

Obstetric Training as a Rite of Passage

This article appeared in Obstetrics in the United States: Woman, Physician, and Society, Robert Hahn, ed. Special Issue of the Medical Anthropology Quarterly, 1(3): 288-318, 1987.

Abstract

In this article I interpret obstetric training as an initiatory rite of passage through which nascent obstetricians are socialized into the technological model of birth, the core value and belief system of American obstetrics. Interviews with obstetricians and obstetrical residents, as well as published accounts by physicians of their obstetrical residencies, are used to examine both the fundamental knowledge imparted in the rituals of hospital delivery and the process by which medical students become psychologically transformed into obstetricians. I conclude by examining the challenge that both the humanistic and the wholistic models pose for the dominant technological model of birth, and the effects that this challenge is having on the behavior of obstetricians and their patients.

Why is medical school the way it is? I think it's part of the idiocy that goes on with the good ol' boy approach - "We did this back in my day, by God, and you've got to do the same thing"- it's like the Marine Corps and that sort of thing. It's a crazy thing that's gotten in the habit of perpetuating itself.

-- Stephen Saunders, M.D.

In this article I shall examine obstetric training in the United States as an initiatory rite of passage. Theories from symbolic anthropology will be applied to certain aspects of medical school training and obstetrical residency in order to bring to light the deep and often covert socio-cultural processes at work in the transformation of medical students into obstetricians. Across cultures and throughout history, humankind has utilized similar kinds of rituals to effect such transitions from one social status to another.

A ritual may be defined as a patterned, repetitive and symbolic enactment of a cultural belief or value. Such enactments may be

simultaneously both ritual and instrumental or rational-technical (Leach 1979[1966]; Moore and Myerhoff 1977:15). In my analysis of obstetrical training, for example, I shall show that instrumental teaching techniques serve significant ritual purposes above and beyond the simple communication of information to medical students. Similarly, the technical routines through which obstetrical residents learn to "manage" birth will emerge as transformative rituals that carry and communicate meaning beyond their ostensibly instrumental ends.

In anthropological literature since the time of van Gennep (1966[1908]), the bridge of rituals across which individuals in socially marked transition must pass has been known as a rite of passage. Rites of passage, as described by van Gennep, consist of three principal stages: separation of the participants from their preceding social status; a period of transition in which they have neither one status nor the other; and an integration phase in which they are absorbed into their new social state through various rituals of incorporation. The most salient feature of all rites of passage is their transitional nature, the fact that they always involve liminality (from the Latin, *limens* = threshold), the stage of being "betwixt and between," in which "the ritual subject passes through a realm that has few or none of the attributes of the past or coming state" (Turner 1979[1964]:237). In the initiatory rites of passage of greatest concern here, this liminal phase is particularly important, because during this phase, if the rite of passage is successful, a profound interior transformation takes place in the initiate by means of the rituals that make up the rite.

It is the ritual and the esoteric teaching which....grows girls and makes men....The arcane knowledge, or gnosis, obtained in the liminal period is felt to change the inmost nature of the neophyte, impressing him, as a seal impresses wax, with the characteristics of his new state. It is not a mere acquisition of knowledge, but a change in being. [Turner 1979(1964):238-239]

In rites of initiation, the "gnosis" which so changes the neophyte's inmost nature usually consists of essential elements of the core value and belief system into which he or she is being initiated. The degree of effectiveness of the rite - i.e. the degree to which a psychological transformation actually occurs in the initiates - depends on the extent to which they absorb this knowledge. The essential problem faced by those conducting such rites is how to ensure this absorption.

One of the chief characteristics of the liminal or transitional period is the gradual psychological opening of the initiates to new learning, ideally accompanied by the desired interior change. In many initiation rites involving major transitions into new social roles (for example, Marine Corps basic training), this opening is achieved through a combination of physical and mental hardships that break down the initiate's belief system - the internal mental structure of concepts and categories through which he perceives and interprets the world and his relationship to it. The breakdown of this belief system leaves the initiate profoundly receptive to new learning and to the construction of new categories.

The passivity of neophytes to their instructors, their malleability, which is increased by submission to ordeal, their reduction to a uniform condition, are signs of the process whereby they are ground down to be fashioned anew and endowed with additional powers to cope with their new station in life. [Turner 1979(1964):239]

Certain of ritual's primary characteristics play critical roles in this transformational process. These include an underlying cognitive matrix; the use of symbols to communicate messages emergent from this matrix; retrogression of participants to a lower level of cognitive functioning to ensure unquestioning acceptance of these messages; and extreme redundancy combined with heightened affectivity to facilitate this acceptance. These characteristics of ritual work cumulatively in rites of passage toward profound cognitive transformation (conceptual reorganization) of the individual.

The process of obstetrical education during residency has been well and thoroughly documented by feminist researchers Oakley (1984), Scully (1980), and Shaw (1974), and by women physicians Carver (1981) and Harrison (1982) who have recorded their personal experiences of this process. Furthermore, the role of ritual in Western biomedicine has already been examined in various contexts (Beuf 1979; Fox 1957; Henslin and Biggs 1971; Miner 1975[1956]; Parsons 1951). In this article, following Turner's analytic lead, I shall focus both on the messages or "gnosis" encoded in obstetrical training and on the procedures that work to effect the obstetrical student's internalization of this gnosis. Thus, after describing the methods used in collecting and presenting the data in this paper, I shall utilize the above-described characteristics of ritual which facilitate such internalization to frame my analysis of this ritual process. I shall examine the symbolic messages incorporated into the central didactic

event of obstetrical training, the "delivery," in order to reveal the core cultural values and beliefs manifested in this event. Following this, I shall focus on the psychological aspects of the transformational process through which fledgling medical students become full-fledged obstetricians. In conclusion, I shall examine several models of birth that have arisen to challenge the obstetrical model, and the response of the profession to these alternatives.

Methods

Data for this article were obtained from interviews conducted between January and March 1987 with twelve obstetricians, ten male and two female. Two of the male obstetricians were in their senior years of residency. Interviews with these two were conducted question-and-answer style over the telephone, as all attempts to match schedules for face-to-face meetings were unsuccessful. The other ten obstetricians in my study had been in private practice over time spans ranging from 1 to 23 years, in locations from Texas to New York. The names of these physicians and their cities of residence have been left unmentioned. Most of the interviews with these physicians were conducted in their offices; average duration was about one hour and fifteen minutes. I worked from a written list of questions (which can be found in the Appendix), but was careful to proceed informally, following the flow of the obstetrician's thoughts and emotions. I conducted informal repeat interviews (over lunch) with two of the ten.

My methods for selection were simple: in each of the three cities where I conducted the interviews, I asked obstetrical nurses and local childbirth educators for names of physicians who might be willing to talk with me. Several whom I called were not available for interview. I sought and ended up with a fairly broad spectrum: three of the obstetricians interviewed considered themselves "conservative," three saw themselves as "radical," while the other six (including both the two residents and the two women in my sample) saw themselves as "middle-of-the-road." All interviewees were told that I was a medical anthropologist writing an article about obstetric training. From these interviews, I have tried to choose for inclusion here the quotations most representative of the opinions and experiences of the majority of interviewees, except where my aim was to demonstrate their differences. Underlying many of my conclusions in this article is the dissertation research I conducted between 1980-1985 in two Southern cities on 85 birthing women (Davis-Floyd 1986b), several of whom are heard from herein.

Obstetrical Gnosis: The Technological Model of Birth

The belief system of a culture is enacted through ritual (Wallace 1966; McManus 1979b), and an analysis of ritual may therefore lead directly to an understanding of that belief system. Sometimes the enacted beliefs and values are made explicit as they are being performed, but often the deep beliefs which a ritual expresses are unconsciously, rather than consciously, held (McManus 1979b). It has been suggested that ritual symbols bypass intellectual channels of analysis and are experienced emotionally and somatically as a gestalt by the right hemisphere of the brain (d'Aquili and Laughlin 1979:173-177; Lex 1979:124-130; Luria 1966:90; Ornstein 1972). Although the recipient may hardly be aware of incorporating the symbol's message, its ultimate effect may be extremely powerful, acting to "map changed or adjusted possibilities inherent in a situation onto the actor's orientation to it" (Munn 1973:593). In rites of passage, the end goal of this "mapping on" process is to mold the belief system of the individual into coherence and symmetry with that of the larger group or society (Munn 1973:606).

The cultural values enacted by the rituals of obstetrical training together form a complex, or cognitive matrix, which I call "the technological model of birth." Although most standard obstetrical texts give lip service to pregnancy as a natural and intrinsically healthy process, this is usually done in a paragraph or two. For example,

The expectant mother has been commonly treated as if she were seriously ill, even when she was quite healthy. All too often she has been forced to conform to a common pathway of care which stripped her of most of her individuality and much of her dignity....Too often the expectant mother has felt that her fate and the fate of her baby were dependent not so much on skilled personnel as upon an electrical black box that appeared to possess some great power that prevailed above all other.
[Pritchard and MacDonald, 1980:8]

Meanwhile, the next 1100 pages of text are devoted to a detailed discussion of everything that can possibly go wrong and of how to use the "black box" to solve these problems. (For a detailed cultural analysis of Williams Obstetrics, see Hahn, this issue.) For the vast majority of modern obstetricians, technology and birth are inseparable.

I'm totally dependent on fetal monitors, cause they're great! They free you to do a lot of other things. I couldn't practice modern obstetrics without them. I couldn't sit over there with a woman in labor with my hand on her belly, and be in here seeing 20-30 patients a day. You couldn't see the volume of people, you couldn't treat people. I'd say that in the 20 years that I've been in practice, what we do today is 90% different than what we did. We have laparoscopes, we have ultrasound. We couldn't stop labor in those days; we stop labor with tocolytic drugs today. At least 90% of the things that I do now weren't part of my training. [53-year old male obstetrician]

A younger colleague confirms,

Anybody in obstetrics who shows a human interest in patients is not respected. What is respected is interest in machines.

This heavy reliance on technology in birth did not develop in a conceptual vacuum but is part of the technological model of reality on which our society increasingly relies (Merchant 1983). In this model the metaphor for the human body is a machine.

The Cartesian model of the body-as-machine operates to make the physician a technician, or mechanic. The body breaks down....it can be repaired in the hospital as a car is in the shop; once fixed, a person can be returned to the community. The earliest models in medicine were largely mechanical; later models worked more with chemistry, and newer, more sophisticated medical writing describes computer-like programming, but the basic point remains the same. Problems in the body are technical problems requiring technical solutions, whether it is a mechanical repair, a chemical rebalancing, or a "debugging" of the system (Rothman 1982:34).

In accordance with this metaphor of the body-as-machine, and in response to a variety of economic incentives, obstetrics adopted the model of assembly-line production as its base metaphor for hospital birth (Wertz and Wertz 1977; Rothman 1982). In the hospital a woman's reproductive tract is treated like a birthing machine by skilled technicians working under semi-flexible timetables to meet production and quality control demands:

We shave 'em, we prep 'em, we hook 'em up to the IV and administer sedation. We deliver the baby, it goes to the nursery and the mother goes on to her room. There's no room for niceties around here. We just move 'em right on through. It's hard not to see it like an assembly line. [4th year resident]

The hospital itself is thus a highly sophisticated technological factory (the more technology the hospital has to offer, the better it is considered to be). Accordingly, the hospital constitutes a more significant social unit than the individual or the family, so the birth process should conform more to institutional than personal needs, as one physician indicates,

There was a set, established routine for doing things, usually for the convenience of the physicians and nurses, and the laboring woman was someone you worked around, rather than with.

The most desirable end product of the birth process is the new social member, the baby; the new mother is a secondary by-product.

It was what we all were trained to always go after - the perfect baby. That's what we were trained to produce. The quality of the mother's experience - we rarely thought about that. Everything we did was to get that perfect baby. [38-year old obstetrician]

This focus on the production of the "perfect baby" entails close monitoring of the mother by procedures that enact the underlying view that the female body-machine is inherently defective and generally incapable of producing perfect babies without technological assistance from professionals.

Delivery As Ritual

Hospital "delivery" as a whole may be seen as a ritual enactment of this technological model of birth. Obstetrical interventions aimed at producing "the perfect baby" are thus not only instrumental acts but also symbols that convey the core values of American society to women and their attendants as they go through the rite of passage called birth (Davis-Floyd 1986b, 1986c, 1987). These various interventions may be performed by obstetrical personnel at different intervals over a time period that varies with the length of the woman's labor and the degree to which it conforms to hospital standards. The less conformity the labor exhibits, the greater the number of procedures that will be introduced in order to bring it into conformity. Through these procedures the natural flow of birth is deconstructed into identifiable segments, then reconstructed as a mechanical process. Thus birth is made to appear to confirm, instead of to challenge, the technological model of reality on which our society is based.

Shortly after entry into the hospital, the laboring woman will be symbolically stripped of her individuality, her autonomy, and her

sexuality as she is "prepped" - a multi-step procedure in which she is separated from her husband, her clothes are removed, she is dressed in a hospital gown, tagged with an I.D. bracelet, her pubic hair is shaved or clipped (returning her body to a conceptual state of childishness), and she is ritually cleansed with an enema. Now marked as institutional property, she may be reunited with her husband, if he is present, and put to bed. Her access to food will be limited or prohibited, and an intravenous needle may be inserted into her hand or arm. Symbolically speaking, the IV constitutes her umbilical cord to the hospital, signifying her now-total dependence on the institution for her life, telling her, not that she gives life, but rather that the institution does.

Most of the preceding procedures will be ordered by attending physicians or by residents and performed by the nursing staff. Medical students and residents will check the laboring woman's cervix for degree of dilation at least once every two hours and sometimes more often. If dilation is not progressing in conformity with standard labor charts (production timetables), a physician will make the decision to add pitocin (a synthetic hormone) to the intravenous solution to speed up her labor (80% of the women in my study group were given pitocin, or "pitted.") Through this "labor augmentation" the physician tells himself, the nurses, and the laboring woman that she is not producing on schedule.

The mechanicity of labor may be further demonstrated to all concerned by the administration of analgesia and anesthesia; the ensuing physiological separation of the laboring woman's mind from her body clearly shows her and her medical attendants that the body-machine which produces the baby is quite a different entity from her individual self. This message is intensified by the external electronic fetal monitor, attached to her body by a large belt strapped around her waist to record the strength of her contractions and the baby's heartbeat. For one obstetrical resident, "The vision of the needle travelling across the paper, making a blip with each heartbeat, [is] hypnotic, often giving one the illusion that the machines are keeping the baby's heart beating" (Harrison 1982:90). The internal monitor, attached through electrodes to the baby's scalp, communicates the additional message that the baby-as-hospital-product is in potential danger from the inherent defectiveness of the mother's birthing machine.

To attend most laboring women the U.S. today is to experience a set of visual and kinesthetic images - the woman lying on a steel bed, in a

hospital gown, surrounded by an IV pole, bag, and cord on one side, and a big whirring machine on the other, a huge belt encircling her waist, wires coming out of her vagina - which combine to convey one overwhelming perceptual message about our culture's deepest values and beliefs: technology is supreme, and we are utterly dependent upon it for our survival and for the perpetuation of our species. Speaking as eloquently to the obstetrical personnel who perform the procedures as to the women who receive them, these "routine" procedures ensure that the more nascent obstetricians see birth "managed" this way, and the more they themselves actively manage birth this way, the stronger becomes their belief that birth must be managed this way:

Why don't I do home births? Are you kidding? By the time I got out of residency, you couldn't get me near a birth without five fetal monitors right there, and three anesthesiologists standing by. [female obstetrician, one year in practice]

As the moment of birth approaches, there is an intensification of acts performed on the woman, as she is transferred to the delivery room, placed in the lithotomy position, covered with sterile sheets and doused with antiseptic, and an episiotomy is cut to widen her vaginal opening. These procedures cumulatively transform the birthing woman's body into the stage on which the drama of society's production of its new member is played out, with the obstetrician as both the director and the star (Shaw 1974:84).

The lithotomy position, in which the woman lies with her legs elevated in stirrups and her buttocks at the very edge of the delivery table, completes the process of her symbolic inversion from autonomy and privacy to dependence and complete exposure, expressing and reinforcing her powerlessness and the power of society (as evidenced by its representative, the obstetrician) at the supreme moment of her own individual transformation. The sterile sheets with which the woman is draped from neck to foot enforce the clear delineation of category boundaries, graphically illustrating that her baby, society's product, is pure and clean, and must be protected from the fundamental uncleanness of her body and her sexuality. The delineation of basic social categories is furthered by the episiotomy, which conveys the value and importance of the straight line - one of the most fundamental markers of our separation from nature. Of equal significance, performing episiotomies on the majority of their patients effectively teaches residents that "childbirth is a surgical procedure" (4th year male resident); thus routinizing the episiotomy has proven

to be an effective means of justifying the medicalization of birth to these nascent obstetricians. (Estimates of episiotomy rates in first-time mothers (primagravidas) range from 50-90%; large teaching hospitals often have primagravida rates above 90%. Multigravida rates are estimated at 25-30% (Thacker and Banta 1983).)

The obstetrician instructs the mother on how to push, catching the baby and announcing its sex, then hands the baby to the nurse, who promptly begins to enculturate "it" through bathing, diapering, and other procedures. The nurse then hands the newborn to the mother to "bond" for a short amount of time (society gives the mother the baby), after which the nurse takes the infant to the nursery (the baby belongs to society). The obstetrician then caps off the messages of the mother's mechanicity by extracting her placenta, if it does not come out quickly on its own, sewing up the episiotomy, and ordering more pitocin to help her uterus contract back down. Finally the new mother will be cleaned up and transferred to a hospital bed.

These routine obstetrical procedures work cumulatively to map the technological model of birth onto the birthing woman's orientation to her labor experience, thereby producing a coherent symmetry (Munn 1973:593) between her belief system and that of society. One mother reported of her experience in labor,

As soon as I got hooked up to the monitor, all everyone did was stare at it. The nurses didn't even look at me any more when they came into the room - they went straight to the monitor. I got the weirdest feeling that it was having the baby, not me.

In this statement we can observe the successful conceptual fusion between the woman's perceptions of her birth experience and the technological model. So thoroughly was this model "mapped onto" her experience that she began to feel that the machine itself was having her baby, and that she was a mere onlooker. (Soon after the monitor was in place, she requested a cesarean section, stating that there was "no more point in trying.")

Another mother's internalization of the technological view that the female body is defective is observable in the following excerpt from her written birth story.

It seemed as though my uterus had suddenly tired! When the nurses noted a contraction building on the recorder, they instructed me to begin pushing, not waiting for the urge to push,

so that by the time the urge pervaded, I invariably had no strength remaining, but was left gasping, dizzy, and diaphoretic....I felt suddenly depressed that labor, which had progressed so uneventfully up to this point, had now become unproductive.

This mother does not say, "The nurses had me pushing too soon," but "my uterus had suddenly tired," and "labor had now become unproductive," responses which reflect a basic tenet of the technological model of birth: when something goes wrong, it is the woman's fault. Another example of this feature comes from Harrison's experience as an obstetrical resident.

*Yesterday on rounds I saw a baby with a cut on its face and the mother said, "My uterus was so thinned that when they cut into it for the section, the baby's face got cut." The patient is always blamed in medicine. The doctors don't make mistakes. "Your uterus is too thin," not "We cut too deeply." "We had to take the baby" (meaning forceps or Cesarean), instead of "The medicine we gave you interfered with your ability to give birth."
[1982:174]*

The obstetrical procedures briefly described above are profoundly symbolic, communicating through the body and the emotions messages concerning our culture's deepest beliefs about the necessity for cultural control of natural processes. These procedures are also transformative in intent - they attempt to contain and control the inherently transformative process of birth, and to transform the birthing woman into a mother in the full social sense of the word - that is, into a woman who has internalized the core values of American society: who believes in science, relies on technology, recognizes her inferiority (either consciously or unconsciously), who will conform to society's dictates and meet the demands of its institutions.

These birth rituals also transform the resident who is taught to do birth in no other way into the unwitting ritual elder who performs the procedures as a matter of course.

No, they were never questioned. Preps, enemas, shaves, episiotomies - we just did all that; no one ever questioned it....And I'd say that about 80% of the doctors in this town still do all that, all the time. That's just the way it's done. [42-year-old obstetrician]

Of course, there are many variations on this theme. Many younger doctors are dropping preps and enemas from their standard orders (although several complained to me that the nurses, themselves strongly socialized into the technological model, frequently administer them anyway). Increasing numbers of women opt for delivery in the birthing suite or the LDR (labor-delivery-recovery room), where they can wear their own clothes, do without the IV, walk around during labor, and where the options of side-lying, squatting, or even standing for birth are increasingly available. (The fact that many of the procedures analyzed above can be instrumentally omitted underscores my point that they are rituals.) Yet in spite of these concessions to consumer demand for more "natural" birth, a basic pattern of consistent high technological intervention remains: most hospitals now require at least periodic electronic monitoring of all laboring women; analgesias, pitocin and epidurals are widely administered; and one in five will be delivered by Cesarean section. Thus, while some of the medicalization of birth drops away, the use of the most powerful signifiers of the woman's dependence on science and technology intensifies.

To understand one of the communicative functions the repetitive patterning of obstetrical procedures has for residents and their mentors, we must appreciate the value which adherence to form has in ritual. Moore and Myerhoff (1977:8) observe that order or exaggerated precision in performance, which sets ritual apart from other modes of social interaction, serves to impute "permanence and legitimacy to what are actually evanescent cultural constructs." This establishment of a sense of "permanence and legitimacy" is particularly important in the performance of obstetrical procedures because of the limited power the obstetrician's technological model gives him over the events of birth. Although a culture may do its best through ritual to make the world appear to fit its belief system, reality may occasionally perforate the culture's protective filter of categories and threaten to upset the whole conceptual system. Thus, obstetrical residents who have experienced the agony and confusion of maternal or death or the miracle of a healthy birth when all indications were to the contrary, know at some level that ultimate power over birth is beyond them and may well fear that knowledge. It is in just these circumstances that humans use ritual as a means of giving themselves the courage to carry on (Malinowski 1954[1925]). The format for performing standard obstetrical procedures provides a sense of cultural order imposed on and superior to the chaos of nature.

"In honest-to-God natural conditions," [the obstetrician] says [to the students observing the delivery he is performing], "babies were sometimes born without tearing the perineum and without an episiotomy, but without artificial things like anesthesia and episiotomy, the muscle is torn apart and if it is not cut, it is usually not repaired. Even today, if there is no episiotomy and repair, those women quite often develop a rectocele and a relaxed vaginal floor. This is what I call the saggy, baggy bottom." Laughter by the students. A student nurse asks if exercise doesn't help strengthen the perineum...."No, exercises may be for the birds, but they're not for bottoms....When the woman is bearing down, the levator muscles of the perineum contract too. This means the baby is caught between the diaphragm and the perineum. Consequently, anesthesia and episiotomy will reduce the pressure on the head, and hopefully, produce more Republicans." More laughter from the students. [Shaw 1974:90]

To say that obstetrical procedures are "performed" is true both in the sense that they are "done" and in the sense that they can be "acted" and "staged," as we can see from the quotation above. Such ordered, acted and stylized techniques serve to deflect questioning of the efficacy of the underlying beliefs and forestall the presentation of alternative points of view (Moore and Myerhoff 1977:7).

Processes of Psychological Transformation: Medical School and Obstetrical Training

How do medical students come to accept both the technological model and the view that it is inviolable? To further pursue this question, we turn now to a consideration of other ritual techniques by which medical students are psychologically transformed into obstetricians. In the rite of passage that constitutes medical training in American society, the separation phase begins as soon as the initiate departs for medical school and gradually merges into the transitional phase, which lasts for eight full years - four years of medical school and at least four years of residency. The first two years of medical school are essentially the same for all initiates, no matter what their eventual specialty: the basic sciences are intensively studied, animal and human corpses are dissected, and countless quizzes and exams taken. Initiates "rotate through" the various specialties in their third and fourth years, choosing one and finally specializing in it during residency. Elevated to physician status upon graduation from medical school, the initiate must now learn to define himself in terms of the interactional, attitudinal, core value and belief system of his specialty - a rite within a rite. First-year residents (sometimes known as interns) must begin

again at the bottom of the status hierarchy with enormous amounts of "scut work" to perform; responsibility and status-levels among residents increase with the acquisition of increasing skill during each advancing year of residency. Movement to the integration stage is gradual, as the fourth-year resident phases into personal responsibility for patients approaching that of Board-certified obstetricians. After graduation from residency, he may stay for a few years with an HMO (which may serve as a sort of cultural buffer zone between residency and private practice).

Medical Training and Retrogression to a Lower Level of Cognitive Functioning

In every rite of passage, the initiates will differ from one another in both intellectual ability and conceptual outlook. Straightforward didactic communications must take these differences into account by communicating differently to different individuals. However, ritual may overcome this problem by reducing all participants, at least temporarily, to the same lower cognitive level, which McManus (1979a) describes as "stage one" - thinking in either/or patterns of low cognitive complexity that do not allow for the consideration of options or alternative views. Such retrogression in cognitive structure is a necessary precursor to the conceptual reorganization which accompanies true psychological transformation. In medical school, this ritual process of cognitive retrogression leads to the development by the initiates of a kind of tunnel vision in which the gnosis of medicine becomes all-important.

During medical school and again in residency, ritual techniques of hazing, "strange-making" (making the commonplace strange by juxtaposing it with the unfamiliar) (Abrahams 1973), and symbolic inversion (metaphorically turning things upside down and inside out in order to generate "the power attendant upon confusion" (Abrahams 1973; Babcock 1978), are employed with great effectiveness to bring about the cognitive retrogression necessary to transformation. Medical school initiates - formerly at the top of their classes in college, some already successful in another career - are reduced to lowly status.

The first two years are like backtracking. No fun. Your last two years in college, you tend to do more graduate level work in smaller classes and you have more freedom about what you learn and how you learn it, and you are suddenly popped back into an environment like first year basic science courses in college, where you kind of get what's thrown at you....there's no

freedom about what you learn - everybody learns the same thing. [35-year-old female obstetrician]

Primarily studied during the two initial years of medical school are the "basic sciences": biochemistry, neurophysiology, anatomy, histology, bacteriology. Often taught not by physicians but by research scientists, these courses are usually presented as pure science, divorced from explanation of any practical function. "Learning" in biochemistry, for example, often consists of endless rote memorization of chemical formulas, with little or no sense of why or how these might be useful to a physician. LeBaron, a first-year medical student at Harvard, recalls,

Introductory lectures on the "Embden-Myerhof Glycolytic Pathway"....What is it? Are we synthesizing something, breaking it down? Does it take place in the ocean, outer space, crayfish, where? Does it start things off, end them? In short, what's it all about? Silly concerns. Just plunge right in and start getting it all down cold:

Rabbit muscle adolase - Class I, Type A, MW 160,000, four sub-units of MW 40,000; Formula:Alpha-2, Beta-2, but isozymes of varying ratio Alpha/Beta are found....See handout. Consider reaction in direction of synthesis of hexose-P. [1981:62-63]

The apparent irrelevance of much of this material to clinical medical work is a source of great discontent to many medical students, especially to those who entered medical school with ideals of "helping humanity."

Most of us look on the basic sciences as something you put up with until you get to the real heart of the issue. I don't know why they even had a lot of courses. We took bio-engineering and biostatistics - even a lot of biochemistry is extremely detailed and really has no relevance. The Krebs cycle is a classic example - a biochemical cycle where you have to learn all these enzymes and then when you get through you never use it. My sister in med school now tells me the same thing. She can't understand why she is going through all these detailed analyses of DNA structures and things like that. [38-year-old obstetrician]

The enormous quantity of much of this irritatingly irrelevant material adds to its effectiveness as a hazing technique. One obstetrician's assessment is that

Medical school is not difficult in terms of what you have to learn - there's just so much of it. You go through, in a six-week course, a thousand-page book. The sheer bulk of information is phenomenal. You have pop quizzes in two or three courses every day the first year. We'd get up around six, attend classes till 5, go home and eat, then head back to school and be in anatomy lab working with a cadaver, or something, until 1 or 2 in the morning, and then go home and get a couple of hours sleep and then go out again. And you did that virtually day in and day out for four years, except for vacations.

One result of such overload is the increasing isolation of the initiates. It is characteristic of rites of passage that the initiates are separated as a group from the rest of society, in order to ensure their removal from the everyday conceptual world. This social separation is a prerequisite for the achievement of the necessary cognitive retrogression.

Every day, I try to trot a couple of times around the Fenway, a park a block or two from the medical school. How amazing it is to me now that nature still exists out there....But how long I can continue to find the time for even these small excursions is becoming questionable....The day no longer has enough minutes in it; I race through dinner, throwing frozen foods into my toaster oven so I won't waste valuable moments cooking. A close friend gets married in New York - no question of being able to attend....[LeBaron 1981:62]

In the first two years of medical school, pressures of threat and uncertainty mount. A competitive emphasis on grades and tests, the unpredictability of pop quizzes, the overwhelming bulk of the work at hand, and the increasing isolation of the initiates - all combine to narrow the initiates' range of cognitive functioning. In this process medical students do not become less intelligent; rather, the span of their intellectual capacities and concerns becomes constrained. A kind of tunnel vision develops: the cognitive overload which first- and second-year medical students experience forces them to focus only on what is immediately in front of them. Progressively less capable of reflexivity (Babcock 1980) and the conceptual distance from the socialization process which would accompany it, students gradually lose sight of the idealistic goals they may have had on entering medical school. If the rite of passage is successful, the new goals medical students eventually develop will be structured in accordance with the technological and scientific values of the dominant medical system. The emotional impact of this cognitive retrogression is aptly summarized by a former resident:

Most of us went into medical school with pretty humanitarian ideals. I know I did. But the whole process of medical education makes you inhuman....I've seen people devastated when they didn't know an answer....The whole thing can get you pretty warped. I think that's where the feelings begin that somebody owes you something, 'cause you really, you know, you've blocked out a good part of your life. People lost boyfriends and girlfriends, fiancées and marriages. There were a couple of attempted suicides....So you forget about the rest of life. And so by the time you get to residency, you end up not caring about anything beyond the latest techniques you can master and how sophisticated the tests are that you can perform.

Redundancy and Affectivity as Transformative Agents

For maximum effectiveness, a ritual will concentrate on sending one basic set of symbolic messages which it will repeat over and over again in different forms; emotional and physical reception of these messages is enhanced by the heightened affectivity often generated by ritual. Repetition and the hazing process of physical exhaustion, intensified during residency, work together to ensure that the resident will internalize the "set, established routine" of standard obstetrical procedures so thoroughly that he can perform them on 'automatic pilot'.

When I was on call every other night, and I had six hours at home, every two days to sleep, I was out of my mind. I didn't feel that I took it out on my patients, but I did feel as if my personality was gone - my person was not even inside me any more - it had flown out the window somewhere, and I really wondered if I'd ever get it back. I was sort of robotlike. [Kim Stearns, M.D., quoted in Harwood 1984:48]

As McManus (1979a) shows, ritual mediates between cognition and chaos by appearing to make reality conform to accepted cognitive categories. Comfortingly familiar obstetrical rituals can provide this mediating service to the medical personnel who attend births, yet, as discussed earlier, perceive the birth process as a cognitive threat. Habituation to the redundancy of obstetrical rituals works to create conceptual homogeneity in hospital birth, as well as the certainty that this homogeneity is necessary and valuable, since it so effectively reduces the uncertainty that might otherwise surround the physician's perception of birth. Any change in the rituals through which hospital birth is reduced to such homogeneity is thus equivalent to a reduction in certainty, while continued performance of the rituals affirms, in the

hearts and minds of the medical personnel involved, the technological model of reality upon which these procedures are based. The driving need to reduce uncertainty (Fox 1957) explains why the medical community exhibits such reluctance to alter their standard procedures for birth, for they are taught to regard these procedures as the direct cause of the general success of the birth process in modern times. One physician in my sample put it this way:

My philosophy of birth is using what I've been taught to use and I've seen in my experience works, keeping in mind safety above all else, and not compromising safety for social reasons. If women put demands on me where I can't monitor the baby, or have an IV in them when they suddenly abrupt and go into shock, start hemorrhaging and go into shock before I can get an IV in - no, I can't live with that, I can't put myself or wouldn't put them in that kind of jeopardy. They can go to somebody else. There are guys out there that will do anything they ask, who make birth a social event. And I think they jeopardize the woman's safety and the baby's safety.

Despite the thoroughness of the learning that stems from intensive physical repetition of obstetrical procedures, there are certain kinds of physical lessons that are far more thoroughly absorbed than others. As behavioral psychologists have long understood, the higher the emotional affectivity of an event, the more deeply it will be imprinted on the psyche of the individual (Peterson and Mehl 1984:194). "Through careful and precise manipulation of symbols and sensory stimuli" (Moore and Myerhoff 1977:7), ritual can create the kind of highly charged emotional experience that can lead to long-term memory storage. Some of the procedures of the delivery room have just this highly charged quality. For example, performing an episiotomy for the first time carries a certain amount of the kind of affectivity that enhances memorization, while performing it for the fiftieth time works to reinforce patterns already learned. The great majority of births attended by obstetrical residents are channelled through the same procedures, and most of these births turn out well. Thus, once the resident has internalized the pattern for performing these procedures, this learning (and the successful births that accompany it) become generalized.

Against this generalized background, unusually complicated and dangerous births stand out. The obstetricians in my study seemed always conscious of the relatively few highly emotional "disasters" they had experienced.

The things that stand out most in your mind are the real disasters. Probably the one that stands out the most in my mind was a supposedly healthy woman who walked in to have her baby and she was laboring way down the hall because she'd had two kids before and no one expected any problems from her. And she suddenly arrested - what she'd done was throw an embolism. Most people die immediately from that. But this lady - we resuscitated her and got the baby delivered and she lived to tell about the experience and so did the baby. And that was - I mean, it's a terrifying kind of experience, because people just don't usually arrest in the middle of labor - cardiac and respiratory arrest. That lady wouldn't have lived in any other setting. And she really wouldn't have lived if there hadn't been anesthesia and respiratory therapy and a neonatologist right there close together like there is in a county system where everybody could work on her. A nurse just happened to pass her room at the right moment. You know, she wasn't just ignored, it was just that she wasn't a high priority patient like everybody else; we thought she was normal. We had all these other people who were sick. So you pay more attention to them.

Q. What was this incident's effect on the way you practice?

A. Well, I think it had a lot of effect. It makes me much more conservative. Like when people ask me about home delivery or going to a birthing center or something like that - I mean, it really drove the point home (emphasis mine) that you can't predict who's going to have trouble in labor. So it really makes me tell my patients that I can't go along with a policy like that.

These highly specific details of disaster stand in sharp contrast to this same physician's far more generalized memories of the happy times during her training:

Happy-wise, I was most pleased about my last year of residency, because as a chief resident you can see private patients of your own. And I was very pleased when I'd follow someone through and they'd have a normal delivery and be real happy about it. That's real rewarding.

Another obstetrician provides a further example of the lasting effects of a highly charged emotional experience:

I'll never forget one I had as a resident - a lady who had pregnancy-associated diabetes and she'd been followed appropriately and at 41 weeks came in and had a dead baby. She came in in labor about 3 days later, and dilated to 7 cm. and

stopped. And so we gave her pitocin and she had some harder contractions and three hours later still hadn't progressed. And I was the junior resident and I said you know this lady's got a big baby, a 9 1/2 or 10 lb. baby, and the baby's dead, but we don't want to section her if we can avoid it because we don't have the baby's interests at heart, and the senior resident said "Well let's give her some more time"....I watched her all night and when her total length of labor got to 24 hours she still hadn't dilated any more. That's not an unusual length of labor, there are a lot of women who have 24 hour labors. But hers had been obstructed for 10 hours I guess. She developed a fever. We ultimately had to do a section on her and her uterus was so thin that - I think if we'd let it go much longer it might have ruptured. Trying to suture it back together was a real mess. She had high blood loss. She had post-operatively a fever that went on for four or five days. She infected her wound and she broke down the wound [sic] so that the muscle planes broke down, and so she had a wound that was basically open for about six weeks while it slowly granulated in. You know, I think about her when I face letting patients labor a little bit longer than usual....I found that whole experience to be pretty traumatic, and I don't want to go through anything like that again. So I tend to be very cautious about longer labors - they make me real uncomfortable - and I wonder how they did it fifty years or so ago. I'm grateful for all the things I can do to keep that sort of thing from happening.

In contrast, this same physician gave me a far more generalized report of the high point of his career as a resident.

Uh - probably the beginning of my senior year [was the high point] because at that point you're essentially responsible individually for a patient's care without having to consult a staff physician, and you're also carrying the responsibility of training junior residents below you. I think that was a big turning point - you're finally getting to the point where you're going to be able to function independently.

Thus we see that one emotionally experienced "disaster" can influence the beliefs and behavior of an obstetrician far more profoundly and powerfully than hundreds of normal deliveries. This single phenomenon goes a long way toward explaining why obstetricians cling so tenaciously to the birth rituals that have been consistently presented to them as the only means of preventing those disasters. It seems philosophically possible that failures of technological rituals to prevent maternal or fetal death or damage, such as those experienced

by the last obstetrician, might lead doctors to question the appropriateness of their procedures. However, the power of the habituating process discussed above seems to ensure that failures generally will be attributed, not to flaws in the rituals themselves, but to the inherent defectiveness of nature and the female body. Thus each significant failure experienced by the resident, as in the case of the diabetic woman described above, will lead to intensified performance of the rituals designed to prevent such failure, rather than to their rejection.

Certainly, research is often conducted in obstetrics that weighs the efficacy of various procedures. But the obstetricians in my study seemed consistently to take seriously research that validated their standard practices, while explaining away research results that challenged those practices. For example, one 37-year old obstetrician stated,

I know that there's been a lot of discussion in the lay literature and in the medical literature too about the utility of monitoring. I read a couple of studies that said the clinical outcome is no different from electronically vs. clinically monitored patients. And my gut feeling is that it's not true. Because several times, if we hadn't had the monitor on, we never would have recognized the heartrate decelerations that were going on - and even though you don't, you might not see a depressed baby - it might be more of a long-term than an acute problem.

In an even more convoluted manner, an older obstetrician explained away evidence he had been told about by a colleague on the benefits of walking during labor, saying that such studies came

not from mainstream medicine, but from childbirth educators and Lamaze people, telling physicians that this is a helpful thing to do, to send people walking. Well, we used to send people walking who came in in false labor, 'cause it would help the false labor, okay?....Labor is going to continue whether you're walking or not, dependent on the release of prostaglandins from the uterus. And I don't think walking has ever been shown to increase the release of prostaglandins during labor. If anything, it might decrease it! And that's why we send people in false labor walking. And people tell you, when you send them walking, that that's relieved and then it goes away, and if it were releasing prostaglandins then it would increase their labor. So I don't know that there's any scientific evidence at all to support walking as a helpful thing in labor.

Now, whether it's more comfortable for a woman to be up walking than it is for her to be confined to a bed, I think depends on a lot of factors - whether you put that in her mind or not, whether you've programmed her to believe that, or programmed the nurses to believe that. And I think it varies a lot with the patients. I see some very strange things done today, that just amaze me that people will do. I still don't find - I don't change what I do without some good scientific reasons to change, just 'cause it's socially popular, you know, at the moment.

Cognitive Transformation through Ritual

Cognitive transformation occurs in ritual when "symbol and object seem to fuse and are experienced as a perfectly undifferentiated whole....and insight, belief and emotion are called into play, altering our conceptions....at a stroke" (Moore and Myerhoff 1977:13). The following quote from a 53-year-old obstetrician presents the outcome of such transformative learning.

I think my training was valuable. The people who trained us, and their philosophy, were unbeatable. Dr. Pritchard - he's the man in obstetrics today in this country. And his philosophy was one of teaching one way to do it, and that was his way. And it was basically the right way....I like the set hard way. I like the riverbanks that confine you in a direction. Later on....you can incorporate a little bit of this or that as things change, but you learn one thing real well, and that's the way.

In medical schools and on hospital wards, this cognitive transformation of the initiates, this perceptual fusion with "the way" occurs when reality as presented by the technological model, and reality as the initiate perceives it, gradually become one. The intellectual overload of the first two years plays a significant role in this transformational process. Most of the intellectual content of the courses taught in the first two years carries emotional affectivity (in the form of grade anxiety) only until the course is completed and the grade received, and so is quickly forgotten.

I was thinking yesterday that I must be a lot dumber than I was when I went to medical school, because I don't remember any of the stuff that we learned. You remember the things that you use clinically, that's all. [39-year-old female obstetrician]

In contrast, the last two years of medical school, and all four years of residency, are spent primarily in just the sort of clinical hands-on experience that is remembered. A practicing obstetrician recalls,

I had delivered maybe thirty babies as a medical student. When I was a first-year resident....on my first day I was thrown in as the Chief of Labor and Delivery. I had an intern and six medical students under me. A lady came in off the elevator abruptly, we had to do an emergency Cesarean on her. I had never even seen one, much less done one! And I had to go in there, scared. Well, the second year resident comes in and walks me through it. It's a 'see one, do one, teach one' program, and that's how medical schools are generally run. Somebody shows you how, they walk you through it once or twice. And the next few times, you do it, with them still watching you and guiding you. You do that a few times, and then you start teaching others. And that's the basic philosophy of how you learn. It's not a bad system. I don't know of anything that can replace it. And you learn pretty quick!

Given the effectiveness for learning of the emotional and physical involvement described above, we might well ask why, in a transformative rite of passage whose last six years consist largely of just such emotional and physical learning, the first two years consist primarily of intellectual overload? A rite-of-passage perspective reveals a function, if not a purpose, underlying this educational method. Two years of nothing but science, besides serving to separate the nascent physician from the person that he was, also serve very effectively to separate him from the people whom he will treat. Before he begins to deal with real people as patients, he learns conceptual distance from them, an essential step in his transformational process, as LeBaron demonstrates:

I held the slide up against the light again. Yes, that had once been someone's finger. It had felt coffee cups and pieces of paper and buttons, scalded itself, shook hands, gestured in excitement, caressed faces. Now it lived between pieces of glass in a box. A small chill ran through me. "Strange," I said. "Yeah, isn't it? Here's a piece of penis. A little later, you'll get to a salivary gland from someone's tongue." I looked at him, my eyes widening. Phil shrugged. "After a while, you just don't think about it any more." I started again, a little more slowly. If this was human flesh, however sliced, dried, or stained, I should at least show it the courtesy of adequate attention. Soon people began to leave for lunch. It was almost one, I was hungry, and another class started at one-thirty. I sped up: esophagus, testicle, intestine....Where are those crazy terminal bars they said I should see? The heck with them....I'm getting something to eat.

You get used to things fast around here, I thought as I locked up the microscope. [LeBaron 1981:40]

Growing detachment from both the diseases studied and the people who have them leads fairly rapidly in the first year of medical school to the development of the kind of cynicism and intellectual arrogance that can only arise from such detachment. LeBaron documents this process, describing one of his first-year Harvard class's rare contacts with an actual patient, a multiple sclerosis victim. The class's first reaction was dismay at the actual physical presence of a "CPC - clinical-pathological correlation, as disease victims were named," but soon:

"Shit, I'd love to do a coronal section on his frontal lobe," said someone behind me. "You'd see demyelinated plaques the size of golfballs." Some knowing snickers. People hadn't started off talking that way; initially everyone had approached our occasional CPC sessions with an almost reverential awe - the word actually made flesh. But now after a year of dog labs, corpses, continual memorization, and no patients, that kind of conversation was part of the background noise. And those expressions of flippancy, cynicism, the sarcastic smiles that had been so conspicuous by their absence back at orientation were already starting to spread through the class like some sinister psychological tide. [LeBaron 1981:213]

The Cartesian philosophical separation of mind and body inherent in the scientific medical view does not permit the interaction of individual consciousness with the molecules and atoms that comprise the stuff of "scientific" enquiry.

The first two years of medical school...are not taught in a framework of how people function. The students are taught about bodies as though the minds, emotions, and lives associated with those bodies were irrelevant. They are also taught about hundreds of pathological conditions and processes as though they were all equal: equal in importance, equal in outcome, equal in incidence. [Carver 1981:132]

Actual clinical experience is withheld until after the initiates have internalized the basic attitudes and values underlying this scientific worldview. The conceptual distance from their patients thus achieved is intensified when the students begin clinical work, usually in the second semester of the second year. Because this work consists primarily of the highly routinized tasks of doing physicals and taking medical histories, it tends to widen the gap between medical students and the people they are going to school to learn to heal, encouraging

them to regard these individuals as "cases" - "the gall bladder in 133" or "the section in 214."

This objectification of the patient is further intensified in residency.

As interns, we lose why we went into medicine - whatever humanistic interest we had. It's very hard to sit there and listen to someone tell his life story when you've got six other admissions, bloods to draw, you've got to be up all night. Every second you spend being compassionate means that much less time to sleep. So you become very efficient at not really listening to people - just getting the information you need, and shutting them off. [2nd year resident, quoted in Harwood 1984:70]

Once this internalization of objective science is accomplished, the initiates are offered choices for finding a sense of individual identity within the medical paradigm through clinical rotations that expose them to the active practice of various medical specialties. The reasons given for choosing obstetrics were quite consistent among the obstetricians interviewed - most often, the happy nature of obstetrical practice.

I really do like delivering babies and taking care of female patients and having happy times being involved. Basically I like healthy people who have a short-term problem and they're going to get well. I don't like to deal with elderly patients or dying patients. And then I really love to operate. And you get to operate as a gynecologist. Those are the real reasons that I chose it. I didn't choose it until my fourth year of medical school, after I had rotated through a lot of different things.

In obstetrics as in other branches of medicine, the highest values are placed on the acquisition of skills, especially surgical skills, as the previous obstetrician (a female) has indicated. Unlike many other specialties, in obstetrics most of the technological skills acquired are applied with great success, as most births will turn out well no matter where or how they happen. Not having to confront the technological failures of terminal illness or old age on daily rounds, the obstetrician does not experience the limitations of technology as often as do his medical colleagues. Rather, his experience of technology is more positive, as for him, most of the time the technology really 'works'. Thus the application of technology to obstetrics uniquely qualifies obstetricians to acquire and to pass on a strong sense of the value of the technology which they experience as successful most of the time.

The incorporation of both a sense of the value of technology and of her own sense of value to society are evident in the same obstetrician's response to a query about her philosophy of birth:

Birth is a process where you're adding a new life to the world, and hopefully you're enriching the world and the people who are involved with that child...There's so much we can do now to help mothers and babies that might have died before.

In seeing herself, the obstetrician, as the active agent in the birth process, this physician is not alone. A fourth-year resident states, *Well, I sort of see my role at birth this way: I am the captain of the team, and the mother and the father and the nurses - they are all players. If somebody is going to call the shots, it's going to be me. Sometimes the mother calls the shots, but mostly it's me.*

These two statements reflect the nearly complete acceptance of the technological model of birth by these two physicians; in this model the obstetrician, not the mother, is the 'deliverer,' the active agent responsible for "enriching the world" with "perfect babies." An obstetrician who does not share this attitude, when asked to write down what he saw as the primary characteristics of the residents emerging from the obstetrical program in his Eastern city, responded as follows:

The residents I am seeing today are very consistent in their attitudes and philosophies about birth. That's why I can't find anyone to hire around here. These are the characteristics which they all seem to me to share:

- 1. It is always the patient's fault.*
- 2. Aloofness.*
- 3. Heavy reliance on technology.*
- 4. General paternalistic approach.*
- 5. Disdain for paraprofessionals.*
- 6. Disdain for nutrition.*
- 7. No holism in approach, no consideration of emotional needs.*
- 8. Lack of respect for consequences of surgery - time is money or the super-doctor approach - 'I can do anything'.*

9. Reverence for the "I'm in control" M.D.

10. Disdain for anyone who is willing to relinquish complete control - they can't understand why I have nurse-midwives doing "my" deliveries.

11. Disdain for anyone who doesn't rely on technology.

As another obstetrician summed up the cognitive transformation that occurs,

It doesn't seem to matter - male or female, young or old, wealthy or poor - it is only the most unusual individual who comes through a residency program as anything less than a technological clone. This rite of passage that you are talking about is an assembly line to the adoration of technology, no matter who starts at the beginning.

The Future of the Technological Model

Current Challenges to the Technological Model

Human beings are not automatons; rites of passage can fail in their generalized goal of transmitting the core value and belief system of a given society to the initiate. Three of the twelve obstetricians in my study group came by different routes to at least a partial conceptual rejection of the technological model of birth, and to the development of an alternative paradigm that can best be described as the "humanistic" model of birth. Under this model, the patient, not the rules nor the technology, comes first.

I guess I can best summarize my philosophy as birth should be what the woman wants it to be. I can say that without reservation, except that I feel that the woman when she chooses should be well-informed as to what she's choosing. So, if you...don't want a sonogram, or a hospital test for some reason, and you know that there's a 1/10,000 chance that that test may actually prevent death or some other complication, and you're willing to take that chance, I think it's her right to make the decisions, up to a point.

Now where is that point? Nobody's been able to resolve this issue, and that is, where does the fetus have rights? And that becomes more difficult. At this point now, I feel that if the woman truly wants to have the delivery her way, and if the risk to the baby is relatively small, if she understands what the risks are, I'm still in favor of her doing that. I really can't categorically

say right now that exactly what I believe and what modern medicine says is the very best for the baby, across the board, so therefore it has to be done that way - we can't say that yet. I don't think we can really prove that a hospital birth with a certain structure in which every kind of test is done is the very very best for a baby. So I think women need to have a choice in their experience.

As another one of these "radical" obstetricians expresses his humanism,

I see birth almost as a re-birth or a continuance. I don't know how many deliveries I've been at now - I guess several thousand - but each one just seems so unique and different. I think birth is a normal natural process, that we have learned some things that we can add to, we can make it better at times, but by and large we should just stay out of the way and enjoy the normal natural thing that's going on....My role, if I have a role in birth, is only when there's a problem - as long as things are going well, I just stand around. A real disservice that medicine has done for people is remove death and birth from the family and turn them into medical events. I'm not quite ready to go for home births because of some of the problems that can come up. But I do like a real homey birthing room-type setting with families there, and we've had deliveries with eight to ten people there - everybody excited and it's a real neat experience. And I often just slip out the door and leave, because I know my role isn't really - I know it's not much, and once I'm sure that things are okay, I'll just kind of slide out, and I'll see 'em later, you know, because they've got more important things to do than gloat over me, which is kind of false, you know.

All three "radicals" in my study are in their early forties. The paths by which they came to the development of such an approach reveal both the power of their socialization processes and the means by which, in spite of this power, conceptual distance from these processes can be achieved, either during the rite of passage itself, or after its completion. The differences between a non-reflexive and a reflexive response to the first two years of medical education are illustrated by two obstetricians in my study.

Q. Why do you not see patients until late in the second year?

A. I don't know. Mostly it's because you have to have some of the other background before you start playing like you're a doctor. You have to have some basics to work on, and you really have to go back to basic sciences and learn principles about why things

work a certain way before you can build clinical medicine onto that.

Here this obstetrician demonstrates the effectiveness of her socialization through her acceptance of the science-before-patients structure of her medical school training. In contrast, one of the "radicals" demonstrates conceptual distance from his own socialization with his thoughts on a "better" way:

By taking clinical rotations early on in medical school, you would break up some of the basic science years, and there would be a lot better attitude and a better idea of what you're trying to learn and of the purpose of the basic sciences. As it is now, the basic sciences really get you off the track of what you're there for. Most of us went in with pretty high humanitarian ideals, but by the time you get through the basic science years, most of the people in my class had developed a pretty cynical attitude.

How did this physician manage to maintain enough conceptual distance from his socialization process to be able to analyze it in this highly reflexive way? Realizing early on that his family would suffer considerably if he did not spend some time with them, he made a commitment to take off one night a week for that purpose, accepting in advance that it would mean being "a few answers short" on the next day's test:

It was a tradeoff, but I think worthwhile in the long run, because I knew that my family would be with me a lot longer than medical school. That difference, whether it's a maturity level or not, was missing in a lot of people. I was older, about 27; most start at 21 or 22.

The cognitive separation achieved by this conscious decision not to participate in the competitive values inherent in medical education was intensified by his first child's birth - a highly medicalized and very unhappy experience which occurred during medical school. "When we kind of figured out that things didn't have to be that way, I guess it made us both into crusaders."

As Cynthia Carver, M.D., points out, the medical school selection process ensures the admission of students with highly competitive instincts and a strong scientific bent, who "generally went straight through, from high school to college to medical school, [managing] to reach the age of 21 without having experienced anything much other than academic life" (1981:129). Those students selected out by this process include those who, "despite being as bright as the high mark getters, allow themselves to be 'distracted' by....volunteer work, music, art, literature" and other careers (1981:129). The difference

that such "distractions" can make in the medical school experience is documented by writer Charles LeBaron. In Gentle Vengeance: An Account of the First Year of Harvard Medical School (1981), LeBaron describes the tremendous cognitive struggle he underwent to maintain conceptual distance from the powerful socialization process he was undergoing. Thirty-four years old, with twelve years' experience as a paramedic and social worker when he entered Harvard, LeBaron's goal was to emerge from medical school with his compassion and involvement with people intact. Well into the first year, aware of a gradual attitude change and afraid that he would succumb, he hit upon the idea of writing a book about his socialization process, in order to "maintain some detachment, give me an objectivity, an independence where none might otherwise exist" (1981:269).

In contrast to LeBaron, the other two physicians in my study group who exhibited considerable conceptual distance from the technological model came to this objectivity much later in their obstetrical careers. One of them, known in the Southern city where he practices as the most radical obstetrician in town, was "a good country boy who believed everything they told me," until he reached internship in a military hospital during the Vietnam war. The shock and continuing horror of trying to patch senselessly mutilated bodies back together led him to question all of American society, including its biomedical system. This exploration led him, as it led so many in the early 70s, to embrace principles of the counter-culture, including feminism; this in turn led to a conceptual rejection of the highly patriarchal obstetrical paradigm of birth.

The other "radical" physician in my study group came to the same conceptual rejection through quite a different route. He too "believed everything" they told him, until one day shortly after graduation from residency he attended a debate between one of his favorite professors and Suzanne Arms, author of Immaculate Deception (1981[1975]) and one of the most radical pioneers of the natural childbirth movement. Expecting the professor to "beat the pants off her," the recent graduate was surprised and shocked when instead "she made him look like an idiot." Eager to redress the balance, he determined to write a book "proving how wrong she was and that my professor was right." Toward that end, he purchased Arms's book and read it straight through. By the time he finished, "She had won again! I realized that, although some of what she said was bullshit, basically she was absolutely right." This realization led to his further exploration of the wide body of non-medical literature on birth, including works by Kitzinger (1980), Odent (1984), Star (1986), and Stewart and Stewart

(1976, 1977, 1979, 1981) and to attending non-obstetrical conferences on childbirth in search of support for the development of a new paradigm to replace the one that had crumbled. "And then I met midwives, and midwives really taught me how to do birth."

These humanistic obstetricians offer their patients some real alternatives. These include the utilization of nurse-midwives for prenatal care, for labor support, and for delivery (in hospitals where this is permitted); the options of limited monitoring, walking throughout labor, no IV, drinking juices and eating their own foods during labor, no episiotomies, and of choosing to squat, stand, or lie on their sides for birth. Unstartling as these options may seem to the lay person, the extent of their "radicality" is indicated by the reponse of a more conservative obstetrician practicing in the same city as one of them. This colleague's comments indicate his bewilderment at the obviously profound philosophical differences between his approach to birth and theirs.

I put women on a pedestal. I open doors for them. I have a lot of respect for them. In the hospital I have to see them in certain degrading positions, see certain degrading parts of their bodies. So I try to do all I can to maintain their dignity. I heard that one of these younger doctors lets women be naked on his examining table. Can you imagine that? Why would any woman want to do that? I had gowns specially made that conceal all of a woman's body except the part I absolutely have to see in order to preserve their dignity. Once I saw a woman in labor - another doctor's patient - she was crawling around on all fours, stark naked, panting like a puppy. Can you imagine? What kind of respect for women does that show?

When queried as to his policies, this "younger doctor" readily stated that, not finding the female body or any positions women may adopt in labor in any way "degrading" (he too is a product of the 60s), he does indeed let his patients be naked on the examining table and in the labor rooms if they so choose and utilize whatever position and type of breathing they desire for labor and for birth. When I mentioned to him that even the most conservative obstetricians I had interviewed seemed to really like women, he responded vehemently:

You haven't found any OBs that hate women so far? I can't believe that some of these guys like women. They can't like women for the things that they do. How can you put some women in the situation they're in during delivery, and like 'em? I mean, why would you put a lady flat on her back, looking up at flourescent lights, with her arms out like this [demonstrates] -

we even used to have their hands tied down! I must admit, I didn't think about it at the time [during residency], that's how insensitive I was - but the minute I heard about alternatives, I grabbed onto 'em. These guys all know the alternatives and they don't grab onto 'em. I mean, I've been trying for years to show these guys that you can turn the lights down, and you don't have to have 'em flat on their backs or use stirrups....they can be they way they want to be to have their babies. When you really let them feel free to choose, it's beautiful to see what they do. But when you never allow them to know that there are options for them - how can you like women, and do that?

Yet these "radicals" share a great deal with their more conservative colleagues: they are trained in the same inter-ventions as are the "conservatives," bound by the same medical rules, and constrained by the same legal system. For example, one of them describes himself as having "one foot in each world," in an attempt to act as a bridge between both. Nevertheless, when a couple desiring home birth interviewed this obstetrician, they ended up leaving in a huff, accusing him of having "not just one, but both feet squarely on the medical side."

These home-birthers held what I have described elsewhere as the "wholistic model of birth" (Davis-Floyd 1986a,b), believing in the inherent trustworthiness of the female body, in communication and oneness between mother and child, and in self-responsibility. Their statement to the obstetrician reflects their sensitivity to the difference in reality models held by home-birthers and even the most humanistic of physicians. Although the humanistic approach to birth does offer women some real alternatives, it represents not a full rejection but simply a modification of the technological model of birth. Women who utilize the services of obstetricians who espouse this approach will still give birth in the hospital, and thus will be subject to the same cultural forces as those women who go to the more conservative obstetricians. Any deviations from the norm in labor will still render them subject to a "cascade of interventions" (Brackbill et al, 1984), for the limits to the humanistic approach are defined by the outer boundaries of the technological paradigm. Thus, for example, the woman who starts out in the birthing room will wind up on pitocin in a labor room if her cervix fails to dilate to ten centimeters within the time limit of her hospital (usually 26 hours); the longer labors common in home birth, where the woman's natural rhythms determine the labor pattern, are generally not permitted to occur in the hospital. No matter how humanistic the physician, he is often powerless himself to circumvent hospital rules.

The fact that I'm even willing to practice in a hospital that won't let women have their babies after birth unless they're in the birthing room just goes to show how much I compromise my principles every day. We don't even give them a choice - no option at all. It's terrible, but if they deliver in the LDR they're just not gonna have their baby. I'm compromising my beliefs to work in this hospital and make good money....[and] in order to ultimately get these things into the hospital, but it's going to take a whole lot longer.

The humanistic model is part of the technological model, a way of humanizing instead of removing the technology. Innovations in technology make it increasingly amenable to humanistic uses - for example, epidurals have been improved to the point where women can "still feel to push, can still push their babies out real well, but without the pain"; and soon, women walking in labor will be monitored by telemetry, which will result in less pressure to go to bed to be monitored. These developments have the potential of being extremely important to women: if technology is placed at the service of the individual, instead of the individual at the mercy of the technology, then the messages of hospital birth rituals and the focus of obstetric training will become profoundly altered.

The changes effected by more humanism in birth - the presence of fathers, the "awake and aware" mother, the "bonding period," however brief, and the growing number of other options available to mothers - increasingly threaten the integrity and the conceptual hegemony of the technological model, for the more options the radicals offer, the more options the conservatives, too, must provide. As one conservative obstetrician noted,

It was these other guys that first got fathers into the delivery room in this town. They started doing it, so then we had to. And I think it's nice for the husband to be involved. Of course, some of them fall and hit their heads, say they can't take it. I think their being there has not been a bad thing - but then the tendency is to overlook birth as a real medical problem - uh- I shouldn't say problem, but a medical entity, rather than just a social happening. And making birth into a social event, with all these people around when somebody might end up dying, and all sorts of problems (voice rising), and birth is not a social event, but we're being forced into letting it be one!

These humanistic changes are being felt in the residency programs as well. To quote a recent graduate,

We had some leeway at the medical school where I was doing my training - not everyone there did all the standard things, so the patients weren't always medically slapped with preps and enemas, staying in bed all the time, routine enemas and all that. So I think you get exposed to different people who do things different ways, and you can kind of pick and choose which way you think is the best way to handle a patient. I handle different people different ways. I think you just have to look at the person and see what's appropriate for her at the time.

Reactions to Radical Change

As birthing women become better-educated consumers of obstetrical services, and residency programs vary their formats, "the way" in obstetrics gives way to "which way you think is the best way." This loosening of the conceptual boundaries poses a real danger to the dominant paradigm of our society, a threat especially potent in the medicalization of obstetrics which, unlike other medical specialties, does not deal with true pathology in the majority of cases it treats (most pregnant women are not sick). Thus obstetrics is uniquely vulnerable to the challenges to its dominant paradigm presented by the natural childbirth and holistic health movements, for these movements rest their cases on that very issue - the inherent wellness of the pregnant woman vs. the paradoxical insistence of obstetrics on conceptualizing her as ill, and on managing her body as if it were a defective machine. Aware of this paradox, and wishing to be responsive to consumer demand, many younger obstetricians are trying to increase the number of birthing options available to women. Thus obstetrics is no longer as reliable as it once was in the straightforward transmission and perpetuation of American society's core value system. To deal with this challenge, our society has gone outside the medical system, utilizing the combined forces of its legal and business systems to keep obstetricians in line.

Over 70% of all American obstetricians have been sued, a percentage higher than that of any other specialty (Easterbrook 1987). Because this malpractice "crisis" dramatically affects teaching practices, it plays a crucial role in the rite of passage through which nascent obstetricians are channelled. Malpractice insurance premiums in obstetrics began their dramatic rise in 1973, just at the time that the natural childbirth movement was beginning to pose a major threat to the obstetrical paradigm of birth. A common cultural response to this type of threat is to step up the performance of the rituals designed to preserve and transmit the reality model under attack (Douglas 1973:32; Vogt

1976:198). Consequently, the explosion of humanistic options which challenge the conceptual hegemony of the technological model has been paralleled by a stepping up of ritual performance, in the form of a dramatic rise in the use of the fetal monitor (from initial marketing in the sixties to near-universal hospital use today (Ob.Gyn. News 1982)), accompanied by a concurrent rise in the Cesarean rate, from 5% in 1965 to 22.7% nationwide today, reaching 50% in many teaching hospitals (Corea 1980). Although technically not a routine obstetrical procedure, the Cesarean section is well on its way to becoming routine. A number of studies have shown that increased monitoring leads to increased performance of Cesareans (Banta and Thacker 1979; Haverkamp and Orleans 1983; Young 1982:110). These dramatic increases in the ritual use of machines in labor and in the ritual performance of the ultimately technological birth, delivery "from above," are at least partially attributable to the coercive pressure brought to bear on obstetricians by the constant threat of lawsuit. Most obstetricians interviewed perceived constant electronic monitoring as a means of self-protection, and confirmed that they are far more likely to perform a Cesarean than not if the monitor indicates potential problems, because they know that the likelihood of lawsuit is lower if they cleave to the strict interpretation of the technological model, whereas if they try the humanistic approach - i.e. if they try to be innovative, less technological, and more receptive to the woman's needs and desires, they place themselves at greater risk. As one of them puts it,

Certainly I've changed the way I practice since malpractice became an issue. I do more C-sections, that's the major thing. And more and more tests to cover myself. More expensive stuff. We don't do risky things that women ask for - we're very conservative in our approach to everything....In 1970 before all this came up, my C-section rate was around 4%. It has gradually climbed every year since then. In 1985 it was 16%, then in 1986 it was 23%.

These legal and financial deterrents to radical change powerfully constrain our medical system, in effect forcing it to precisely reflect and to actively perpetuate the core value and belief system of American society as a whole. From this perspective, the malpractice situation emerges as society's effort to keep its representatives, the obstetricians, from reneging on their responsibility for imbuing birthing women with the basic tenets of the technological model of reality. As I discuss elsewhere (Davis-Floyd 1986b), our cultural attachment to this model is profound, for in our technology we see the promise for our society of eventual transcendence of both our physical and our earthly

limitations (already we grow babies in test tubes, freeze bodies in cryogenic suspension, and build the first space station). In enlisting American obstetricians as guardians of technology, and in watchdogging that guardianship with its legal system, American society is doing its utmost to protect our shared cultural dream of transcendence through technology.

Acknowledgements

I wish to acknowledge the outstanding editorial assistance of Robert Hahn and Alan Harwood. Thanks also are due to Brigitte Jordan and Beverly J. Stoeltje for their consistent and much-appreciated support.

1. The characteristics of ritual outlined here are adapted from the following sources: Moore and Myerhoff 1977; d'Aquili, Laughlin and McManus 1979; Munn 1973; Turner 1967, 1969; Abrahams 1973.
2. Because most of the practicing obstetricians in the country, as well as in my study, are male, it seems appropriate to use the gender-specific pronoun "he" in this article, except, of course, where the referent is a woman. All obstetricians quoted without mention of their sex are male.
3. The underlying justification for the symbolic interpretations summarized here can be found in Davis-Floyd 1986b. Portions of this analysis will appear in Davis-Floyd 1987.
4. Upon reading this quotation, an obstetrician in my study commented, "It is this type of humor, so common as a teaching technique, that stamps the impression on the soul. The humor feeds into the discomfort the medical students feel over trying to deal with 'perineums,' and allows them to detach in a derisive way."
5. It might be argued that my emphasis on the redundancy of obstetrical rituals ignores the high value placed in residency on mastery of 'the latest' techniques. I would like to suggest, however, that no matter which new techniques are incorporated into the obstetrical management of birth, as long as they are technological in method and orientation, 'the latest,' symbolically speaking, is just 'more of the same.'
6. In contrast to this view, proponents of home birth point to improvements in the standard of living and nutrition as the major causes in the decline of the infant mortality rate. They further claim

that the rate would be far lower if birth were de-technologized (Stewart and Stewart 1976, 1977, 1979, 1981).

7. Various studies from "mainstream medicine" (for example, Mendez-Bauer 1975, Schwartz et al 1979 (1977)), have demonstrated that standing and walking increase the effectiveness of contractions and decrease maternal pain, resulting in shorter labors.

8. This obstetrician went on to provide the following examples of "typical resident behavior." (A discussion of his humanistic philosophy of birth, and that of others like him, is presented in the conclusion.)

This woman came to me recently - she had been told by a resident in the clinic that she would never get rid of her chronic vaginal infection because she was too fat. She wasn't obese or anything like that - only weighed about 160. Finally she came to me and all she had was a simple yeast infection that he had misdiagnosed. I gave her some Monistat and she was fine the next day. The worst thing was that she believed him for a while, so of course she was feeling terrible about herself because of what he had said.

Here's another example, told to me by a patient I saw yesterday:

Woman to ob/gyn: I have been keeping track of my symptoms and I think I have PMS.

Ob/gyn (just out of residency): The problem with you is that you have an obsessive compulsive neurosis, evidenced by the way you keep track of your menses.

And she went back to him! But finally she came to me, and she was right - she does have PMS and it's responding to treatment.

I'll give you an example of a conversation I heard recently:

Female patient to OB after hysterectomy: It hurts more on the left side, doctor. Should I be worried?

OB to female patient: No, dear, we did more work on that side.

Resident to OB outside of patient's room: Why did you tell her that? I was there, and I didn't see you do more work on that side.

OB to resident: Of course not, son, but look how much better she feels now!

This is how these residents learn to treat women!

One of the teachers most respected by the residents here is so respected because he can do a Cesarean in twelve minutes. His complication rate is horrendous because you can't help but butcher the woman when your emphasis is speed, but the residents don't seem to notice that. No residents scrub in on my deliveries because I don't do much, don't use the machines, so they think they have nothing to learn from me - they don't want to know about truly normal birth.

9. A further trend in obstetrics is the increasing percentage of women who will be practicing this specialty: half the students in many medical schools today are female. In 1986 69% of U.S. medical school graduates who said they would choose obstetrics were women, compared to 34% in 1982 (Wall Street Journal, 1987). Thus far, female obstetricians, constrained to overcompensate in medical school for being female, have in general made no significant changes in the conduct of American birth. What differences the power of increasing numbers will make remains to be tracked by students of the American way of birth. One "radical" obstetrician offered this observation:

I was recently amazed when several OB residents who are female stated that they wanted their epidurals by the third contraction. It's so interesting that these women, usually placed on a pedestal by feminists....really don't know what it is to give birth and don't stand a chance of finding out. They learn from their experience in the hospital that birth is only okay if it is technologically controlled. Rarely if ever will they participate in a truly normal birth. That's perceived as boring because they don't learn any skills from it....If a female resident never sees normal, of course she's going to want an epidural!

10. The Childbirth Alternatives Quarterly states, "The national Cesarean rate was 22.7% in 1985, up 1.6% from 1984, as reported in unpublished statistics compiled by the National Center for Health Statistics" (Ashford 1986-7, Winter).

References Cited

Abrahams, Roger D.

1973 Ritual for Fun and Profit (or The Ends and Outs of Celebration). Paper delivered at the Burg Wartenstein Symposium No. 59, on "Ritual: Reconciliation in Change," New York: Wenner-Gren Foundation for Anthropological Research.

Arms, Suzanne

1981[1975] Immaculate Deception. New York: Bantam Books.

Ashford, Janet Isaacs, ed.

1986-7 The Childbirth Alternatives Quarterly. Winter.

Babcock, Barbara, ed.

1978 The Reversible World: Symbolic Inversion in Art and Society. Ithaca NY.: Cornell University Press.

1980 Reflexivity: Definitions and Discriminations. *Semiotica* 30:1-14.

Banta, H. David and Stephen B. Thacker

1979 Costs and Benefits of Electronic Fetal Monitoring: A Review of the Literature. U.S. Dept. of Health, Education, and Welfare, National Center for Health Services Research, DHEW Pub. No. (PHS)79-3245, Washington, D.C.: U.S. Government Printing Office.

Beuf, Ann Hill

1979 Biting Off the Bracelet: A Study of Children in Hospitals. Philadelphia: University of Pennsylvania Press.

Brackbill, Yvonne, June Rice, and Diony Young

1984 Birth Trap: The Legal Low-Down on High-Tech Obstetrics. St. Louis: Mosby.

Carver, Cynthia

1981 The Deliverers: A Woman Doctor's Reflections on Medical Socialization. In *Childbirth: Alternatives to Medical Control*.

Shelly Romalis, ed. Pp. 122-149. Austin: University of Texas Press.

Corea, Gena

1980 The Cesarean Epidemic. Mother Jones, July.

1985 The Hidden Malpractice.

1985 The Mother Machine. 1985.

d'Aquili, Eugene G., and Laughlin, Charles D.

1979 The Neurobiology of Myth and Ritual. In The Spectrum of Ritual: A Biogenetic Structural Analysis. d'Aquili, Eugene, Charles D. Laughlin, and John McManus, eds. Pp. 152-182. New York: Columbia University Press.

d'Aquili, Eugene G., Charles D. Laughlin, and John McManus,

1979 The Spectrum of Ritual: A Bio-Genetic Structural Analysis. New York: Columbia University Press.

Davis-Floyd, Robbie E.

1986a Afterword. In The Healing Power of Birth, by Rima Beth Star, Pp. 119-135. Austin, TX: Star Publishing.

1986b Birth as an American Rite of Passage. Ph.D. dissertation, Department of Anthropology/Folklore, University of Texas at Austin. University Microfilms Publication No. 86-18448.

1986c Routines and Rituals: A New View. Nurses Association of the American College of Obstetrics and

Gynecology Update Series, Princeton, NJ: Continuing Professional Education Center, Inc.

1987 Obstetric Training as a Rite of Passage. Woman, Physician and Society. Special Issue of the Medical Anthropology Quarterly. Vol. 1, no 3.

1988 Birth as an American Rite of Passage. In The Anthropology of Childbirth in America, Karen Michaelson, ed. Beacon Hill, MA: Bergin and Garvey.

Douglas, Mary

1973 *Natural Symbols: Explorations in Cosmology*. New York: Vintage Books.

Easterbrook, Gregg

1987 The Revolution in Medicine. *In* Time Magazine. Pp. 40-74. January 26.

Fox, Renee

1957 Training for Uncertainty. *In* The Student Physician: Introductory Studies in the Sociology of Medical Education. Robert K. Merton, George G. Reader, and Patricia L. Kendall, eds. Cambridge MA: Harvard University Press.

Hahn, Robert A.

1987 Divisions of Labor: Obstetrics, Woman and Society. In Williams Obstetrics, 1903-1985. Woman, Physician, and Society, Robert A. Hahn, ed. Special Issue, Medical Anthropology Quarterly 1:2, September.

Harrison, Michelle

1982 *A Woman in Residence*. New York: Random House.

Harwood, Michael.

1984 The Ordeal: Life as a Medical Resident. The New York Times Magazine, June 3.

Haverkamp, Albert D. and Miriam Orleans

1983 An Assessment of Electronic Fetal Monitoring. In Obstetrical Intervention and Technology in the 1980s, Diony Young, ed. Pp. 115-134. New York: The Haworth Press.

Henslin, J. and Biggs, M.

1971 Dramaturgical Desexualization: The Sociology of the Vaginal Exam. In Studies in the Sociology of Sex, ed. J. Henslin, pp. 243-72. NY: Appleton-Century-Crofts.

Kitzinger, Sheila

1980 *Women as Mothers: How They See Themselves in Different Cultures*. NY: Vintage Books.

Sexuality of Birth

Leach, Edmund

1979[1966] *Ritualization in Man in Relation to Conceptual and Social Development*. In *Reader in Comparative Religion*, 4th edition, William A. Lessa and Evon Z. Vogt, eds. Pp. 229-233. NY: Harper and Row.

LeBaron, Charles

1981 *Gentle Vengeance: An Account of the First Year at Harvard Medical School*. New York: Richard Marek.

Lex, Barbara

1979 *The Neurobiology of Ritual Trance*. In *The Spectrum of Ritual: A Biogenetic Structural Analysis*. d'Aquili, Eugene, Charles D. Laughlin, and John McManus, eds., Pp. 117-151. NY: Columbia University Press.

Luria, A.R.

1966 *Higher Cortical Functions in Man*. NY: Basic Books.

Malinowski, Bronislaw

1954[1925] *Magic, Science, and Religion*. In *Magic, Science and Religion and Other Essays*. Pp. 17-87.

NY: Doubleday/Anchor.

McManus, John

1979a *Ritual and Ontogenetic Development*. In *The Spectrum of Ritual: A Biogenetic Structural Analysis*. d'Aquili,

Eugene, Charles D. Laughlin, and John McManus, eds. Pp. 183-215. NY: Columbia University Press.

1979b. Ritual and Human Social Cognition. In The Spectrum of Ritual: A Biogenetic Structural Analysis. d'Aquili, Eugene, Charles D. Laughlin, and John McManus, eds. Pp. 216-248. NY: Columbia University Press.

Mendez-Bauer, C. J.

1975 The Upright Position for Labor. Journal of Perinatal Medicine 3. Pp. 89-95.

Merchant, Carolyn

1983 The Death of Nature: Women, Ecology, and the Scientific Revolution. San Francisco: Harper & Row.

Miner, Horace

1975[1956] Body Ritual among the Nacirema. In The Nacirema: Readings on American Culture. James P. Spradley and Michael A. Rynkiewich, eds. Pp. 10-13. Boston: Little, Brown & Co.

Moore, Sally Falk and Barbara Myerhoff, eds.

1977 Secular Ritual. Assen, The Netherlands: Van Gorcum.

Munn, Nancy D.

1973 Symbolism in a Ritual Context: Aspects of Symbolic Action. In Handbook of Social and Cultural Anthropology, John J. Honigmann, ed. Pp. 579-611. Chapel Hill: Rand McNally.

Oakley, Ann

1984 The Captured Womb: A History of the Medical Care of Pregnant Women. New York: Basil Blackwell.

Ob.Gyn. News

1982 Every Woman Probably Should be Monitored During Labor. 17(20):1.

Ornstein, R. E.

1972 The Psychology of Consciousness. San Francisco: Freeman Press.

Odent, Michel

1984 Birth Reborn. New York: Pantheon Books.

Parsons, Talcott

1951 The Social System, Glencoe, Ill.: Free Press.

Peterson, Gayle and Lewis Mehl,

1984 Pregnancy as Healing: A Holistic Philosophy for Pre-Natal Care, Vols 1, 2. Berkeley: Mindbody Press.

Pritchard, Jack A., and Paul C. MacDonald,

1980 Williams Obstetrics. 16th edition. New York: Appleton-Century-Crofts.

Rothman, Barbara Katz

1982 In Labor: Women and Power in the Birthplace. New York: W.W. Norton and Co. (Reprinted in paperback under the title Giving Birth: Alternatives in Childbirth. New York: Penguin Books, 1985.)

Schwartz, R., A.G. Diaz, R. Fescina and Roberto Caldeyro-Barcia

1979 Latin American Collaborative Study on Maternal Posture in Labor. Birth and the Family Journal 6:1. Pp. 22-31

Scully, Diana

1980 Men Who Control Women's Health: The Miseducation of Obstetrician-Gynecologists. Boston: Houghton-Mifflin.

Shaw, Nancy Stoller

1974 Forced Labor: Maternity Care in the United States. New York: Pergamon Press.

Star, Rima Beth

1986 The Healing Power of Birth. Austin, Tx: Star Publishing.

Stewart, David and Stewart, Lee, eds.

1976 Safe Alternatives in Childbirth. Marble Hill, MO: National Association of Parents and Professionals for Safe Alternatives in Childbirth.

1977 21st Century Obstetrics Now!. Vols 1,2. Marble Hill, MO: National Association of Parents and Professionals for Safe Alternatives in Childbirth.

1979 Compulsory Hospitalization or Freedom of Choice in Childbirth? Vols. 1,2,3. Marble

Hill, MO: National Association of Parents and Professionals for Safe Alternatives in Childbirth.

1981 The Five Standards for Safe Childbearing. Marble Hill, MO: National Association of Parents and Professionals for Safe Alternatives in Childbirth.

Thacker, Stephen B. and H. David Banta

1983 Benefits and Risks of Episiotomy. In Obstetrical Intervention and Technology in the 1980s, Diony Young, ed. Pp. 161-178. New York: The Haworth Press.

Turner, Victor W.

1967 The Forest Of Symbols. Ithaca, NY: Cornell University Press.

1969 The Ritual Process: Structure and Anti-Structure. Chicago: Aldine.

1979[1964] Betwixt and Between: The Liminal Period in Rites de Passage. In Reader in Comparative Religion, 4th edition, William A. Lessa and Evon Z. Vogt, eds. Pp. 234-243. New York: Harper and Row.

van Gennep, Arnold

1966[1908] The Rites of Passage. Chicago: University of Chicago Press.

Vogt, Evon Z.

1976 Tortillas for the Gods: A Symbolic Analysis of Zinacanteco Rituals. Cambridge, MA: Harvard University Press.

Wallace, Anthony F.C.

1966 Religion: An Anthropological View. New York:Random House.

Wall Street Journal

1987 Obstetrics and Gynecology. P. 1. Jan. 26.

Wertz, Richard W. and Dorothy C. Wertz

1977 Lying-In: A History of Childbirth in America. New York: The Free Press

Young, Diony

1982 Changing Childbirth. Rochester NY: Chilbirth Graphics.