Technologies of the Exterior, Technologies of the Interior:
Can We Expand the Discourse of Reproductive Studies?

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AFTERWORD
to Body Talk: Rhetoric, Technology, Reproduction
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In their Introduction to this volume, the editors note that the new reproductive technologies "raise conflicts about how technology might be used in relation to human birth; yet often, what gets reported and thus communicated to society at large is a mix of technological determinism and wonder, with very little critical perspective." The chapters in this book do an excellent job of providing that perspective. They call into question the dilemmas and paradoxes presented by the NRTs but so often skimmed over in both technoscientific and popular discourse, and highlight the gender biases and pitfalls that pervade the design, application, marketing, and implementation of these reproductive technologies. So often, language that appears gender neutral, even compassionately humanistic, disguises hidden patriarchal agendas. Foucault says that power is not possessed but performed; these chapters point up the performance of hegemonic ideologies and agendas even through such apparently feministic rhetoric as "informed choice." How informed can our choices be when the information we receive reflects only one way, the technomedical way, of looking at the world and at our bodies? From the new genetic model of medicine now taking hold to the older germ theory of disease, this technomedical approach is mechanizing, fragmenting, deconstructive, and expensive, and its widespread cultural credibility, while opening new options, is closing down others at a rapid pace.

Body Talk Taboos

As the chapters in this book clearly point out, the way we talk about our bodies and our reproductive activities has been transformed over the course of the past three decades. In 2000, we talk about these things differently because we do them differently than we did in 1970. Turn-of-the-millenium women routinely go to work and stay there for years, postponing childbearing until their mid-thirties or early forties. They rely on various birth control methods so they can develop their careers, then find that the combination of age and the side effects of these methods may have rendered them unable to conceive. Environmental pollution lowers sperm counts, contributing to the problem. But not to worry, says the advertisement for the infertility clinic! The problems we create with technology can be solved with more technology. And thus women step onto the discursive and performative conveyor belt of the NRTs.

In her excellent book *Embodied Progress: A Cultural Account of Assisted Conception* (1997), Sarah Franklin describes the addictive nature of the in-vitro fertilization process: each step successfully achieved promises the possibility of going one step further the next time. Women who start out thinking, "The clinic is there, why not try it?" end up spending years of their lives and thousands of dollars of their money trying to get to that next step, in spite of the statistics that warn them that only ten percent of them will succeed. Assisted conceptive technologies have a pincer-like effect, trapping women between techno-dazzle promises and the slight statistical possibility that they will be the one for whom those promises will come true.

Taking the larger view, we can see that the new reproductive technologies whose rhetorical strategies are so cogently analyzed in this collection aptly demonstrate what anthropologist Peter C.

Reynolds has called the "One-Two Punch of the Technocracy" (1991). In our introduction to Cyborg Babies: From Techno-Sex to Techno-Tots, Joe Dumit and I describe this process as follows:

> Take a highly successful natural process, like salmon swimming upstream to spawn. Punch One: In the name of progress and improvement, render it dysfunctional with technology-–dam the stream, preventing the salmon from reaching their spawning grounds. Punch Two: Fix the problem created by technology with more technology–-take the salmon out of the water with machines, make them spawn artificially and grow the eggs in trays, then release the baby salmon downstream near the ocean. This One-Two Punch-–destroy a natural process, then rebuild it as a cultural process-–is an integral result of technocratic society's supervaluation of science and technology over nature. Reynolds articulates this technoscientific de- and re-construction of nature as a process of mutilation and prosthesis. (Dumit and Davis-Floyd 1998: 10)

Elsewhere (Davis-Floyd 1994; Dumit and Davis-Floyd 1998), I have suggested that the cultural management of American birth is a significant example of this One-Two Punch. For example:

> Biomedicine mutilates the natural rhythms of birth by multiple interventions in every phase (withholding food and drink from laboring women, which weakens them; administering pain-relieving drugs that slow labor; making the woman lie flat on her back during labor and birth and thereby reducing the flow of blood and oxygen to the baby), then prosthetizes the skewed results (inserting IVs to administer the fluids the woman is not allowed to drink; injecting into the IV drugs to speed up labors slowed by drugs that relieve pain--which further inhibit blood and oxygen supply to the baby; electronically monitoring the baby's level of distress, which will rise as its blood and oxygen supply drop; delivering the iatrogenically distressed baby by forceps or cesarean section). (Dumit and Davis-Floyd 1998: 10).

In cyborgifying childbirth, technomedicine creates problems with technology, then solves them with more technology in true One-Two Punch fashion. When the outcome is a healthy mother and a healthy baby, technomedicine claims the credit; when not, the blame is placed on nature or God because clearly, all that humanly *could* have been done to prevent a bad outcome, *was* done.[1]

Like the birth activist I often am, I am personally inclined to deplore this situation. Yet like the good anthropologist I try to be, I am only too aware that it is very much in line with the desires and expectations of the majority of American women. 70 of the 100 women I interviewed for my first book, Birth as an American Rite of Passage, either actively sought or were generally comfortable with techno-birth. Technological interventions, from electronic monitoring to vacuum extraction, give women a sense of safety, reassuring them that the best the technocracy has to offer—its highly sophisticated technology—is being applied to assure them of a healthy baby. Of course, in reality technology can offer no such assurance; nevertheless, its application gives women the *feeling* that all that can be done is being done. It is this same feeling of covering all the bases that infertile women who want children seek, this same feeling that women who accept prenatal testing also seek. It's their personal variation on what I call the technocratic imperative: *if it can be done, it must be done*.

And so, as Barbara Katz Rothman (1989) has cogently pointed out, the range of our choices, while appearing to expand, in fact narrows down to what *technology* can do. If genetic tests exist, women feel they must use them; otherwise they would not be giving their babies "the best care" (Browner and Press 1995, 1997). If techno-conceptive procedures are developed, we must try them; otherwise we will not be doing everything we can to meet our cultural and personal imperatives to have children of our own. If a machine is available to monitor our baby's heartbeat electronically during labor, we must use it; otherwise we will not be taking every possible precaution. Choices come and choices go: as we gain the choice to travel the promising but perilous paths of biotechnology, seeking to conceive, to bear babies that we know in advance to be healthy, to give birth to babies that remain so, we lose the choice to travel other paths.

What might those other paths be? The question is worth asking, because the answers are so non-normative (in the Foucauldian sense) that they are not obvious. The gym teachers studied by Verbrugge (this volume) came up with another way to approach menstruation, one based on their lived experience as women and their bottom line view that women's bodies are fundamentally normal and healthy. Going further, in The Woman in the Body, Emily Martin (1989) asked what kind of creativity we might unleash were we to conceptualize menstruation as a time of during which we might turn our attention inward to hear and to honor the rhythms of our bodies, acting on our physical needs--be they for sleep, for activity, or for quiet meditation. Normative behavior has long driven women to ignore such needs and rhythms to meet the demands of family and career—what if, like First Nations women who retreated to moon lodges to honor this special time (Buckley and Gottlieb 1989), we learned to respect our bodily needs and rhythms instead? I know some women who have suffered from PMS for years, only to find that it vanished when they began to respond to their monthly cycles by taking time off to listen to their bodies. They came to realize that the rage that had come bubbling up and been named "PMS" was both sign and symptom of a deep dissatisfaction with the way they were living their lives.[2] If some women can alleviate PMS not by medicalizing but by normalizing it—that is, by declaring that their symptoms are normal bodily responses to an overly harried lifestyle, and then changing that lifestyle—what of the other situations addressed by the chapters in this book? What other ways besides techno-medicalization—the path through which our culture will seek to channel us--might we find to reconceptualize our approaches to the size of our breasts, infertility, the health of our fetuses, labor and birth?

For example, if you are infertile, what other options are open to you besides the primrose path of the NRTS? There is one that is still obvious--adoption. Another, increasingly less obvious (because less normative) possibility is acceptance of childlessness. Such acceptance can involve filling one's life with other meaningful activities, or what Jane English (1988) has called "childlessness transformed." Another non-obvious choice might be to address the larger environmental problems of the area in which one lives, as these might be affecting the chances to conceive not only of oneself but also of many other women. Nutritional factors are another non-obvious choice; sometimes the lack of even one essential nutrient can dramatically affect the ability to conceive. Less obvious still are possibilities that exist completely outside the norm, such as taking a journey of personal discovery deep into the unconscious, looking for reasons why conception has not occurred. Such reasons, should they exist, might have to do with anything from excessive stress and tension in one's present day life to childhood sexual abuse that resulted in a soul decision never to bear children to face such pain.

I have interviewed women who uncovered these sorts of deeply unconscious reasons for their infertility. Working with therapists or friends, they were able to identify the psychological factors underlying their acceptance of unacceptable stresses in their lives and/or (what they called) their "unconscious programming." Empowered by this information, they proceeded to create conscious change in their lives, and conceived within months. Along similar lines, I have on many occasions heard midwives and other health professionals commenting on women who underwent years of fertility treatment, yet conceived only after they gave up on the process and surrendered to being infertile—as if, somehow, letting go of desire is a necessary prerequisite to its fulfillment. Yet whenever I dare to mention such experiences, I find that most women react instantly and negatively—they feel it is "blaming the victim" to suggest that their psyches may have anything to do with their inability to conceive. "Don't go there," they tell me. "Don't tell us that our lifestyles or our psychology have anything to do with our infertility—it's a physiological reality over which we have no control."[3] And so a new kind of taboo emerges and another set of choices vanishes, and we are left only with the exterior options of fixing our broken body-machines through medicine and its technologies. And we perpetuate this situation through our analytical discourse, as the One-Two Punch of body talk taboos channels us to critique technomedical discourse and in so doing, to keep the focus on it, rendering other sets of

possibilities invisible.

And yet the fact remains that some infertile women do conceive as a result of interior exploratory journeys that lead to major lifestyle and attitude changes. Even if the success rate of such ventures is only the same ten percent as the success rate of the infertility clinics, should they not form at least as large a part of our discursive field as the NRTs? But they do not. Instead, they are ridiculed as “New Age” and denied as fantasy and wishful thinking. And yet the idea that consciousness can play some role in affecting biology is one that is gaining more and more scientific credibility. Is there not more personal empowerment in exploring our abilities to heal ourselves than in giving our bodies over to the medical system? Where is that discussion in relation to infertility? It exists, as best I can tell, only on the countercultural fringe (see for example Parvati Baker 1986a, b, 1991, 1992; Payne 1997).

Baby Talk Taboos

The same goes for fetal diagnosis during pregnancy. The health care system and prevailing values and opinions push tests like AFP and amniocentesis and expound upon the benefits of fetal surgery in utero. But very few talk about the consciousness side of that equation. Some women I and others (Westra 1996; Miller n.d.) have interviewed have powerful experiences of psychic connection with their unborn children. For example, Kristin said:

> When I was about two months pregnant...suddenly, from somewhere inside of the front of my head I heard these words, "I'm here, I'm a girl, and my name is Joy Elizabeth"....One night [much later on], I had a Braxton Hicks contraction and I heard a voice inside say "I'm scared." I told her I was scared too and that everything would be okay because we were partners and we would do this thing together. (Quoted in Davis-Floyd 1994:1134)

Elizabeth described her experience of active communication with her unborn baby as follows:

> Two weeks before he was born, he was still breech. My midwives felt confident about a breech delivery, but I....very much wanted him to turn. I went to a therapist who was good at visualization, and asked her to help me get in touch with him. We did the visualization...I could see him so clearly...and I asked him to turn. By the time I woke up the next morning, he had completely turned, and he stayed that way until he was born! (Quoted in Davis-Floyd 1994:1134)

I come to my own sense of fetal consciousness through deeply embodied experience that I have never before found a way to talk about in an academic forum. Fifteen years ago, pregnant with my second child, at the suggestion of my midwives I used visualization to get in touch with my baby two weeks before his birth. He was posterior and the midwives wanted him to turn so that I would have an easier labor. My friend Rima Star guided me as I traveled down through my body with my consciousness, which I visualized as a tiny person. Entering my womb, I swam slowly around my baby, noting the male genitals and rejoicing that my intuition that he was a boy was correct! I saw that he could not turn because the cord was lying across his neck and would wrap around it and choke him if he turned. Consciousness to consciousness, I suggested that he try, but received a wave of fear in response. I got scared too, but Rima suggested to me verbally that he seize the cord with his hands and pull it down over his shoulder as he turned. I communicated that to him with an image, and in response received a wave of relief. A day or so later, he did turn; two weeks later, he was born holding the cord down over his shoulder with both hands.

Fantastic? Impossible? Not at all—just non-normative. The idea that babies may be conscious, or that we can actually communicate with them psyche to psyche is one that has no credibility in the larger society. I never hear it talked about except among midwives, homebirthers, and those involved in the field of pre- and perinatal psychology.[4] Even those women interviewed by Rayna Rapp (1999) about

their non-normative choices *not* to undergo prenatal testing never named fetal consciousness or concern about the baby's experience as a reason for refusing the tests. Yet the chapter by David Chamberlain in Cyborg Babies, "Babies Remember Pain," describes an incident viewed on ultrasound of a baby in utero slapping and batting against the ultrasound needle as it penetrated the amniotic sac. Do we ever ask how babies might feel about needles that invade the wombs they inhabit, about electrodes stuck into their scalps during birth, about forceps pressing into their temples, about injections and heel pricks right after birth, about being taken away from their mothers and put into a plastic box? Some people do, but again, it's not the dominant discourse. Doing all the above to babies is what is normative; treating them as conscious beings is not.

Of course, part of feminist resistance to the idea of fetal consciousness comes from the possibility of its cooption by the patriarchy—it is pretty much a given in feminist understanding that conceptualizing the baby as a separate individual can all too easily be coopted into rendering the mother unimportant or invisible; she becomes the fetal environment and is treated accordingly. When the baby is placed first, judges lock women up to keep them from taking drugs during pregnancy and states pass laws restricting abortion. Feminists want to keep abortion rhetoric focused on women's freedom to choose, but when the right-to-lifers get hold of the idea of fetal consciousness, watch for a new challenge to this discursive strategy. They will accuse us of killing babies that are not only autonomous but also conscious. So for good reasons, another taboo arises in feminist body talk: let's not talk about the baby's consciousness or experience because that can put the mother at risk, in multiple ways. And so another set of choices vanishes from view.

But several years ago I interviewed twenty women who both fiercely defend women's right to choose, *and* believe that babies are conscious. If they choose to carry their babies to term, they protect them from hurtful procedures. They are open to the possibility of psychic connection with what they believe is a conscious being, yet remain free to choose to abort. They talk to their babies through meditation or visualization before the abortion, asking forgiveness and understanding; sometimes after such conversations, they miscarry spontaneously. After miscarriage or a planned abortion, they often have powerful experiences of psychic connection with the child's spirit, which may accompany them throughout their lives as guardian and guide. All of these women hold a deeply spiritual and religious belief that the womb is a gateway for the soul: as they understand it, when a baby is aborted, its soul does not die but simply returns to the other side to await its next chance at life. Similar beliefs in reincarnation are held by billions of people around the world—why are they discounted in the abortion debates? I never tried to publish that research because I didn't know what to do with it; it didn't seem to fit within the dominant analytic modes. Since then, I have seen almost no social science research on this subject—it is as if we have silently decided that such experiences do not count because they do not exist in the feminist or social science lexicon.

The same can be said about birth. Although most of the women I have interviewed about pregnancy and birth took a somewhat mechanistic view of their bodies, of birth, and of the process of fetal development, a few of my interviewees did believe that their babies were conscious and that their bodies had the innate wisdom to give birth. Thus if a problem arose during labor, they would instinctively turn inward, communicating with the baby or and/or accessing their own intuition to determine what is wrong. Maybe the mother is unconsciously resisting letting the baby out because of an unspoken fear that she won't be able to mother it well. Maybe the baby has its own reasons for wanting to stay put or for refusing to get out of a breech position. Maybe it's the father's anxiety, or that of the mother-in-law, that is impeding the birth. Home birth midwives tend to be experts in technologies of the interior, sensing just the right moment to ask the key question, "Sarah, why don't you want this baby to come?" Here is Susan's story:

> Nikki [the midwife] kind of got worried towards the afternoon, because it just kept going on and nothing was changing. And she took me to the shower and said, "Just stay in there till the hot water goes away." And then Nikki asked my friend Diane, "What's the deal with Susan? Is she stressed out about work?" And Diane said, "Well, yeah, I think she's afraid to have the baby...that she's not going to be able to go back to her job." So when I came back out Nikki said, "Right now your job is not important. What you have to do right now is have this baby. This baby is important." And I just burst into tears and was screaming at her and crying and I could feel everything just relax. It all went out of me and then my water broke and we had a baby in thirty minutes. Just like that. (Quoted in Davis-Floyd 1994: 1135)

Many of the home birth midwives I have interviewed are willing to rely on intuition even when it contradicts external indicators, as long as their intuition about the baby's condition matches the mother's. They reject the technomedical notion that birth is safer when it is externally monitored with machines, citing the complications that are often caused by making the mother lie still in one position for long periods of time, the improvement in labor quality when women are up and walking around, the benefits of allowing women to eat and drink on their own during labor to keep up their strength, the beauty and magic of the look on their faces when they give birth on their own. Sometimes, the midwives say, when they try to get a sense of the baby during a long and difficult labor, they can see the baby "glowing" and they know everything is fine. But if there is darkness, a cloud, an emotion of disquiet, they will pack up and transport even if exterior diagnostic tools indicate that things are OK (Davis-Floyd and Davis 1996; Roncalli 1997). Where is the social science discourse about that? In recent years the cultural space for valuing such interior ways of knowing has grown along with the holistic health movement, but beyond Women's Ways of Knowing (Belenky et al. 1986), there has been little feminist analytical attention to intuition and the rich and empowering possibilities it entails for enhancing women's reproductive opportunities and experiences.

I am making no claim that that such technologies of the interior will work every time, or even most of the time, but then, neither do the technologies of the exterior, which cost more and do more harm. My point is that we have as much to learn from exploring the interior relationships between our consciousness and our physiology as we do from probing the exterior mysteries of the objective world. As a society we are already massively committed to the exterior path, from probing outer space to deconstructing the chromosome, and need no encouragement to pursue it. But most of us are leaving the interior paths, the paths of consciousness and intuition, untrodden. Why not explore them all? Yet the feminist analysis of the NRTs, in spite of the fact that it is largely constituted as a critique, nevertheless takes the same exteriorizing approach, focusing on the variables of race, class, and gender, and power to expose the hierarchical and patriarchal application of the new reproductive technologies—what Ginsburg and Rapp (1995) have called "stratified reproduction." In such analyses, consciousness matters only when women narrate their own embodied experiences; otherwise, it does not seem to play a role. Certainly it is essential to reclaim and revalue women's experiences—indeed, I have sought to do just that in much of my work, but I suggest that we not stop there, but rather work to develop a fully holistic approach both to the analysis of the NRTs and to their application. We should not abandon exploration of reproductive technologies of the interior simply because such options are seldom available to the poor; the NRTs of the exterior are usually not available to the poor either, yet we pursue them avidly, writing analyses of how they exclude minorities while ourselves excluding interior technologies, defining them out of existence by paying them no attention at all.

Cyborg Talk: Expanding Our Rhetorical Range

Should such a reconceptualization of what is talk-about-able in our scholarly reproductive discourse become a more visible part of our larger research agenda, I think we will find the concept of the cyborg to be just as analytically productive as it has been to date in our analyses of the external NRTs. It was a revelation to me, as I worked on my own chapter for Cyborg Babies, that there is

nothing in the concept or the reality of the cyborg that precludes holism, consciousness, or organicity. Cyborgs can be just as organic as technological, just as holistic as technologically deconstructed, just as fringe as mainstream. For illustration one need look no further than Steven Mentor's chapter in Cyborg Babies, in which he describes how his wife Margann underwent techno-conception through IVF, then proceeded to give birth to their cyborg baby in the most organic of ways, at home attended by direct-entry midwives (in line with only one percent of America's birthing population).

It is the very ambiguity and malleability of the cyborg that make it so useful. I was helped to understand its analytical flexibility by Joe's and my identification of four different uses of the concept of cyborg that can and often do inform its reporters and analysts. They are: (1) the cyborg as positive technoscientific progress; (2) the cyborg as mutilator of natural processes; (3) the cyborg as neutral analytic tool and metaphor for all human-technological relationships, and (4) the cyborg as signifier of contemporary, postmodern times in which human relations with technoscience have changed for better and for worse (Davis-Floyd and Dumit 1998:8). As the editors of this volume point out in the Introduction, use (1), which they refer to as "technological determinism," characterizes much of what gets reported and communicated to society at large, and thus is also characteristic of prevailing public opinion. Indeed, the reification of technology has become, in my view, the defining feature of the American core value system. (Just look at where the money is spent. Money itself is certainly highly valued in the U.S., but what we spend it on, which is usually more and better technology--tells the deeper story.) My commentary on hospital birth above exemplifies use (2): the cyborg as mutilator of natural processes, as do the chapters by Diepenbrock, Turney, and Sauer in this volume. Uses (3), the cyborg as neutral analytic tool and metaphor for human-technological relationships, and (4) (the cyborg as signifier of postmodern times, for better and for worse) are implicit in many of the other chapters, for ambiguity and multiplicity is the true message of these cyborgian technologies. Just as epidurals free women from the pain of labor but increase the rate of cesarean sections, silicone breast implants can partially alleviate for some women the devastation of losing their breasts while generating terrible health problems in others. Just as IVF can give some women the babies of their dreams, it can wreak havoc for years on the bodies and lives of the same and other women. All of these cyborg technologies both imprison and free, opening some options while closing others. It is my hope that one day the range of choice such technologies encompass will include not only ecological awareness but also the interior technologies I have described above, and that the full spectrum of that range will be just as open to the poor and socially disadvantaged as to the wealthy and socially privileged. And I would like for the research and writings of feminist social scientists to play a large part in achieving that goal.

Further Expansions from Outside to In: Writing the Birthing Body, Analyzing the Books

Indeed, to some extent they already have. In the Introduction to Childbirth and Authoritative Knowledge (1997), Carolyn Sargent and I issued the following call for new directions in research, finding even as we wrote that some of what we were envisioning was already being achieved:

> What is the experience of childbirth like for individual women embedded in their larger cultural systems? We must let women's voices be heard--a primary focus of anthropological research should be women's birth narratives. We must also pay attention to the somatic aspects of birth (Alma Gottlieb, personal communication), as experienced and described by women and as studiable by researchers. What can women's bodies tell us about childbirth? How can we learn to listen? Now that the connection between hormones and emotions has been made clearer, can we return to biology to uncover the physical effects on labor and birth of cultural expectations and individual dreams and fears? Can we develop a language that expresses the deep physiology of birth as well as its cultural overlay? What would it be like to speak in the language of the birthing body?[5]
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> And what effect does language itself have on women's perceptions of their biological experiences? Language is the filter through which experiences are interpreted and expressed. Some contemporary theorists insist that it is the medium through which social life is constructed. In the U.S., that medium is

> hegemonically technomedical; the richly organic alternative discourse of homebirthers is beginning to be studied as well (Coslett 1994; Davis-Floyd 1994; Miller 1994, n.d.). But multiple folk discourses on birth and the body remain unrecorded. How do women talk about birth and their birthing bodies in other ethnic groups and cultures? Our field would benefit from finely textured discourse analyses of women's reproductive speech. . . .
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> Inspired by the interactions of postmodernism and feminism, we suggest the need for special attention to: (1) conflicts and tensions in systems of authoritative knowledge (Davis-Floyd and Sargent 1996, [1997]); (2) the language of birth (see for example Rabuzzi 1994; Kahn 1995; Cosslet 1994) and the affective flow between the public discourse about birth and women's private experience (see Rapp 1984, 1988a,b; Duden 1993); (3) the intense subjectivity and reflexivity of studying a process that so directly concerns women as a gender, and is, for many of us, profoundly experience-near (see Rapp 1987; Davis-Floyd [2000]; Kahn 1995); (4) the multiple voices and divisive agendas within feminism concerning issues of the female body and the non/primacy of its reproductive role (Treichler 1990; for the beginnings of this debate, see Ortner 1974; Mathieu 1978); (5) the agency and self-conscious choices of birthing women and birth practitioners (see Sargent and Stark 1989; Browner and Press [1997], Georges [1997]; (6) the multiplicities of discourse, ideology, and treatment with which birthing women in many cultures must now cope (see Pigg [1997], Szurek [1997]) ; (7) the ideological and cultural factors that work to channel women's choices along hegemonically-approved routes (see Rothman 1989); (8) the politics of birth as cultural representation and expression (see Aijmer 1992; Davis-Floyd 1994; Daviss [1997]).

To this list and the excellent beginning the studies referenced on it have made, I would presently add my hope that future directions in research into the new reproductive technologies will stretch from macro to micro—from, for example, government and industry policies and trajectories to women's tactile, sensory, and embodied experiences, the kind that are so hard to write about. This stretch in fact is partially encompassed in Herrle-Fanning's chapter (this volume) on the two 18th century British midwifery texts, which vividly show us the differences between knowledge as embedded in women's lifeworld experiences and the abstracted scientific knowledge of the (male) experts. That same difference is visible in late 20th century midwifery writings because those same emphases are still carried forward by different kinds of midwives: for example, compare Ina May Gaskin's *Spiritual Midwifery* (1990), which encodes a home birth midwife's knowledge inside a series of amazing birthing tales full of the rich hippie idioms that characterize residents of the Farm, with *Varney's Midwifery* (1997), which is written by a nurse-midwife and presents information in a purely abstract way using medicalized language. These two books themselves represent opposite ends of the philosophical and linguistic spectrum that defines the range of contemporary American midwifery, and point up the need for compassionate and thoughtful rhetorical analyses of their differences and similarities--indeed, there is an increasing number of fascinating works written by various kinds of midwives that would benefit from comparative analysis.

For example, just as anthropologist Robert Hahn (1989) has traced the evolution of obstetrical thought through multiple editions of the authoritative *Williams' Obstetrics*, so might some enterprising social scientist take a similar approach to the various editions of Varney's tome, or trace the evolution of home birth midwifery knowledge and approach through the two editions of Elizabeth Davis's groundbreaking *Heart and Hands*. A similarly fascinating enterprise would be to compare Varney's *Midwifery* with another abstract midwifery text, this one by home birth midwife Anne Frye, who has been the first to attempt to comprehensively codify the full body of out-of-hospital midwifery knowledge in *Holistic Midwifery, Volume 1, Care During Pregnancy* (1995). Such a social scientist would do midwifery a great service, as there are many midwives who would benefit from a careful dissection of the differences between the rhetorical styles and strategies of nurse- and direct-entry midwives, and between the particular systems of authoritative knowledge about birth they are encoding in these works.

Direct-entry midwives have by now done what their early 17th century counterpart could not do: they have created an abstract body of midwifery knowledge about holistic approaches to out-of-hospital birth and encoded it in textbooks, but in doing so they have not lost its embodied and experiential nature and flavor. They retain that flavor not only in their written texts like those by Davis and Frye, but also through stories, the same kind of stories the early 17th century midwife told. They tell those stories to each other all the time, and they write them down and publish them in magazines of their own, most especially Midwifery Today and Gaskin's Birth Gazette. Nurse-midwives in general are trained in a more abstract and medicalized body of knowledge than direct-entry midwives, like the late 17th century Martha Mears, but unlike her they tend not to buy into the knowledge of the male experts but rather to practice out of what both groups call "the midwifery model" of care. They too retain a rich tradition of storytelling, a strong respect for the knowledge encapsulated in such stories, and a willingness to publish their stories in various forums, including the magazines mentioned above. Nurse-midwives' stories tend to be filled with examples of the conflicts and contradictions they experience daily between the medical model dominant in the hospitals where they practice, and the midwifery model they are taught and do their best to apply, while the stories of direct-entry midwives who practice outside of hospitals show little ambivalence about models of care, but do reveal the tension such midwives experience when they must transport their clients and cope in the hospital with a worldview radically different from their own. There are no social science analyses of this large published corpus of informal midwifery stories; they form a rich data source that could be complemented with recorded oral narratives, and they lie waiting for the researcher who will take them up.[6]

My own present research addresses contrasts in the politics and philosophies of nurse- and direct-entry midwives as they professionalize; I have presented some of the results in "The Ups, Downs, and Interlinkages of Nurse- and Direct-Entry Midwifery: Status, Practice, and Education" and "Types of Midwifery Training: An Anthropological Overview," both of which appear in Getting an Education: Paths to Becoming a Midwife (1998).[7] A major goal in writing those articles was to offer what I had learned about midwifery education to aspiring midwives wondering which path to take, in the hope that my research might more fully inform their choices. Writing them was perhaps the most difficult challenge I have undertaken to date, as they brought me smack dab into the postmodern researcher's dilemma—how do we write about our subjects when they are reading (and critiquing) rough drafts of our work before they are even out of the computer? How do we present the sometimes unpleasant truths we learn about them in ways that are fair and responsible but not hurtful and offensive? And most importantly, how can we develop creative methods of collaborative scholarship in which our subjects are also our colleagues and co-authors? These are features of the postmodern world, the cyborg society in which the boundaries are more and more permeable. Our world is transnational, our work interdisciplinary, our methods eclectic, our results available to all. In the end, I ran those articles by twenty midwives (ten nurse-midwives and ten direct-entry midwives), in a very deliberate initiative to be responsive to my subjects and inclusive of their (multiple!) points of view, while still speaking the truth as I saw it in ways they could agree were honest and fair. It was an emotionally trying time, but I believe worth it in the end, and in the interests of developing a more collaborative anthropology. Likewise, rhetoricians who study the discourse and speech communities of various groups may wish to find their own creative ways to include the opinions and perspectives of those they study in the writings they produce.

A final suggestion, one that stems from my overarching desire to help create a useful social science of reproduction, one that makes a positive difference in women's lives by most fully informing their choices. I wonder: what about those women who have read social science analyses of the NRTs even as they are facing the choices these new technologies create? Does our careful analytic work make a difference? If a woman thinking about undergoing IVF, for example, reads Sarah Franklin's Embodied Progress, what effect will that have on (1) her decision about whether or not to undergo the process; and (2) her experience of that process, should she undertake it? I would really like to know—

do we make a difference? How can we overcome our own body talk and baby talk taboos, and work to make our research more relevant to the needs, desires, concerns of the women we study?

Endnotes

1. To be sure, birth carries its own set of risks. In societies in which women are malnourished and overworked, rates of both maternal and infant mortality are high. But when women are healthy, well-nourished, and receive adequate social support, the percentage of complications in childbirth is very low--well under 10%. And the majority of complications that may occur can be screened for in advance. Even the most conservative obstetricians will agree that 90% of all pregnancies and births in healthy mothers will be normal and uncomplicated. The problem is that far too often, technomedical interventions are not reserved for the small percentage of births that actually need them; rather, they are performed on most laboring women. By interfering with the normal process of labor, such interventions often generate the very complications they are designed to prevent. (For more information, see Davis-Floyd 1992; Goer 1995; Wagner 1994; Rooks 1997).

2. Victoria Hall (1998), a researcher at the University of Central Lancashire, has found elevated levels of testosterone in women reporting symptoms of PMS as compared to a control group of women with no PMS symptoms. Can social scientists address the implications?

3. These issues are just as salient in other disciplines. Ros Bramwell is a reproductive health psychologist currently serving as research director of the Midwifery Faculty at the University of Central Lancashire, UK. Her current research project addresses one of the aspects I am calling attention to here: how do the stresses in people's lives affect their reproductive health? Her particular focus is on the menstrual cycle: will stress at work result in more premenstrual distress? During a recent research seminar we both attended, Ros noted that her colleague Ann Walker, in collaboration with other psychologists, held a symposium on the topic that got press coverage, and then carried out a content analysis of the press coverage,

> which moved from saying that PMS could be seen as socially constructed to "it's all in your head." Immediately the papers got letters to the editor asking "How dare you say what I experience isn't real?" Of course, the psychologists involved were not saying "You don't feel this way," but rather were asking "Why do you feel this way?" As soon as it's not directly physiological, that translates in society as "it's all in your head," meaning it's not real. The phrase "social construction" is always subject to misinterpretation. So we have to ask, how can we extend knowledge in a way that can be correctly heard by a range of audiences? I want to develop a more quantitative model that will allow me to combine the social, personal, and psychological, but it's very hard to find funding for this or any research like it. There is hardly any research on the causes of infertility and almost none on the psychosexual causes of infertility. If I wanted to do research on whether yak milk could reduce infertility, I'd be funded because some company could make money from selling yak milk, but nobody can make any money from learning whether or not conflict at work increases premenstrual tension or contributes to infertility. (Paraphrased from seminar remarks, Feb. 12, 1999.)

4. For up-to-date information about this field and an extensive bibliography, see <www.birthpsychology.com>.

5. For an extraordinary and passionate writing of the birthing body, see Robbie Pfeuffer Kahn, Bearing Meaning: The Language of Birth (1995).

6. And just as I have called elsewhere for careful analyses of the differences in utilization of technology among home birth midwives, hospital-based midwives, and obstetricians, so I call here for rhetorical analyses of the differences in the ways nurse-midwives, direct-entry midwives, and obstetricians think about and talk about birth technologies.

7. Both of these articles are also available at <www.davis-floyd.com>.

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