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The technocratic, humanistic, and holistic paradigms of childbirth ☆

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Abstract

This article describes three paradigms of health care that heavily influence contemporary childbirth, most particularly in the west, but increasingly around the world: the technocratic, humanistic, and holistic models of medicine. These models differ fundamentally in their definitions of the body and its relationship to the mind, and thus in the health care approaches they charter. The technocratic model stresses mind–body separation and sees the body as a machine; the humanistic model emphasizes mind–body connection and defines the body as an organism; the holistic model insists on the oneness of body, mind, and spirit and defines the body as an energy field in constant interaction with other energy fields. Based on many years of research into contemporary childbirth, most especially through interviews with physicians, midwives, nurses, and mothers, this article seeks to describe the 12 tenets of each paradigm as they apply to contemporary obstetrical and health care, and to point out their futuristic implications. I suggest that practitioners who combine elements of all three paradigms have a unique opportunity to create the most effective obstetrical system ever known. © 2001 International Federation of Gynecology and Obstetrics. All rights reserved.

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1. The technocratic model of medicine

The way a society conceives of and uses technology reflects and perpetuates the value and belief system that underlies it. Despite its pretenses to scientific rigor, the western medical system is less grounded in science than in its wider cultural context; like all health care systems, it embodies the biases and beliefs of the society that created it. Western society's core value system is strongly oriented toward science, high technology, economic profit, and patriarchally governed institutions [1]. Our medical system reflects that core value system: its successes are founded in science, effected by technology, and

☆ Certain portions of this article draw heavily on *From Doctor to Healer: The Transformative Journey* [35] and *Birth as an American Rite of Passage* [1]. For more information, please see these works; see also Davis-Floyd [36,39]; Davis-Floyd and Davis [34], and < www.davis-floyd.com > .

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carried out through large institutions governed by patriarchal ideologies in a profit-driven economic context. Among these core values, in both medicine and the wider society, technology reigns supreme. As has been clear for over 20 years, most routine obstetrical procedures have little or no scientific evidence to justify them. They are routinely performed not because they make scientific sense but because they make cultural sense. As we shall see below, they exemplify certain fundamental aspects of technocratic life.

1.1. The 12 tenets of the technocratic model

1.1.1. (1) Mind–body separation and (2) the body as a machine

The main value underlying the technocratic paradigm of medicine is separation. The *principle of separation* states that things are better understood outside of their context, that is, divorced from related objects or persons. Technomedicine continually separates the individual into component parts, the process of reproduction into constituent elements, and experience of childbirth from the flow of life. However, first and foremost, it separates the human body from the human mind.

The body presents a profound conceptual paradox to our society, for it is simultaneously a creation of nature and the focal point of culture. How can we be separate from nature when we are part of it? Descartes, Bacon, and others, neatly resolved this problem in the 1600s, when they established the philosophical separation of mind and body upon which the metaphor of the body-as-machine depends. This idea meant that the superior cultural essence of man, his mind — as well as the superior spiritual essence, his soul — could remain unaffected while the body, as a mere part of mechanical nature, could be taken apart, studied, and repaired.

This metaphor of the body-as-machine could have been inherently egalitarian, but the industrializing nations of the west were male-centered, patriarchal societies. Thus the male body came to be medically viewed as the prototype of the properly functioning body-machine. The female body, as it deviated from the male standard, was regarded as inherently defective and dangerously under the influence of nature, which due to its unpredictability, was itself regarded as in need of constant manipulation by man [1,2]. As a result, despite the growing acceptance of birth as mechanical like all other bodily processes, it came to be viewed as an inherently imperfect and untrustworthy mechanical process, and the metaphor of the female body as a defective machine eventually formed the philosophical foundation of modern obstetrics. Furthermore, as the factory production of goods became a central organizing metaphor for social life, it also became the dominant metaphor for birth: the hospital became the factory, the mother's body became the machine, and the baby became the product of an industrial manufacturing process. Obstetrics was thereby enjoined to develop tools and technologies for the manipulation and improvement of the inherently defective process of birth, and to make birth conform to the assembly-line model of factory production.

1.1.2. (3) The patient as object, and (4) alienation of practitioner from patient

Mechanizing the human body and defining the body-machine as the proper object of medical treatment frees technomedical practitioners from any sense of responsibility for the patient's mind or spirit. Thus, practitioners often see no need to engage with the individual who inhabits that body-machine, preferring instead to think of and talk about a patient as 'the C-section in 112.' Jordan [3] demonstrates how this tendency to objectify patients can extend to refusal to discuss any details of a case with the person who embodies it. This kind of alienation from their patients is often trained into physicians during medical school and residency, as they are taught to protect themselves by avoiding emotional involvement. It logically follows that there is no reason to deal with the patient's emotions at all. Thus they are free to protect their own feelings from the pain of caring too much. Technocratic physicians do not value lengthy conversations with their patients, preferring to keep their visits short. Although it is well-known that touch and caring are powerful factors that can positively influence

both a woman's experience of labor and the outcome of the birth (see below), it is rare to see obstetricians touching laboring women, holding their hands, or sheltering them in an embrace.

1.1.3. (5) Diagnosis and treatment from the outside in

When most machines break down, they do not repair themselves from the inside; they must be repaired from the outside, by someone else. Thus in technomedicine, it follows that one must attempt to diagnose problems, cure disease, and repair dysfunction from the outside. The most valued information is that which comes from the many high-tech diagnostic machines now considered essential to good health care. Such diagnostic technologies are pervasive in pregnancy and childbirth, from ultrasounds in early pregnancy to electronic fetal monitoring during labor. And treatment too is from the outside in — when labor slows, the amniotic sack is pierced with a hook and pitocin is poured into a vein to speed it up; when a baby seems stuck, it is pulled out with forceps or cut out with a knife.

The routine administration of IVs to women in labor is a good example of the massive overuse of this outside-in approach. There is plenty of scientific evidence [4–7] to indicate that it's much healthier for a woman to eat and drink during labor. But the IV makes a powerful symbolic statement: it is the umbilical cord to the hospital. The IV places the woman in the same relationship of dependence on the institution for her life as the baby in the womb is dependent on her for its life [1]. By extension, one can see IVs as a perfect symbolic expression of life in the technocracy: we are all umbilically linked to institutions and through them, to society. As a vein is penetrated with a needle and then with the fluid flowing through the IV line, our homes are penetrated by water, sewer, telephone, and electricity lines. The fullest symbolic extension of the IV lies in its expression and display of our ongoing fusions of ourselves with the technologies we create. A 'cyborg' is a cybernetic organism, a fusion of human with machine. In the cultural arena of reproduction, we are escalating the pace of our own cyborgification [8].

1.1.4. (6) Hierarchical organization and (7) standardization of care

Like its industrial predecessor, the technocracy is a hierarchically organized society. The term *technocracy* implies use of an ideology of technological progress as a source of political power [9]. It thus expresses not only the technological but also the hierarchical, bureaucratic and autocratic dimensions of this culturally dominant reality model. Even as many businesses seek to make a paradigm shift by transforming themselves into 'organizational networks' and 'flat corporations,' the medical system remains true to its role as society's microcosm, rigidly hierarchical in terms of the power of physicians as a group, the emphasis on specialty over primary care, and in terms of the subordination of individual needs to standardized institutional practices and routines.

The standardization in hospital birth is dramatically evident in most modern hospitals. Upon entering the hospital, the laboring woman is taken in a wheelchair to a 'prep' room. There her clothes are removed, she is asked to put on a hospital gown, and a vaginal exam is performed. Her access to food is limited or prohibited, and an intravenous needle is inserted in her hand or arm. The external fetal monitor is attached to the woman to monitor the strength of her contractions and the baby's heartbeat. Periodic vaginal exams are performed to check the degree of the baby's descent. All of these procedures in most modern hospitals are routinely performed without scientific justification [4–7].

As the moment of birth approaches, there is an intensification of actions performed on the woman, as she is transferred to a delivery room, placed in the lithotomy position, covered with sterile sheets and doused with antiseptic, and an episiotomy is performed. After the birth, she is handed the baby for a certain amount of time, her placenta is extracted if it does not come out quickly on its own, her episiotomy is sewn up, and finally, she is cleaned up and transferred to a hospital bed. Or she may have a cesarean section; in countries like Brazil and Mexico, that operation seems to be rapidly becoming routine [10,11].

Of course, there are many variations on this theme. Some procedures that used to be standard

in US hospitals in the 1940s, 1950s and 1960s such as handstrapping, the exclusion of fathers, and shaves and enemas are no longer used, although some are still common in developing countries. Other major changes since then have included the father's presence and women remaining conscious during birth. When possible, many women opt for delivery in a birthing suite or LDR (labor-delivery-recovery room), where they can wear their own clothes, do without the IV, and walk around during labor. Yet in spite of these concessions to consumer demand for more humanistic birth, a basic pattern of high-technological intervention remains: most hospitals now *require* at least periodic electronic monitoring of all laboring women; analgesics, pitocin, and epidurals are widely administered; and cesarean section rates are increasing. Thus, although some medical procedures drop away, the use of the most powerful signifiers of the woman's dependence on science and technology intensifies.

1.1.5. (7) Authority and responsibility inherent in practitioner, not patient

In line with its hierarchical structure, the technocratic model invests authority in physicians and in institutions and their personnel. Obvious cues such as titles and white coats signal the authority of the physician, who can add to his status by withholding information, and using technical jargon the patient cannot understand. When the doctor is the authority, the patient lacks responsibility. Many doctors are able to present an option as *the* answer quite easily, by simply refusing to discuss non-paradigm alternatives. In this scenario, a patient's most comfortable role is abdication of personal preference in favor of the doctor's choice.

In childbirth, one of the most graphic demonstrations of the power of 'doctor's choice' is the lithotomy position so popular with doctors not because it is physiologically sound, but because it enables them to attend births standing up, with a clear field for maneuvering. We know very well that this position complicates childbirth, but the many good physiological reasons to allow women to give birth in upright positions (which include increased blood and oxygen supply to the baby, more effective pushing, and wider pelvic outlets) are far less important to most physicians than their own comfort, convenience, and status. In the West, 'up' is good and 'down is bad': the person who is 'on top' has the status and the power, and rarely gives it up for the good of the laboring woman and child.

Technomedicine's investment of both authority and responsibility in physicians and hospitals is a double-edged sword. Although medical personnel do have the power to give orders to patients and establish institutional policies and procedures, they can be and often are held to be accountable for deaths and outcomes that no mortal could prevent. The proliferation of lawsuits against obstetricians over the past two decades is testimony to the way citizens have turned this tenet of the technocratic model against its proponents.

1.1.6. (8) Supervaluation of science and technology

The general public tends to assume that doctors are scientists, but most medical students receive little or no training in research methodology and analysis. A 1978 study carried out by the Office of Technology Assessment of the United States Congress reported that 'only 10–20% of all procedures currently used in medical practice have been shown to be efficacious in controlled trials'; in the 1990s, it is still true that over half of the techniques physicians routinely employ have not been proven in rigorous testing. Yet the power of the technomedical paradigm is such that physicians will rapidly accept procedures and technologies in keeping with it, while rejecting those that do not. So, while science is 'supervalued' as an ideology in this paradigm, its actual findings are often discounted or ignored.

Likewise, the technologies that predominate in medical treatment are those that support the 'evolution through technology' ethos of the technocratic model, in which progress means the development of ever more sophisticated machines. When a doctor uses a 'low-tech' tool like a stethoscope, he touches the patient, speaks to her, listens with his own ears to hers or the baby's heartbeats, interprets the sounds through his own bodily perceptions, and arrives at a diagnosis that depends in large part on his physical senses. When

the same doctor uses a computerized axial tomography (CAT) scanner or an electronic fetal monitor (EFM), only the machine touches or interacts with the patient during the procedure. The physician's role is to interpret the mechanically mediated results, which are regarded as more objective and reliable than his perceptions.

Such new technologies are usually introduced by their marketers, who tend to describe them solely in terms of their best-case use and minimize any detrimental effects. EFM is a case in point [12]. Its manufacturers regularly paid physicians' trips to medical conferences; upon arrival, they found themselves walking through elaborate EFM displays to get to the meeting rooms [13]. Now pervasive in hospital birth, the EFM has resulted not in better outcomes but in higher costs and higher cesarean rates. Nevertheless, many hospitals in the US routinely employ these machines in more than 80% of labors.

Rapid diffusion and acceptance of a new technology often has more to do with its symbolic value than its actual efficacy. Machines can mesmerize:

> The amplified fetal heartbeat sounds like galloping horses…both the sound of the galloping and the vision of the needle traveling across the paper, making a blip with each heartbeat, are hypnotic, often giving one the illusion that the machines are keeping the baby's heart beating [14] (p. 90).

So powerful is this illusion that nurses Davis-Floyd has interviewed often become reluctant to detach the mother from the monitor because they fear that the baby's heart will stop. While they know intellectually that this is nonsense, nevertheless they are emotionally swayed by the symbolic power of these machines.

Once machines like the EFM, along with CAT and positron emission tomography (PET) scanners and hundreds of others, are there, they must be reckoned with, and any decision *not* to use them begins to look like substandard care — a reality that reflects both the financial and the symbolic supervaluation of technology in the American medical system. Such machines serve the powerful symbolic purpose of 'upgrading' medical care in keeping with our notions of evolutionary progress; indeed, our newest cultural value is the flow of massive amounts of information through sophisticated electronic systems — just the kind of option that the EFM provides.

1.1.7. (9) Aggressive intervention with emphasis on short-term results, and (10) death as defeat

Since the dawn of the Industrial Revolution, western society has sought to dominate and control nature. And the more we controlled nature, including our natural bodies, the more we feared the aspects of nature we could not control. This led to the emergence of a phenomenon that anthropologist Peter C. Reynolds [9] has labeled the 'One-Two Punch' of technological intervention. Take a natural process that seems to need fixing — say, a river in which salmon annually swim upstream to spawn. Punch One: 'improve it' with technology — build a dam and a power plant, generating the unfortunate byproduct that the salmon can no longer swim to their spawning grounds. Punch Two: fix the problem created with technology with more technology — take the salmon out of the water with machines, let them spawn and grow the eggs in trays, feed the babies through an elaborate system of pipes and tubes, then truck them back to the river and release them downstream. Reynolds' brilliant insight was that, while most people see Punch Two as an accidental byproduct of Punch One, the deeper truth is that *Punch Two is the point*. We in the West have become convinced that altering natural processes makes them better — more predictable, more controllable, and therefore safer.

It is not hard to see how this One-Two punch of mutilation and prosthesis applies to birth. The birth process seems to us to be chaotic, uncontrollable, and therefore dangerous. So we 'improve' it with technology. First we take it apart — deconstruct it — into identifiable segments. Then we control each segment with the obstetrical equivalent of dams and floodgates (EFM, pitocin, drugs). When the unfortunate byproduct of this technological reconstruction of birth is a baby in distress from a now-dysfunctional labor, we rescue that baby with more technology (episiotomy, forceps, cesarean section). Then we congratulate ourselves on a job well done, just as the builders

of the salmon hatchery congratulate themselves for 'saving the salmon.'

Reynolds' One-Two Punch is a powerful motivating force in American society — I call it *the technocratic imperative*. This impetus to improve on nature through technology has as its ultimate aim to free us altogether from the limitations of nature. The more able we become to control nature, including our natural bodies, the more fearful we become of the aspects of nature we cannot control. Death becomes the ultimate signifier of defeat, proof that in fact we have not succeeded in transcending nature's limitations, and thus the ultimate enemy, to be defeated at all costs. Lifesaving procedures for low birth weight infants, often implemented without respect for their eventual quality of life, like high tech intervention for the terminally ill, represent attempts at sustaining the fragile thread of life against all odds. The underlying ethos behind the routine application of so many unnecessary procedures to birth is fear of death. These procedures keep fear at bay by giving both practitioners and birthing women the illusion of safety: they appear to minimize risk while in fact they often generate more problems than they solve.

1.1.8. Technomedical hegemony: (11) a profit-driven system; and (12) intolerance of other modalities

The word 'hegemony' refers to an ideology espoused by the dominant group in a given society. In a multi-cultural society such as that of the United States in the late 20th century, no one set of ideas about medicine, religion, economics, or anything else is shared by everyone. Nevertheless, there are ideologies that are obviously dominant: in economics, the hegemonic ideology is capitalism, and in health care, it is the technomedical model. When an ideology is hegemonic, all other competing ideologies become 'alternative' to it. Thus healing modalities such as midwifery, chiropractic, homeopathy, naturopathy, acupuncture, and so forth have been viewed as alternative to allopathy. While these modalities command increasing respect and usage, allopathic technomedicine still sets the standards for care. Its hegemonic status works to ensure its profitability: pharmaceutical and medical technology companies constitute by far one of the most profitable industries in the United States. The median after-research profit rate in 1993 for the makers of the top-selling prescription drugs was more than five times higher than the median profit rate for all Fortune 500 companies in the same year [15]. Any system — medical, economic, religious, or otherwise — that gains sociocultural ascendancy and then rigidifies, shutting out new information and refusing to incorporate contradictory evidence, is in mortal danger both to itself and to the public it serves. Such hegemonic systems can benefit from frontal attacks, which can serve to keep them flexible and responsive to the changing realities of changing times. It is in that spirit that I have presented this analysis.

2. The humanistic model of medicine

In the United States and elsewhere, the excesses of technomedicine have long been the subject of heated discussion and debate. Humanism arose in reaction to these excesses as an effort driven by nurses and physicians working within the medical system to reform it from the inside. Humanists wish simply to humanize technomedicine — that is, to make it relational, partnership-oriented, individually responsive, and compassionate. This caring, commonsensical approach is garnering wide international appreciation and support. Clearly less radical than holism, clearly more loving than technomedicine, this humanistic paradigm has the most potential to open the technocratic system, from the inside, to the possibility of widespread reform.

2.1. The 12 tenets of the humanistic model

2.1.1. Mind–body connection

The humanistic approach neither demarcates a total separation between mind and body, as does technomedicine, nor claims oneness for mind and body, as does the holistic model. Rather, it recognizes the influence of the mind on the body and advocates forms of healing that address both. Proponents of this paradigm see body and mind as being in constant communication, citing scien-

tific research in the field of psychoneuroimmunology and elsewhere. Thus the humanistic paradigm insists that it is impossible to treat physical symptoms without addressing their psychological components. Psychoneuroimmunologist Candace Pert explains:

> Viruses use [the same receptors as the neuropeptides that carry emotions] to enter into a cell, and depending on how much of the natural juice, or the natural peptide for that receptor is around, the virus will have an easier or a harder time getting into the cell. So our emotional state will affect whether we'll get sick from the same loading dose of a virus... Emotional fluctuations and emotional status directly influence the probability that the organism will get sick or be well. [16] (p. 190).

The implications for childbirth of the notion that the mind affects what happens in the body are obvious and profound. Humanism in childbirth allows for the possibility that the laboring woman's emotions can affect the progress of her labor, and that problems in labor may be more effectively dealt with through emotional support than through technological intervention.

2.1.2. (2) The body as an organism

Although in some ways the human body is *like* a machine, it is a fact of biological life that the body is not a machine but an organism. Such a conclusion has powerful repercussions for treatment, as the way the body is defined will shape the way it is treated by a culture's health care system. 'Even medical therapies that are the most machine-like would be ineffective without the innate healing powers of the organism,' which has 'properties that no machine has: those of growth, regeneration, healing, learning, and self-transcendence' [17].

Defining the body as an organism charters the development of an array of treatments that may be irrelevant to a machine but matter a great deal to an organism. Unlike machines, mammalian organisms feel pain and respond emotionally to interactions with others and to changes in their environment. Most mammals respond positively to the comfort of a loving touch and shrink from contact that is harsh or punitive. Thus a paradigm of healing based on a definition of the human body as an organism would logically stress the importance of kindness, of touch, and of caring. These dimensions have special significance for the care of laboring women, from the ways they are treated during labor to the need of mother and baby to remain together after birth. The best analog for the term *humanism* in the medical literature is the term *bio-psycho-social*, which acknowledges that this model takes in to account biology, psychology and the social environment.

2.1.3. (3) The patient as relational subject

Most humanists are not afraid to establish a real human connection with their patients, to come to know them not just as patients but as individuals, not as 'the C-section in 112' but as 'the mother with twins whose sister just died.' David Spiegel [18] showed that women with advanced breast cancer who participated in weekly support groups not only felt better emotionally, but ultimately lived an average of 18 months longer than did women with comparable breast cancer and medical care who did not attend such groups. This added survival time was, according to Spiegel [19], 'longer than any medication or other known medical treatment could be expected to provide for women with breast cancer so far advanced.' This study has been followed by a number of large-scale studies showing that more and better social support from family and friends is associated with lower odds of dying and better odds of healing at any given age.

Starting in the 1970s, natural childbirth activists in large numbers in the US and other countries began to demand that fathers and significant others should be allowed into delivery rooms, that mother and baby should not be separated after birth, that friends and relatives be allowed to remain with the laboring woman if such was her desire. The effect of the presence of caring others during childbirth does far more than simply work toward a more pleasant labor experience; it can be central to the positive outcome of that experience.

2.1.4. (4) Connection and caring between practitioner and patient

Whereas the technomedical paradigm is based

on the principle of separation, and the holistic model on integration, the principle underlying the humanistic approach is connection: the connection of the patient to the multiple aspects of herself, her family, her society, and her health care practitioners. Humanism requires treating the patient in a connected, relational way as any human being would want to be treated — with consideration, kindness, and respect. This paradigm insists on the deep humanity of the individuals involved and stresses the importance of the patient-practitioner relationship to the healing process. The phrase 'relationship-centered care' has been suggested 'to capture the importance of the interaction among people as the foundation of any therapeutic or healing activity' [17].

In childbirth the strongest evidence of the power of relationship-centered care comes from the doula research. A *doula* is a female companion especially trained to give labor support. Sosa [20], Kennell and their associates [21,22] compared the results of normal hospital labors with labors of women attended one-on-one by a *doula*. They found that doula support dramatically reduced problems of fetal asphyxia and labor dystocia, shortened length of labor, and enhanced mother-infant interaction after delivery [23].

2.1.5. (5) Diagnosis and healing from the outside in and from the inside out

Where the technomedical model emphasizes diagnosis and healing from the outside in, and the holistic model from the inside out, the humanistic model calls for a moderate application of both approaches. The physician–patient communication it emphasizes allows physicians to elicit information from deep within the patient and combine it with objective findings. Accordingly, humanists find that *how to listen* is as important as knowing what to say. Listening skills are crucial for obtaining the correct mix of data required for diagnosis.

Noting that a clinician will perform from 120 000 to 160 000 interviews during a career, Smith [24] points out that the biomedical model teaches students to elicit symptoms of disease using a 'doctor-centered' interviewing process. The physician elicits many bits of non-personal data, starting with the patient's chief complaint, then synthesizes them into a description of the patient's disease. However, humanistic doctors know that the presenting complaint often masks an underlying problem. A woman complaining of fatigue, depression, and body aches may have lupus or may be despondent over a failed marriage. Practitioners must adopt an open-ended learning approach in order to create the space and time necessary to bring forth the underlying dynamic.

This open-ended learning approach forms an important part of what Smith [24] calls the 'patient-centered interview.' Instead of asking a series of closed, rapid-fire questions, the physician simply encourages patients to express what is most important to them, which will usually come out as a combination of personal data and data about symptoms. Allowing patients to lead keeps their ideas and concerns paramount and enhances their sense of autonomy. The patient-centered interview can form an invaluable part of the humanistic physician's ability to be both technically competent and humanistically caring.

2.1.6. (6) Balance between the needs of the institution and the individual

Humanism counterbalances technomedicine with a softer approach, which can be anything from a superficial overlay to profoundly alternative methods. It is superficially humanistic to decorate a technocratic labor room so the machines do not stand out so much; it is deeply humanistic to provide women with flexible spaces in which they have room to move around as much as they like, to be in water if they wish, to labor as they choose.

Most medical institutions are designed to support and implement technocratic principles. These institutions are so highly regulated with respect to infection control, medical/surgical and nursing procedures, security, and liability that it is often not possible for one individual to effect significant change. So sometimes humanistically inclined physicians must content themselves with superficial improvements; but very often, committed individuals find they can do more. In the US, nurse-midwives have gained a reputation as the

practitioners who try the hardest to provide deeply humanistic care within hospitals [7,25]. Thus two humanistic changes often sought by childbirth activists include convincing hospitals to give women the right to choose midwives as their birth attendants, and to have access to one-on-one doula care.

2.1.7. (7) Information, decision-making, and responsibility shared between patient and practitioner

The poles between empowerment and dependence form the framework within which doctors and patients make decisions. Most health professionals are trained to bring linear information to bear in their decision-making; in addition, the humanistic paradigm allows non-linear, subjective processing to play a significant role. This is the balanced or empathic style of thinking. 'Empathic' refers to the ability of one person to understand another's reality even if that reality is beyond their direct experience. Even when straightforward evidence of disease is present, doctors still have considerable latitude regarding how mutual they are willing to allow decision making to be. In the technomedical model, each situation seems to dictate a matching action. The humanistic model opens situations to multiple options.

The doctrine of informed consent establishes that patients have a right to understand their diagnosis and prognosis, their proposed treatment and its risks and benefits, and their treatment options. In the technocratic model the discussion of options outside of conventional medicine is generally impossible due to the doctor's allegiance to technocratic approaches and ignorance of alternatives. Discussing no treatment as an option is equally unlikely. But in humanism, open discussion of treatment choices leads naturally to an exploration and sharing of values, and doctors are more likely to respond favorably or at least neutrally to a patient's wish to try alternative methods or to employ no treatments at all.

Arthur Kleinman [26] expands the notions of the patient's right to information and the 'patient-centered interview' to a more dialogic approach. He suggests that the goal of the practitioner should be to enter into the experience of illness as patients perceive it by listening carefully to their narratives. To more deeply understand a patient's story, the physician can try to interpret the patient's symptoms as symbols of deeper life issues and to grasp the influence of the patient's cultural, personal, and family explanatory models. Like other humanistic and holistic physicians, Kleinman [26] stresses the value and importance of the placebo effect, which can be activated purely through the strength of the physician-patient relationship and thus should be tapped in every healing encounter.

Medical sociologist Eliot Freidson [27] asserts that the need for information is apt to result in conflict simply because a lay culture is encountering a professional culture at a moment of crisis. To balance this, the doctor needs to communicate a trustworthiness to the patient so that the patient can accept or reject recommendations without feeling either bullied or negated. Although some physicians might fear liability with this level of information-sharing, the Consensus Conference on Doctor–Patient Communication held in Toronto in 1992 found that most lawsuits against doctors are the result of communication faults rather than errors in medical judgment.

2.1.8. (8) Science and technology counterbalanced with humanism

Humanistic physicians take science as their standard and use virtually the same tools and techniques as technomedical doctors. The difference lies in timing and selection. Humanists may be more willing to wait, more apt to be conservative, more open to mind/body approaches. Humanists who are primary care doctors (family physicians, internists, pediatricians, gynecologists) may delay referring to a specialist and attempt to resolve a problem using more conservative methods, provided they have the consent of the patient to do so. Humanistic specialists will naturally be inclined to use the technology at their disposal, but will emphasize caring and relationship alongside it, a combination John Naisbitt [28] captured in the phrase 'high tech, high touch.'

A whole new class of birth technologies has been developed that can be considered humanistic, from portable tables that allow babies in

distress to be resuscitated at their mother's sides to sophisticated birthing chairs that allow women to be in upright positions. But for such interventions to be truly humanistic, they should be used at a patient's request or desire and their use should be soundly evidence-based. For example, epidural anesthesia can be considered a humanistic intervention because it takes away pain while allowing women to be 'awake and aware.' However, there is nothing humanistic about forcing epidurals on women who do not want them. On the other side, how humanistic is it to allow women who arrive at the hospital demanding an epidural to have one in very early labor? A great deal of evidence now shows that if given before 5 cm dilation, epidurals can significantly slow labor. But when epidurals are given after five cm dilation, such problems are rare. Humanistic obstetricians and midwives try to evaluate the evidence and to make decisions that reflect the balance between what science shows to work and the needs and desires of the women they attend.

A good example of counterbalancing science and technology with humanistic principles stems from a birth Davis-Floyd once observed, in which a mother laboring in a hospital supported by her husband and a doula rejected the delivery table and asked to be allowed to give birth on the floor. The physician and nurses attending her asked themselves what science truly demanded in that situation. The answer was that there was nothing scientific at all about giving birth flat on one's back on a delivery table; it was in fact much more evidence-based to give birth upright on the floor. What science did demand was a clean area for the delivery. So the nurses took the sheets off of the table and put them on the floor, and the woman, propped with pillows, cheerfully sat on top of them to give birth. In other words, ideally, humanistic care should be evidence-based care that reflects real science and not medical tradition.

2.1.9. (9) Focus on disease prevention

Most proponents of humanism are also strong proponents of science-based public health initiatives that stress prevention and deal sensibly with the public environment. They point out that providing a village or a country with a clean water supply will do far more good for the health of far more people than building high-tech hospitals, as will ensuring clean air, adequate nutrition, and access to primary health care.

Prevention has been limited to the public health arena presumably because it does not turn a profit, unlike the sale of high tech medical equipment and pharmaceuticals. No one benefits in any immediate sense when people stop smoking, but a model in which compassion, not profit, is the driving force, has room for prevention and for social programs that reflect political agendas that protect the disenfranchised. Thus the public health paradigm, which stresses long-term, large-scale disease prevention and health promotion, corresponds closely to the humanistic paradigm, which stresses long-term individual and family (biopsychosocial) disease prevention and health promotion. In fact, humanists often leave private medical practice for work in the wider arena of public health.

The implications of this prevention-based approach in childbirth are enormous. True prevention of complications in childbirth would involve addressing the problems that lead to maternal and fetal deaths at their source. But often public health programs like the Safe Motherhood Initiative are heavily influenced by technomedical perspectives. Technomedicine identifies hemorrhage, toxemia, anemia, and the like as the sources of maternal death. But the underlying causes of these problems are the interrelated factors of poverty, poor nutrition, contaminated food and drinking water, the lower status of women, and overwork. Initiatives that try to solve the problem of maternal mortality by building more hospitals and stocking them with more machines fail to address these core problems; instead, they perpetrate the agenda of technomedicine.

Both the public health paradigm and the humanistic model are compassion-driven; both focus on disease prevention, health promotion, and public education. The public health paradigm takes a broadscale, population-wide approach, while the humanistic model focuses more specifically on the individual relationships between family, patient, and provider and the effects of

these relationships on illness prevention, diagnosis, and treatment.

2.1.10. (10) Death as an acceptable outcome

In childbirth, where death usually arrives suddenly, the technocratic approach to the death of a baby is to whisk away the body, leaving the parents with empty arms. The humanistic way is to allow the parents all the time they need with that baby, so that the pain of death is not augmented by the pain of sudden separation. In the wider cultural arena, the humanistic approach to death is one of individual choice about the manner of dying. Individuals can sign living wills in advance, requesting that life-prolonging measures be limited. The hospice movement has brought death back into the home by supporting the dying individual and the family, not with major medical intervention but with the comfort of pain relief. This highly humanistic approach stem from a philosophy that profoundly honors a patient's individuality and freedom of choice. The process of conscious dying under both the humanistic and holistic paradigms becomes an opportunity to heal one's relationships with spouses, lovers, children, friends, oneself, and God. Grievances can be forgiven, old wounds mended, unmet needs and wishes fulfilled. In such cases, the death of an individual can provide tremendous opportunities for healing for families and entire communities.

2.1.11. (11) Compassion-driven care

Byron and Mary Jo Good [29,30] suggest that the juxtaposed 'central symbols' of *competence* and *caring* represent a cultural tension developed throughout medical education that is linked to a dualistic discourse characteristic of contemporary Western medicine. Competence is closely associated with the natural sciences, caring with the humanities. Competence is a quality of knowledge and skills, caring a quality of persons. They also note that this juxtaposition of competence and caring, present throughout the history of western medicine, reflects the larger struggle between science and culture, technology and humanism, which in the West are often seen as opposing forces.

It is precisely these contradictions that the humanistic approach to medicine seeks to resolve. Physicians faced with suffering are expected to process information quickly, arrive at, and often implement a course of treatment. In technomedical circles, emotions are thought to interfere with such abilities. In both humanistic and holistic settings, feelings are accepted as part of the healing response. The driving ethos of the humanist is compassion — the ability to sense and feel the needs of others even if they are outside of one's own experience. When they sit down by a laboring woman's bed and breathe with her through a contraction, humanistic physicians are working to re-create a place in medicine for the human values of partnership, relationship, compassion, and caring. Only after three decades of scientific research documenting the benefits of this humanistic approach are technocratically trained physicians allowing themselves to be human, letting go of the fear that others will think them weak and incompetent if they open themselves to their own feelings and learn skills for processing their patients' feelings without becoming emotionally overwhelmed.

2.1.12. (12) Open-mindedness toward other modalities

Most humanists have no intention of learning alternative healing techniques, although in general they are open-minded and support patients who chose to use alternatives — as long as the overall treatment program includes conventional care. While many humanists adopt a sort of bemused tolerance to alternative modalities, some do advocate dietary and lifestyle changes that border on the holistic, and take a more proactive stance toward other healing alternatives. Physicians in transition to humanism need not undergo any noticeable change in beliefs about what causes or cures disease. Simply being nicer, more caring, more willing to touch and communicate repositions them in the humanistic model. Most will not undergo the radical shift in values that permits them to go beyond compassion to employ the healing power of that mysterious thing called energy in overcoming disease. This is the realm of the holistic physician.

3. The holistic model of medicine

If the technocratic model of medicine is the ruling hegemony, the holistic model of medicine is the ultimate heresy. Of the three paradigms I discuss, the holistic model encompasses the richest variety of approaches, ranging from nutritional therapy to traditional healing modalities such as Chinese medicine to various methods of directly affecting personal energy. Some holistic practitioners study a particular modality while others employ an eclectic approach, often of their own design. Holism often calls on individuals to be active, asking them to make major modifications in their lifestyles. It may also ask them to be passive, to simply receive prayer or a transfer of healing energy.

The term *holism* was adopted by some of the pioneers of this movement to express their inclusion of the mind, body, emotions, spirit, and environment of the patient in the healing process. The principles of connection and integration that underlie the holistic paradigm arise from the fluid, multi-modal, right-brained thinking that, after centuries of devaluation in the West, is finally beginning to regain lost ground [31]. While the whole brain is involved in all brain functions, it is possible to say that the right hemisphere is predominantly involved in perceiving the gestalt, the whole. In contrast to the classifying and segmenting unimodal approach of left-brained, linear systems of thought, fluid thinkers use multimodal means of perception to apprehend the whole and to intuit the ever-shifting relationships of its parts. It is thinking of, with, and through the body and the spirit — holistic thinking, fluid thinking that transcends logical reasoning and rigid classifications in favor of what Starhawk [32], one of its principal spokespersons, calls the 'spiral dance.' She means the spiral of the vortex, the tornado, the creative matrix in which all things are tossed around and mixed up beyond any making sense. From the deep integrative chaos of this energy vortex arises the surprise — the unpredictable relationship, the unexpected connection, the revealing intuition — that so often constitutes a prime element of holistic healing.

3.1. The 12 tenets of the holistic model

3.1.1. (1) Oneness of body-mind-spirit

Mind and body, wrought asunder by Cartesian rationalism, and reconnected in medical humanism, are re*united* in holistic medical care. The worst problem here is language: we are so used to speaking in terms of mind/body separation that even holistic healers find themselves still using the words 'mind' and 'body'; when they are careful, they will refer to the 'bodymind' to indicate that it is all one thing. A large part of the initial impetus for the reuniting of mind and body in holistic healing was the dawning realization that the brain, the physical seat of the mind, is not located only in the head but in fact extends throughout the central nervous system. Understanding that the brain is distributed throughout the body makes it much harder to talk or think about body and mind as separate entities.

If the mind is the body, and the body is the mind, then how one responds to the treatment of even so mechanical a thing as a broken arm will have as much to do with how one thinks and feels about that broken arm as about what kind of cast is put on it. In the holistic approach, addressing the psychological states and emotions of the pregnant or laboring woman is not just helpful, it is *the* essential aspect of care. Like humanists, holistic physicians are finding that they need much more engagement with the patient to get at those intangibles of mind and emotion now seen to be as much a part of the illness as its physical manifestation.

The holistic paradigm also insists on the participation of the *spirit* in the human whole. In incorporating soul it into the healing process, holistic healers bring medicine back into the world of the spiritual and the metaphysical from which it was separated during the Industrial Revolution. The spirituality of holistic healers tends to be fluid, and to take the form of a loose identification with eastern or New Age philosophies more often than with Judaism, Christianity, or Islam. Where the technomedical model is rigid and separatist, the holistic model recognizes no sharp divisions or distinct boundaries. This is another reason why holism is so threatening: in many

people's minds, to trifle with boundaries is to invoke chaos. And indeed, chaos theory and systems theory both inform and underpin the holistic paradigm and its insistence on the oneness of body, mind, and spirit.

3.1.2. (2) The body as an energy system interlinked with other energy systems

The holistic paradigm moves far beyond the narrow view of the body-as-machine, past the humanistic view of the body as an organism, all the way to a limitless view of the body as energy. Defining the body as an energy system provides a powerful charter for the development and use of forms of medicine and treatment that work energetically such as acupuncture, homeopathy, intuitive diagnosis, Reiki, hands-on healing, magnetic field therapy, and therapeutic touch. 'Energy medicine' acknowledges the possibilities that an individual's health can be influenced by such subtleties as the vibrations of anger or hostility or the electromagnetic fields created by power plants and microwaves, of these presuppose non-physical reality. Today's physicists relish documenting the vanishing frontier between matter and energy. Medical research would require complete restructuring if it accepted such conclusions from other disciplines. For example, while medicine hotly refutes the impact of the investigator on research, physics recognizes the Heisenberg Principle, which acknowledges the influence of the observer on the observed. Even the intentionality of the experimenter can profoundly affect the outcome of an experiment [33]. How can an observer separate from the observed phenomenon affect its behavior? Acceptance of this second tenet answers this question: the observer and the observed are not separate, but are energy fields in constant interaction with each other.

Many midwives Davis-Floyd has studied in the US define themselves as holistic and consciously seek to work with what they call 'birth energy.' Indeed, they believe that the primary intervention a midwife can make is at the energetic level. Intervening to 'redirect the energies' can ensure that no other type of intervention will be needed. If a labor stalls and a cesarean seems imminent, a midwife who has a feel for the power of energy may throw open the window, put on some music, and get the mother up to dance. Or she might leave the room to allow the birthing couple some privacy, so that the loving energy of their relationship can infuse the birth experience. The important point is that for the practitioner who works at the level of energy, these sorts of interventions will not be afterthoughts or overlays, but will be basic and primary — the first line of care.

3.1.3. (3) Healing the whole person in whole life context

This tenet of the holistic model of medicine, a logical corollary of the first two, acknowledges that no single explanation of a diagnosis, no single drug or therapeutic approach, will sufficiently address an individual's health problems; rather, such problems must be addressed in terms of the whole persons and the whole environments in which they live. It is no accident that the most commonly asked question in holistic health is 'What's going on in your life?' This question expresses the holistic view that illness is a manifestation of imbalance in the bodymindspirit whole. Here holism accepts to the fullest findings from psychoneuroimmunology and other fields that the immune system, or the process of pregnancy and birth, can be impeded by exhaustion, depression, emotional stress, the loss of a loved one, toxins in the air and the water, the stresses of technocratic life. The corollary of this view, of course, is that a healthy immune system, as well as a healthy pregnancy and birth, can be facilitated by multiple means, from dialogue to dream analysis to dance, from massage to exercise to organic food.

3.1.4. (4) Essential unity of practitioner and client

Many holistic practitioners try to drop the word 'patient' in favor of 'client,' as this term implies a mutually cooperative, egalitarian relationship. Where the humanistic model emphasizes the value of a mutually respectful connection between practitioner and client, still essentially separate and distinct beings, the holistic model offers the possibility that they are not separate but are fundamentally one. If the body is an energy field,

then as they interact the energy fields of client and practitioner can merge.

3.1.5. (5) Diagnosis and healing from the inside out

While they may, if appropriate, order 'outside-in' diagnostic tests, holistic practitioners will primarily diagnose and treat from the inside out--in other words, they will rely to a significant extent on the knowledge that arises from their own intuition, just as they will trust the inner knowing of their clients. Intuition is defined by the third edition of the *American Heritage Dictionary* as 'the act or faculty of knowing or sensing without the use of rational processes; immediate cognition.' The knowledge on the basis of which decisions are made is defined as 'authoritative knowledge' [3]. Technomedical practitioners tend to regard textbooks, diagnostic tests, and the advice of experts as authoritative, and to dismiss the still, small voice of intuition. But holistic practitioners (like some humanists) tend to regard intuition as a primary source of authoritative knowledge, along with the books and the machines. Thus, in holistic practice, 'diagnosis and healing from the inside out' can refer to the information that arises from deep inside both patient and physician — a phenomenon explained at its core by their essential unity.

Midwives often consider intuition to be a primary source of knowledge about pregnancy and birth, as do all the holistic obstetricians Davis-Floyd has interviewed [34,35]. Their willingness to rely on intuition comes from their deep understanding of the body as energy and their trust in right-brained, gestaltic kinds of thinking that do not rely on logic but on that sudden flash of insight from which unity and healing can arise.

3.1.6. (6) Individualization of care

Holistic physicians are trained in technomedicine and have seen the damage standardized hospital policies and hierarchies can do to individuals. In general, they do their best to respond to the individuality and unique needs of each patient within the constraints imposed on them by hospital and legal regulations. For the laboring woman, individualization of care means that standardization does not apply. Her labor is uniquely her own. She eats and drinks and moves about at will. She gives birth in the place of her choice attended by the people and practitioners of her choice. And the practitioner does not respond to the variations in her labor in standardized ways. A midwife dealing with a stalled labor might invite one woman to dance, might ask another if she is afraid to give birth, and might suggest a long walk with a third. Her intuition will guide her to respond to individual circumstances in individual ways. But the focus stays on the birthing woman. It is her unique needs and rhythms that will be paramount in the unfolding of her birth.

The unexpected twists that can result from holism's high value on both individualization and interconnectedness are suggested in the theory of self-organizing systems [36], which states that even the smallest event, if it happens in just the right place at just the right time, can dramatically alter the whole system. Holistic healers try not to make assumptions about cause and effect. They tend to expect the unexpected and to be prepared for healing to arise in strange places and mysterious ways. A chance remark can instantly transform a woman's perception of her condition and become the foundation of a cure. Holistic healers know better than to assume that they are the ones who heal the patient. They know that any one of a myriad of interactions over which they have no control can spark a healing process. Their genius lies in their ability to recognize that tiny flame when it is lit and help it to grow instead of extinguishing it.

3.1.7. (7) Authority and responsibility inherent in the individual

A basic tenet of holistic healing is that ultimately, individuals must take responsibility for their own health and wellbeing.[1] No one can really heal anyone else; individuals must decide for themselves if they want to be healed, and if so, they must take action to achieve that goal — give up smoking, exercise, eat right, maybe even give up a lucrative job that makes them unhappy or a relationship that is harmful to their health. Holistic practitioners in general tend to see themselves as part of a healing team, of which the

patient is a full-fledged, indeed the most significant member. Many of our interviewees repeatedly expressed their frustration with patients who refuse to take responsibility for their own health. They may greet the new client prepared to offer her empowerment, full participation in decision-making, informed choices, and so on, yet the patient may want only to be handed a prescription and told how many pills to take, or to schedule her cesarean between conference calls [37]. Although some of our interviewees refuse to revert to the hierarchical mode and may refer such patients to another MD, most accept and work with the patient's desire to place the physician in charge, or try to re-educate patients to take back the authority and responsibility they have surrendered.

3.1.8. (8) Science and technology placed at the service of the individual

If the technocratic model of medicine can be snappily characterized as 'high tech/low touch,' and the humanistic model as 'high tech/high touch,' then it would seem to follow logically that the holistic model of medicine would be 'low tech/high touch.' Sometimes this is true, as in the case of hands-on energy, nutritional medicine, herbal therapies — healing modalities for which no technological artifacts are used. But holistic healing can and often does incorporate high technology, from biofeedback machines to lab tests and diagnostic computers. Holistic healers in general do not reject technology; rather, they place it at the service of their clients, instead of allowing the technologies of health care to dominate, intimidate, and lay the ground rules for treatment. Usually these technologies are not invasive, nor do they produce the toxic effects of many of the technologies of conventional medicine. In childbirth, they range from administering oxygen to a laboring woman in need of extra energy, to birth balls that facilitate changes in position, to Jacuzzis with overhead ropes to pull on as the woman bears down. Such technologies do not dominate and control; rather, they work with physiology to empower the woman to give birth.

And what of science? As we have seen, physicians are reluctant to change many commonly used procedures even when evidence reveals them to be inappropriate. French physician Michel Odent, a world leader in holistic childbirth, often notes that 'science will save us.' He is referring to the emerging trend in western obstetrics toward evidence-based care. If obstetrical care in most hospitals were to become truly evidence-based, then most standard interventions, including routine IVs, routine use of pitocin, and the lithotomy (flat-on-the-back) position would have to be eliminated; women would eat, drink, and move about freely during labor; and they would give birth in upright sitting or squatting positions [4–7].

3.1.9. (9) A long-term focus on creating and maintaining health and well-being

Technocratic physicians often express extreme frustration over the patient's failure to follow doctor's orders. In contrast, holistic physicians most frequently voice frustration over patients who make no long-term commitment to improving their health but want the doctor to provide them with a quick fix and let them get on with their lives as before. Quick fixes are poor substitutes for long-term lifestyle changes that can maintain good health. Holistic practitioners want their clients to make long-term changes in their diets and lifestyles that will not simply prevent illness but will actively generate good health. Giving up sugar, caffeine, and highly processed foods, taking vitamin supplements, eating nutrient-rich organic vegetables, exercising regularly, and deal-

[1] Please note: The notion that authority and responsibility for health inhere in the individual is useful for thinking about the health care of the middle and upper classes. But the poor usually do not have the luxury of choosing their diet, their job, or their lifestyle. Nor can they afford the many options presented by holistic healers, as these are usually not covered by private or government insurance systems. A huge limitation of holistic healing has been its confinement to the wealthier segments of society and its almost total unavailability to the poor. Perhaps the greatest challenge confronting proponents of holism is to make their services available to the poor: it will take a global paradigm shift of epic proportions in order for insurance systems in all countries to reimburse multiple forms of care. But this is the ultimate holistic vision: that allopathic hegemony would be replaced with systems in which all modalities would be equally accessible to all people.

ing with stress through meditation are examples of the kinds of long-term changes that are often necessary to the creation of wellness. Holistic obstetrical practitioners know that pregnancy is an important time to be making such changes, not only for the health of the baby but also to ensure the long term health of the mother. The problem is of course that many people are resistant to such long-term lifestyle alterations. Holistic practitioners must engage in a great deal of client education, and must maintain a great deal of patience, in order to support people in making this kind of change.

3.1.10. (10) Death as a step in a process

Beyond the humanistic view of death as 'the final stage of growth' lies the holistic paradigm's redefinition of death not as any kind of final end but as an essential step in the process of living. This view stems from holists' definition of the body as an energy field, and from their deep-seated understanding of the transmutable nature of energy. Because of their integrated views on the essential oneness of body, mind, and spirit, it is only at the moment of death that holists grant these a conceptual separation. At death, in this view, the energy of the body decays and returns to earth, while the energy of the spirit or the individual consciousness continues on. Most holists seem to accept some version of eastern philosophies of reincarnation, a processual view that allows the interpretation of death as an opportunity for continued growth into a new kind of life in spirit and then again in flesh. While this positive view of death does not lead holists to rush to embrace death, it does tend to give them a strong sense of trust in the essential safety of the universe and in the wisdom and worth of its ways.

3.1.11. (11) Healing as the focus

To say that the holistic model focuses on healing instead of on profit is not to dismiss the role of money and the practitioner's need to make a livelihood within the system. Holistic practitioners have strong views about money — both for themselves and as part of their professional identity. While they are conscious of the need to earn a living, it *follows* their personal commitment to work rather than drives it. Few of the holistic physicians I have interviewed practiced within the framework of managed care, for example, where medicine and money are strongly affiliated. Only a few were on staffs of hospitals, where major health expenses are incurred, and virtually none were members of organized medicine (as exemplified by the American Medical Association and its regional counterparts).

Recognizing that healing occurs not in response to their actions but in the support and stimulation of the vital force, in the exchange of energy between individuals, or in the long slow progress toward health that often rewards serious lifestyle changes, holistic doctors are keenly aware of their partnership with patients. Money is part of this exchange. Unlike doctors who practice technomedicine and are apt to live stressful and harried lives wherein they are unable to care for themselves adequately, holistic doctors are tend to find that their own healing often accompanies that of their patients, as it is practically impossible to espouse a holistic philosophy without applying it to oneself. In the mutual appreciation that often arises between holistic doctor and patient, a deep experience of *value* replaces the focus on money.

3.1.12. (12) Embrace of multiple healing modalities

As we have seen, the holistic paradigm's definition of the body as an energy field in constant interaction with other energy fields makes possible its embrace of multiple modalities that remain unacceptable to proponents of the technomedical paradigm. The ultimate holistic vision entails a profound revolution in health care. Were this paradigm to gain cultural ascendance, the dominance of the technomedical model would be replaced with the cultural valuation of a multiplicity of approaches. Midwifery, homeopathy, naturopathy, acupuncture, et al. would take their places as respected and legitimate disciplines. Practitioners of each modality would know enough about the others for appropriate referral. Above all, the public would be educated in the techniques of self-care, healthy lifestyle and the appropriate use of a variety of approaches to healing.

Holistic medicine's embrace of multiple healing

modalities is gaining increasing public attention and acceptance. The clearest evidence for this statement comes from a study which determined that one third of Americans sought the services of a non-MD practitioner in a 1-year time period — and paid out of pocket for three-quarters of the cost of these services [38]. Another finding of this survey was that 72% of the maverick patients did not tell their doctors about their use of alternative medicine. Perhaps the center stage given to this study reflects the financial impact on medicine it uncovers, as well as the finding that the users of non-conventional therapies were well-educated, middle-income whites, from 25 to 49 years of age — one of the very best markets for orthodox medicine.

As a society's medical system mirrors its core values in microcosm, so the evolution of medicine can influence the evolution of the wider culture. We must ask, Who do we want to make ourselves become through the kinds of health care we create? Contemporary obstetrical practitioners have a unique opportunity to weave together elements of each paradigm to create the most effective system of care ever designed on this planet. Information is available about indigenous childbirth practices from many cultures, some of which (such as massage and upright positions for birth) are highly beneficial and should be incorporated. More information than ever is available from scientific studies that tell us much of what we need to know about the physiology of birth and

Table 1

Technocratic model	Humanistic (biopychosocial) model	Holistic model
1. Mind/body separation	1. Mind–body connection	1. Oneness of body-mind-spirit
2. The body as machine	2. The body as an organism	2. The body as an energy system interlinked with other energy systems
3. The patient as object	3. The patient as relational subject	3. Healing the whole person in whole-life context
4. Alienation of practitioner from patient	4. Connection and caring between practitioner and patient	4. Essential unity of practitioner and client
5. Diagnosis and treatment from the outside in (curing disease, repairing dysfunction)	5. Diagnosis and healing from the outside in *and* from the inside out	5. Diagnosis and healing from the inside out
6. Hierarchical organization and standardization of care	6. Balance between the needs of the institution and the individual	6. Networking organizational structure that facilitates individualization of care
7. Authority and responsibility inherent in practitioner, not patient	7. Information, decision-making, and responsibility shared between patient and practitioner	7. Authority and responsibility inherent in each individual
8. Supervaluation of science and technology	8. Science and technology counterbalanced with humanism	8. Science and technology placed at the service of the individual
9. Aggressive intervention with emphasis on short-term results	9. Focus on disease prevention	9. A long-term focus on creating and maintaining health and well-being
10. Death as defeat	10. Death as an acceptable outcome	10. Death as a step in a process
11. A profit-driven system	11. Compassion-driven care	11 Healing as the focus
12. Intolerance of other modalities	12. Open-mindedness toward other modalities	12. Embrace of multiple healing modalities
Basic underlying principle: separation	Basic underlying principles: balance and connection	Basic underlying principles: connection and integration
Type of thinking: unimodal, left-brained, linear	Type of thinking: bimodal	Type of thinking: fluid, multimodal, right-brained

The three paradigms: the technocratic, humanistic, and holistic models of medicine

the kinds of care that truly support women to give birth. And technologies exist to support every kind of labor choice. If we could apply appropriate technologies, in combination with the values of humanism and the spontaneous openness to individuality and energy chartered by holism, we could in fact create the best obstetrical system the world has ever known. This is the challenge we offer to those who attended the Fortaleza conference and to those who wish to continue their work.

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