

Childbirth in Cross-Cultural Perspective

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In the United States in recent years disenchantment with standard maternity care has been growing: on occasion, the appropriateness of the medical model for our entire conception of birth has been challenged. Yet there has been little information available concerning the range of alternatives to current obstetric practices and, because each culture tends to consider its way of managing childbirth superior to any other, little opportunity to generate and evaluate such alternatives. A cross-cultural comparison of childbirth systems can yield the information necessary for an understanding of the process of childbirth that is unavailable from within any particular system. Cross-cultural study of childbirth is also important for another, somewhat more complex reason. Traditional birthing systems are beginning to change under the influence of Western medicine. Ironically, however, since Western obstetric practices are themselves under pressure to accommodate to changing views of childbirth, some of the very practices currently exported to developing countries are being questioned at home. Furthermore, since only women give birth, studying the many ways in which childbirth is managed in different cultures can broaden our appreciation of female networks, interests and strategies. There has been a growing recognition that our views of social organization have consistently ignored the place of women in society, a deficiency that has resulted in distorted theory and impoverished ethnography (Rosaldo & Lamphere, 1974).

The research we will be describing in this paper represents two complementary approaches to the cross-cultural study of birth. One (Jordan, 1983) consists of intensive study of childbirth in different cultures through immersion in the phenomenon, direct observation and, whenever possible, actual participation in births. This type of approach permits a detailed description of the ways in which childbirth is managed in widely differing cultures.

Anthropological participation in childbirth, we believe, is a particularly useful approach in that it encourages the investigator to see the birth process from the point of view of the people she studies, thus helping her to avoid gratuitously imposing own-society, especially medical, categories for the collection of data about birth. Nevertheless, such approaches have been notably few. Our aim in these investigations has been to broaden the scope of description and analysis by characterizing childbirth practices in relatively general terms, such as how decisions are typically made in different cultures. The second approach (Lozoff, 1982, 1983) consists of analyzing the existing ethnographic record to examine specific hypotheses. Although such analyses depend on the quality and completeness of available reports and are, by nature, somewhat crude and global, they permit one to address specific issues for which anthropological arguments have been made. For instance, criticisms of many standard hospital practices in our culture often contain implicit assumptions about childbirth practices in nonindustrial cultures, such as that mother and infant are typically in skin-to-skin contact immediately after birth. We analyzed anthropological data from a large sample of nonindustrial cultures (Murdock & White, 1969) to determine to what extent such assumptions are

supported by the available data. In this paper we will treat both approaches in turn beginning with the more general participant-observational approach.

**CROSS-CULTURAL COMPARISON OF
BIRTHING SYSTEMS: TOWARDS A
BIOSOCIAL ANALYSIS OF CHILDBIRTH**

Childbirth is an intimate and complex transaction whose topic is physiological and whose language is cultural. Neither element is available without the other. Childbirth practices are produced jointly by universal biology and particular society; the physiology of birth and its social-interactive context are mutually informing. We have proposed previously (Jordan, 1983) that a biosocial framework, which considers both the universal biological function of birth and the specific sociocultural matrix within which it is embedded, is needed in analyses of the process of parturition. Indeed, the natural childbirth movement in contemporary American obstetrics reflects a growing recognition of the intimate relationship between the physiological aspects of parturition and its social and organizational management.

In most societies birth and the immediate postpartum period are considered a time of vulnerability for mother and child, in fact, this is frequently considered a time of at least ritual danger to the entire family or community. To deal with this danger and with the existential uncertainty associated with childbirth, societies tend to produce a set of internally consistent practices and beliefs about the management of both physiological and social aspects of childbirth. Birth practices tend to be highly uniform and ritualized (and may even be invested with a sense of moral requiredness) *within* any given system. Whatever the nature of a particular birthing system may be, its practitioners will tend to see it as the best way, and perhaps the only way, to bring a child into the world. We implicitly acknowledge such recognizable and culturally specific configurations of practices and beliefs when we speak, for example, of "American obstetrics" or "Yucatecan ethno-obstetrics."

While the range of variation *within* a given culture is restricted, the range of variation *across* different cultures will depend on local history, social structure, ecology, technological development, and the like, and is therefore likely to be quite high. For instance, while in all known societies access to births is restricted to a more or less rigidly specified group of people (Ford, 1964), the identity of those allowed to attend varies across cultures (see below).

It is as yet not at all clear what the appropriate categories for cross-cultural comparison of childbirth systems should be. We would argue, however, that such a comparison will be most fruitful if it includes both the medical-physiological and social-ecological aspects of childbirth. Such a biosocial framework will provide a means of integrating the collection and analysis of data. Toward this end, we have studied four very different birthing systems through intensive fieldwork in the United States, the Netherlands, Sweden, and among the Maya Indians of Yucatan (Jordan, 1983).

The four cultures we studied present interesting contrasts. In the United States the great majority of births take place in hospitals and are attended by physicians. (Although childbirth practices in this country are changing, for the purpose of analysis we are concerned here only with those practices associated with standard hospital obstetrics.) Sweden and Holland are both industrial nations with socialized medical care and infant mortality rates that are among the lowest in the world; 7.2 infant deaths per 1,000 live births in Sweden in 1983 and 8.4 deaths per 1,000 live births in the Netherlands in 1983. In comparison, there were 11.5 infant deaths per 1,000 live births in the U.S. in 1983. (All mortality figures are from the *World Health Statistics Annual 1985*. Although the use of infant mortality rates is limited by

variations in how live births are defined and other factors, such figures provide a convenient means of judging the relative safety of childbirth in different countries.) In both European countries all women receive systematic prenatal care, and abortions are available on demand. Births in Sweden occur in hospitals and are managed by highly trained midwives, in Holland about 40% of all births are home births, and delivery by a midwife is common both in the home and in the hospital. Yucatecan culture is technologically less sophisticated than that of the U.S. or the two European countries. Childbirth among Maya Indians is managed by the family, occurs in the home, and is accommodated into the routines of daily life. Women are aided by a traditional midwife, their husbands, and other family members and friends. Infant mortality figures are not available for Yucatan; in Mexico as a whole the mortality rate was 38.5 deaths per 1,000 live births in 1980. (For a detailed account of childbirth in Yucatan, see Jordan, 1983.)

Through extensive involvement in the birth process in these four cultures, we have identified features of these various birthing systems that might be appropriate for a more holistic analysis. The seven dimensions presented here — the local definition of the event; preparation for birth; attendants and support systems; the ecology of birth; the use of medication; the technology of birth; and the locus of decision-making — represent a preliminary step towards a more complete framework for cross-cultural comparison.

Definition of the Event

A society's definition of birth is fundamental; it allows those belonging to the culture to develop a set of internally consistent and mutually dependent birth practices. In the United States birth is predominantly viewed as a medical event and a pregnant woman is accordingly treated as a patient. As such she is expected to fulfill the role of "sick person" (Parsons, 1951): she is considered relatively helpless and exempt to some extent from her normal responsibilities for herself, and she is required to seek technically competent help from medical personnel for treatment of her "condition". In Sweden birth is considered an intensely fulfilling personal experience. The Dutch regard birth as a natural event. The Maya Indians similarly view birth as a difficult but normal part of family life.

The local conception of the birth event determines in large part how the problem of pain will be managed. Pain appears to be a recognized and expected part of birth in all societies. What differs among various cultures is the manner in which pain is treated — whether, for example, it is emphasized or discounted. In the United States, where pain relief is available only at the discretion of the medical attendant, attendants are constrained by medical considerations to withhold medication as long as possible. Consequently, laboring women who desire medication for pain must convince the attendants, whether through outward displays of pain or through other means, that their pain is sufficient to warrant medication. The system thus has a built-in bias for orienting both the woman and her attendants to pain. In Sweden women are informed about what kinds of medication are available, the conditions under which they are not advisable, and any known and possible side effects. Decisions about what medication to take, if anything and when to take it are theirs. This is consistent with the Swedish treatment of birth as a personal experience. Because the Dutch view birth as a natural event, women neither expect nor receive any sort of medication for pain. It is believed that, given time, nature will take its course. Among Maya Indian women, some pain is also an expected part of birth; indeed, it is an expected part of life processes in general. Pain appears in the stories women tell about their birth experiences, such stories represent a way of indicating that distress in labor is normal and a sign of progress, and that it will eventually pass.

Preparation for Birth

All systems have both formal and informal means of disseminating information about childbirth to pregnant women, although little is known about informal educational processes. In Yucatan instruction occurs while labor is in progress. Maya Indians maintain that neither the woman nor her husband should know about the birth process before their first child is born.

Nevertheless, since births take place within the family compound, only minimally separated from the rest of family life, the couple is not completely naive. The other three cultures rely heavily on prenatal care. In the United States prenatal care is variable. The proportion of women receiving prenatal care and education is highest among well-educated women in higher socioeconomic brackets and lowest among indigent women delivering in large urban hospitals. In the Netherlands and in Sweden prenatal care is free, comprehensive and universal. Routine prenatal care is the domain of midwives, and is designed in part to distinguish between normal pregnancies and those which will be potentially complicated. The Dutch and Swedish systems locate responsibility for the course of pregnancy and birth within each individual woman.

Attendants and Support Systems

The identity of birth attendants largely determines the nature of interactions between the woman giving birth and others present, and thereby influences to a significant degree the way in which she experiences the birth event. In particular, nonspecialist participants provide a source of emotional support, and their inclusion permits an interpretation of the event as a normal, albeit difficult, part of life.

For many women in the United States, only medical personnel are present during their labor and delivery. Medical attendants are typically viewed as the physician's assistants rather than as the mother's helpers, and transactions between the woman and attendants are accordingly viewed as medical transactions. Uncertainty, stress, pain, and physiological difficulties are handled by means of medical routines, such as medication, sedation, drugs to regulate contractions, and, often, instruments or surgery to deliver the baby. Yucatecan culture, by contrast, emphasizes patience and noninterference; the attitude of birth participants tends to be that the baby will be born when it is ready. Family and friends constitute a pool of nonspecialist attendants who provide emotional and physical support for the woman. In Sweden the birth team consists of the mother, a midwife and her assistant, and a nonspecialist attendant of the woman's choosing, such as her husband, friend, or relative. Swedish midwives are highly trained in performing technical procedures. While obstetric technology is readily available, midwives also tend to respect a woman's wish for privacy: a woman can be alone with her nonspecialist attendant for much of her labor if she wishes. In the Netherlands the composition of the birth team is similar. Since no medication is used during labor and delivery, all discomfort is handled through breathing and relaxation techniques, with the birth team providing the necessary encouragement and support. In these countries, much more so than in the U.S., birth is a collaborative affair in which all present participate.

The Ecology of Birth

By virtue of the mere fact that it is located somewhere, birth unavoidably occurs on someone's territory. A woman may give birth in her normal environment, such as in her home or other familiar surroundings, or in a special-purpose facility, such as a hospital or clinic. Of the birthing systems we have studied, the Yucatecan is clearly the most unspecialized with regard to birth location. A Maya woman gives birth at home, where a blanket used as a screen

provides a measure of privacy, but does not separate her from familiar household activities. Although hospital deliveries are becoming increasingly common in the Netherlands, Dutch women prefer to give birth at home and will do so unless complications are expected. In Sweden all babies are delivered in hospitals. The hospital ambience, however, offers some of the comforts of home: a woman in the early hours of labor, for example, can pass the time in an early labor lounge, where she can read, watch television, eat a snack, talk to her husband or friend, and otherwise do some of the things she might do at home. In contrast to the European orientation toward minimal disturbance even in a hospital or clinic environment, American obstetric wards have traditionally been designed with a view toward organizational efficiency and the availability of technological resources. In spite of some variations in the standard hospital delivery pattern, particularly in birthing rooms, women are often confined to a hospital bed, an intravenous glucose drip is started, and a fetal monitor attached. Subsequently, laboring women are transferred to a delivery room to give birth on a delivery table. After birth, mothers and infants have customarily been separated, an arrangement required by a hospital organization that treats the mother-child unit as separate patients.

The Use of Medication in Childbirth

For present purposes we regard as medication any substance introduced into the woman's body to affect the course of labor or to provide relief from pain. The use of medication provides a convenient means of gauging the degree to which particular systems justify interference in the birth process. The Dutch system provides no medication during normal births. Even when stimulation of labor is medically indicated, such as for postmaturity, or if rapid delivery is necessary due to a pathological condition, the criteria for what is considered normal are still quite broad. For instance, while in the U.S. ruptured membranes are considered an indication for inducing labor due to the risk of infection, the predominant view in the Netherlands is that ruptured membranes do not warrant any unusual action as long as fetal heart tones are normal and the woman's temperature does not rise. Furthermore, Dutch birth personnel prefer mechanical means, such as digital stripping of the membranes, over pharmacological or surgical means for inducing labor. The Yucatecan system similarly emphasizes noninterference in normal births. A slow labor is not inherently considered cause for concern. Maya women tend to continue with household activities until contractions become too strong. In the event that contractions should subsequently slow down, they stimulate labor by giving the woman a raw egg to swallow, which causes retching and usually stimulates contractions. In Sweden stimulation of labor, sedation, and pain relief through pharmacological methods are fairly common, although drugs are used moderately. Women have a great degree of control over the kinds and quantities of drug they receive. In contrast, reliance on pharmacological agents is pronounced in the United States, where induction and stimulation of labor and the use of analgesics and anesthetics are widespread.

The Technology of Birth

The instruments and equipment required for culturally proper management of labor and delivery constitute a significant element in a society's birthing system. The collection of objects we group together in this category include all items deemed important in a proper birth and not just "obstetric tools", the cross of palms used in Yucatan to ward off evil spirits is just as important to the Maya Indians as the birthing stool women use or as the delivery table is in the United States.

The technology of birth offers important clues to the local definition of the birth event. In societies where tools are simple, easily replaceable, general purpose household objects, birth is more likely to remain within the realm of normal family life than it is in societies where the collection of instruments is extensive and highly specialized (Jordan, in press). The degree of

technological sophistication of birth tools is also related to the extent of specialization of birth attendants, and the artifacts associated with birth help to define the nature of the relationships among birth participants through the claims to professional expertise they support.

The Yucatecan tool kit is the most unspecialized of those we studied. The majority of Maya birth equipment consists of common household objects: the woman's hammock, the wooden stool on which she sits to give birth, the bowl for washing the baby and the clean rags for swaddling the baby are all everyday items. In contrast, the technology of the American birth system — which comprises the instruments of machinery of the labor and delivery rooms, X-ray and laboratory facilities, operating rooms for Caesarean sections, newborn resuscitation equipment, and so on — is clearly quite sophisticated.

As the technology of birth increases in complexity and sophistication, there thus appear to be concomitant changes in several important aspects of the birth process: its location, the identity of birth attendants, and the distribution of knowledge about birth (Jordan, in press).

The Locus of Decision-Making

The nature of the decision-making process during labor and delivery is intimately tied to the degree of self-management allowed the woman and, ultimately, to the question of who "owns" the birth. In Yucatan decisions about whether the woman should eat, which position she should assume, when she should begin to push, whether she is pushing hard enough, and what should be considered unsatisfactory progress are made jointly by the laboring woman, her helpers and the midwife. This collaborative process implicitly acknowledges the competence of all involved. Although the midwife's opinion carries considerable weight, even such "professional" decisions as whether to call in a doctor are negotiated. Dutch midwives typically work with the assumption that a woman is able to read her own body's cues; in normal births, the woman is treated as someone who is competent to manage what is seen as a natural process. In general, however, there are relatively few decisions to be made, since the Dutch conception of birth is that it is best aided by letting nature take its course. Of those decisions that must be made, moreover, many are institutionally managed: whether birth will occur at home or in the hospital, for instance, is decided on the basis of medical and social indicators; the question of who will accompany the woman is one which, although her decision, is restricted by the policy of allowing only one companion; and decisions about medication for pain are irrelevant, since none is typically used.

Births in Sweden occur in hospitals, but it is clearly the woman who, in an uncomplicated labor, makes what decisions the system allows, such as whether she will receive medication for pain. Although medical decisions are made by the physician on call, midwives are highly trained, and the range of situations considered normal, and therefore manageable by the laboring woman and the midwife staff, is quite broad. In contrast, women giving birth in the U.S. traditionally have almost no part in the decision-making process. The assimilation of childbirth into the medical realm subjects the birth event to medical decision-making criteria: since parturition is defined as a medical event, the woman is considered a patient who is, by definition, incompetent to influence the management of her birth.

Summary and Discussion

A biosocial analysis of childbirth indicates that the U.S. birthing system differs in several respects from that of the Dutch, the Swedish, and the Maya Indians of Yucatan. The Dutch and Maya Indians regard birth as a natural process, in which very little interference is necessary. Although in Sweden births occur in hospitals, medication for pain relief is available

and artificial stimulation of labor is sometimes used. Laboring women have a strong voice in the birth process. Birth is defined as a medical/pathological event only in the United States, and, as we have indicated, the medical model of birth has many important ramifications. In recent years, the appropriateness of the medical model of childbirth has come into question in many circles. Critics of the medical model sometimes argue in favor of alternative obstetric practices on anthropological grounds. In the following section we will describe research designed to address such arguments.

CHILDBIRTH IN NONINDUSTRIAL SOCIETIES

Criticisms of standard hospital routines sometimes imply that they are "unnatural" and that we in this country have lost something important and meaningful that may still exist in other cultures. There is often a tendency to romanticize birthing in traditional cultures, to assume that women slip off into the bush to drop their babies with little effort and pain before returning to their work (Ford, 1964). Discontent with the hospital practice of separating mother and infant immediately after birth has given rise to the notions that this practice is unique to industrial societies and that women in traditional cultures experience close, skin-to-skin contact with their infants immediately after birth and nurse them right away.

To determine whether or not these implicit beliefs are accurate, we (Lozoff, 1982, 1983) analyzed existing ethnographic records, available for a sample of 186 nonindustrial societies, in which the subsistence economy is based on agriculture, herding, hunting and gathering, and fishing (Murdock & White, 1969). These societies comprise a geographically, historically, and linguistically diverse sample that is representative of nonindustrial cultures as a whole. We analyzed ethnographic descriptions of childbirth and the immediate postpartum period in these various cultures to answer such questions as: Who usually attends birth? Is the father of the baby typically present? Are mother and newborn in skin-to-skin contact immediately after birth, as is implied in criticism of standard maternity care in this country, or are they typically separated for some period of time? Do women in nonindustrial cultures breastfeed their infants immediately after birth or do they wait for some period of time? It should be noted that the quality of the ethnographic material is variable and sometimes based on second-hand reports. Nonetheless, the representative nature of the sample makes its analysis a potentially valuable complement to in-depth studies of individual cultures. The data related to labor and delivery will be presented first: data related to the period immediately following birth, and in particular to the extent of contact between parents and infant, will be presented afterward.

Labor and Delivery

We found that virtually all cultures had special methods to avoid painful, difficult births, which implies that even in nonindustrial societies there is some anxiety about the pain and danger associated with childbirth. In the colonial era in this country the Puritans exhorted women to prepare for death as they approached childbirth (Wertz & Wertz, 1979). Pain and potential mortality are recognized and expected as a part of birth in almost all societies. Perhaps as a result, we found that women giving birth had assistance and companionship in almost all societies. Women routinely gave birth alone in only 2% of the societies in Murdock and White's sample; they were permitted to give birth alone in only an additional 2%. In the remaining 96% of the societies in Murdock and White's sample women were expected to have companionship. Birth assistants were almost always women, especially women who had themselves given birth; indeed, men were often categorically excluded, with the possible exception of the father of the baby. The women present during birth were more than simply companions, however. In the 71 societies for which such information was available, the

woman's assistants actively tried to influence labor by massage, herbal remedies, manipulation, and even bouncing on the abdomen. In some groups the birth assistant actually dilated the cervix manually to facilitate the birth process in difficult cases. In others, attendants functioned mostly as *dowlas*, or supportive companions (Sosa, Klaus, Kennell, & Urrutia, 1976). The husband of the woman giving birth was allowed at the birth in 27% of the 120 societies for which this information was available. We found evidence that men were actually instrumental in assisting in childbirth in only two cultures. That childbirth in U.S. hospitals is typically dominated by men is thus a situation quite unlike that in nonindustrial societies.

Data concerning the presence or absence of children during childbirth were very scanty. Siblings were allowed to attend birth in only 11 % of the cultures in this sample, and were specifically excluded in 25%. Sibling presence was not recorded for the remaining cultures. In 70% of the cultures in Murdock and White's sample, the most common birth position was with the torso upright; in half, the women squatted or kneeled; in the other 20%, they sat or stood. Women delivered using the hands-and-knees position in only four cultures in the sample. Although women delivered recumbent or semi-recumbent in a third of all cultures, there was no society in this sample in which having the mother's feet in the air is the position of choice. Thus there was no analogue in this sample of the lithotomy position used in standard hospital births in this country.

Women in nearly all cultures prefer to give birth in a familiar location (Jordan, 1983). The Kung San Bushmen, for instance, seek out a favorite spot in the bush (Shostak, 1981), while in some parts of New Guinea women give birth in a special women's hut (Schiefenhovel, 1983), and a woman living in colonial America would usually have given birth in her mother's house (Scholten, 1977). Most commonly, women give birth in their own houses or huts.

It is almost universally expected that women will rest after childbirth. This was reported for in 97% of the 186 cultures in Murdock and White's sample. The average period of seclusion in these cultures was one week. In our own colonial past, women from the community took turns helping the mother for three to four weeks, so she could stay in bed and take care of her baby (Wertz & Wertz, 1979). Among the Maya Indians of Yucatan, the mother and baby are thought to be extremely vulnerable to the influence of spirits from the bush immediately after birth. All doors to the house therefore are closed during childbirth and any cracks in the house stuffed with rags to keep such spirits out (Jordan, 1983). In many other cultures, however, it is the mother and baby who are considered dangerous to the rest of society, and it is for this reason that they are secluded. The English word quarantine (from the French *quarante*, meaning forty) comes from the tradition of isolating a mother and her new baby for 40 days.

Early Parent-Infant Contact and Breastfeeding

Early Contact

In 1972, Klaus and Kennell reported that allowing mothers and their newborn infants to be together in the early hours after birth resulted in significant increases in the mothers' affection toward their infants. For example, mothers who experienced early contact with their infants maintained more eye contact with them when they were older, vocalized and sang to them more, and kissed them and smiled at them more than mothers who had not experienced early contact. Subsequent studies noted that early contact also had a beneficial effect on later breastfeeding. Klaus and Kennell referred to this phenomenon as mother-infant bonding, and hypothesized that there was a sensitive period for this process; that is, they argued that there was a period of time immediately after birth, when infants tend to be relatively alert, that represents an optimum time for bonding to begin. Klaus and Kennell's pioneering research

stimulated additional work in this area, and the concept of bonding has been extended to include fathers (e.g., Greenberg & Morris, 1974).

Despite its controversial nature, research on early parent-infant bonding has motivated changes in the routines of many hospital maternity wards. In addition, early contact studies have fostered a belief that the practices of separating mother and infant and delaying the first nursing represent aberrations of our hospital policies and are absent in traditional cultures. We analyzed the anthropological data to determine if early parent-infant contact would indeed be emphasized in Murdock and White's sample and if such contact might be associated with any differences in later infant care.

There was no special effort to foster *immediate* body contact between mother and infant in 94% of nonindustrial cultures because both mother and newborn were bathed or rubbed. The duration of delay in contact due to bathing was not generally specified but was probably brief. The bathed newborn was given to the mother in approximately half of all societies; the infant was placed in a cradle or basket in the other half. Although the infant commonly remained in his or her mother's sight, *skin-to-skin contact* was quite rare; the infant was given nude to the mother in only 19% of the societies in this sample. Nevertheless, as we noted above, in virtually all societies mother and baby were secluded together in the period following birth and were not a part of the usual daily activities of the community.

General societal ratings of parental involvement and affection, which have been demonstrated to be reasonably reliable and valid, are available for the same 186 societies in Murdock and White's sample (Barry & Paxson, 1971). We dichotomized the following ratings relevant to the effects of postpartum contact: mother's role as caregiver, response to crying, overall quality of infant care, paternal involvement in infancy and early childhood; duration of breastfeeding; and infant's age at introduction of solid food. We compared those societies in which the baby was given to the mother with those societies in which the baby was placed in a cradle or basket. There was no difference between the two groups on any of the following measures: the percent of societies in which the mother was the primary caregiver, in which crying infants received a nurturant response or in which infants received generally affectionate care. Thus, immediate postpartum contact was not associated with differences in maternal affection and involvement on these global rating scales. It cannot be determined whether differences might have been found if more detailed or sensitive measures had been available.

We performed a similar analysis to determine whether fathers were more involved with their children in societies which allowed them to be present at birth. Societies in which fathers were permitted to attend birth were compared with those in which fathers were prohibited from being at birth on dichotomized ratings of paternal involvement. There was no significant difference between the two groups in the percentage of societies in which fathers were closely involved with their children in infancy or early childhood, although there was a trend toward increased paternal involvement in infancy.

Early Breastfeeding

It has been found in several studies of hospital births that women who breastfeed in the first hour are more likely to be breastfeeding when their infants are two months old than women who breastfeed according to standard hospital routine — i.e., at 4-6 hours or even at 12 hours. This result has been obtained in studies conducted in Brazil (Sousa et al., 1974), Canada (Thomson, Hartsock & Larson, 1979), England (Salariya, Easton & Cater, 1978), Guatemala (Sosa et al., 1976), Jamaica (Ali & Lowry, 1981), Sweden (de Chateau, 1967), and the United States (Hally et al., 1984; Johnson, 1976; Paylor, Maloni, & Brown, 1986; Paylor, Maloni, Taylor, & Campbell, 1985; Wright & Walker, 1983).

Several different mechanisms have been proposed to explain the finding that breastfeeding in the first hour after birth has a significant effect on later breastfeeding. This research originally came under the umbrella of the "early contact" research: it was proposed that there is a sensitive period for breastfeeding as well as for early bonding. An alternative explanation is that babies are in a quiet, alert state more often in the first hour than later on, so they suck more effectively, which in turn stimulates the mother's brain to release the hormones that govern lactation. It may also be that simply by putting babies to their mother's breast, health care professionals convey a message about the importance of breastfeeding, which leads to greater success. Regardless of the mechanism involved, early breastfeeding seems to be a consistently effective intervention, and has in many cases been incorporated into hospital routines.

The research on breastfeeding in the first postpartum hour might suggest that early nursing is crucial for successful breastfeeding in humans. One might reasonably assume, therefore, that virtually all nonindustrial societies would insure that immediate suckling occurs. Our analysis of the data in Murdock and White's sample indicated that this is not in fact the case. Of the 81 societies for which the time of initial breastfeeding could be recorded from ethnographies, infants nursed within the first hour or two in 48%; nursing was delayed more than 24 hours in the majority (52%) and delayed more than 48 hours in 41%. The substantial delay in initial breast-feeding occurs in most cases because these cultures consider colostrum, the milk high in protein and immune body content that is secreted for the first few days after parturition, of no nutritional value or even harmful.

In our own culture women who delay nursing for over 24 hours often have difficulty establishing their milk supply. We analyzed Murdock and White's data to determine if lactation failure was a problem in nonindustrial cultures that delayed the first nursing. There was no difference between those cultures that adhere to a practice of early breastfeeding and those that delay breastfeeding either in the duration of breastfeeding or the age at which solid foods are introduced. Indeed, contrary to common assumptions about primitive cultures, solids were introduced before one month of age in one-third of all cultures, regardless of when infants were first breastfed. Similarly, nursing lasted two years or longer in 81 % of the nonindustrial cultures, whether women nursed in the first hour or delayed the first breastfeeding.

Discussion

These anthropological results present something of a puzzle. Few human cultures emphasize skin-to-skin body contact and suckling in the immediate postpartum period, practices associated with longer breastfeeding and increased maternal involvement for individuals in industrial societies. Yet in most nonindustrial groups, mothers are affectionately involved with their infants and breastfeed successfully for two or more years. It may be easier to understand these contradictions if we consider the effect of the early period after birth in the context of the subsequent days and months.

The standard maternity hospital routine in industrial societies of separating mothers and babies is followed by an infant care pattern that commonly comprises frequent separations of mother and infant in the home, minimal body contact, and spaced feeding. In the context of this pattern of infant care, body contact immediately after birth may assume disproportionate significance in enhancing maternal affection. In contrast, in nonindustrial societies separation in the first hour may have less effect on the mother's later involvement with her infant because such separations are not repeated. The brief initial separation of mother and infant is universally followed by postpartum confinement of mother and baby together — a rooming-in period — which is itself followed by extensive mother-infant contact and prolonged and

frequent breastfeeding during the baby's early months. In addition, it is likely that many factors — little girls' exposure to breastfeeding throughout their lives, assumptions that breastfeeding will be successful, a supportive environment, frequent nursing, and extensive mother-infant contact — combine to diminish the importance of nursing in the first hour. Thus, the apparent sensitivity of parents in industrial societies to immediate postpartum contact may reflect disruptive influences of our pattern of infant care and our hospital routines rather than a brief sensitive period for parenting, or for developing parental feelings, in the human species.

An appreciation of the embeddedness of perinatal customs in the broader context of infant care patterns and cultural meaning systems provides further insight into the apparent paradox presented by these anthropological data. The task universally faced in all cultures is adequate involvement of caregiver and child, primarily mother and child (Jordan, 1982). This involvement can be conceptualized as a progressive mutual engagement of the senses, which begins with the mother's first sensory contact with the baby and continues with her hearing the infant's first cry, her first sight of the baby, and first holding it and smelling it, and so on, until there is mutual sensory involvement. The culmination of this process is that the mother "owns" the child; the mother feels that this is really her baby for which she is prepared to care. The relationship deepens with the mother and baby "talking" to each other, mutual gazing, nipple searching and nipple giving, and so on. It may well be that there is a sensitive period for this process of mutual engagement. Regardless of whether or not a system of this sort is biologically preprogrammed, the anthropological data suggest that culture is stronger than nature. Different cultures facilitate caregiver-infant attachment in different ways; some with immediate contact, some with later contact; some with skin-to-skin contact, some without. Whatever specific means are used, all societies accomplish the task somehow, or babies would not survive.

CHILDBIRTH IN THE UNITED STATES: DISCONTENT, CHANGE AND POTENTIAL CONFLICT

Judging from the available anthropological data, it would appear that the practices of separating mother and infant immediately after birth, delaying breastfeeding and excluding fathers from childbirth are not unique to standard maternity care in the United States, common assumptions notwithstanding. Nevertheless, both of the comparative approaches to childbirth that we have described indicate that birthing practices in the U.S. do differ in important respects from those in other cultures. The pathological model of childbirth that pervades our childbirth practices is atypical of the other cultures we studied, even those that are technologically quite sophisticated. Our analysis of the anthropological data from Murdock and White's sample of nonindustrial cultures revealed that, while there is considerable behavioral variability even in so universal a process as childbirth, there are also several birthing practices that are very nearly universal. These near-universal tendencies are predominantly social in nature. In general, all cultures have *rules* governing the process of parturition, although the actual content of such rules may differ among cultures. There are also more specific practices characteristic of virtually all societies: women giving birth almost always receive assistance, usually from other women; women usually prefer to give birth in a familiar setting, most commonly their own home; and virtually all societies prescribe a period of rest and seclusion for mother and infant after birth, a "rooming-in period," during which the pair is separated from community activities and the mother is exempt from her usual responsibilities. In these respects, standard maternity care in the U.S. may not fit the pattern of childbirth practices that seems to characterize nonindustrial cultures.

We have argued that childbirth practices are best understood in the context of the sociocultural matrix in which they are embedded, including the patterns of infant care typical of the culture. One implication of this position is that the relationship between birthing practices and the various phenomena that researchers might examine as outcome variables is likely to be complex. For example, the influence of fathers' birth attendance on their subsequent involvement with their children is liable to depend on many factors, such as cultural notions about the father-child relationship, economic pressures, the division of labor within a family, and the attitudes of fathers and their partners about paternal involvement in infant care (cf. Palkovitz, 1985). As our analysis of the anthropological data from Murdock and White's sample of nonindustrial cultures indicated, whether or not fathers in nonindustrial cultures are allowed to be present at the birth of their babies had no apparent effect on the degree of fathers' later involvement with their children. Indeed, it may well be that whether an expectant father participates in birth has more to do with cultural attitudes about his relationship with his wife than about his relationship with his children. The Maya Indians, for instance, believe that the father must participate in an active capacity at birth so that he can see how his wife suffers; this is expected to prevent him from making sexual demands during the postpartum period (Jordan, 1983).

An additional implication of the view that each culture's system of childbirth is intimately linked to the culture as a whole is that, as changes occur in the larger social and cultural systems with which childbirth systems articulate, there will be corresponding changes in birthing practices. This has quite clearly been the case in the United States in recent years. Those in the feminist health movement have been pressing for the right of women to self-determination in matters regarding their bodies (cf. Jordan, 1977). One outcome of this movement has been the position that women's individual complaints about their birth experiences are not the result of rare circumstances, but are the systematic outcome of standard medical practice. The collectivization of previously individual dissatisfaction has produced powerful pressures on the American obstetric system. At the same time, major segments of the consumer movement as it relates to health care have been engaged in a comprehensive reevaluation of the expanding monopoly of professional medicine. Too, many men have been questioning practices that routinely excluded them from the delivery room and the birth of their own babies, and an increased emphasis on prepared childbirth has resulted in a greater degree of inclusion of fathers in the process of birth. As a result of these and other pressures, childbirth practices in this country are undergoing major changes. This is reflected in the growing visibility of various forms of natural childbirth, in the increasingly common efforts to restructure the physical design of obstetric wards, and in the development of family-centered perinatal care programs.

Such changes would appear to indicate that we as a culture are engaged in a reformulation of the medical definition of birth. It should be noted, however, that hospital birthing rooms make sense only within a system that places the highest premium on medical safety, since the woman's own home would be preferable by most any other criterion. The home birth movement also speaks the language of outcome statistics. At least in the public arena, all of the advantages of home births that one could cite, such as the woman's comfort, financial considerations, the humanization of birth, benefits from taking responsibility for one's life rather than delegating it to professionals and institutions, and the strengthening of the couple's and family relationships that can be obtained from the shared experience, are subordinated to discussions of medical safety. The strongest argument that the home birth movement can, and does, advance is the statistical argument that the outcome of home births is in no way inferior to that of hospital births. That such alternatives to standard hospital births do not represent fundamental changes in the prevailing view of childbirth, then, is apparent.

Regardless of whether the definition of birth in this country has changed in any fundamental respect, obstetric practices in the U.S. nevertheless are clearly changing. Furthermore, it seems quite likely that changes in obstetric practice will produce a significant increase in maternal satisfaction and perhaps infant outcome statistics, too, by reducing the dissonance between women's conceptions of themselves and the treatment they receive in maternity wards (Jordan, 1983). Yet if maternity hospital reform is in fact successful in altering parent-infant relationships' as proponents of early contact have argued, then perhaps families in the U.S. should anticipate new conflicts as this postpartum experience does not fit with the patterns of care during the rest of infancy.

For example, after frequent feeding on demand in the first few days in the hospital, many infants may well be eager to eat every 1-2 hours. There is evidence that this feeding pattern was the norm during much of human history and thus may be particularly suited to human physiology (Lozoff & Brittenham, 1979; Lozoff, 1980). Such frequent breastfeeding is in fact found in most societies, yet in the United States many women find it difficult to sustain and enjoy a "continuous" feeding pattern. In addition, breastfeeding still conflicts with societal norms and expectations. The mother in the U.S. who integrates breastfeeding with her usual activities may still encounter offended righteousness in public situations.

Maternity hospital routines which encourage early body contact between mother and baby also seem congruent with the pattern of care to which humans may be adapted. In the United States many babies, given the opportunity, seem thoroughly delighted to be in constant body contact in their early months, a desire which may stress some mothers. Women in the U.S. generally must provide such contact entirely by themselves without the help of extended family members who in other societies often hold babies while the mother works or rests. In fact, the presence of more than one adult caretaker in a household is, in cross-cultural studies, associated with increased acceptance and indulgence of infants (Rohner, 1975). If the close involvement encouraged in a family-centered childbirth experience is continued into infancy, both mother and father may also experience conflicts about work. Women's work was previously compatible with infant care; women have worked in most human societies, contributing more than 50% of the food for the group during 99% of human history. In contrast, work is generally incompatible with infant care in our culture; conflicts between work and parenthood seem to be created by the structure of work in this society.

Thus, while family-centered changes in maternal hospital practices are certainly needed, such reforms may introduce new dilemmas for parents and infants if not accompanied by transformations in the pattern of subsequent infant care. Cross-cultural study of childbirth provides an important context in which to evaluate and understand changes in hospital routines, including potential conflicts with other infant care practices.

DIRECTION FOR FURTHER RESEARCH

The above review suggests a number of areas in which further cross-cultural research is needed. We need, for example, more ethnographic studies of different birthing systems in order to add to what is known about the range of variability in human behaviors around childbirth. The recent legitimization of "women's topics" in anthropology and related disciplines has already led to the initiation of a number of such studies (Laderman, 1984; MacCormack, 1982; Sargent, 1982), and further results should become available in the next few years. We also need to examine, in more detail, the variation in function of birth attendants in other cultures. Most recent research on traditional midwives has been narrowly confined to assessments of their knowledge and skills (WHO, 1985), with a view to incorporate them in primary health care teams, particularly as village-level dispensers of contraceptive

information. Studies of this type all too often do not pay sufficient attention to the cultural meaning of birth and to the social relationships it creates (Jordan, 1986). Little is thus known about continuing family-like ties between birth attendants and the child, nor about the extent to which it is common that grandmothers and other family members lend birth assistance.

Another topic that cross-cultural studies have not yet addressed adequately is the question of father involvement in pregnancy, birth, and the postpartum period. We know that there are many societies where the father of the child is expected to play a significant role during pregnancy and where he has important functions during the postpartum period. For example, a common cross-cultural belief is that the parents together have to "grow" the baby by contributing physical substances: the mother her menstrual blood (which makes the baby's muscle and blood) and the father his semen (which turns into the white parts, such as skin and bone). Fathers, like mothers, may be subject to food taboos and other restrictions on their behavior throughout the pregnancy and into the postpartum period, but information on such practices and what they may mean for the relationship between father and child are only sporadic at this time. Perhaps with the burgeoning of research on fathers in industrial societies, some in-depth studies of fathering in nonindustrial societies will become available.

Cross-cultural studies of birthing have added many valuable insights which can contribute to our understanding of parenthood. Nevertheless, there is still much work to be done.

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