

Pre- and Perinatal Anthropology: A Selective Review

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Full Text: The most immediate question is: How relevant is the behavior of a handful of savages on a New Guinea mountain or in a South American jungle to the solution of problems of modern medical care in a complex contemporary society? . . . all human beings living on this planet are members of one species, Homo sapiens, and any behavior characteristic of one group of human beings, in terms of which they have been able to reproduce and survive as a group, throws light on the potentialities and limitations of human beings everywhere. Margaret Mead in Mead and Newton (1967) The title of this paper is actually a misnomer. There is no subfield of anthropology bearing this title. But there should be and there will be such a subdiscipline as the full effect of the new field of pre- and perinatal psychology is felt on interdisciplinary cooperation. And the current absence of such an organized subdiscipline should not detract from the fact that anthropology has a great deal to offer the psychologist interested in the early life of human beings.¹ This is a review of the cross-cultural literature pertaining to pre- and perinatal culture. It must of necessity be a selective one because this literature is so vast. We will first give references to the best reviews of the literature available and then sample the range of information that can be found addressed by anthropologists and cross-cultural psychologists, as well as some of the more interesting theoretical and topical issues that have been discussed. In doing so we avoid some of the inhouse jargon and pet issues, and are not overly concerned with whether the information has been generated by anthropologists or cross-cultural psychologists, although we are mindful of the serious methodological differences between the two disciplines.² We will also exclude materials that are not directly relevant to the pre- and perinatal life of living human beings.³ SOME METHODOLOGICAL PROBLEMS A brief word should be said about the methodological biases of anthropology, for they directly influence the quality and orientation of information one may reasonably expect from the literature. Ethnographers are typically people who go to exotic places and live for extended periods of time with alien peoples. They are taught to participate as much as they can in the daily lives of their hosts and record their observations and conversations as accurately as they can. But one of the central problems in doing fieldwork on pre- and perinatal culture is that most ethnographers have been, and still are males, and being males they are usually systematically excluded from direct participation in female-only activities. For example, most cultures (eg., Arabs, Granqvist 1947; Ashanti, Rattray 1927) forbid the presence of males during birth (Ford 1945, Trevathan 1987: 35ff), and thus many reports about birthing in the literature are records of what informants say they experience, and are not the first-hand descriptions of the ethnographers' own experiences. Of the 296 cultures that Trevathan (1987: 36) surveyed from the Human Relations Area Files (HRAF),⁴ she found only 19 in which reports of births were derived from direct observation. And, as Trevathan (1987) and Jordan (1978) among others note, really accurate information about birthing cross-culturally requires detailed direct observation. Another problem is the ironic fact that, although anthropology considers itself as the science of culture and enculturation (how culture is learned by individuals), ethnographers on the whole have paid scant attention to infancy (see Bullowa, Fidelholtz & Kessler 1975, Newman 1972: 51, Schreiber 1977 on this issue), much less the prenatal experiences of the people they live amongst. Concern with infancy is currently on the rise in ethnography, but is still more often covered in the writings of cross-cultural psychologists than ethnographers (eg., Ainsworth 1967a).⁵ Anthropology is very much aware of culture in the context of the lifecourse process and aging. Ethnographers have reported on life-crisis rituals (so-called rites of passage) for generations. Yet even when directed at the life-course, few discussions give much, if any weight to the importance of pre- and perinatal experiences and

enculturation (see eg. Turnbull 1983, Kertzer & Keith 1984). There are several reasons for this over and above the obvious male bias in ethnography: 1. Anthropology, reflecting the Euroamerican culture from which it springs, tends to think of a human being as having a personality or consciousness beginning at some point (days, weeks, months) after birth (LeVine 1982: 245, Bullowa 1979: 31). Entire texts can be written in general and psychological anthropology with virtually no mention of pre- and perinatal influences on the later psychology of the individual, even when later childhood experiences may be covered (but see W.H. Oswalt 1986: 35ff for a refreshing exception). 2. There exist virtually no longitudinal cross-cultural studies covering the entire life-course from pre- and perinatal life through to adulthood. And, as LeVine (1982: 245) notes, simultaneous studies of cultural influences upon the child and of adult personality can be misleading due to the fact that cultures change, often rapidly. The cultural influences that formed the adult may have been different than those being simultaneously observed as currently operating upon the child. 3. Anthropology tends to conceive of the very young child as a passive recipient of culture. Until recently, there has been little awareness exhibited in the ethnographic literature of the preand perinatal child as a conscious, cognitively competent, experiencing human being exhibiting some measure of control over its physical and social environment (see Konner in Field et al. 1981, Curran 1984: 9).

GENERAL STUDIES AND THE CULTURAL PERSPECTIVE These methodological caveats aside, anthropology and cross-cultural psychology have produced many interesting studies of the sociocultural factors that impinge upon the experience and conditioning of pre- and perinatal human beings. There is a history of ethnographically sensitive work going back to the nineteenth and early twentieth centuries; for example, Engelmann's 1882 (reprinted 1977) cross-cultural study of labor and obstetrics, and Haddon's (1908) report on birth and childrearing recorded during the Torres Straits expedition. Useful reviews of the cross-cultural literature may be found in Ford (1945), Trevathan (1987), Mead and Newton (1967), Leiderman et al. and Levine in Leiderman et al. (1977), McClain in Kay (1982), Brown (1975), Katz and Konner (1981), Marshall, Morris and Polgar (1972), Freedman and DeBoer (1979), MacCormack in MacCormack (1982), Whiting and Child (1953), Brown in Williams (1975), Barry, Bacon and Child in Ford (1967), Werner (1972), and various articles in Triandis and Heron (1981), Munroe, Munroe and Whiting (1981), Field et al. (1981) and Super and Harkness (1980). Even a casual brush with the ethnographic literature leaves one with an impression of the almost innumerable ways that a society's culture may impinge on the course and experience of pre- and perinatal life. Culture influences who may court and reproduce, who may conceive and how often, who will be the socially recognized parents and caretakers, and to which social group the child belongs. Custom dictates appropriate nutrition during and after pregnancy, the style of parturition followed, when feeding begins and how often it is allowed, when weaning occurs, which child will live or die, the value of multiple births, what work pregnant women can and cannot do, whether a fetus or infant is perceived as understanding language, and when a child is considered a human being and a member of the group. Tradition may determine where a birth occurs, special herbs and massage administered during childbirth, who will attend the birth, the proper posture(s) for parturition, the exclusion or participation of males, the proper duration of the birthing, and the duration of and treatment during the puerperium. Cultural expectations will determine the intensity of mother-infant attachment, the nature of motherinfant separations, the amount, duration and kind of communication between adults and newborn, and the range of environments to which the infant is exposed. Any and all of these factors may influence the experience and future psychological development of the child. Studies of Pre- and Perinatal Culture Table 1 lists an availability sample of sources⁶ on pre- and perinatal culture by geographical area and notes for each source the life phases covered (C = conception, P = pregnancy, P/G = pregnancy and gestation when there is some information on beliefs about prenatal life, B = childbirth, Pu = puerperium, I = infancy from birth to 6 months), as well as particular topics of interest (M/S = mythic and symbolic significance, T = native theory of conception, M-I = mother-infant interaction and attachment, R = rituals generally, BR = birth rituals, N = naming the child, MW = midwifery, Cn = confinement during or after birth, Ts = use of psychological testing, CT = caretaking, Cp = comparison with). Comparative Sources In

addition to the above sources in Table 1, a number of others presenting comparative or collective materials from a number of cultures may be consulted. Munroe and Munroe (1975) compare several developmental variables among the Ainu of Japan, the Trobriand Islanders of Melanesia and the Gusii of Kenya. They are concerned primarily with experimental, cross-cultural psychological data on the effects of early experience on the emergence of motor skills, affect, perception and cognition, as well as language, dependence, sex roles and other character traits. Other cultures are mentioned where relevant in their discussions, and all are compared with data on Western children. The most complete cross-cultural and anthropological study of birth and related issues published thus far is Wenda Trevathan's (1987) book, *Human Birth: An Evolutionary Perspective*. Trevathan presents a theory of the evolution of childbirth among the hominids (human ancestral species), one that explains the near universal cultural phenomenon of the birth attendant. Drawing widely from the ethnographic and ethnological literatures, she discusses the physiology of parturition, types of birth cultures, midwifery and mother-infant interaction and bonding during the puerperium. Her approach is particularly interesting in that she incorporates neurophysiological data on the neonatal brain, an area ignored in the work of most other anthropologists. Of the many studies of birthing she reviews, she considers the following particularly adequate (1987: 38): Granqvist (1947), Dubois (1944), Adriani and Kruyt (1951), Blackwood (1935), Holmberg (1950), Mead (1956), Hart (1965), Jordan (1978), Cosminsky (1977, 1978), and Kay (1982). Her bibliography is useful and extensive. Of particular note among the sources mentioned by Trevathan is the edited volume by nursing professor, Margarita Kay (1982), entitled *Anthropology of Human Birth*. Articles in that volume discuss birth and birth-related topics among Mexican-Americans, Malays, Japanese, Chinese, Egyptians, the Ibo, the Bariba of Benin, Indians, Guatemalans, the people of St. Kitts, the Irish, the Navajo, and the Seneca. Another collection of articles discussing cultural influences during infancy may be found in the volume edited by Leiderman et al. (1977), entitled *Culture and Infancy*. Cultures covered include the Baganda, Mayans, Urban Zambia, Israel, the Bushmen, and Guatemalans.

Table 1
Sample of Ethnographic and Cross-Cultural Psychological Sources by Geographical Area

<i>Culture</i>	<i>Source</i>	<i>Phases</i>	<i>Topics</i>
<i>Africa:</i>			
Urban Zambia	Brazelton et al. 1977	I	Ts, neonatal behav., Cp America
Logoli	Munroe and Munroe 1980, 1984	I	affect, M-I, cog. development, Ts
Baganda	Kilbride and Kilbride 1983	Pu, I	M-I, affect
Muluya, Acholi	Ainsworth 1967a Fox 1967	I P, B, I	M-I autobiographies of E. African children
Bushmen	Konner 1976, in Blurton Jones 1972	B, I	Ts, M-I, casual B, CT, cognitive dev.
Kipsigis	Lee 1979 Super and Harkness 1982a	B, I I	B spacing, nursing M-I, "difficult" Ts
Various in Nigeria	Meldrum in Curran 1984	I	different patterns of CT
Yoruba	Maclean 1971	P, I	
Timbuctoo	Miner 1965	C, P, B, I	BR, prenatal CT
Chaga	Raum 1967	C, P/G, B, I	MW, R, CT
Tallensi	Fortes 1949	C, P, B, I	T, Cn, fatherhood
Fulani	Stenning 1964	C, P, B, Pu	Cn, R
Kafir	Kidd 1969	P, B, I	T, R, N
Igbo	Uchendu 1965	C, B, I	T, N
Ngoni	Read 1959	P, B, I	M/S, BR, N, CT
Kaguru	Beidelman 1971	C, P, B, Pu, I	Cn, MW, R
Mbuti	Turnbull 1983	C, P/G, B, Pu, I	M-I, BR

Table 1 (continued)

**Sample of Ethnographic and Cross-Cultural
Psychological Sources by Geographical Area**

<i>Culture</i>	<i>Source</i>	<i>Phases</i>	<i>Topics</i>
<i>Asia:</i>			
Japan	Otaki et al. 1986	I	M-I, Cp America
Alor	DuBois 1944	C, P/G, B, Pu, I	Cn, female work during
Chinese	Yang 1965	P, B, I	BR, N
Andaman Is.	Radcliffe-Brown 1964	P, B, I	taboos
India	Beals 1962	B, I	adaptation to adversity
	Gideon 1962	P, B, Pu, I	MW, CN, R
<i>Southeast Asia:</i>			
Filipino, Thailand, Vietnam	Hart 1965	C, P, B, Pu, I	MW
Vietnam	Hickey 1964	P, B, I	N, R
Semai	Denton 1968	P, B, Pu, I	I indulgence
<i>Australia:</i>			
Murngin	Warner 1958	C, B, I	T, M/S, M-I, fatherhood
Aborigines (various)	Kaberry 1939	C, P	T
	Roheim 1974	B, I	N, disciplining of I
Tiwi	Goodale 1971	C, P, B, I	N, T, Cn
<i>Europe:</i>			
Kibbutz	Spiro 1958	C, P, B, I	collective nursery
Gypsies	Clebert 1967	C, P, B	BR
France	Wylie 1964	B, I	R, CT
<i>Oceania:</i>			
Kwoma	Whiting 1941	I	age classification, M-I

Table 1 (continued)

**Sample of Ethnographic and Cross-Cultural
Psychological Sources by Geographical Area**

<i>Culture</i>	<i>Source</i>	<i>Phases</i>	<i>Topics</i>
Fore	Sorenson 1976	I	photo methods, CT
Manus	Mead 1956	B, Pu, I	MW, I autonomy, difficult children, affect
Dusun	Williams 1969	C, P, B, Pu, I	BR, prenatal CT, maturation
Bali	Mead and MacGregor 1951	I	photo methods, CT, motor responses
Samoa	Mead 1973	B, I	BR
Guadalcanal	Hogbin 1964	I	R
Kalinga	Dozier 1967	P, B, I	R
Tikopia	Firth 1961	C, I	fatherhood
Kwaio	Keesing 1982	B	Cn, BR
Siuai	Oliver 1955	C, P/g, B, Pu, I	MW, Cn, N, R, M/S
Orokaiva	Williams 1969	B, I	N
<i>North America:</i>			
Navajo	Chisholm 1983	P/G, I	M-I, Ts, blood pressure and I irritability, cultural influences on prenatal life
	Leighton and Kluckhohn 1948, K and L 1962	C, P, B, Pu, I	cradleboard, R, CT
Omaha	Fletcher and La Flesche 1970	B, Pu	BR, M/S
Puerto Rico	Landy 1959	I	attitudes
Hopi	Dennis 1972	B, Pu, I	cradleboard, CT

Table 1 (continued)

Sample of Ethnographic and Cross-Cultural Psychological Sources by Geographical Area

<i>Culture</i>	<i>Source</i>	<i>Phases</i>	<i>Topics</i>
	Thompson and Joseph 1947	B, Pu, I	M/S
Tswana	Elmendorf 1960	P, B, Pu, I	MW, cradleboard, head deformation
Ojibwa	Dunning 1959	B, I	CT
Maya	Redfield and Rojas 1964	B, Pu, I	MW, N, R
Wishram	Sample and Mohr 1980	C, P, B, Pu, I	MW, Cn, magic
James Bay Eskimo	Flannery 1962	C, B, I	
	Boas 1964	B, Pu, I	
Tepoztlan	Lewis 1960	P, B, I	Mw, Cn
Huron	Trigger 1969	P, I	
<i>South and Central America:</i>			
Siriono	Holmberg 1950	C, P, B, I	T, BR
Moche	Gillin 1945	P, B	MW
Various of Mato Grosso	Oberg 1953	C, P, B, I	T
Shantytown (Brazil)	Scheper-Hughes 1985	P, I	M-I and I death
Costa Rica	Keller et al. 1984	I	maternal attitudes, Cp Germany
Various	Fock in Ford 1967	P, B	taboos
Cubeo	Goldman 1963	B, Pu, I	Cn
Tukano	Reichel-Dolmatoff 1971	B	R
Akwe-Shavante	Maybury-Lewis 1967	C, P, B, I	

Emmy Werner (1972) has reviewed the cross-cultural psychological research on infant behavior. Included in her sample are peoples of Europe, North America, Hawaii, Japan, Indonesia, India, Lebanon, Israel, Uganda, Senegal, Cameroun, Nigeria, South Africa, Jamaica, Guatemala, Mexico, Brazil, Peru and Chile. Among other points raised, she notes the apparent accelerated psychomotor development of African and Latin American infants compared with Euroamerican infants. She also relates dietary deficiencies with decrements in psychomotor development among various peoples. In a similar vein, Daniel Freedman and Marilyn DeBoer (1979) survey the literature for biological and cultural differences in the behavior of newborn infants. Their intention is to control for genetic causes for some of the variance among groups (see also Freedman 1979). Various articles in Field et al. (1981) survey the issue of parent/infant interaction and enculturation cross-culturally. Societies covered include the Navajo, the Fais, Latin American, the Hopi, the Gusii and the people of the Marquesas Islands. David Meltzer (1981) presents a delightful medley of songs, stories and ethnographic reports related to birth cross-culturally. Ann Turner (1978) has written a fascinating description of pregnancy and birth that takes the reader through partially fictionalized scenarios during prehistoric times, and in traditional cultures and modern urban society. The book is packed with cross-cultural material. And Carol MacCormack (1982) has edited a collection of articles describing birth in various cultures, including the Tamils and Moors of Sri Lanka, the Enga of Highland New Guinea, the people of Moyamba District in Sierra Leone, the Aowin of Ghana, the Yoruba of Nigeria, Jamaicans, and Guatemalans. The reader should note that most of the sources given in Table 1 will lead to other relevant studies not cited here. Also, topics listed there are not exhaustive. Readers who wish to survey the range of information specifically available in the ethnographic literature and more broadly coded for the entire duration of childhood are urged to read Barry, Bacon and Child in Ford (1967). This study examines the presence or absence among a sample of 111 societies of many variables such

as display of affection towards the infant, protection from environmental discomforts, how fully, immediately and consistently are the infant's needs reduced, consistency of presence of a caretaker, absence of pain inflicted by the caretaker, indulgence during infancy, how much caretaking is shared with others than mother. The study includes an extensive bibliography. Ford's (1964) Field Guide to the Study of Human Reproduction also surveys the many aspects of preand perinatal ethnography available, including such topics as native theories of conception, dietary factors and sexual activity during pregnancy, beliefs about fetal development, preparations for and assistance during childbirth, and postnatal care of the infant and mother. Themes in the Literature

There are a number of themes and patterns of interest to pre- and perinatal psychology that impress one while reading through the crosscultural literature. First and foremost among them is the orientation of research vis a vis the fetus/infant. The vantage point-especially in the older works-is typically toward the infant as a passive recipient of caretaking and enculturation. As noted above, it is only recently that the infant has begun to be perceived by fieldworkers as a competent, autonomous being exercising control over its environment. Second, and allied with the first, the literature exhibits little sensitivity to the world as experienced from the fetus/infant's point of view. Descriptions of pregnancy, birth, caregiving during infancy and childrearing practices are generally from the outside-in, so to speak, and rarely from the perception of the infant-out. Of course, part of the problem is methodological. No one has ever interviewed a fetus or infant, at least by using the language-based methodologies typical of ethnographic fieldwork. Only recently have methods been designed to test infant competence (eg., Brazelton et al. 1977, Freedman 1979: 141ff), methods in cross-cultural psychology in keeping with the channels of communication appropriate to the level of neurophysiological maturation being studied. Anthropologists have been slow to pick up on the importance of these methods, because (1) the discipline is inherently non-experimental, and (2) ethnography is the study of "culture" which is often tacitly considered to be an adult phenomenon to which children must become enculturated at some time after early infancy. Third, although from a holistic point of view life begins with conception and ends with death and may be treated as a single process from beginning to end, few cultures perceive the life process in this way. Rather, most cultures conceive and perceive life as a series of phases or segments. Each maturational category is named and comes with an appropriate culture to match. Group members are expected to play their assigned roles while in any phase, and intense learning is involved during the epochs between the phases (see Whiting 1941 on the Kwoma). Very often the learning is formalized into rituals (so-called rites of passage; see van Gennep 1960, Eliade 1965) through which group members must pass on their way to new roles. Birth in many cultures is considered such a life crisis and appropriate ceremonies may occur at, or soon after birth. These may be simple or elaborate in style and content, and may operate to publicly denote the entry of the infant into full humanity and group membership. Fourth, much of both the ethnographic and the cross-cultural psychological literature naturally turns upon the interaction between mother and infant. Moreover, mother-infant attachment (or bonding) has been a central factor in the theories of both psychological anthropology (Whiting & Child 1953, Konner in Blurton Jones 1972) and crosscultural psychology (Brazelton 1963, Lewis & Ban 1977, Klaus & Kennell 1976, Bowlby 1969, Ainsworth 1967b and in Leiderman et al. 1977).⁷ Particular attention is paid in the ethnographic literature to those variables thought to cause later psychological characteristics in the child and adult; variables such as age and technique of weaning, extent of indulgence of infant needs, duration of mother-infant separation, sleeping arrangements, freedom of infant behavior allowed, harshness of discipline, etc. (See Whiting and Child 1953). Fifth, some researchers have extensively used photographic techniques in recording and analyzing data on infant behavior, and present some of these photos in their publications (see Sorenson 1976, Mead & MacGregor 1951). E.R. Sorenson has also produced a cine film entitled Growing Up as a Fore (National Research Film Collection, Smithsonian Institution, Washington, D.C.) which covers infancy and childhood among a New Guinea people. Sixth, practices of infant care may vary enormously across cultures (Ford 1945: 65ff). The Dusun of Borneo regulate care based upon a theory of "hot" and "cold" energies detected at the front of the infant's head (Williams 1969). The Hopi and Navajo traditionally strap their infants to

cradleboards from the first day postpartum. This practice causes most infants no distress, and Dennis (1972: 95) makes the interesting point that the child is more restricted in the womb during the last months of prenatal life than on the cradleboard. Indeed, these children often exhibit distress when removed from the cradle. Among the Trobriand Islanders, mother and child spend much of their time during the first month postpartum lying on a bed with a small fire underneath to insure health and prevent the effects of sorcery (Malinowski 1929: 232). For a quick sense of the variety of customs found cross-culturally, see Mead and Newton (1967). Seventh, it is a quite common custom cross-culturally to isolate the mother and infant during and for some time after birth. Seclusion may be no more elaborate than remaining in bed for a prescribed period of time, or may involve relocation to and confinement in a special house reserved for the purpose. It has been suggested that one function of this pattern is to give requisite rest to the mother and child, and also that seclusion may protect both from contagious diseases during a period of extreme vulnerability. Eighth, as Trevathan (1987) has noted, there is a clear tendency among the majority of the world's cultures for women to be assisted during birth by other women. Often this assistance begins well before the time of birth and extends well after the infant is born, especially during first pregnancies. The birth assistant may have had no special training, but may be an older kinsman who has born children herself. In many societies, however, the assistant is a professional midwife who has received a special calling and who has undergone training as an apprentice to an experienced midwife. As we have already mentioned, in most societies the husband and other males are excluded from the birthing, in a few societies males may participate. And ninth, there are a number of miscellaneous trends that are covered in specific cross-cultural studies and that will be of interest to pre- and perinatal psychologists. A study by Niles Newton (1970) begins by showing that there is a clear cross-cultural correlation between the psychological environment of birth and the ease and speed of birth. Easier labors seem to be associated with acceptance of birth as natural and not frightening, and with a comfortable and supportive environment. This finding is then tested in the laboratory with mice and the results suggest the same association. Prior, Kyrios and Oberklaid (1986) examine cross-cultural differences in temperament among American, Chinese, Australian, and Greek-Australian infants. A number of studies have focused upon birth as a life-crisis and upon birth rituals cross-culturally (see Fried & Fried 1980: 28ff). There has been a great deal of attention paid in the ethnographic literature to what is called the postpartum taboo, the cultural proscription against lactating mothers engaging in sexual intercourse. The various theories, sociocultural correlates and issues related to the postpartum sex taboo are surveyed and evaluated in Saucier (1972). And Knutson (1967) discusses the range of cultural definitions of a new human life. Pregnancy cravings, or "perverse appetites," of pregnant women have received little attention in the cross-cultural literature, but Obeyesekere (1963) describes this phenomenon among the Sinhalese of Sri Lanka. And in an intriguing study using 54 cultures from the HRAF, Ayres (1973) finds a correlation between style of infant carrying practice (i.e., cradle, sling or freely in the arms) and type of regular rhythm in music.

THEORETICAL CONSIDERATIONS Because theory in any scientific endeavor has a determinant effect upon what is observed, and perhaps more important, what is not observed, it would be well to describe some of the theoretical strains that have influenced the kinds of data available in the ethnography and cross-cultural psychology of pre- and perinatal life. Generally speaking, there have been two major theoretical perspectives that have influenced psychological anthropology and cross-cultural psychology through the years and that have left their mark on data and analysis more than any others. Those two are Freudian psychoanalysis which has informed ethnography from the early twenties (from at least the publication of Malinowski's 1927 volume, *Sex and Repression in Savage Society*) to the present (Whiting & Child 1953, Levine 1980), and Piagetian genetic epistemology which began to have an influence on cross-cultural psychological research in the seventies (Dasen 1977, Dasen & Heron 1981). More cross-cultural data have been produced out of those two perspectives than all other perspectives combined. It is interesting that due to the fact that anthropology is fundamentally naturalistic in its epistemology, even when engaging psychological concerns, behaviorism never caught a foothold in the discipline as it did in psychology. Culture and Personality Research

The Freudian research project in anthropology has been to show causal relationships between childrearing practices and aspects of adult behavior and character, and a link between these latter variables and sociocultural institutions-and this within a presumption of "cultural relativism" (i.e., each culture is uniquely different and must be evaluated within its own frame of reference). According to this view a culture as a set of institutions is made possible by the enculturation of a finite set of personality types in adult society, and that the requisite personality types are the result of distinct patterns in childrearing. Thus, when and how the child is weaned, toilet trained, allowed to explore the world, how the child handles its Oedipal conflict, what are its sleeping arrangements, etc., are traits considered to be formative upon adult personality. This view led to decades of "culture and personality" research associated with the names of anthropologists like Cora DuBois (1937), Margaret Mead (1952, 1963), Geza Roheim (1932), Melford Spiro (1953), the Whitings (1978, B. Whiting 1963), the Kluckhohns (Kluckhohn 1944), the Herskovitses (1958) and their fieldwork and cross-cultural comparative methods. As a consequence of the culture and personality perspective, research oriented more upon discrete traits than upon the overall ethos of child development. And because of the presumptions about culture being a unitary phenomenon, there has been little room for examining individual differences in development within the same society. Moreover, because personality in Euroamerican culture generally, and psychoanalytic theory in particular, is conceived as beginning sometime after birth, far less attention was paid to prenatal and infant development and culture than to the more obvious institutionalized childrearing practices operating upon the older child. For example, there is virtually no sensitivity in that literature to the fact that the maternal affective state may influence the state of being of the fetus by way of hormonal transfer across the placental barrier (but see Montagu 1970). The theoretical and methodological foundations of the culture and personality orientation have been thoroughly critiqued and, in terms of its ability to predict to many cultural institutions from childrearing practices, found wanting (see Shweder 1979, Kagan & Klein 1973). However, a few relationships would seem to still hold-up, particularly those relating childrearing to subsistence economy (Barry, Child & Bacon in Ford 1967, Hendrix 1985). There are some authorities who feel that the kind of research produced from this perspective is of little importance to developmental studies today (eg., Freedman and DeBoer 1979). They do have a point in that too much attention to cultural traits precluded the use of more sophisticated methods for recording and analyzing infant behavior. However, this author (see also Bourguignon 1979:126ff) does not agree that these studies have proved useless, for many of the ethnographic studies referenced in Table 1 were produced out of the culture and personality "school" and, although it may take some reading between the lines, they are quite obviously valuable in establishing a picture of the pre- and perinatal ethos within which development occurs. After all, many of these studies describe maternal nutrition, work habits, attitudes and feelings about pregnancy and birth, birth preparations and healthcare during pregnancy, mother-infant interactions during the puerperium, and patterns of caregiving thereafter.

Piagetian Cognitive Development Although it has been on the scene for far less time, the Piagetian perspective has had an enormous and still growing influence upon cross-cultural research in child development. Piagetian theory holds that cognitive development proceeds through a series of universal stages and that culture may influence only the rate of development and the perceptual and conceptual content of cognition. The first of these stages is called the sensorimotor stage (approximately from birth to two years of age), and has been more or less verified in the few crosscultural studies that apply to this early development (see Uzgiris 1976). Some cultural variation has been reported in the rate of development of substages within this stage (see Dasen & Heron 1981 for a review). The trouble is that cross-cultural Piagetian methodology is frequently insensitive to prenatal, birth, and neonatal variables, precisely those data of greatest interest to pre- and perinatal anthropology and psychology. Also, Piagetian theory is on about the universal structural organization of cognition, and not its content, its affective associations, and its applications which may well be culturally influenced. There is, of course, no apriori reason why the pre- and perinatal influences upon cognitive stage development could not be carried out by Piagetian researchers. After all, many other sociocultural variables (particularly socioeconomic ones) have

been examined for their effects upon cognitive development. But it is as yet not within the general purview of this school's interests to carry out such studies. The perspective does have the strength of recognizing both universal structures of neurocognitive development and cross-cultural variance.⁸ Ecological and Genetical Perspectives More recently, a sociobiological theory of pre- and perinatal development has come on the scene and that argues for racial differences in the behavioral precocity of infants (Freedman 1979, Freedman & DeBoer 1979). The data supporting this view are drawn from the numerous studies indicating that there are cultural and geographical differences in the rate at which sensorimotor faculties develop in newborns, studies that began with those of M. Geber and R.F.A. Dean (1957a, 1957b, 1967). Except for a few skeptical critiques (see Warren 1972 on the methodological inadequacies of the early precocity studies), most authorities accept the relative precocity of African, Oriental and South American infants along a number of dimensions (see Brazelton, Koslowski & Tronick 1977). Ainsworth (1967a: 319) notes that although Ganda (of East Africa) babies are the same height and weight as western babies, their development is accelerated relative to westerners as measured in terms of sitting, crawling, standing and walking. Konner (1976) has reported the same accelerated development among the !Kung Bushmen of southern Africa, a racial group unrelated to the Bantu peoples like the Ganda. Daniel Freedman, co-developer with Berry Brazelton of the Cambridge Behavioral and Neurological Assessment Scale (Brazelton & Freedman 1971), reports on a number of studies of Navajo, Japanese and Chinese newborns who also show this precocity (Freedman 1979: 144ff). There seems little doubt that infants in various quarters of the planet vary in the rate of their motor development. However, claims of racial and genetical differences among populations are premature due to the fact that the data are currently insufficiently sensitive to the cultural backgrounds of the peoples being studied. Most importantly, few studies of newborn behavior control for the possibility of cultural effects upon the prenatal development of the child (but see Konner 1976, 1981, and in Leiderman et al. 1977). The Enculturation Stress Cycle The present author posits an "enculturation stress cycle" hypothesis that may account for some of the findings in these studies. Euroamerican technological society, according to this hypothesis, requires an appropriately stressful balance of autonomic and neuroendocrine functions for many patterns of adult adaptation, and this balance begins to be conditioned in pre- and perinatal life. Thus a cycle exists by which stressed parents produce stressed infants—the stressful balance being continuously operative in most people in these cultures from prenatal times throughout life (see Landauer & Whiting 1981, Newton 1970). What may be indicated by these "precocity" data is a relative lag in neuromotor development on the part of American and other Euroamerican infants due to this stress cycle. There are some cross-cultural data in support of this hypothesis that show a correlation between the elevated blood pressure on the part of pregnant women, or women in labor, and the later high stress level (as indicated by irritability) on the part of their newborns (see Chisholm 1983:135ff for a review). There is also reason to believe that, as in rats, early infant stress may result in higher physical stature in human males cross-culturally (Landauer & Whiting 1964). Extraordinary stressing may be incorporated within childhood initiation ceremonies to bring about culturally required autonomic and endocrinal transformations (Morinis 1985).⁹

TOPICAL CONSIDERATIONS A number of topics addressed in the cross-cultural literature in addition to those mentioned in the above survey are worth considering as informative for pre- and perinatal psychology.

Caretakers Other Than Mother Infant care looms large as a focus in both the ethnographic and the cross-cultural psychological literatures. As we have said, most studies seem to be oriented toward patterns of mother-infant interaction, and most seem to emphasize the positive affective interdependence of the maternal-infant diad (Kilbride & Kilbride 1983). A study by Scheper-Hughes (1985), however, links scarcity of resources with maternal indifference and detachment toward babies considered too weak to survive in a Brazilian shantytown. Moreover, other studies note that caretaking may be in the hands of others, particularly in societies in which the mother must work and leave the infant in the care of its siblings and other kinsmen (see Leiderman & Leiderman in Leiderman et al. 1977). Weisner and Gallimore (1977: 169) note that "The Handbook of Socialization Theory and Research, published in 1969 and 1,182 pages long, includes virtually no reference to caretaking of children

by anyone other than parents." Yet in a sample of 186 societies taken from the HRAF, infants in 46.2% of the societies were primarily or exclusively cared for by their mothers, while infants in nearly 40% of the societies were cared for by others all, or more than half the time (1977: 170). They raise important questions about the effect of the sibling caretaking role upon family interaction, about the inadequacy of crosscultural psychological methods for studying caretaking, and about multiple caretaking and the future social psychology of the child.

Social Importance of Birth Order Alternative caretaking is frequently in the hands of older siblings, a situation that may have significant effects upon the psychology of the caretaker as well as the infant. In other words, the order of birth may determine important differences in how the respective children are treated in pre- and perinatal life, as well as later in childhood. According to a study conducted by Rosenblatt and Skoogberg, firstborn children in many societies "increase parental status, stabilize parent marriage, and are more likely to grow up with authority over siblings, with respect from them, and with such special attention as comes from elaborate birth ceremonies, parental teknonym [the parent takes the name of his/her first child], and birth-order-relevant address, naming, or kinship terminology" (1974: 52). For additional material on firstborn infants in primates and humans, see Miller and Newman (1978) and for the cultural significance of the youngest child, see the Whitings (1975).

Ecology and Caretaking The presumption on the part of many authorities is that continuous interaction and primary bonding with the mother is the natural condition for infant care among humans. Konner (1976), for example, reports that !Kung Bushmen infants are in physical contact with their mothers 70% to 80% of the time. By this account, cultures that exhibit patterns other than continuous maternal care are considered to be deviations from the natural pattern. This view has been brought into question by Tronick, Morelli and Winn (1987) who suggest a broader ecological model is required to account for cross-cultural variations in caretaking strategies. Their work recognizes the active role of the infant in assuring that its own needs and goals are met. "These acquisition strategies are made up of signalling and other manipulative behaviors. Infants' initial strategies are under strong genetic control, but as infants mature their strategies are modified by experience and increasingly conform to culturally prescribed forms" (1987: 97). And the society's institutionalized pattern of caretaking is part of the culture to which the infant conforms. They show that among the Efe pygmies of Zaire, a system of multiple caretaking (including multiple nursing) is in keeping with the ecological conditions faced by that people.

Father-Infant Interaction The role of the father as a factor in pre- and perinatal life has been generally neglected due to the focus upon mother-infant attachment. Yet there are now clinical and observational data indicating the significance of the interaction between fathers and their infants in American culture (Lamb & Stevenson 1978) and the enormous importance to the wellbeing of the prenatal child of the quality of interaction between the mother and her husband (Chamberlain 1983, Verny 1981). Most attention in the ethnographic literature is paid to the roles of the mother and midwife during childbirth. While it appears true that the father is almost universally excluded from attendance during childbirth (Ford 1945), this does not mean he does not participate. In fact, as Heggenhougen notes, Though he is not always present at the scene of birth, the husband in many, if not most, cultures-in contradistinction to our own-does, however, perform definite functions which are believed to bear directly on the outcome of the birth of his child. He performs a culturally prescribed role which is believed to be integral to the birth process. The husband's activities during birth therefore are a matter of great concern and, although in many instances he may not witness the actual birth, he is looked on as an active participant.

1980: 21 Noting the difficulties in studying father-infant interaction within the ethnographic setting, Katz and Konner (1981) have summarized the little cross-cultural evidence that exists and have placed these data in an evolutionary and ecological perspective relative to parenting among non-human primates. They give summaries of father-infant relations for five societies, the !Kung Bushmen, the Lesu of Melanesia, the Koreans of Kanghwa Island, the Thonga of South Africa, and the Rwala Bedouins of North Africa. From statistical analysis of a sample of 80 traditional societies, the authors find that the role of the father in infant care is minimal, although it will vary due to social and environmental conditions. "Fathers are more likely to be in proximity to their infants in monogamous, nuclear-family, and nonpatrilocal cultures and in

subsistence adaptations in which the mother makes a large contribution to the resources of the family. . . . fathers are relatively 'close' among foragers, who represent the sociocultural adaptation that existed for 99 percent of human history" (1981: 181). Infant Indulgence and Independence Perhaps no topic addressed by the cross-cultural literature could be more important to pre- and perinatal psychology than the question of the effects of early experience upon later childhood and adult psychology. This is particularly so considering that there are authorities willing to question or deny any such causal influence (see eg., McClelland 1981, Shweder 1979, Clarke & Clarke 1976). While much of the trouble in clearly demonstrating cross-culturally the causal effects of early experience upon later psychological and sociocultural variables has been due to the limitations of culture and personality research (see above), more recent cross-cultural psychological and ethnographic work has shown promising evidence of this relationship. The clearest evidence of early influence upon later psychology centers upon the developmental effects of infant indulgence. A longitudinal study by Hunt et al. (1976) in a Tehran, Iran, orphanage showed clear effects of nurturant intervention with infants upon later sensorimotor and cognitive development. The theoretical discussion at the conclusion of this study is well worth consulting. Konner (1976) has addressed the seeming paradox in the association of extreme indulgence of infant needs and later independence and enhanced neuromotor and cognitive development in the child. The picture he paints of !Kung Bushmen infancy is one of extreme "indulgence, stimulation, and nonrestriction" (1976: 245), a pattern that appears to be typical of hunter-gathering peoples (Konner 1981: 22). In contradistinction to more ethnocentric, obstetrical "indulgence-assoiling" theories that encourage maternal unresponsiveness to infant demands, cross-cultural data of this sort support the notion that extreme, unrestricted indulgence of infant needs for nurturance are associated with later independence and decreased proximity to mother on the part of the child (see Bowlby 1969, Maccoby & Masters 1970, Ainsworth, Bell & Stayton 1972 for pertinent theoretical discussions). Whiting (1961) has shown that enhanced indulgence is related to extended families and large households, there being more caretakers available. He also notes that indulgence in infancy is associated with the belief in benevolent deities. Munroe and Munroe (1980) have tested these associations in a longitudinal study of a sample of Logoli (Kenya) children. When "mother-holding, number of caretakers and degree of protectedness from environmental discomfort" (1980: 309) are used as measures of infant indulgence, these variables are shown to be correlated with a relatively "benign view of life" on the part of these children when retested at approximately five years old. The Munroes (1984) also have examined cognitive variables among this same sample of children and found some evidence of influence.

Language and Communication Language and communication are the glue that make human social cohesion possible. Yet, despite universal recognition of this fact, just as with other aspects of pre- and perinatal culture, the ethnography of vocal and behavioral communication between infants (much less fetuses) and adults is sparse (Hymes 1961, Blount in Snow & Ferguson 1977, Goldman 1987). Again, Euroamerican cultural bias has impeded recognition of the importance of early communication. It was until recently thought that older infants passively receive language enculturation and that their early babbling is meaningless and bears no relation to the development of later "real" speech. This view has currently turned around (at least in developmental psycholinguistics) and the best recent evidence indicates that infant vocalization and babbling are constituted by both genetically endowed and culturally labile features, and that they are a consequence of both an active intent on the part of the infant to communicate on the one hand, and the willingness of adults to interpret their vocalizations and behavior as meaningful and to engage in dialogue with them on the other hand (Waterson and Snow 1978, Bullowa 1979, Murray & Trevarthen 1986). oiler et al. (1976) have shown that some of the phonetic content of babbling exhibits similar preferences to that found in later child speech, depending upon the language spoken. De Boysson-Bardies, Sagart and Durand (1984) partially confirm this finding by showing that adult speakers of different languages can accurately distinguish the recorded babbling of infants raised in their particular language group by recognizing certain metaphonological characteristics. Moreover, the form and content of adult babytalk has been shown to be determined by cultural attitudes and relations operating

elsewhere in the culture (Blount 1972, in Snow & Ferguson 1977: 301, Goldman 1987), and to involve simplification and reduction of form (Ferguson in Snow & Ferguson 1977). In keeping with the crosscultural study of caretaking mentioned above, the data on many societies show that the mother is often not the only linguistic influence on the infant, influence coming frequently from an extended group of siblings and other kin (Blount in Snow & Ferguson 1977: 299). Cultures vary considerably in sensitivity to meaning in fetal and newborn behaviors, and in which behaviors are considered meaningful and which are not (Bullowa et al. 1975). Devereux notes for the Mohave Indians that even fetuses about to be born are "believed capable of understanding, and responding to, rational verbal admonition even though they are manifestly incapable of speech" (1964: 267). Hymes (1966) mentions that the Wishram people of the northwest coast acknowledge elders that are specialists in interpreting infant vocalizations. According to Hogan (1968), the Ashanti of Ghana believe that both fetuses and infants understand speech addressed to them and therefore will be asked questions. In contrast, the Luo of Kenya recognize no special communicative intent on the part of fetuses and infants apart from expressing contentment or discontentment (Blount 1972: 238).

10 CONCLUSIONS

This review has been written to give non-anthropologists a general feel for the range of data and issues pertaining to the pre- and perinatal life of human beings discussed in the ethnographic and crosscultural psychological literature. We have shown that the range of variation in the details of pre-and perinatal culture is great, and that no account of pre- and perinatal life is complete without lodging the process in its sociocultural context. Doing so can both enrich the background for understanding the practices and experiences of people, and can preclude errors in analysis and interpretation. For instance, inclusion of a cross-cultural perspective can help to avoid the "noble savage" mystique (western obstetrics is all bad and traditional peoples always do it naturally and better) and at the same time can provide a cross-check on some of our pseudo-empirical, culturally-loaded obstetrical customs like episiotomy and certain dietary taboos (e.g. Newton 1975), and non-nurturant caretaking practices. As numerous authorities have noted, the cross-cultural data are not all they could or should be. There needs to be more detailed and sophisticated research on interactions, environmental conditions, attitudes and beliefs, and endogenous factors contributing to variation in pre- and perinatal experience. Anthropologists need to incorporate modern methods for testing infant motoric and cognitive competence and communication (but see Honzik 1976). Cross-cultural psychology needs to ground itself more firmly in the cultural background of their experimental research. There are clear signs in the literature of the past decade or so that these requirements are beginning to be met (see Harkness & Super 1980). The new field of pre- and perinatal psychology would be well advised to steep itself in the cross-cultural data. For one thing, the range of birth practices among the 4,000-plus cultures on the planet is far greater than some discussions would have us believe, and some of the practices found in other cultures may well be considered unwholesome. For another thing, causal explanations linking adult psychopathologies, historical events, and other phenomena to pre- and perinatal stress should at the very least be informed by the difficulties that have been experienced over the years by anthropologists in developing such explanations. Of particular importance for the future will be the emergence of data on patterns of caretaking and fetus/infant-adult interaction that will address the crucial question of whether or not there exists a basic, natural pattern of interaction from which our own culture markedly deviates, or whether a more flexible adaptive model of interaction is appropriate to the data. Pre- and perinatal psychology will undoubtedly have an impact upon ethnographic fieldwork, just as it is having upon other psychological research perspectives. As ethnographers become sensitized to their previously ethnocentric view of pre- and perinatal life, and as they begin to realize that the roots of adult culture are lodged, not merely in early childhood, but in the physical and sociocultural environment to which the pre- and perinatal human being must adapt, their methods will shift to incorporate those appropriate to addressing questions related to the earliest period of life.

REFERENCES

REFERENCE NOTES

1. We wish to acknowledge the invaluable assistance of Marilyn McKnight and Grier Owen who collected and recorded many of the library materials upon which this study is based. Reading their papers and having lengthy discussions with them helped to form the approach

taken in this review. The materials cited herein are now lodged in the more extensive Pre- and Perinatal Anthropology Archives, Department of Sociology-Anthropology, Carleton University, Ottawa, Ontario, Canada K1S 5B6. The PPAA is an ongoing literature compiling project that will make available an updated bibliography of cross-cultural materials upon receipt of five dollars and a SASE. Please contact the author. We would also like to thank Tom Verny for the inspiration and encouragement he has given this project over a number of years.

2. There are considerable methodological differences between anthropology and crosscultural psychology. The former tends to be more naturalistic, depending upon participant observation for its data, while the latter tends to be more experimental, depending upon testing for its data (see Edgerton 1974). As Schwartz (1981) notes, anthropology often ignores childhood in culture, while cross-cultural psychology often ignores the culture in children. For a clearcut example of the importance of the difference, compare Kilbride and Kilbride's (1983) account of mother-infant interaction among the Ganda of East Africa with Ainsworth's (1967a) classic account, the former being anthropologists and the latter a cross-cultural psychologist.

3. In the interests of space, we take as axiomatic to our project the view of pre- and perinatal consciousness expressed by Verny (1981, 1987), Chamberlain (1983, in Verny 1987), and Laughlin (1985), and choose cross-cultural materials accordingly. Because of this view, and because of the specific orientation of this journal, certain ethnographic materials relevant to the cross-cultural study of reproduction will not be covered due to the fact that they may not relate to conditions directly influencing the experiences and psychology of the living pre- and perinatal human being. These topics nonetheless may be of interest to some scholars, so we will list a few sources that will guide them into the relevant literature. These topics include: age, aging and culture (Kertzner & Keith 1984), reproductive rituals (Paige & Paige 1981), demographic patterns influencing reproduction (Polgar 1975), population problems and control (Marshall, Morris & Polgar 1972), prenatal selection pressures and evolution (Fantel 1978), social attitudes towards and cosmological beliefs about fertility (Lorimer 1954, Meade & Singh 1973, O'Brian 1981, Tiffany & Adams 1985), adoption (Goody 1976), infanticide and child mortality (Scrimshaw 1978, Balikci 1967, Granzberg 1973, Goody 1976, Hausfater & Hrdy 1984), abortion and birth control (Devereux 1955, 1967, Douglas 1966, Goody 1976, Nurge in Raphael 1975), the economics and politics of reproduction (Barry, Child & Bacon in Ford 1967, Goody 1976, Raphael 1975), barrenness (Ebin in MacCormack 1982), fertility and fertility regulation (Ayres in Ford 1967, Lorimer 1954, Newman 1985), the evolutionary functions of parenting, infancy and early birth (Trinkauss 1984, Meyr 1970, Omenn & Motulsky 1972, Zihlman in Miller & Newman 1978), menstrual taboos (Stephens, Young & Bacdayan articles in Ford 1967), infancy and parenthood among non-human primates (Katz and Konner 1981, Poirier in Raphael 1975, McKenna 1977), pregnancy and birth among early hominids (Trinkauss 1984), and the couvade (i.e., the curious tendencies of males to take on maternal behaviors prior to or just after birth, or to mimic the birth process itself; Dawson 1929, Heggenhougen 1980, Kupferer 1965). Although some of these issues may have an influence upon the pre- and perinatal life of a living child (eg., infanticide may affect the psychology of surviving twins, parents and other siblings), their inclusion in our discussion would make this paper too long.

4. The Human Relations Area Files is essentially a vast archive of primary ethnographic materials filed by culture and coded by topic. The HRAF are found in many libraries and constitutes the largest sample of cultures with such a wealth of materials available. The codes for finding materials in the files relevant to infancy and early childhood are discussed in Barry and Paxson (1971).

5. It seems particularly important to develop adequate coverage of the first day of postpartum life in coming to understand the cultural factors that influence motherinfant bonding (Klaus et al. 1970, Schreiber 1977). Feiring and Lewis (in Field et al. 1981) have offered a useful checklist of items that should be researched in the area of mother-infant interaction, and Ford (1964) presents a general guide to issues relevant to an ethnography of human reproduction.

6. Additional studies of relevance, but not surveyed in detail, are Aberle (1967) on the Hopi, Chisholm (1981) on the Navajo, Dixon et al. (1981) on the Gusii, Fock in Ford (1967) on South American birth, Gray (1982) on the Enga, Hicks (1976) on the Tetum, Kitzinger (1982) on Jamaica, Meldrum (1984) on Ibadan, and Midoriotaki et al. (1986) on Japan.

7. Ainsworth (1967b) has suggested a range of indicators of

mother-infant attachment to be used cross-culturally. 8. Other readings of interest covering cognitive studies in anthropology may be found in Tyler (1969) and Cole et al. (1971). 9. Other sources providing theoretical discussions of interest to pre- and perinatal psychology include: Super (1980, 1981a, 1981b) who discusses cognitive development and infancy; Montagu (1964, 1965) who places the human pre- and perinatal experience in evolutionary and biological perspective, and (1970) who discusses prenatal life and birth trauma from a cultural perspective; Eliade (1965) who discusses the cosmological significance of womb and birth; Chodorow (1974) who uses object-relations theory to understand the development of gender identity; B. Whiting (1980) who has come to view culture as a "provider of settings" (or ethos) within which infant development occurs; Harkness and Kilbride (1983) and Harkness and Super (1983) who discuss the socialization of affect in childhood (see also Super and Harkness 1982a); Konner (1981) who advocates an ecological and natural selection model as a context for infant development (see also Levine 1977, Chisholm 1980); Laughlin (1985) who presents a neurophenomenological explanation of cosmological gender attributions based upon pre- and perinatal experience; Barry, Bacon and Child (1957) who examine sex differences in socialization crossculturally; Stewart and Erickson (1977) who discuss theory and research in the sociology of birth; Jordan (1978) who examines features in birth practices that may be used in cross-cultural comparison within a biosocial framework; Kitzinger (1978) who discusses motherhood cross-culturally; and O'Brian (1981) who offers a feminist critique of the relationship between the social position of women and the biological process of fertility. 10. Additional discussion of infant-adult communication in the ethnographic literature-usually centering on babytalk-may be found in Dil (1975) for the Bengali of India, Kelkar (1964) for the Marathi of India, Goldman (1987) for the Huli of New Guinea, Casagrande (1948) for the Comanche, Sorenson (in Bullowa 1979) for the Fore of New Guinea, Bynon (in Snow and Ferguson 1977) on the Berber, RukeDravina (in Snow and Ferguson 1977) on Latvian, Ferguson (1956) on Arabic, Crawford (1970, 1978) on Cocopa (a Yuman language from Arizona and Mexico), Oswalt (1976) on the Pomo, Kess and Kess (1986) on the Nootka, Meegaskumbura (1980) on Sinhala, and Austerlitz (1956) on the Gilyak. For a society in which caretakers use no babytalk per se, but do interact vocally with newborns and infants, see Schieffelin (1979: 85) on the Kaluli of New Guinea.

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