniably a woman and the author of
her own writings, was not primarily a medical practitioner but a

15. Trotula of Salerno, The Diseases of Women by Trotula of Salerno, trans.
16. See Edward F. Tuttle, "The Trotula and Old Dame Trot: A Note on the
believes that the figure of Trotula emerges from "the accretion of credulous citation
upon risky assumption" (p. 61), assumes that the author of The Diseases of Women
was male, and says that Trotula, if she existed at all, was an illiterate midwife. He
rests his case on the "bawdy association" (p. 71) of the verb "trot." John F. Benton
also dismisses Trotula, at least as a respected authority; see his "Trotula, Women's
Problems, and the Professionalization of Medicine in the Middle Ages," Bulletin
17. Trotula, Diseases of Women, pp. 1–2.
mystic, a theologian, and an abbess. She was a significant figure in the twelfth-century Church; her writings extend over so many fields that Peter Dronke compares her to Avicenna in the range of her interests: “cosmology, ethics, medicine and mystical poetry.”\(^\text{18}\) She wrote on trees, plants, and precious stones as well as human bodies; most of her reflections on physiology are gathered in the treatise *Causae et curae*. Hildegard perceived the entire natural world, including human bodies, as elements of God’s great design. Her writings were products of her visions and her insight into natural processes is inseparable from her perception of supernatural activity. Yet she learned physiology also from study and experience—from attention to her own body and her own frequent and serious illnesses, and from those of other nuns and of the people who came to the convent for care. Medieval convents were also hospitals.

Hildegard’s vision of the material world is stated primarily in a context of divine creation and activity but also in terms of earth, air, fire, and water. She understood human bodies in relation to the book of Genesis, to the Hippocratic-Galenic tradition, and to the physical universe: she wrote at length on the influence of the waxing and waning of the moon on bodily fluids and processes. Men and women were differentiated first by the material from which they were created—Adam from the earth, Eve from Adam’s flesh. Men were strong, solid, and earthy; women were weak, light, and airy. Hildegard wove together scriptural and humoral theories and interpretations. Contrary to most medieval thinkers, she believed that women were less carnal and lustful than men and based her belief on physiology. She understood sexual passion as originating in a kind of windstorm in the brain that travels through the body. Because the fire of passion cannot burn itself out in the narrow confinement of the male groin, men are likely

\(^{18}\) Peter Dronke, *Women Writers of the Middle Ages* (Cambridge: Cambridge University Press, 1984), p. 144. See also Barbara Newman, *Sister of Wisdom: St. Hildegard’s Theology of the Feminine* (Berkeley: University of California Press, 1987), esp. chap. 4. In her brilliant study of the entire range of Hildegard’s works, Newman examines the *Causae et curae* in a larger context that reveals the saint’s ambivalence about the goodness of sexuality, along with a pervasive “tension between ascetic renunciation and frank appreciation of created goods” (p. 122). My treatment of Hildegard in this chapter is based on the *Causae et curae* alone.
to be carried away by fierce, almost irresistible forces of delight; female lust is more easily restrained because the storm can expand in the open spaces of the uterus. Women feel passion less violently than men but more frequently, on account of their moisture.\textsuperscript{19} Hildegard appreciated sexuality as a difficult but essential aspect of the human condition—contaminated by sin, certainly, but part of the continuing creation of the world and the people of God.

In the thirteenth century, Christian as well as Jewish and Muslim philosophers and theologians faced the challenge of integrating and interpreting the newly translated Aristotelian corpus in the light of revealed religion. Among the influential Christian synthesizers was Albert the Great, a provincial of the Dominican order, a teacher of Thomas Aquinas, and a commentator on all the books of Aristotle. In his commentary on \textit{The Generation of Animals}, Albert took up matters of sex and sexual difference along with many other questions about living beings. Asking whether females were “necessary,” he concluded, with Aristotle, that although the intention of nature in any individual act of generation was to reproduce a male, a defect in the material of the embryo or the heat of generation might produce a female. This result must be counted a failure in itself, yet it served the purposes of nature, for “the species of animals cannot be conserved without the generation of individual creatures, for which females are required as well as males.”\textsuperscript{20}

Like Aristotle, Albert was thoroughly convinced of male superiority. Heat and dryness, such excellent qualities, ought to assure men’s greater longevity—but here he faced a difficulty. Aristotle had said that men lived longer than women, as was appropriate, and yet when Albert looked around at his own world, he saw that women seemed to outlive men. He solved the problem with a nature/accident hypothesis: by nature, men lived longer, but by


accident or circumstance, women frequently outlived them. Women did not work so hard, were not so debilitated by sexual intercourse, and were purged of unhealthy impurities by menstruation. As David Herlihy pointed out, Albert’s confusion was understandable: men had outnumbered women in Aristotle’s time, but the demographic ratio was reversed by the thirteenth century.  

Albert’s discussion of the question “whether men are more inclined to morality than women” is an extreme example of the use of “scientific” rationalization to justify prejudice. The topic provoked a strident digression in the midst of a volume of reflection on the nature of plants, animals, and human beings. In customary scholastic style the discussion opens with a statement of the arguments to be opposed: women are more teachable than men, so it should be easier to train them to morality. Furthermore, they are more prudent, and prudence is a necessary virtue. On the other hand, everyone knows that women are deceitful, immodest, and weak—devils in human form. This is so, Albert explained, because women are moist, and their moisture makes them slippery, inconstant, and forever seeking novelty; when they are with one man, they wish they were with another. As failed men, their nature is defective and deprived: they can accomplish nothing on their own except through deception. “If I may speak briefly,” Albert said, “a woman ought to be avoided like a poisonous serpent or horned devil; if I were to say everything I know about women, the whole world would be astonished.”  

After this outburst, he returned to his “logical” arguments. It is true, he believed, that in some respects women are more teachable than men but only because they can be moved through their feelings: their cold constitutions resist intelligent argument. Women are not really more prudent than men, but only more shrewd in the evil-doing with which they compensate for their deficiencies. Lacking true intellectual power, which consists in the knowledge of good and evil, women must depend on the sensitive appetites or feelings, which

22. Albert, “Quaestiones” 15.11, p. 266.
Physiological Motherhood

tend toward evil unless regulated by reason. The senses incline women toward evil, men toward good.

Thomas Aquinas asked the same question from a theological perspective. Why was Eve—an inferior being, foreknown by God to be an occasion of sin for Adam—included in the original creation? Thomas repeated the explanation that women are defective as individuals but necessary to the species in the work of procreation. Eve was created to help Adam in that work; for any other, a male helper would have been preferable. Women’s subjection to men, which is implied by their inferiority in “the power of rational discernment,” is not like the subjection of slaves, arranged for the benefit of the ruler and appropriate only in a fallen world. Women’s subjection is inherent in their defective nature. It is “domestic or civil, in which the ruler manages his subjects for their advantage,” and it supplies the human race with “the benefit of order.”

Thomas stated his views without vitriolic commentary, but his opinions were no different from those of his masters. Thomist philosophy, which predominated in Roman Catholic teaching by the sixteenth century, carried a profound distrust of women and of “feeling” (meaning, according to the scholastics, the opposite of “reason”). The work of thirteenth-century Dominican philosophers paved the way for later witch-hunters, including the Dominican authors of the Malleus maleficarum at the end of the fifteenth century (see Chapter 6).

The scientific legacy of Aristotle was not confined to Dominican scholarship but received in many places, including the encyclopedias—compendiums of knowledge popular among learned people in the later Middle Ages. A thirteenth-century Franciscan known as “Bartholomew the Englishman” produced an encyclopedia, On the Properties of Things, designed to address every topic that might puzzle students of Scripture. Making copious use of Aristotle, Bartholomew wrote on everything from stones to human beings and plants to planets, and his work was copied and translated into several languages: John Trevisa produced an English version late in the fourteenth century. On sexual difference

Bartholomew generally stayed with the Aristotelian point of view, ascribing men’s superior qualities to their greater heat, although he quoted St. Paul and St. Augustine to back up his arguments. His comparison of male and female qualities is comprehensive without being vicious: “Men are more hot and dry than women, more strong and mighty, more bold and hardy, more wise and witty, more steadfast and stable, and they love women dearly.”

The reiteration of Aristotle’s notions by learned philosophers and scholars would be more disturbing if these men had been directly involved in the care of female patients. Fortunately, most of the medical (as opposed to biological and philosophical) writings of the later Middle Ages exhibit a different spirit. These works provide herbal and other remedies for diseases and injuries, incorporating ancient practices and subordinating theory to diagnosis and therapy. One such text, a fifteenth-century English manuscript (Sloane 2463 from the British Museum) has been published under the title of *Medieval Woman’s Guide to Health*. The editor, Beryl Rowland, believes that the scribe and possibly the author were men.

Male or female, the author begins, like Trotula, with an expression of sympathy and concern; women suffer more than men realize, and they are embarrassed and abused by male doctors. The author’s stated intention is “to help their secret maladies so that one woman may aid another in her illness and not divulge her secrets to such discourteous men.” Adjustment of the humors was the essential treatment, but humoral theory does not in this


25. Medieval Woman’s Guide to Health: The First English Gynecological Handbook, ed. Beryl Rowland (Kent, Ohio: Kent State University Press, 1981). Rowland’s introduction includes discussion of the history of women healers in medieval Europe, of the “Trotula” question, and of the “birth figures” or drawings of infants in utero from Sloane 2463. Monica Green (“Women’s Medical Practice,” p. 463) pointed out that Rowland used only one manuscript of this text and that a second has now been transcribed, she called for a critical edition of this important work.
text carry implications of moral or intellectual inadequacy. It does suggest courses of treatment, and the writer was interested in the relationship of the humors to sexual and emotional as well as physiological states—for example: “The signs of phlegm [in the uterus] are these: women feel much humidity and have no desire to consort with men.”\(^2\) The author observed the close connection between physical condition and sexuality and expended little energy on moral commentary. Some of the remedies seem reasonable, others lethal, but women’s “nature” is not disparaged or their behavior harshly judged.

The author did distinguish among groups of women, suggesting, for example, “a good syrup that is very effective in bringing out corrupt blood from the uterus, and it is for ladies, nuns, and other women who are delicate.” Many texts make distinctions between women who do physical work and those who do not; class as well as gender is a significant variable in medical history. The \textit{Woman’s Guide} proposes different treatments for rich and poor women in the unhappy predicament of carrying a dead fetus: “When she comes from the bath, if she is a rich woman, give her 1 ounce of the juice of the balsam tree in warm wine; if she is a poor woman, boil roots of costmary and artemisia in wine, add to it 2 ounces of bull’s gall, and let her drink the mixture when she comes from the bath.”\(^2\) In this passage the distinction is explicitly financial and based on the cost of the ingredients, but elsewhere there is an additional assumption that women who work hard are stronger than upper-class women, whose habits are presumed to be sedentary.

Apart from pregnancy and birth, the aspect of female physiology that distinguished it most vividly from male experience was menstruation, that ubiquitous sign of women’s fallen nature. Since relatively few medieval women lived past fifty, an adult woman—except when she was pregnant or nursing—was commonly a menstruating woman.\(^2\) Male fear and anxiety about the meaning of

\(^{27}\) Ibid., pp. 71, 137.
\(^{28}\) In “The Age of Menarche in Medieval Europe” and “The Age of Menopause in Medieval Europe,” Human Biology 45 (1973), 363–369, 605–612, Darrel W.
menstruation and the polluting qualities of menstrual blood are typical of many societies, including those of medieval Europe, where Christians adopted certain passages from the Hebrew Bible that identified menstruating women as unclean. 29 Along with painful childbirth and domestic subordination, menstruation was understood as women's punishment for Eve's sin—an evil, painful, and troublesome condition directly related to female sexuality and to fertility. The story of Jesus' acceptance and healing of the bleeding woman was very important in Christian teaching but could not by itself reverse prevailing fears and stereotypes. 30

Popular culture and learned texts alike tended to repeat old stories. Menstrual blood had magical powers; it was believed to be an essential ingredient in witches' potions. In his widely circulated *Natural History*, the second-century Roman writer Pliny reported that the glance of a menstruating woman discolors a mirror and causes wine to sour, buds to drop, and dogs to go mad. 31 Men of science repeated these tales with "rational" explanations: Albert the Great said that the humors abounding in the eye of a menstruating woman discolor the air next to her eye, and the stain is carried along through the air to the air next to the mirror. 32 The shame and danger ascribed to menstruating women and their blood have a long history. Propounded and justified by men, internalized by women, they survive in the silence and embarrassment surrounding women's "curse."

Biologists, ancient and medieval, had much to say about the purpose and nature of menstrual blood. Aristotle believed that

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Amundsen and Carol Jean Diers suggest thirteen or fourteen as the age of menarche—an improbably early age—and pay no attention to class, although class-based differences in diet must have been significant variables. Hildegard (*Causae et curae*, p. 106) believed that birth defects increased in mothers under twenty and over eighty (!)—a medieval version of the "biological clock."

29. Cf. Leviticus 15. The first half of the chapter is devoted to male pollution; the second half, to female—but the first half is traditionally ignored.

30. Gregory the Great referred to this story in his advice to Augustine of Canterbury, distinguishing between the strict menstrual taboos of the Hebrews and the accepting attitude exemplified by Jesus; see Bede, *History*, 1.27, p. 78.


the "menstruum," which became the matter of the embryo, was analogous to semen. Both substances originated in blood, but women lacked the heat necessary to "concoct" semen out of blood; hence the menstruum, being incomplete, was less perfect than semen. Women, after all, were defined by this incompleteness—a female was female "on account of inability of a sort, viz., it lacks the power to concoct semen out of the final state of the nourishment . . . because of the coldness of its nature. Thus, just as a lack of concoction produces in the bowels diarrhoea, so in the blood-vessels it produces discharges of blood of various sorts, and especially the menstrual discharge." Menstrual blood was not only analogous to semen; in a manner of speaking it was semen, "not indeed semen in a pure condition, but needing still to be acted upon." The menstruum was the matter on which the form acted: "Compare the coagulation of milk. Here, the milk is the body, and the fig-juice or the rennet contains the principle which causes it to set." 33

Aristotle and his followers believed that when conception was not accomplished, the potential matter of the embryo became superfluous and was discharged in menstruation. Albert the Great thought that this accounted for the growth of the breasts at puberty, when "the superfluities of all the humors . . . gather in the womb and are sent toward the breasts." He observed that during pregnancy, when women do not menstruate, their breasts grow larger. Female animals do not menstruate because they are not troubled with superfluities (and perhaps, although he does not say so, because they do not inherit Eve's sin). They are less moist than women; they eat less, lead more active lives, and convert what food remains into horns and hoofs and hair. Women's experience differs in different climates: in hot countries, their moisture is consumed by the heat, and they menstruate less copiously and frequently than women in temperate places. Poor women and those who work hard may not menstruate at all, since they use up their food and produce no excess to be carried away. Albert added that "viragoes," by which he meant manlike women, do

THE OLDEST VOCATION

not menstruate because their superfluities are consumed by their heat.\(^{34}\) Apparently he assumed that most women in temperate places led inactive lives and had enough to eat. His tone suggests that female discomforts can be blamed on overeating and inactivity.

Gynecological texts exhibit a more positive attitude toward menstruation than do those of biological theorists. Soranus said that "those women have menstruated in right measure who after the excretion are healthy, breathe freely, are not perturbed, and whose strength is not impaired." He too believed that menstruation was nature's way of disposing of impurities, a kind of alternative to perspiration: "Men rid themselves of surplus matter through athletics whereas women accumulate it in considerable quantity because of the domestic and sedentary life they lead."\(^{35}\)

Concerned with the upper-class women of his own practice, he took no account of women who worked hard all the time, like the omnipresent female slaves of Roman society.

The perceived relationship of menstruation to activity recurs frequently in medical texts. For women whose superfluities were consumed by activity, such as "women engaged in singing contests," said Soranus, it was natural not to menstruate, as it was for children, pregnant women, and older women.\(^{36}\) Trotula thought that women, lacking heat, could not "use up the moistures which daily collect in them" and that "Nature herself, on account of this deficiency of heat, has assigned for them a certain specific purgation namely the menses, commonly called flowerers."\(^{37}\)

Medical writers appreciated the purgative function of menstruation; Albert believed it was one of the "accidents" that allowed women to outlive men.

Some texts display an enthusiasm for menstruation that goes beyond recognition of its purgative function, perhaps because bleeding itself, natural or induced, was thought to bring about a
Physiological Motherhood

healthy adjustment of the humors. The Hippocratic writings said that “when menstruation is suppressed, a flow of blood from the nose is a good sign.”

Hildegard thought that the volume of blood in all human beings increased and diminished with the lunar cycle and that women suffered less when their periods synchronized with the moon. Most women ceased to menstruate after the fiftieth year, she observed, but those who continued were so healthy and strong that they might keep menstruating until they were seventy—at which time, and not before, they developed the wrinkles and sagging skin of old age. Similarly, the author of the Woman’s Guide saw delayed menopause as a sign of good health and prosperity: “Some women have purgations for a longer time because they are of a high complexion and are nourished with hot food and drink and live in much ease. And they have this purgation once every month unless they are pregnant or are of a dry complexion and work hard.” Frequent menstruation was another mark of health and well-being: women “who are of a high complexion and are prosperous and live in comfort have this purgation more than once a month.”

Failure to menstruate was taken very seriously in medical writings. Trotula said: “Sometimes the periods fail because of excessive grief or anger or excitement or fear. If they have ceased for a long time there is a suspicion of serious future illness.” A variety of causes was suggested in the Woman’s Guide: “the heat or the cold of the uterus or the heat or cold of the humors that are enclosed inside the uterus, or excessive dryness of their complexion, or being awake too much, thinking too much, being too angry or too sad, or eating too little.” These writers devoted much attention to the causes and cures of amenorrhea, which they regarded as a significant problem. An exception was Albert the Great (not primarily a medical writer, of course), who commented that he had known many chaste virgins, emaciated by fasting and wakefulness, who did not menstruate for long periods of time but

39. Hildegard, Causae et curae, p. 78.
41. Trotula, Diseases of Women, p. 3.

[43]
The Oldest Vocation

came to no harm. His remark ran counter to his own view of the beneficent effects of regular menstruation, as well as to those of other authorities on female physiology. 43

Such widespread enthusiasm for the health-giving aspects of menstruation and the accompanying prescriptions for the maintenance of menstrual regularity raise questions in relation to the history of women and Christianity. Many medieval female saints were renowned for extreme asceticism. According to their biographers and to the legends that collected around them, these women ate very little or almost nothing, slept and rested as little as possible, and sought out psychic and physical suffering in penance for their own sins and the sins of the world and in imitation of the suffering of Christ and the sorrows of Mary. 44 Their habits and behavior were not simply bizarre or exceptional; they also ran directly counter to rules of health that were recognized in their own culture. Medieval medical writers reiterated that menstruation depended on good food, with as much meat as possible, on plenty of rest and sleep, and on the avoidance of excessive anger and sadness and worry. Holiness, as it was defined for women, prescribed ways of living that were understood specifically to suppress menstruation and, therefore, reproduction.

Recent research has uncovered relationships between nutritional status and reproductive health, between height-to-weight and muscle-to-fat ratios and menstruation in modern women. Rose Frisch demonstrated that the “onset and maintenance of


regular menstrual function in the human female are each dependent on the maintenance of a minimum weight for height. Amenorrhea can be produced by malnutrition, by hard athletic training, or by anxiety or depression or grief, and it is a significant feature of the anorexia nervosa of modern times. Frisch says that a "loss of body weight of 10 to 15 per cent below the normal weight for height, which represents a loss of about one-third of body fat, results in amenorrhea." The height-to-weight and muscle-to-fat ratios required for medieval women were not necessarily the same as those for modern women, but there is always a relationship between body fat and menstruation. In order to ovulate and menstruate, to conceive and carry a pregnancy to a successful delivery, women in any culture require a certain minimum of food and rest.

The instructions of the Woman's Guide for the care of women who fail to menstruate are typical of medieval medical advice on this subject: "But if this illness is a result of anger or sorrow, cause her to be cheerful, give her refreshing food and drink, and get her used to bathing herself sometimes. And if it is the result of much fasting or overwakfulness, see that she eats good food and drink which will give her good blood, and get her to enjoy herself and be happy and give up gloomy thoughts." That would have been hateful advice to Catherine of Siena, or to any medieval Christian woman with aspirations to exceptional holiness. The saints were actively engaged in seeking God. They experienced their physical needs and appetites as obstacles to be overcome, and they expected—indeed, welcomed—physical and emotional suffering. Their goals and concerns were spiritual, not physiological, but their approaches to those goals incapacitated them for motherhood. Medieval medical writings reveal that the relationship between ways of living and reproductive health, and the physiological implications of female asceticism, were appreciated in the

culture surrounding the saints and those who loved and supported them.

For most of the medieval centuries, saints were seldom mothers, or mothers saints (unless they were mothers of saints), for excellent physiological reasons. Hagiographers emphasized the saints’ avoidance of sexual intercourse by persistence in virginity, or by continence if they were married, but paid little attention to other significant aspects of their rejection of sexuality and motherhood. Adolescent girls in modern times, obsessed with the thinness celebrated in their culture, become amenorrheic and infertile as a side effect of anorexia nervosa. In the Middle Ages, women obsessed with the holiness celebrated in their culture became amenorrheic and infertile as a side effect of what Rudolph Bell calls “holy anorexia”48—the starvation associated with extreme asceticism. In both instances, active sexuality and motherhood are circumvented in favor of other values, values reinforced by social and cultural norms but accompanied by physical suffering that may end in death. Medical texts, unlike the vitae and legends of the saints, reveal that medieval people were not blind to the reproductive implications of the ways in which women ate or did not eat, cared for or abused their bodies.

In terms of physiological theory, as opposed to medical practice, the most interesting and crucial questions for ancient and medieval thinkers were related to conception. How do human beings come into existence? What does each parent contribute to the generation of the child? What determines the sex of the offspring? Theories of conception supply hints about the values and family patterns of a society. For the Greeks, whose ideas were so influential in the medieval West, the male parent was the significant figure. Convinced that men were the stronger, dominant, and more perfect sex, Greek biologists developed theories compatible with their convictions.

Before the fourth century B.C.E., some thinkers held to the ancient “seed and soil” formulation voiced by Apollo in Aeschylus’s Eumenides. Defending Orestes against a charge of matricide, he

48. See n. 44 above.
Physiological Motherhood

says: "It is not the mother who begets the one called her child; she but nourishes the seed sown in her. The begetter is the man who fecundates her; she a stranger safeguards a foreign sprout, when the gods do not injure it." 49 The seed-and-soil image persisted. It appeared even in medieval texts whose authors knew that a man did not plant a tiny, complete human being in a woman's womb, and it reappeared in an extreme form in the "preformationist" biological theories of the seventeenth and eighteenth centuries.

According to the Hippocratic treatise "The Seed," however, both parents produce sperm. The mother as well as the father "releases something from her body, sometimes into the womb, which then becomes moist, and sometimes externally as well, and the womb is open wider than normal." The male sperm generally is expelled after intercourse, but when conception occurs, "the moisture causes the womb's orifice to contract. Then both what is provided by the man and what is provided by the woman is mixed together." Both parents are actively involved in conception; the child is made from a mixture of male and female seed. Both mother and father produce both strong and weak sperm, and male children are produced by strong sperm from one of the parents: "The male being stronger than the female must of course originate from a stronger sperm." In each characteristic of the offspring, including its sex, the seed of either parent may prevail, so that girls can resemble their fathers and boys their mothers. Most birth defects result from an injury to the fetus, and "deformed" parents generally have healthy children: injury and disease, not the "components" of a child, produce deformities. 50

A different picture emerges in Aristotelian biology. Here the mother contributes only the matter of the embryo, which is informed—given shape, soul, spirit, meaning—by the father's


sperm. Sperm, “concocted” out of blood by male heat, in turn “concocts” the menstruum into human life. The menstruum, of course, lacks the heat necessary to concoct itself, and this lack defines the female, who is “as it were a deformed male.” Aristotle’s theory of conception was much more complex than the older seed-and-soil notion, but he retained its powerful imagery. Recommending physical exercise for pregnant women, he said: “As regards the mind, however, on the contrary it suits them to pass the time more indolently... for children before birth are evidently affected by the mother just as growing plants are by the earth.”

Aristotle believed that when semen is as hot as it should be, and under the right conditions, it overcomes the weakness of the menstruum to produce a male child: “If [the male semen] gains the mastery, it brings [the material] over to itself; but if it gets mastered, it changes over either into its opposite or else into extinction. And the opposite of the male is the female, which is female in virtue of its inability to effect concoction, and of the coldness of its bloodlike nourishment.” The conditions are correct if, for example, the parents are the right age and the wind in the right quarter: a south wind, with its humidity, creates too much moisture for successful concoction.

Aristotle disagreed with those who thought that male-producing semen was stored in the right testicle and that males were conceived and carried on the right side of the uterus: such notions could be disproved by the dissection of pregnant mammals. He knew that many kinds of imperfections were responsible for the birth of females, even “hard, cold water in some cases causes barrenness, in others the birth of females.” Perfect (normative) human beings were male, but the entire process was represented as a power struggle, and the conditions for achieving perfection were complex: “Any one who does not take after his parents is really in a way a monstrosity, since in these cases Nature has in

51. Aristotle, Generation of Animals 2.3, p. 175. This notorious phrase is usually given in Latin as mas occasionatus. A. L. Peck, the translator, suggests [p. 174 n.10] that it might be rendered in English as “imperfectly developed,” “malformed,” “mutilated,” or “congenitally disabled.”


[48]
Physiological Motherhood

a way strayed from the generic type. The first beginning of this deviation is when a female is formed instead of a male, though this indeed is a necessity required by Nature, since the race of creatures which are separated into male and female has got to be kept in being."

Galen attempted to synthesize Aristotelian biology with Hippocratic and earlier theories. He appreciated the active role of both parents, but he never questioned male superiority or female weakness and deformity, and he fell into the common assumption that there must be a purpose for a "mutilation" involving half the human race. Nonetheless, Galen quoted the Hippocratic treatise "On the Nature of the Child" to argue that women do produce seed and that the menstrual fluid is not the matter of the embryo. He knew that conception required the mixing of two seeds, and he insisted—opposing Aristotle—that the male seed contributed its own matter to the embryo, and that the female seed provided not only matter, but "a source of movement" as well. Unlike the earlier Hippocratic writers or Aristotle, Galen was aware of the discovery of the ovaries by Herophilus in about 300 B.C.E., although like other ancient writers, he saw ovaries from the male perspective as "female testicles." Galen was extremely influential in the earlier Middle Ages; Trotula quoted him more than any other authority.

Aristotle provided the biological foundation for the identification of matter with the female and of form (or energy, or spirit) with the male, and that association remained powerful and consistent in the history of Christian thought. There were competing biologies, however, and in the early Middle Ages the notion of "two seeds" generally prevailed over strict Aristotelian theories of conception.

Hildegard of Bingen, who was always original, constructed a theory of conception out of her reading of Genesis, the Hippocratic-Galenic tradition, and a visionary theological imagination. Her description of the process of conception was unique in its female

54. Ibid., p. 401
55. For discussion of Galen's views on conception, see Lloyd, Science, Folklore and Ideology, pp. 109–111; Preus, "Galen's Criticism"; and Michael Boylan, "The
perspective and emphasis on female activity. Hildegard believed that the woman’s heat, aroused by sexual passion, attracts and holds the male seed, which mixes with her own seed and blood. When conception occurs, the woman’s members contract to hold the seed “as if in a strong man’s fist.” The mother’s blood mixes with the semen and makes it flesh, surrounding it with a little nest or cocoon. It grows, held and warmed by the mother, until it becomes human on receiving from God the breath of life. Meanwhile, in the passion of intercourse, the woman’s seed and sweat have entered into the man, and the two become one flesh in him as they were in Adam, and as they are in the child conceived. 56

Men and women are truly partners in the work of reproduction. Women are weaker than men, properly subordinate in a social context, but their weakness and lightness are functions of woman’s creation out of Adam’s flesh and the work of carrying and giving birth to children; there is no association of male with spirit and female with flesh. In Hildegard’s writings, men and women are mingled in passion, and flesh and spirit are not divided. Her biological views were quite compatible with her moral and theological convictions.

With the reception of Aristotle’s writings in the twelfth and thirteenth centuries and the rise of universities and scholastic philosophy, learned men produced a Christian reinterpretation of Aristotelian biology. For Albert the Great, man’s part was to provide the seed; woman’s, to condense and “ferment” the seed and to keep the fetus in her womb. 57 Thomas Aquinas, addressing the question “whether woman ought to have been produced in the original production,” offered theological arguments for women’s existence. He repeated Aristotle: barring accidents, “the active


power in the seed of the male tends to produce something like itself, perfect in masculinity. . . . But with reference to nature in the species as a whole, the female is not something manqué, but is according to the tendency of nature, and is directed to the work of procreation . . . [which] derives from God, who is the general author of Nature. 58

Giles of Rome, a thirteenth-century scholastic and a member of the Order of Augustinian Hermits, produced an entire treatise on conception and embryology, or "the formation of the human body in the uterus." 59 Believing with Aristotle that the active male seed combined with the passive material of the menstruum to form a child, Giles was expressly concerned to oppose the Galenic theory of conception. The female seed, by which he meant the fluid emitted by a woman during orgasm, had no generative role, for women can and do conceive without orgasm. This "seed," analogous to male seminal fluid, existed only to facilitate generation by cooling the male seed and the womb and to increase the pleasure of intercourse, which was desirable, since it encouraged people to make love and have children.

Giles was interested in the growth and development of the fetus, particularly in the period of "formation" when it was "set," its parts organized. Following Aristotle, he thought that a male was formed (or "ensouled") in forty days after conception, a female in ninety days. Ensolement came earlier for males because they were "of more compact and drier matter," whereas a female "consists of a slippery and fluid materia which can only retain the impress of the form in the womb when it is in the presence of the agent, the male semen." Like Albert, Giles believed that the cold and moist (therefore slippery) female nature made women unstable and untrustworthy. Females were formed more slowly in the uterus but grew and matured quickly after they were born, for nature was more deliberate about the development of males, who were supposed to reach perfection. After having children, how-

58. Aquinas, Summa theologiae la.92.1, p. 37.
ever, women aged quickly, rapidly losing their moisture, especially “those who have had intercourse frequently.” At any age, a female was at a moral and physiological disadvantage.

All these writers, even celibate men, must have been aware that pregnancy and childbirth were painful, difficult, and dangerous and that a great many women and infants died. By whatever means an infant was conceived and formed, its departure from the womb was fraught with pain and terror. Philosophers and biological theorists tended to ignore pregnancy and birth; their concern was with God and Man and Nature, not with women’s problems. The medical writers, Soranus in particular, did pay attention to obstetrics, and medieval herbals and medical texts dealt with pregnancy and birth as well as menstrual difficulties. Soranus wrote about what should be done to avoid miscarriage, especially during the first vulnerable days and weeks of a pregnancy. He discussed diet, exercise, sex, bathing, and possible injuries to the fetus, and he urged women to follow a healthy regimen for the sake of their unborn children: “Even if a woman transgresses some or all of the rules mentioned and yet miscarriage of the fetus does not take place, let no one therefore assume that the fetus has not been injured at all. For it has been harmed: it is wakened, becomes retarded in growth, less well nourished, and, in general, more easily injured and susceptible to harmful agents; it becomes misshapen and of an ignoble soul.” He followed up the discussion of the preservation of pregnancy with comments about contraception, which he thought vastly preferable to abortion.

Soranus gave elaborate instructions on the preparations for a birth, including a description of the birthing stool, which provided the most satisfactory position for delivery. However, he thought

60. Ibid., p. 170. Hewson defends Giles against the charge of sexism, saying that his idea (and Aristotle’s) of woman as imperfect man is “opposite to that often accepted today . . . at the present time the woman is often regarded as the general human type, or at least as a neutral form, of which the man is a specialized example.” He cites no instance of such a belief but argues that Giles was, for his own time, “scientific”: that is, “interested in seeking numerical proportions” (pp. 176–177).

that a woman who was exhausted and frightened might be delivered “lying down since this way is less painful and causes less fear.” He recommended that three helpers attend the birth to calm and reassure the mother, who could be held on the lap of one of them. These women were not midwives but attendants; the midwife had to concentrate on the safe delivery of the baby, although she too was expected to concern herself with the patient’s emotional state. Soranus suggested that “the face of the gravida should be visible to the midwife who shall allay her anxiety, assuring her that there is nothing to fear and that delivery will be easy.” He was aware of the physical effects of fear and embarrassment: “The midwife should beware of fixing her gaze steadfastly on the genitals of the laboring woman, lest being ashamed, her body become contracted.” Before the natural childbirth movement of the twentieth century, few doctors were so conscious of the physiological implications of the mother’s emotions.

Trotula’s instructions for the care of pregnant women were sparse but included some attention to labor and delivery. Trotula blamed obstetrical difficulties on the woman’s pelvic structure, or on her weakness or that of the fetus, and made several suggestions for easing a hard delivery: “Above all things when there is difficulty in child-birth one must have recourse in God. Descending then to lower means, it is helpful to the woman in difficult labor to be bathed in water in which has been cooked mallow, chick peas, flaxseed, and barley. Let her sides, abdomen, hips, and flanks be rubbed with oil of roses or oil of violets. . . . Let sneezing be provoked. . . . Let the woman be led with slow pace through the house.” Like Soranus, Trotula was concerned that the new mother not be troubled by the stares of onlookers “because women are wont to be bashful in childbearing and after the birth.”

Hildegard’s comments reflect her woman-centered perspective and her sense of the enormous energy of creation. Birth, for Hildegard, was an explosive bursting-out of the infant [a rational being

62. Ibid., p. 73. This runs contrary to the views of the modern women’s health movement; the “lithotomy position” (lying down) is believed to be more difficult for the mother but more convenient for the doctor.
63. Ibid., pp. 74–75.
64. Trotula, Diseases of Women 17, p. 23.
with a soul) together with its “cocoon,” expelled by the same eternal forces that drew Eve from Adam’s side. The mother’s body is turned inside out, but it is strong enough to withstand these forces and return to itself when the child is born. Of all the writings on labor and delivery, Hildegard’s most powerfully and accurately convey a sense of the power of birth and the necessary, active participation of mother and child.

Learned writings of the later Middle Ages, including the encyclopedias, repeated Hippocratic and Galenic definitions and suggestions concerning pregnancy and birth. Bartholomew had little to say about either one, although he repeated the Hippocratic notion that a woman is healthier, of a better complexion, and happier if she is pregnant with a male child. That old idea is absent from the Woman’s Guide, where the sex of the fetus is not the issue. Rather, pregnancy itself makes a woman happy and comfortable, and to lose any child is painful and sad: “Ache of the uterus is sometimes due to a stillborn child being born before his time. Because the mother has great contentment and happiness from the child inside her, when she loses it she naturally mourns and grieves just as a cow does when she has lost her calf, and that distress causes the ache of the uterus.” Bartholomew did express awareness of the misery and danger of childbirth, especially for younger women, but consoled himself and his readers with the familiar though unfounded notion that “the more woe and sorrow a woman had in labor with a child, the more she loves that child when he is born.”

The Woman’s Guide distinguishes between natural and unnatural births: in the former,

the child comes out in twenty pangs or within those twenty, and the child comes the way it should: first the head, and afterward the neck, and with the arms, shoulders, and other members properly as it should.

65. Hildegard, Causae et curae, p. 66.
67. Bartholomaeus, Properties of Things 6.7, p. 303. The little available evidence on this point indicates that the opposite is true: mother and infant get off to a better start after an easy labor.
Physiological Motherhood

Sixteen different presentations are described, with illustrative drawings and directions to the midwife for turning the infant in the uterus without harming mother or child. The drawings in Sloane 2463, which probably were derived indirectly from Soranus, accompany substantial information about the midwife’s work. The third “unnatural mode,” for example,

is if the child’s head is so bulky and large that he cannot emerge: the midwife should then push him back and anoint the orifice . . . with fresh May butter or with common oil, and then the midwife’s hand, oiled first and then put in and the orifice enlarged, brings the child forth by the head.

The attendants are warned to be sure to deliver the afterbirth, known as “secundine,”

a little skin that goes about the child while he is in his mother’s womb, just as there is an inner skin that goes around the nut kernel. . . . [Sometimes] the secundine remains behind inside her because of the great weakness of her womb; and that may be the result of much fasting, great anger, wrath, beating, or some prolonged flux of the womb.

The primary patient was the mother; although the midwife’s concern was with both, the child was second:

Also, the root of iris put into the womb or fumigated underneath makes the woman lose her child, for iris roots are hot and dry and have the virtue of opening, heating, consuming, and wasting. For when the woman is feeble and the child cannot come out, then it is better that the child be killed than the mother of the child also die.68

Midwifery was recognized to require skill, training, and dedication. Soranus opened his gynaecological text with the question “What persons are fit to be midwives?” He concluded that a successful midwife had to be smart, literate, hard-working, strong, and, “according to some people, endowed with long slim fingers

and short nails." She had to follow directions, be trustworthy in keeping household secrets, and use her intelligence and powers of observation to "prescribe hygienic regulations for her patients." She need not be a mother herself, but she must be sober, free of superstition, and "not greedy for money, lest she give an abortive wickedly for payment." Even in a normal delivery, her role was active. At the right moment, the midwife "must insert the fingers gently at the time of dilatation and pull the fetus forward, giving way when the uterus draws itself together, but pulling lightly when it dilates. . . . Finally the midwife herself should receive the infant, having first covered her hands with pieces of cloth . . . so that it may neither slip off nor be squeezed, but rest softly."

Trotula's instructions were briefer and simpler: the focus was less on normal delivery than on the consequences of difficult births, and the aim was to prevent such problems: "If difficulty in childbirth should result from tightness of the mouth of the womb, the cure of this is more difficult than anything else, therefore we subjoin this advice: let the woman take care the last three months in her diet that she so use light and digestible foods that through them the limbs may be opened." Unlike Soranus, Trotula wrote as a woman addressing other women—mothers and midwives. Citing Galen, she said that "women who have narrow vulvas and tight wombs ought not to have husbands lest they die if they conceive.' But since they cannot all abstain they need our help." Instructions for the midwife blend into instructions for the baby's nurse, who had to cut and tie the umbilical cord, anoint and bathe and swaddle the infant, and keep it quiet and calm to recover from the delivery.

Competent midwifery was essential to women's health and happiness. The Woman's Guide claimed that "different women experience great distress in giving birth through lack of a good midwife, and that distress is kept secret, and it requires assistance." Debilitating and embarrassing birth injuries, such as tears in the perineum, might be prevented or repaired, allowing women

69. Soranus, Gynecology, p. 5–7. The implication, of course, is that an "abortive" might be given for cause but not for money.
70. Ibid., p. 76.
Physiological Motherhood

to live longer and more comfortable lives. Prolapse of the uterus, which was believed to be incurable in older women, could be corrected in some young women by fumigation and anointing. The author's stated intention was to help women make the best of their circumstances—for example: "There are also other women whose womb often will come down and then sometimes go up for some reason, and such women cannot endure a man's penis because of the size of it, and sometimes they are forced to endure it whether they would or not. We give the previously mentioned medicine of the linen rag with tar to such women." Women's lives were far from perfect; the midwife and her work helped to make them bearable.

Little documentation of the work of medieval midwives exists; there is much more evidence from the sixteenth and seventeenth centuries, when male doctors and clergy began to challenge their status, their effectiveness, and their near-monopoly of obstetrics. Maternal and infant mortality were consistently high throughout the Middle Ages and did not decline when men began to take over much of the responsibility for caring for mothers and delivering babies. The scanty information available about medieval midwives does not provide a basis for comprehensive assessment of their work, but it does reveal that they were presented in some texts as competent and essential persons. Before doctors began to compete with them and witch-hunters to denounce them, midwives were not associated with filth, evil, or incompetence. For centuries, women—ordinary relatives and neighbors as well as midwives—provided ante- and postnatal care, supervised and assisted in deliveries, and dealt with primary care of the newborn. Midwives supplied advice, medication, and therapy for women who wanted to conceive a child or to prevent conception, to fight off miscarriage or to abort an unwanted fetus. Just as war was men's business, pregnancy and birth were the responsibility of women—and equally dangerous.

Before modern times, every child depended for survival on the availability of some woman's milk—if not its own mother's, then

another woman's. Animal milk was unsafe and was believed to be unsuitable; the legend of Romulus and Remus was memorable in part because the children survived. Artificial feeding existed in rudimentary form; there were “nursing-horns” made of cows’ horns, but they were only for emergencies. Human milk was essential to life, and women’s breasts were perceived not as erotic playthings but as major organs of the reproductive system. In Hippocratic (and later) writings, the breasts indicated the health of a pregnant woman and a fetus: “Should the breasts of a woman with child suddenly become thin, she miscarries.” Bartholomew cited Hippocrates and Galen to support his belief that if the right breast of a woman carrying boy-girl twins diminished in size, the boy would be born prematurely. (As usual, right and left were associated with superior/inferior, strong/weak, and male/female.) Aristotle pointed out that the mammae of quadrupeds were positioned in such a way as not to interfere with their mobility, but developed on the chest in human beings because “the parts around the heart need some covering.” Albert the Great took this a step further when he said that human beings, the noblest of animals, received their nourishment from the area of the heart and not from a place near the shameful organs of women. Bartholomew commented on the admirable design of the breast, with its nipple “round . . . sinewy . . . [and] suited to the teeth of children.” The breast was something more than a symbol of the mother; Bartholomew actually defined a mother as one who “puts forth her breast to feed the child.”

In ancient and medieval times, milk and blood were understood to be essentially the same substance: milk was a special form of blood, “concocted” for the nourishment of the young. Aristotle thought that when a child was born, the “residue” that was no longer needed to feed it in the womb was “bound to collect in the empty spaces” of the breasts. Women did not normally conceive

Physiological Motherhood

or menstruate while they were nursing, because menstrual blood, fetal nourishment, and milk were different aspects of one vital substance: "If they do conceive, the milk dries up, because the nature of the milk is the same as that of the menstrual fluid, and Nature cannot produce a plentiful enough supply to provide both; so that if the secretion takes place in one direction it must fail in the other, unless some violence is done contrary to what is normal."\(^7^8\)

Bartholomew explained that "nature" sent menstrual blood to the heart, and then to the breasts, by means of a "hollow vein."\(^7^9\) Obviously, then, a child was better fed by its own mother's milk—the identical substance which sustained it in the womb—than by the milk of a wet nurse. There were various formulations, but all agreed that menstruation, pregnancy, and lactation represented different stages of one process and that a woman could or should not occupy more than one stage at a time. Furthermore, although Hildegard made the accurate observation that an infant's suckling increases the milk supply, it was generally assumed that a woman could not successfully nurse more than one child at a time—a reasonable assumption, given the nutritional status of most women.\(^8^0\) This had serious implications: it meant that a wet nurse had to wean her own child, hand it over to someone else, or wait for it to die before she took on a client.

The association, based on appearance, between milk and semen was less common than that of milk and blood, but it lurked in the background of the general distaste for the notion of a nursing woman as sexually active. Sanctions against sexual intercourse for nursing women, including paid nurses, were couched in terms of moral disapproval but related to realistic fears about the milk supply and to the conviction that the same "blood" provided for fetus and for baby. Milk was a vital substance; its power and virtue

\(^{78}\) Aristotle, *Generation of Animals* 4.8, p. 473, 475.

\(^{79}\) Bartholomaeus, *Properties of Things* 5.34, p. 234.

\(^{80}\) Hildegard, *Causes et curae*, p. 111. See "Blood Parents and Milk Parents" in Christine Klapisch-Zuber, *Woman, Family, and Ritual in Renaissance Italy* (Chicago: University of Chicago Press, 1985), p. 137. Soranus (*Gynecology*, p. 94) assumed that a woman could nurse twins—but his patients were relatively prosperous and therefore perhaps well nourished.
THE OLDEST VOCATION

were displayed in paintings of the nursing Madonna and in stories about miracles wrought by her milk. Legends of the saints also reported milk-related wonders; when a martyr was beheaded, for example, her neck might spurt milk instead of blood. Hagiographers wrote of holy infants who refused to suckle after their mothers or nurses had sex.

The absolute necessity of milk for survival, and its assumed identification with other bodily fluids, formed the basis for a powerful system of sanctions and taboos. Moralists and preachers, harping on a woman’s obligation to nurse her own child, insisted that the qualities of mother or nurse were transmitted through milk, just as they had been conveyed to the fetus in its mother’s blood. Bernardino of Siena warned: “The child acquires certain of the customs of the one who suckles him. If the one who cares for him has evil customs or is of base condition, he will receive the impress of those customs because of having sucked her polluted blood.” The identification of blood and milk and the association of blood with social class are mingled in his threats and warnings.

Regardless of doctors and preachers, parents did hire wet nurses for their children. There was general agreement that a nurse must be carefully chosen, and her desirable characteristics changed little over the centuries. Soranus thought the ideal nurse was between twenty and forty, had more than one child, was healthy, “self-controlled, sympathetic and not ill-tempered, a Greek, and tidy.” He disapproved of sexual activity for her because “coitus cools the affection toward [the] nursling by the diversion of sexual


82. Katarina of Sweden is the best-known example: see Chapters, n. 84, below. Instances of infants refusing the breast are discussed by Donald Weinstein and Rudolph M. Bell in Saints and Society (Chicago: University of Chicago Press, 1982), pp. 24–25.

pleasure and moreover spoils and diminishes the milk or suppresses it entirely.”

Soranus offered a complete regimen for the nurse, who had to exercise in order to keep her milk of the proper consistency. She could play with a ball to exercise her upper body; “for those who are too poor, however, rowing or drawing up water in a vessel, winnowing and grinding grain, preparing bread, making beds and whatever is done with a certain bending of the body” would suffice. Her food must be nourishing and digestible and her diet accommodated to the needs of a growing child. In the wealthy and well-run households attended by Soranus, considerable attention was focused on children’s needs, emotional as well as physical. He would have liked each child to have several nurses, for “it is precarious for the nursling to become accustomed to one nurse who might become ill or die, and then, because of the change of milk, the child sometimes suffers from the strange milk.” When a baby cried, the nurse had to make sure it was not hungry or wet and then “hold it in her arms, and soothe its wailing by patting, babbling, and making gentle sounds, without, however, in addition frightening or disquieting it by loud noises or other threats. For fright arising from such things becomes the cause of afflictions, sometimes of the body, sometimes of the soul.”

Trotula, whose requirements were somewhat less stringent, expected the nurse to be young, clean, healthy, and moderately fat. Bartholomew, who defined the mother as the one who put forth her breast, apparently believed that whoever put forth her breast became the mother: “The nurse is instead of the mother . . . glad if the child is glad and sorry if the child is sorry, and takes him up if he falls, and gives him suck if he cries, and kisses him if he is quiet.” The woman who performed the vital function of supplying a child with milk, and hence with life, was its “mother”; her emotions were expected to flow in the direction of her milk.

No systematic physiology of motherhood emerges from this sketch of prevailing themes in ancient and medieval texts dealing

85. Ibid., pp. 94, 98, 113.
with women's bodies and with reproduction. The texts come from widely separated centuries and parts of the world and are dissimilar in design, authorship, and intended audience. The Hippocratic writings are brief medical treatises; Soranus's *Gynecology* is a handbook by a working physician that survived to influence gynecological writings throughout the Middle Ages. Aristotle, of course, was not only "the Philosopher" but the most significant scientific thinker for the West until early modern times; his influence on Christian thought can be seen most clearly in the integrative work of the thirteenth-century scholastics. The medical writings of the Middle Ages are entirely different in spirit, content, and intention from those of the philosophers. Whether or not Trotula was a professor, her treatises were models for later texts of a practical bent—for example, Sloane 2463, the *Woman's Guide*. Hildegard's writings cannot be grouped with any of these; her physiological ideas were unique, and her work is included for its originality and inherent interest.

The ancient writings are significant here because they were widely copied, quoted, and imitated, and each of the medieval writings exemplifies some aspect of what was thought and written (and practiced, we assume) during the Middle Ages. Given the enormous differences in intention and provenance, these works are startling for the similarity and persistence of certain ideas. Familiar notions and associations appear again and again, including the identification of male and female with strong and weak, right and left, hot and cold, dry and wet, good and bad. Attitudes toward menstruation vary from disgust to appreciation, but almost all sources, even those most confused about the nature and function of the "menstruum," consider it essential to women's health and to female identity. In all sources, milk is associated with blood, and the absolute necessity of lactation and breastfeeding to human life is accepted without question.

The sources exemplify the organization of scientific discussions in relation to the perspectives and starting points of the discussants. Arguments over "one seed or two seed" theories of conception were conducted for the most part by learned, celibate men who ascribed all power and activity to the male, reducing women's contribution to lifeless matter and questioning the very necessity
Physiological Motherhood

of women’s existence. Such theorists, even when they wrote about mothers and children, were interested primarily in fathers and sons. But writers who knew, lived, or worked with women (or were women) were inclined to believe that both parents contributed something vital to the generation of their children.

Texts that deal with the work of midwives and nurses present a “high” view of those professions. Large demands were placed on those who cared for pregnant women and delivered and cared for babies, and the importance of their work was recognized to a degree not apparent in traditional historical and theological sources. To read denunciations of midwives by witch-hunters and male doctors, and of wet nurses by popes and preachers, is to listen only to men who were not at all involved with women and children. The medical writings balance the didactic and homiletic literature, providing a different and presumably more realistic view of the medieval midwife and nurse.

In histories of medieval women and Christianity we depend very much on the Lives and legends of saints; stories about ordinary women are much more rare. The saints were exceptional by definition, and to make sense of their extraordinary experience—especially of the heroic asceticism that so impressed their contemporaries—we make informed guesses about the implications of being “exceptional.” The medical literature helps us to see what was believed and taught about the relationship of diet and rest and peace of mind to health, particularly reproductive health. It is apparent at least that “health” and “holiness,” as these states were defined in relation to women, were markedly incompatible and that motherhood demanded a regimen antipathetic to the regimen of the saint.