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Last Chance Babies: Interpretations of Parenthood in an In Vitro Fertilization Program

In this article I describe interpretations of parenthood that emerge in the context of an in vitro fertilization (IVF) program in an urban hospital. Through the notion of “odds,” which is used to communicate the likelihood of a successful pregnancy, patients and physicians negotiated a “high-tech” fertilization, issues of medical expertise and authority, and the status of the patient’s knowledge and experience of her own body. I suggest that while in vitro fertilization may be technologically innovative, it is conceptually conservative in upholding existing cultural assumptions about parenthood, sex, and marriage. In melding a cultural approach to kinship with an examination of the “contexts of meaning” in a medical setting, I seek to illuminate the cultural effects of medical technology, the rhetorical determinants of social relationships, and ideas about kinship in the United States.

On July 31, 1978, *Time* magazine headlined a story “The First Test-tube Baby” about the birth in England of Louise Brown, who is a product of the Steptoe and Edwards technique for in vitro fertilization (IVF) in human beings.¹ Three years later the first IVF baby was born in the United States at the Eastern Virginia Medical School (Norfolk General Hospital) in Norfolk. The *Time* magazine article gave all the details: the Browns’ lives and thoughts, the feelings Lesley Brown had as a pregnant woman (“moody like everyone else,” a nurse said), as well as professional (and not-so-professional) comments on the world’s first test-tube baby. The article also described the in vitro fertilization process in language geared to a lay audience. Illustrations included diagrams of the female reproductive system and the steps of fertilization. *Time* was offering a popular account of a heretofore science fiction phenomenon to thousands of readers, many of whom were acquiring their first information about a new technology.² By 1986–87, when my study took place, patients in an IVF program knew far more about this technology, the medical aspects of the procedure, and the probable outcomes than did reporters in 1978.

The Study

“In vitro fertilization and ovum transfer are the processes by which eggs (ova) are obtained from a woman and sperm obtained from a man and then com-

bined in an artificial environment. The fertilized ovum is then implanted into the woman's uterus where, it is hoped, pregnancy will progress to a natural childbirth." This is the first paragraph of an introductory pamphlet for patients in the in vitro fertilization program that I began studying in 1986. The apparent contrast between the concepts of an "artificial environment" and a "natural childbirth" forms one focus of my research. How do patients reconcile the "artificiality" of an IVF process with the presumed "naturalness" of pregnancy and birth? Or do they? These questions are central to a larger study of which my research at an IVF clinic was only a part. The larger study focuses on cultural constructs of the parent-child relationship and assumes the significance of the concepts of "nature" and "culture" for framing American interpretations of kinship (Schneider 1980). In exploring these concepts, I selected both adoption and in vitro fertilization as limiting cases. Adoption, which replaces biological with social parenthood, offers an excellent instance through which to determine the significance of blood and law, birth and contract in cultural notions of kinship (Modell 1986; Schneider 1980). In vitro fertilization, on the other hand, provides a perspective on the role of biology, blood, and nature in understanding parenthood in the United States, specifically the ways in which this technological aid to conception and pregnancy challenges (or fails to challenge) existing theories of the meaning of family, parenthood, and kinship in American society.

Studying in vitro fertilization, however, brought me into the context of a medical institution. The particular program I was studying was part of the fertility clinic of an urban hospital affiliated with a university medical center. This context dictated that discussions about parenthood would take place within and around assumptions about medical expertise and innovative technology. To situate discussions about parenthood, I therefore had to analyze transactions that occurred between patients and staff around these issues. In organizing this aspect of the analysis, I focus on the concept of "odds," a recurrent rhetorical strategy in conversations about in vitro fertilization. Used by patients and by physicians, "odds" reveals points of tension and disagreement, as well as the assumptions that are shared by doctors and patients in the program. The concept condenses various statements about individual chances of becoming pregnant, the rate of pregnancy in the program as a whole, and the probability attached to technological intervention. Expressed metaphorically, statistically, and commonsensically, the concept of odds sets up a framework through which physicians and patients interpreted the links among technology, medicine, and parenthood.

The Setting

An IVF program differs from other medical settings in a number of significant ways. First, patients know an unusual amount not only about their bodies but also about their medical condition and the available treatments (Andrews 1984; Pratt et al. 1958). In addition, the physicians are involved not in curing disease but in providing a child for someone who has been unable to give birth to one (Walters and Singer 1982). (The designation "patient" rather than "client" was chosen by lay participants in the program, a choice with ramifications for the negotiation over expertise that I discuss below.) Furthermore, the "high-tech" component of IVF shifts the meaning and value of expertise for both doctor and pa-

tient, and alters the expectations of each for what the other should know (Reiser 1978).

The particular IVF program I studied was established in 1983. Headed by a doctor who left some six months later, the history of the program continued to be rocky, with a high turnover in staff at all levels. This included the nurse coordinators, who as supervisors of the day-to-day details of the procedure served as key resources for patients. In the past year, however, the program has stabilized. Currently there are two directors, a female and a male doctor, both of whom specialize in reproductive endocrinology.³ The support staff seems to be stabilizing, too, though one nurse coordinator, who assured me in January 1987 that she would "be here forever," was gone by the following August. Change in the directorship has also led to a change in the procedure used and to new policies that give patients a greater sense of participation in the program (e.g., through maintaining their own schedules, by the staff facilitating communication among patients through group meetings, and by personalizing procedures⁴). These policy changes represent a response on the part of the directors to recognized inadequacies of previous regimes, to a perceptible lack of enthusiasm on the part of patients, and to overall disappointment with the clinical and research results of the program.

The success of an IVF program is difficult to assess. In developing statistics, some programs count all pregnancies (including those that end in spontaneous abortion and tubal pregnancies), while others count pregnancies per laparoscopy or egg retrieval (Annas and Elias 1983; Corea and Ince 1987; Lasker and Borg 1987). Calculations vary from program to program, and data on patient characteristics are not readily available, making measurement of success on the basis of individual potential difficult as well (Andrews 1984; Annas and Elias 1983). By any calculation, however, the program under study had achieved little success before the recent reorganization. By the summer of 1987, there had been only one pregnancy (two, if one counts an ectopic pregnancy, which ended in emergency surgery). Staff and patients attributed the low rate of pregnancy to the constant and apparently unusual turnover in the program and to the accompanying decline in morale. Lack of continuous experience may well have been a factor in producing this record, since there is some indication that program experience affects rates of pregnancy (Behrman 1984; Speirs 1984). Reorganization has had a measurable effect; by the end of 1988, there have been 16 IVF pregnancies: four ended in miscarriage, eight are ongoing, and four have successfully delivered. (All my interviews were completed before the improvement in services.)

Another change in the program over the past year has been an increase in the number of patients: in 1988 there were approximately 175 couples, and 250 couples are anticipated for 1989. Reasons for this increase include the willingness of third-party carriers to cover a substantial part of the expense (the IVF program costs about \$6,000 per cycle, and, as patients are frequently reminded, one cycle is rarely enough). Both the addition of an alternative procedure⁵ and word of mouth reports of the program's stability and seriousness have also contributed to its greater popularity at present. Nevertheless, for the fertility clinic staff, IVF is "only a small part of what we do." For patients, IVF is a major undertaking. This difference in perspectives influences interpretations of the policies that are presently part of the program, as we shall see.

Method

With a focus on interpretations of parenthood in a medical setting rather than on the setting itself, I gathered data from extended interviews and observations of clinic events. Participants in my study reflect the range of patients who used the clinic. Patients came from a wide geographical area, some traveling long distances to participate in the program. They also represented fairly diversified socioeconomic backgrounds, since third-party carriers have assumed a substantial part of the expense, including blood tests, lab work, and drug costs. I saw patients ranging from professional couples with advanced degrees and prestigious jobs to unemployed workers and their wives. Most participants had at least a high school education. Racially the group was predominantly white, although two black couples participated during the period of my research. Criteria for acceptance in the IVF program allowed for a range of infertility diagnoses, modified by the requirement that there be a physiological potential for in vitro fertilization. The age of participants in my study was therefore limited by the childbearing potential of the woman. To qualify for the program, couples had to be married, but they did not have to be childless.

A letter explaining my study and assuring individuals of confidentiality was included in the packet of information provided by the nurse coordinator who introduced each couple to the program. The group of people who responded to my request for an interview thus constitute an entirely self-selected sample. In effect, I interviewed those patients who were willing to talk and each signed a consent form before the interview began. This opportunistic strategy is not unusual, however, in research on topics culturally defined as “private” or “intimate” (Kitson 1982). The majority of people responded at the beginning of the cycle, soon after receiving my letter and before they became preoccupied with the demands of treatment. Two-thirds were on their first attempt; three had been through several cycles and used the interview to voice dissatisfaction with the program.

Although all interviews covered an informal checklist of subjects relevant to my research goals, they were basically unstructured and lasted between two and three hours. In two cases, at the request of the participant, I did a follow-up session. The interviews were conducted in a place of the person’s choice—an office provided by the hospital, my office, or their homes. I did not notice any difference in responsiveness from place to place. My impression was that virtually everyone gave honest and reflective accounts, partly because of the voluntary nature of their participation and partly because they wanted comments on the program to be heard. Some responded at length because they supported the goals of scholarly research. I interviewed 15 wives and 4 husbands; in two interviews the husbands participated with the wives, which gave me a sense of the dynamics of the decision to participate in the IVF program. On the whole, men were more reluctant to be interviewed, and women said they would not “pressure” their husbands to participate in my study. With permission, I tape-recorded all interviews.

Among the staff, I interviewed four medical doctors, the three nurse coordinators, and the two social workers. Interviews with staff were more structured than with patients. Physician interviews lasted approximately two hours, and those with nurses slightly longer. Discussions with the social workers were prolonged and provided me with descriptive and analytic comments on the program

and the patients.⁶ I did not interview members of the general nursing staff or the lab technicians. (The patients had a good deal to say about the lab technicians, a point to which I shall return.)

I treated each interview as a "text" and compared the thematic, rhetorical, and narrative elements that constituted an interpretation of this way of having children (Martin 1986; Mishler 1986). The patient interviews are my primary data, and the staff interviews form a contrastive backdrop to the accounts offered by patients. It became evident that patients were sensitive to the use of language by staff and often expressed an awareness of the power embedded in a category or image, as well as in the presentation of "scientific" vocabulary (Edelman 1984; Martin 1986).

I also observed group orientation meetings, which were held for couples considering the program. With few exceptions, these meetings were attended by husbands and wives and were scheduled in the evening so that both partners could attend. I did not tape-record meetings but took extensive notes on exchanges and interactions between staff and potential participants. Informal gatherings after each meeting also offered insight into the quality of interaction between individuals and staff, as well as of staff with one another. The staff described the details of in vitro fertilization to the group, the organization of the IVF "team," and the physical layout of the hospital. The imperfect success of these meetings was reflected in one patient's remark that "all" she had learned was where various rooms were. The meeting presumably offered an opportunity for patients to ask questions; when I attended, most questions dealt with insurance coverage. I did not observe one-to-one interactions between patients and members of the staff. I did hear a great deal about these interactions, as well as about telephone conversations, from the patients and have used these reports as part of my data.

The written material I examined included medical records requested from patients, intake records prepared by staff, and a packet of informational literature provided to patients. I had access to the forms used for intake by the nurses and social workers. The latter were biographical, and social workers provided me with summaries of the responses. The informational handouts described the in vitro fertilization process, drugs and possible side effects, the organization of the clinic, and the responsibilities of patient and of staff. The packet also contained a consent form that indicated the uncertainty of a successful outcome. In analyzing the informational literature, I was particularly interested in the varied ways in which the material was presented to patients. The packet might, for instance, be offered with an assumption of its superfluousness for the already-knowledgeable patient: "There's some stuff in here you might look at," one patient was told. Or it might be presented with the assumption that the patient was ignorant and thus be accompanied by a step-by-step explanation of each point ("tedious," one patient called this approach). Staff also commented on the presentation of material. Their remarks on this exchange ranged from "patients know so much, it's easy to outline the procedures," to "no matter how much you explain, they never understand the whole process." Such perceptions, often mutually reinforcing yet inconsistent, structured interpretations of IVF as a way of having children.

The "Odds" of Parenthood and the Doctor-Patient Relationship

"Last chance," the phrase used by patients and doctors to describe in vitro fertilization, provided a rhetoric for discussing the probability of success. A pa-

tient was informed of the chances of “success” immediately, in the brochure available to anyone considering the IVF program: “It is important for those couples who enter [the program] to understand that the chance of success in any one fertilization attempt is quite small.” The “Concluding Remarks” of the brochure reminded patients: “At the present time, in fact, the expectation for pregnancy after any one attempt . . . is thought to be approximately 20 percent.” However, 20% was not the figure used in day-to-day communications. Instead, the doctors and nurses talked about the chances of becoming pregnant after multiple tries as 25% or “1 in 4.” Reading the brochure’s claim of “after any one attempt,” patients were not certain whether that meant 20% on the first cycle only or on each cycle. Not unreasonably, patients expected that their total chances would improve with each new attempt. (No one I interviewed was planning to stop at one attempt.) The doctors did not say that chances improved with multiple attempts, nor did they quite deny it, since improvement was implied by their figure of “25% over multiple attempts.” Virtually every patient I spoke with remained confused about the relationship between one cycle and many cycles in terms of probable outcome. This ambiguity about the likelihood of pregnancy underlay both doctors’ and patients’ varying perspectives on the meaning of “odds.”

The Meaning of the Odds for Patients and for Physicians

Patients assessed the odds in terms of the likelihood of having “their own” baby. For physicians, “odds” referred to the number of pregnancies in an average IVF population, and this term had emotional resonance for them only inasmuch as such statistics indicated the effectiveness of their techniques and contributed to the prestige of the program. Thus, although patient and doctor each measured the success of the program by number of pregnancies, their interpretation of probability differed. Physicians utilized a statistical meaning of odds, whereas patients applied a subjective measure, their own individual chances of success.

“It’s their money, and IVF keeps them out of Las Vegas,” one medical director said to me. He was not alone among physicians in emphasizing the gamble of IVF, though his phrasing was somewhat more condescending than others. Another doctor, drawing on the same frame of reference, compared IVF to a “roulette wheel,” an image he used to persuade patients of the chance they were taking. All the doctors, though not always metaphorically, stressed the gamble in IVF—an expenditure of money that had no sure outcome. The notion of a gamble allowed doctors to put risk primarily in terms of losing money, which had the unforeseen effect of downplaying the medical risks (e.g., of multiple births) outlined to patients before they entered the program. Throughout the course of treatment, doctors emphasized the element of chance in IVF technology and reminded patients that they were spending money on a procedure that could not predictably result in conception, pregnancy, or birth. Physicians did not differentiate between the chances of fertilization, of pregnancy (most IVF efforts fail at the stage of implantation), or of a healthy birth, and implicitly reiterated the view that patients were taking a chance on the whole procedure in which any one step could fail.⁷

Patients “knew” they were taking a chance. “You gotta think, is it worth going through—and it’s a very expensive program—is it worth going through?” But their calculation of the “gamble” in IVF was not the same as that of the

medical staff, and expenses played a relatively small role in their judgment of the program's worth. Everyone I spoke with had some insurance coverage for the procedure, but all respondents also said they would spend "their own money" if this was the only way they could have a baby. IVF is "sure as hell worth our money," said a woman whose husband was unemployed.⁸ For patients, the last chance character of the procedure especially justified spending the money: "it was my only option" (this phrase also indicates the extent to which IVF patients, at least rhetorically, excluded other options like adoption, childlessness, or waiting for possible technological improvements); IVF was the "end of the road" and worth the shot. They had "nothing to lose." "I really wanted just to play all my cards." As these phrases make clear, if doctors could think of IVF as one gamble among several—and a better one than Las Vegas—patients could not. "I thought, it wouldn't hurt to try." "I never would have forgiven myself if I hadn't tried." This perspective dominated patient interviews, eliminating money and time as factors in the calculation: "if there's a baby at the end of the tunnel, it's worth it." For doctors, the gamble should have given the patients pause. For patients, gambling was better than doing nothing and, in fact as their "only option," IVF was not a gamble at all in the sense that doctors conveyed.

Patients viewed probabilities in the best possible light: "I will be in the 25%, not the 75%." Equally frequently people claimed, "I will be the 1 out of 4." And one person said to me, "I figure I have a 50-50 chance." She calculated the probability on the basis of any one attempt (like tossing a coin), thus making the chance of success seem better. Such interpretations underlie patients' persistence and optimism. "If you go into anything with a negative attitude that this might not work, it's not going to." From the physicians' point of view, however, optimism indicated naiveté and lack of realism about the probable results. When I asked, none of the doctors thought there was a benefit in the optimism demonstrated by "I will be the 1 in 4." Instead, physicians regarded optimism as a failure to calculate the chances properly: "they all want to catch the brass ring," said one doctor, belittling the emphasis on hope and luck that the patients embraced. For patients, the possibility that always existed of catching the brass ring made the "last option" not a desperate alternative but an opportunity to win.

"Controlling" the Odds by Controlling the Frequency of Attempts at Fertilization

Patients' determination to beat the odds became the basis for a somewhat surreptitious struggle for control—surreptitious because, like patients described in other contexts, patients in the IVF program did not want to lose the physicians' respect or deny the physician authority (Crane 1977:15; Tagliacozzo and Mauksch 1972:174). They simply wanted the right to decide how many times to try the procedure, the same way anyone else did in a "normal" pregnancy. They also wanted the right to decide when to stop. "She had been through so many cycles, she had lost count. I think that's awful," said one patient about another. The emphasis on multiple attempts accorded with a cultural assumption about becoming pregnant: to keep trying is culturally part of any "program" for having a baby. Patients may have unconsciously drawn on this assumption to support their interpretation of the ratios presented to them. Social workers and nurses had more sympathy for the strategy of beating the odds than did physicians and, like the

patients, saw being able to try again and again as an indication of patient control over the process. One social worker defined her role for me as “giving the patients a sense of control” (cf. Behrman 1984).

This sense of control derived in part from patients’ assertion of their own expertise and bodily self-awareness. “People should be permitted to take their own chances . . . a patient knows her own body.” In statements like this one, patients argued that the doctors should base the decision about how many cycles to try on the patients’ expertise about her body. Husbands also maintained this perspective and trusted what their wives knew: “She’ll do what she decides to do.” Patients’ confidence in private experience as the measure of response to in vitro procedures was used to support the conviction that the success rate of IVF could be improved through repeated application.

So far as I could tell, there were no stated rules about the number of times a patient could try any one of the three fertilization procedures, though changes in the protocol for a patient were limited by diagnosis and staff capability.⁹ All the physicians I talked with agreed that patients had a choice about the number of cycles to undertake. Yet they attempted to control the number, basing their intervention on psychological grounds: “their [patients’] ability to tolerate severe disappointment is a factor. Patients can only take losing out so many times.” Patients regarded this position as an indication of doctors appropriating knowledge that rightly belonged to themselves (cf. Starr 1982). From the patients’ point of view, judgment of one’s tolerance for disappointment had to be subjective—a patient’s and not a physician’s prerogative. But they were still patients, and from that point of view required the physician’s expertise: “Until they decide to give up with us, we’ll keep going.”

Medicine and Technology: Physicians as Technicians

In calling IVF “high tech,” patients voiced the expectation of a successful outcome in contrast to the unsuccessful medical treatments they had received previously. Yet, equally apparently, patients did not want doctors to be “mere technicians” and demanded from them the special insight into physiological processes that is culturally a prerogative of medicine. Patients in the IVF program distinguished expertise about nature from the effective application of an advanced technology. To paraphrase the gist of patient interviews: doctors should treat the technology as a predictable mechanism, but the individual to whom it was applied as a delicate subject. This suggests, too, the ambiguity patients built into the physician role. Staff contributed to the ambiguity by claiming that IVF was “all technique” and, simultaneously, that the outcome of the technique varied with the individual’s natural reproductive capacity.

Patients granted the physicians special medical expertise when they expected empathy for symptoms and “private experiences.” “Dr. B is the best as far as I am concerned. I think she really understands what I’m going through.” Similar expectations were expressed in complaints about doctors who were cold, impersonal, businesslike; “she [a doctor] didn’t know what we were going through.” “You don’t see them, and you don’t find them empathizing now, which is—you know.” Patient comments about lab technicians confirmed the link between knowledge and empathy. Technicians were described as indifferent, cliquish, and

ignorant of the human body. "I had to show her where my vein was." "They stood around drinking coffee." This rhetoric in patient interviews upheld a traditional role for the doctor in an in vitro fertilization program.

Physicians reciprocally created a role for patients through several kinds of statement. One was to describe patients as desperate, at the "end of the road," and in need of treatment. Patients in the IVF program did not define themselves as sick and for that reason, among others, resisted being characterized as desperate. "I'm not compelled [to be pregnant] to a point where I feel it's life and death, you know."¹⁰ But patients did claim a right to the newest techniques for treating their condition and thus maintained a patient, if not a sick, role. Another strategy by which physicians kept patients in role was to deem lay knowledge "naive" and "misguided," a primary example being references to patient interpretations of the probability of becoming pregnant. Doctors did remark on the "sophistication" of IVF patients but simultaneously or subsequently told me that "they" (patients) had to be "disabused" of false information, shorn of "medical jargon," and reminded of what to do "every step of the way." Here again doctors put patients in the conventional role: nonexpert, passive, and compliant.

Patients were compliant in a medical sense, but assertive in defining the role of patient. "I get upset when they tell me the medication overrides the cycle because it doesn't." "I knew I was pregnant, and they refused to give me a pregnancy test," said a woman who ended up in emergency surgery for an ectopic pregnancy. In the end, however, patients were dependent upon medical expertise, and in describing IVF merged the technology with conventional medical treatment as part of upholding the traditional patient-physician relationship. "Well, sure they remove the eggs from your body and they fertilize them in a dish. But I only looked at it in terms of what they can do to help medically." The treatment was not simply "technique," although technology was the major reason for accepting medical treatment.

In sum, a medical model formed a bridge from "technology" to "nature," from an artificial environment to the natural childbirth each participant hoped to achieve. For patients in the IVF clinic, failure to reproduce was a disease from the perspective of treatment; a failing in the body (nature) should be handled medically, with the use of whatever advanced "tools" were available. But their infertility remained distinct from disease inasmuch as patients denied the "sick" role, claimed knowledge equivalent to that of the doctors, and understood themselves to be using technology rather than medicine to change their condition. Yet patients were "compliant" with the prescriptions given by doctors, thus preserving the physician role and its structural entailments (Lazarus 1988; Mishler 1981).

In Vitro Fertilization and Parenthood

The goal of participation in an in vitro fertilization program is to have a biological baby: everyone said so. An IVF product is biological in that the child is "truly 100% genetic material," as one doctor said. IVF is also biological in the sense that the woman's pregnancy is "normal": the patient does not need a fertility specialist once pregnancy has occurred. The "normalness" of the birth is underlined in patient reactions to the issue of telling the child about the circumstances of her conception. Patients do not think they have to tell a child about

IVF, since the baby “was born like any human being.” Yet discussion of telling also recalled just how *unordinary* the birth is. Several patients said that though they would, of course, tell a child about adoption, they would not tell a child about his or her in vitro conception. The reason given was that they were afraid of what others would say, that the child would be called a “freak” or a “test-tube baby.” “I wouldn’t want my child to grow up with everyone knowing she’s a test-tube baby.” In this regard, more than one person criticized the Browns for publicizing the birth of Louise, convinced that the child would be subject to “nasty remarks.” People can be cruel: “People like to start a lot of rhetoric about things they don’t know.”

The phrase “100% genetic” indicates the effort that was made by both patients and physicians to mitigate the artificial, high-tech aspect of an IVF birth. Like “blood,” “100% genetic” symbolizes the proper relationship between parent and child in an American cultural context. Use of the phrase or a variant in interviews suggests an attempt to gloss over the technical process by emphasizing the product, a full biological baby. That this linguistic device could succeed testifies to the strength of a cultural assumption that the tie between parents and child is grounded in shared biological substance.

“It’s real weird that it [egg and sperm] leaves both our bodies and then comes back.” This patient’s comment reveals the tension between “artificial” and “natural” in the IVF procedure. Her comment also contains a resolution of the tension involved in embarking on a technological route to natural childbirth. Packed into her sentence is a view of relatedness (“both our bodies”) and an attempt to naturalize the steps of in vitro fertilization by in effect eliminating the doctor. “It leaves our bodies and then comes back” eliminates an agent; egg and sperm act as if on their own, without medical or technological intervention, almost an extension of sexual intercourse. A similar resolution of the natural and artificial appeared in statements about the production of eggs: “And they were four good eggs. They [doctors] said themselves that they didn’t understand why it didn’t work.”

Not surprisingly, patient interviews revealed more ways of reconciling artificial with natural than did physician statements, since patients’ parenthood was at stake. One consistent tactic across patient interviews was to accord nature several meanings, of which two stood out: (1) nature meant biological processes, the course of which was neither absolutely predictable nor perfectly known; and (2) nature also meant “natural,” in the sense of real, ordinary, normal—in American culture, natural parenthood is based on blood and biological connection. The elegance of in vitro fertilization is that it encompasses both these meanings of nature. On the one hand, patients considered in vitro technology a counteractive to the uncertainty of their own natural reproductive processes. On the other hand, the resulting child is related to both its parents, carrying genetic substance from mother and father equally. Moreover, the child represents the sexual unity of wife and husband.

The importance of biological relatedness and its link to marital sex was apparent in discussions of alternative ways of having a child: surrogate motherhood, artificial insemination, and adoption. Patients distinguished IVF from surrogate motherhood primarily in terms of relatedness between parent and child. For the patients I interviewed, surrogacy, unlike in vitro fertilization, introduced another

parent and with it the suggestion of adultery. Surrogacy, as one person put it, "violates the marriage contract." "Besides the legal complications [of surrogacy], I couldn't take a child that he had with another woman while I was married to him."¹¹ In contrast, IVF parenthood does not imply either a blood connection between the child and a third person or a sexual relationship outside of marriage. IVF fulfills the cultural assumption that a "real" child is the product of sexual intercourse between wife and husband, and the blood bond to a child "proves" a sexual bond between the parents.

Similarly, patient comments on artificial insemination by donor (also called AID) reflected these themes of biological relatedness to children and sexual bonds between parents. Thought of in terms of a donor, AID, like surrogacy, evoked a blood tie to a third person and, by implication, extramarital sex. In addition, questions about AID recalled to patients the "unnaturalness" of the husband's participation in IVF, an awkwardness almost all my interviewees mentioned, finding this an especially mechanical and impersonal step in the whole procedure. Patients supported AID in terms of improving rates of pregnancy generally rather than in relation to their own situations.

Adoption is a different matter. The patients I talked with were more willing to try adoption if IVF failed than they were either AID or surrogacy. It was as if individuals would rather have a child not at all related to either parent than to have one related to one and not the other. An adopted child, in a sense, comes with a "100% genetic" background that is completely his or her own, a fact to be dealt with equally by the adopting parents. The bias toward adoption suggests that for the IVF population, mutual (equal) involvement of wife and husband is an essential aspect of becoming parents; they want either all or no biological continuity with a child.

Thus, patients subsumed the use of advanced technology under the goal of achieving a biological birth (cf. Grobstein 1981:60). Technology was a "by-pass to nature," the route to a "normal" and "natural" childbirth. If in vitro fertilization succeeds, a baby is born as if there had been no intervention at all. "At the end of the tunnel," in the words of one patient, there is not only a "biological baby" but the conventional experiences of pregnancy, birth, and parenthood. Symbolically IVF does not separate having children from sex.

Conclusion

Patients characterized IVF as an innovative technology, advanced medicine, and "God-given" or "meant-to-be." The three designations are not obviously compatible, and in the process of reconciling them, patients justified the choice of in vitro fertilization as a way of having a baby. A view of technology as a medical breakthrough given by God made technological intervention continuous with nature and a right that patients have (cf. Thomas 1971). (The right to medical treatment may explain why people rejected the term "client" when it was proposed for them by a staff administrator.) Patients claimed that innovations ought to be available, that they were the "next step" in medical treatment, and that they were fated. "It wouldn't be there if God didn't mean it to be." "It's God's will for scientists to know this." "If it wasn't supposed to be, then technologically it wouldn't be there." Fate gave the technology both legitimacy and naturalness: by "having to be," it was less artificial.

The patients in the program I studied considered IVF a choice—though a constrained one, the last option. This construction of choice suggests the cultural pressure not simply to have a child but to have a biological child. For only from that perspective is IVF the last choice: “We want to see what we can produce.” Embedded in the pressure to have a biological child was a conviction of the right to medical treatment for a “failure” to reproduce naturally. “Most commentators on the clinical use of in vitro fertilization and embryo transfer view the alleviation of infertility, particularly in the context of heterosexual marriage, as a desirable goal” (DHEW Ethics Advisory Board, quoted in Grobstein 1981:175). An emphasis on natural reproduction and the heterosexual couple was accepted by participants and modified any sense of the woman-as-victim that might have led to examination of the ideological implications of in vitro technology (Crowe 1987; Lorber 1988).

In none of my conversations did I hear any criticism of the biological model for parenthood. In fact, there was no perceptible challenge to accepted cultural interpretations of parenthood in the IVF program I studied: while turning to an advanced and “extraordinary” medical technology, patients expressed traditional views of motherhood, fatherhood, and family (Rothman 1989). Unlike other technological and social accommodations to infertility and involuntary childlessness, IVF upholds cultural values about the family, sexuality, and the proper relationship between parents and child. From my research it is apparent that when the “artificial environment” of the Petri dish leads to a “natural childbirth,” the last term overrides the first—the brass ring has been caught.

The challenge of IVF to conventional meanings will come on other issues: the definition of a pregnancy and of a person. However, these issues emerge in the context of expanding the application of in vitro technology and not in the context of making biological reproduction possible to married couples. So long as IVF seems to serve patients who want to be parents, such questions may not be asked by those who participate. And as long as IVF is administered in a hospital setting, the power of a concept of biological parenthood combines with a biomedical model of reproductive disorder to maintain a conservative view of parenthood and relatedness. An increase in success rates (better odds) of the procedure or a change in the location of IVF could turn the debate in other directions. What new galaxies of meaning might then emerge remain to be seen.

NOTES

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¹Although research on external fertilization in animals dates to 1893, it was not until 1944 that the first successful fertilization of a human ovum was accomplished in vitro (Frey

1982:304). IVF had also been tried in the United States, and the birth of Louise Brown coincided with a federal court award of \$50,000 to a woman whose fertilized in vitro ovum had been destroyed five years earlier at the Columbia Presbyterian Medical Center in New York (Dickens 1979).

²Polls taken during subsequent months indicated the importance of the Louise Brown story for creating a positive response to the new, technological way of having babies.

³As part of a medical center and training hospital, the clinic encourages research activities. But one doctor said that the program "concentrates on providing service," and research is subsidiary.

⁴Among the new policies that personalize the procedure is one that now allows the wife to be present while the husband collects sperm.

⁵In this procedure, called GIFT or gamete intra-fallopian transfer, the egg and sperm are placed separately into a catheter and injected directly into the woman's fallopian tubes.

⁶The role of the social worker was not played up in the program. One patient had not known there was a social worker; several said they had been "counselled" so much they did not need help any longer. Two women who had had ectopic pregnancies found sessions with the social worker useful.

⁷There was some difference among patients in their response to the physician's gambling metaphor; men objected more strenuously than women to the reported unpredictability of the outcome. The four men I interviewed tended to demand a "guarantee" that the procedure would work and expressed anger at doctors knowing so little about the causes of success and failure. "I want to see some results. . . . I want a guarantee." Women accepted the chance element more readily, and not because they were always the ones who "really" wanted a baby. That feature varied. Women forgot the chance element as they became closely involved in the day-to-day steps of the procedure. Several likened it to the "chance" element in natural pregnancy. "It's great that there's an element of chance," said one woman, more enthusiastic than most. Actively engaged, women were distracted by examinations and lab tests from looking only at "results." Husbands felt themselves to be on the sidelines and expressed this humorously or with annoyance. One said, "my part is minor," and another, "I feel like a third party." Other husbands complained: "The husband should be involved. That is his wife that's taking the chance." This man later revealed how involved he was when, in describing his wife's ectopic pregnancy, he said, "I was all torn up inside about it." In interviews women discussed the details of their participation, whereas men reported feeling distressed at a wife's need to get up at 5 a.m. for a blood test or at her failure to reach the doctor by phone. And this kind of distress evidently led to demands for guaranteed results.

⁸Insurance coverage in the area was good, and all patients I talked with had found ways of covering most of their expenses. Remarks on cost did not vary with socioeconomic background.

⁹At the time of research, three different IVF protocols were available.

¹⁰It is fair to say that those patients who considered themselves "desperate" may have refused to be interviewed.

¹¹Though I argue that dislike of surrogacy reflects the importance of a "100% genetic baby," it is also true that surrogacy introduced evident complications. The "Baby M" story ran throughout the course of my study, recalling the strength of bonds of birth and the uncertainty of a surrogate arrangement. Surrogacy may also be beyond the budget of individuals, especially after participation in an IVF program.

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