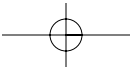
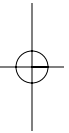


I

Theoretical and Conceptual Issues?



1

Emerging Issues in the Study of Hunter-Gatherer Children

Barry S. Hewlett and Michael E. Lamb

This book is designed to bridge critical gaps in our understanding of the daily lives, knowledge, and development of hunter-gatherer children. Children represent more than 40 percent of most hunter-gatherer populations but anthropologists working with these groups seldom describe their daily life, knowledge, and views, thereby ensuring, in essence, that about half the population is omitted from most hunter-gatherer ethnographies. Reflecting on this, Hirschfeld (2002) has pondered why anthropologists do not like children, and Bird-David (Chapter 4) identifies several reasons why child-focused research on hunter-gatherers has been so limited.

Although studies of hunter-gatherer children have been rare, child-focused anthropological research was relatively common from the 1930s to the 1960s, when Freudian theorists hypothesized about the links between early childhood experiences and adult personality and culture. Margaret Mead (1930, 1933) pioneered child-focused research, while John and Beatrice Whiting (1941, 1975) and their many students (e.g., Robert LeVine, Sara Harkness, Thomas Weisner, Lee and Ruth Munroe) refined and extended these “culture and personality” field studies into the 1970s. These studies led to the rejection of several psychoanalytically inspired ideas about child development and encouraged many social scientists to question some Western-centric notions about children, including the beliefs that identity conflict and mood swings are universal features of adolescence (Condon 1987; Mead 1933), that older siblings are infrequent and incompetent caregivers (Weisner and Gallimore 1977), and that infant sleep-wake patterns are universal (Super and Harkness 1982).

The Freudian and culture-and-personality approaches were still limited, however, by their concern with children primarily as it afforded better understanding of adults; children, their knowledge, and their activities

were not viewed as theoretically or ethnographically interesting in their own right. And although hunter-gatherer cultures were included in the Whitings' cross-cultural research on adolescents [see, for example, Burbank's (1989) account of Australian Aborigines and Condon's (1987) description of the Inuit], the groups selected for field study had not actively engaged in hunting and gathering for at least a generation and so the research did not elucidate the daily lives of adolescents in hunting and gathering societies.

Like the studies by Mead, the Whitings, and their students, the majority of child-centered studies conducted by anthropologists based in the United States (e.g., Schieffelin 1990) and Europe (e.g., Toren 1993) have involved farming cultures, in part because they represent the majority of the small-scale or "traditional" cultures in the world. Consequently, most of what contemporary anthropologists know about children (summarized in the "socialization" chapters of introductory anthropology texts) reflects research on farming and pastoral cultures. Unfortunately, many scholars and popular writers such as Judith Harris (1998) then use these generalizations to characterize child life in "preliterate" or "traditional" cultures as compared with child life in urban industrial cultures. For example, Harris (1998:90-96) indicates that, in most traditional societies, weaning is abrupt, sibling rivalries lead many older children to hit younger siblings, physical punishment is widespread, infants are taught little because parents consider infants to be incapable of learning, and girls are preferred babysitters. These generalizations are not true of most hunter-gatherer societies, however. Whereas most of Harris's characterizations of traditional childcare apply to the Ngandu farmers who are neighbors of and regularly trade with the Aka hunter-gatherers, for example, older Aka children rarely, if ever, hit younger children, physical punishment of children is rare (and is even grounds for divorce), weaning is both very gradual and child-directed, both boys and girls are babysitters, and infants (six- to ten-month-olds) are routinely given small digging sticks, axes, or spears by parents, who instruct them in their use by moving their arms appropriately. Harris appropriately summarized the literature on children in "traditional" societies available to her, but her summary nicely exemplifies the former bias in the literature and reflects critical gaps in our understanding of children in hunter-gatherer cultures.

A specific interest in hunter-gatherer children emerged in the 1960s shortly after the completion of the first in-depth studies of the Mbuti (Turnbull 1965), the Hadza (Woodburn 1996b), the San (Lee 1979), and the Siriono (Holmberg 1950), as well as the first international conference on hunting and gathering societies (the "Man the Hunter Conference") in 1966. Interest in foragers also coincided with growing acceptance of Bowlby's (1958, 1969) proposition that the attachment-forming processes

of human infants evolved in a hunting and gathering context (which Bowlby called "the environment of evolutionary adaptedness"). Three of the authors in this volume—Melvin Konner, Patricia Draper, and Nick Blurton Jones—were among those first anthropologists to conduct child-focused research with hunter-gatherers in the late 1960s.

By contrast to anthropology, developmental psychologists have always conducted child-focused research. Libraries are filled with books and journals on child development, but most of the studies described involve very brief observations in artificial or laboratory settings, rather than in extended naturalistic settings, perhaps at home or with friends. Artificial methods allow researchers to control for a variety of factors in quantitative analyses, but they impede the holistic understanding of children. All of the contributors to this volume have conducted long-term naturalistic observations of children or juvenile primates.

In addition, most developmentalists have studied global economic cash economies with cultures characterized by complex levels of hierarchy, inequality, and global capitalism. Research by child developmentalists is increasingly "cross-cultural," but the cultures selected for comparison (e.g., Dutch, German, French, Japanese, Chinese) tend to be similar with respect to socioeconomic inequality, the material accumulation of wealth, and an emphasis on formal education. Most class-stratified societies are also governed by strong nation-states that make parental and alloparental roles as protectors and educators less important because the state provides a police/military force as well as some amount of formal education. Stratified cultures differ in some important ways (e.g., some are much more socio-centric than others) but they are all characterized by everyday inequalities dramatically different from the relatively egalitarian lifestyles and world-views of hunter-gatherers. In the latter cultures, sharing is extensive (e.g., 80 percent of the game meat captured by Aka families is shared with others) and individuals are discouraged from drawing attention to themselves. The hunter-gatherers described in this volume live in nation-states and may be affected by their laws and government policies (e.g., settlement programs), but, in general, they receive little daily protection or formal education from the nation-state (Pandya, in Chapter 18, and Kamei, in Chapter 16, describe some exceptions to this pattern). Studies of contemporary stratified cultures do help us understand child development, of course, but it is important to keep the limitations of context in mind, especially when proposing universal or general features of childhood and child development.

It is also valuable to understand how childhood unfolds in the contexts that characterized most of human history. Global capitalism has been around for about two hundred years, class stratification (chiefdoms and states) about five thousand years, simple farming and pastoralism about

ten thousand years, and hunting-gathering hundreds of thousands of years (at least 90 percent of human history). The importance of understanding children and childhood in hunting and gathering cultures notwithstanding, Bird-David (Chapter 4) and Lee (1979) suggest caution when interpreting the results of such research:

Contemporary hunter-gatherers have much to teach us, but we must proceed with extreme caution to avoid misreading the lessons they offer. The hunters are not living fossils. They are human like ourselves with a history as long as the history of any other human group. It is their very humanity that makes them so important to science. (Lee 1979:1)

As mentioned earlier, in any event, children have largely disappeared from anthropology textbooks and ethnographies, appearing occasionally in discussions of childhood in farming societies. This book on hunter-gatherer children begins to bridge these dramatic gaps by placing children in the foreground. Scholars from around the world describe provocative theoretical frameworks and ethnographic details about the few remaining contemporary hunter-gatherer societies in Asia, Africa, and South America.

TERMINOLOGY AND GENERALIZATIONS ABOUT HUNTER-GATHERER CULTURES

Hunter-Gatherers

Hunter-gatherers are a very diverse group of peoples living in a wide range of ecological, social and political conditions. This diversity is, in part, why childhood is plural in the title of this book. The hunter-gatherer lifestyle they share is defined as "subsistence based on hunting of wild animals, gathering of wild plant foods, and fishing, with no domestication of plants, and no domesticated animals except the dog" (Lee and Daly 1999:3). The terms "hunter-gatherer" and "forager" are used interchangeably in this book to refer to mobile hunter-gatherers. We do not discuss sedentary hunter-gatherers (also called "collectors" by Binford 1980), such as Native Americans of the Northwest Coast, who often store food (mobile hunter-gatherers often know how to store food but seldom do so), such as acorns or salmon, accumulate material wealth, and are socially stratified. As a result, social life in sedentary hunter-gatherer cultures and simple farming cultures can be quite similar.

Woodburn (1982b) described foragers or mobile hunter-gatherers as "immediate-return" cultures, and all others as "delayed-return" cultures. Delayed-return cultures are characterized by cultural ideologies and sub-

sistence systems in which individuals wait for a return on their investment (they plant crops today and wait six months to harvest, for example, or save money for college) whereas immediate-return cultures have ideologies and subsistence systems that emphasize rapid return on individual investment (eating an entire elephant in a few days, for example, without storing any for future consumption). Woodburn focused on the cultural ideology (values and attitudes about resources) rather than on the modes of production, in part, because it is difficult to make any generalizations about "hunter-gatherers," particularly when both mobile and sedentary hunter-gatherers are considered. Similarly, Barnard (2000) has proposed a shift from analyzing "modes of production" to analyzing "modes of thought" (such as the emphases on extensive giving/sharing or maintaining egalitarian social relations) because the modes of thought persist beyond the mode of production. Many peoples who used to hunt and gather actively are now sedentary, farming, or raising cattle, but they continue to share extensively and their modes of thought resemble those of active mobile hunter-gatherers. Bird-David (1992) and Hewlett et al. (2000) have also suggested that egalitarian and trusting social relations are linked to patterns of childcare and may be more distinctive than modes of production, especially when a group of foragers becomes sedentary.

These issues are introduced here because some of the contributors examine forager children whose parents may not hunt and gather very much any more (i.e., they may have moved to settlements) but their "modes of thought" and many elements of forager child life persist after sedentarization and farming (see Hirasawa, Chapter 17) have started. Studies of forager groups undergoing extensive cultural change cannot tell us much about the daily life of forager children, of course, but they can tell us about the styles of caregiver-child interaction and about the strength, skill, and knowledge needed to engage in those foraging activities that persist. All forager groups described in this book are experiencing cultural change and are affected by their nonforaging neighbors and other international events (e.g., logging, game preserves), but the extent to which they are affected varies. Table 1.1 summarizes variations among the cultures described in this volume with respect to how often they hunt and gather. Adults in most of the cultures studied continue to hunt and gather actively and all have forager "modes of thought." The contributors all describe the historical and ethnographic background of the cultures they studied so that readers can judge how much cultural change may have affected their hypotheses or findings.

Although debate about how to characterize mobile hunter-gatherers continues, most scholars agree that mobile hunter-gatherers, foragers, or immediate-return cultures live in small and flexible social groups of 25–35 individuals who move camp several times a year; seldom store food; do

Table 1.1 Ethnic Groups, Ages of Focal Children and Impact of Culture Change

<i>Chapter and Author</i>	<i>Age Focus</i>	<i>Ethnic Group</i>	<i>Foraging^a</i>
2 Konner	Infancy and early childhood	!Kung and comparisons	High at time of study
3 Hrdy	Infancy and early childhood	Cross-species and cross-cultural	Not applicable
4 Bird-David	Childhood (3–18 years)	Nyaka and comparisons	Intermediate
5 Bock	3–18 years	Five ethnic groups in Okavango Delta	Intermediate
6 Bird and Bliege Bird	4–14 years	Mardu	Low to intermediate
7 Tucker and Young	3–18 years	Mikea	Intermediate
8 Marlowe	0–8 years	Hadza	High
9 Ivey-Henry et al.	12–15 months	Efe	High
10 Blurton Jones et al.	0–18 years	Hadza	High
11 Sugiyama and Chacon	0–20 years	Yora	Low to intermediate
12 Draper and Howell	2–20 years	!Kung	High at time of study
13 Takada	2–4 months	!Xun	Low to intermediate
14 Fouts and Lamb	18–59 months	Bofi	High
15 Hewlett	10–20 years	Aka (comparison with Ngandu farmers)	High
16 Kamei	4–15 years	Baka	Intermediate
17 Hirasawa	1–13 months	Baka (comparison with Bombong farmers)	Intermediate
18 Pandya	5–13 years	Ongee	Low to intermediate

^aHigh: frequent movement, no or small farms, no outside provisioning (e.g., by governments or churches), no or limited access to formal education, limited links to market economy.

Intermediate: hunt and gather for 40 to 60% of subsistence, sedentary most of year near a road, frequent access to formal education, some market trading with outsiders.

Low: continue to hunt and gather, but most subsistence comes from farming, pastoralism, or outside provisioning; frequent access to formal education, and some access to piped water.

not have centralized authorities (i.e., strong chiefs); share extensively (i.e., daily, with many different individuals); have egalitarian social relations; and practice shamanism (Lee and Daly 1999).

Childhood/Children

Discussing the term “children” in Chapter 4, Bird-David observes that most forager cultures distinguish babies and toddlers from “children” and

that children become “adults” as soon as they marry. Interestingly, the categories used by foragers are similar to those identified in life history theory: All of the groups studied recognize distinctive periods before weaning and between weaning and first mating (and adulthood) but none subdivide childhood into early childhood, late childhood, and adolescence. Bird-David further notes that foragers frequently talk about children, but that academics studying foragers do not; she suggests it is like two ships passing in the night.

As shown in Table 1.1, the contributors have studied children ranging in age from birth to around 20 years, reflecting the extraordinary length of time that human children are economically dependent on adults. We use the term “childhood” in the book’s title because most contributors focus on what others do for and with juveniles. Most of the contributors focus on middle childhood, but five pay considerable attention to infancy. Although only one contributor emphasizes adolescence, several others consider adolescents in their analyses and discussion.

WHAT’S NEW?

The chapters in the volume contribute both ethnographically and theoretically to our understanding of forager children. Ethnographically, several of the chapters provide unprecedented insights into forager child life. For example:

1. In the first systematic study of forager children’s hunting (as opposed to collecting), Bird and Bliege Bird (Chapter 6) found that Mardu five-year-olds were just as efficient at large lizard hunting as 14-year-olds and that Mardu children learned to hunt on their own in the absence of adults.
2. In the first systematic study of children as caregivers in a foraging culture, Ivey Henry and her colleagues (Chapter 9) reported that Efe boys and girls were equally involved in the care of one-year-old infants (whereas girls dominate infant care in farming groups) and that a variety of demographic and ecological factors, such as group size, explained the extent to which children provided care.
3. In the first systematic comparative study of forager grandparents, Blurton Jones and his colleagues report in Chapter 10 that Hadza grandfathers were less likely than grandmothers to be living in camps with their grandchildren.
4. In the first systematic study of play by foragers, Kamei (Chapter 16) reported that Baka children engaged in very little physical play. Play provided a forum for learning how to negotiate social

- interaction with other children rather than to practice adult activities and roles.
5. In the first systematic study of forager weaning, Fouts and Lamb (Chapter 14) found that Bofi children decided when to wean, that weaning was not a traumatic event, and that other care providers were less likely to answer infant cries when mothers were absent than when they were present.
 6. In the first systematic study of forager children's (10- to 20-year-olds) grief, Hewlett (Chapter 15) found that Aka children remembered many deaths. Unlike the neighboring farmers, Aka children and adolescents remembered just as many female deaths as male deaths and were comforted by physical soothing (e.g., being held) more than by acts of material provisioning.
 7. In the first systematic study of forager children with only one biological parent, Sugiyama and Chacon (Chapter 11) indicated that single parents lived in larger households with more allocaregivers than did children who had two living parents.
 8. Mikea children forage simply because it is interesting and fun and there is not much else to do (Tucker and Young, Chapter 7).
 9. Nyaka parents do not feel the need to "socialize" their children and do not believe that parents' activities greatly affect their children's development (Bird-David, Chapter 4).
 10. Both !Kung and !Xun caregivers use "gymnastic" activities to stimulate their infants, but for different reasons. !Kung mothers believe that it promotes motor development whereas !Xun mothers think that it quiets infants or helps them fall asleep (Takada, Chapter 13).
 11. When Baka foragers became more sedentary, frequent holding, rapid responses to fussing and crying, and frequent breastfeeding remained characteristic, but sibling care became more common and weaning began to take place earlier and more abruptly (Hirasawa, Chapter 17).
 12. Hadza fathers provide substantial amounts of care during infancy and early childhood when they live with the mothers, but grandmothers became the major sources of nonmaternal care when biological fathers are not present, perhaps because many single mothers live with their mothers (Marlowe, Chapter 8).
 13. The health and activity levels of !Kung children are not related to the numbers of living parents or grandparents they have, perhaps because extensive sharing makes these relatives less crucial than they are in other cultures (Draper and Howell, Chapter 12).

This list selectively references some of the ethnographic contributions made by this collection of chapters, but the list shortchanges the theoretical context and contributions by the authors. Often the ethnographic data

would not have been collected if it were not for the provocative theoretical issues that generated the research questions. Evolutionary, developmental and cultural theoretical questions and issues are outlined below and detailed in each chapter.

ORGANIZATION AND THEORETICAL INTEGRATION

Three general but complementary theoretical approaches guide the research conducted by the contributors to this volume: evolutionary, developmental, and cultural. The evolutionary approach emphasizes the ways in which individuals (adults or children) try to enhance their reproductive fitness (i.e., adaptation) in particular social, ecological, and demographic settings. For instance, forager children hunt and gather in natural environments where it is relatively safe and easy (Tucker and Young, Chapter 7), but do not do so in dangerous environments (Ivey Henry et al., Chapter 9). The developmental approach includes a broad range of theories, linked by the assumption that age is a key factor in explaining much of the observed variability in children's abilities (e.g., motor, social, emotional, or social). Consequently, developmental researchers tend to focus on specific age ranges (Ivey Henry et al. focus on 12- to 15-month-olds for example, and Fouts and Lamb focus on 18- to 59-month-olds). The cultural approach uses the concept of culture (minimally defined by reference to shared knowledge and practices that are transmitted nonbiologically from generation to generation) to explain what happens during childhood. Culture is symbolic, historic, and integrated; it influences how individuals perceive and feel about the world around them. A "culturalist" approach to children emphasizes local views of children and how these views influence children's and adult's behavior. For instance, Pandya (Chapter 18) reports that the colonial culture and views of children dramatically affected the colonists' treatment of Andaman hunter-gatherer children. Chapters in Parts II and III emphasize evolutionary approaches, most chapters in Part IV are developmental in focus, whereas Chapters 13, 16, 17, and 18 use culture as an important explanatory factor.

An integrated approach is essential to understand the nature of child life. Evolutionists are interested in how reproductive interests influence human behavior but it is necessary to understand how these behaviors develop during childhood and how cultural ideology and identity influence children's reproductive choices. Developmental trajectories and patterns are influenced by cultural ideas about children as well as the children's reproductive interests. Cultural schema and knowledge are manipulated by children's reproductive interests and culture may change dramatically as the child ages (e.g., "cultures of childhood").

While each chapter tends to emphasize one of the three approaches, the contributors integrate the three approaches in a variety of ways. Each chapter provides cultural and historical contexts of childhood (i.e., history of the people, physical and social settings, caregiving practices, ideologies regarding children). Each chapter is also developmental in that children's abilities or activities at specific ages are identified and examined. The researchers who examined gymnastic behaviors (Chapter 13), weaning (Chapter 14), grief (Chapter 15), and play (Chapter 16) all use developmental theory and hypotheses to guide their research. In addition, the authors of the chapters on weaning and grief use evolutionary approaches to interpret their results, whereas those who studied gymnastics and play consider cultural influences on developmental patterns. Evolutionary theory guided the research described in Chapters 5 to 12, but the questions and results are also of great interest to developmental psychologists: At what ages do children learn particular skills? Why do they learn these skills? Who cares for forager children of different ages? How do different caregivers affect children's development? What can be more basic to developmental psychology than the question, Why does childhood exist?

ORGANIZATION OF THE BOOK

The book is divided into five parts. In addition to this introduction, Part I includes three chapters that provide the historical, theoretical, and conceptual background for the other chapters. Parts II to V include their own brief introductions and contain chapters exploring a range of hypotheses using data gathered in the field.

Part I introduces provocative theoretical and conceptual issues that are revisited later in the book. Konner (Chapter 2) begins with an excellent overview of research on foragers in which he integrates evolutionary and developmental approaches while asking whether forager childcare patterns might have been affected by phylogenetic history (i.e., the history of juvenile care in primates) and whether foragers have an infinite ability to adapt their patterns of childcare to changing social ecologies. In the course of this analysis, Konner reexamines his own classic research on !Kung infants and children, carefully summarizing and evaluating major studies of forager children conducted in the intervening 25 years, including research on the !Kung, Hadza, Efe, and Aka discussed elsewhere in this book. Konner also raises questions about allocare and infant-parent attachment that are addressed in Parts III and IV.

Hrdy, too (Chapter 3), raises issues that are revisited throughout the book: Why does childhood exist? (Part II), Who cares for children? (Part

III), and What psychological features characterize mother-infant attachment? (Part IV). Like Konner, Hrdy integrates evolutionary and developmental approaches, but whereas Konner emphasizes phylogenetic history and maternal primacy among foragers, Hrdy emphasizes facultative adaptation and allocare.

In the final chapter in this introductory section, Bird-David asks from a culturalist perspective why there has been so little research on forager children and why it is important to understand how foragers themselves view children and their development. Although all the contributors deal with culture (providing cultural and historical backgrounds, for example), the chapters in Parts IV and V place special emphasis on culture as a factor shaping childhood among foragers. By contrast, the evolutionary researchers contributing to Parts II and III seldom, if ever, mention "culture" in their chapters. Culture is, in fact, an integral part of the evolutionary approach to childhood (Hewlett and Lamb 2002), although few proponents of the evolutionary approach pay explicit attention to this concept.

Part II contains three chapters in which scholars describe empirical data bearing on the question raised by Hrdy (Chapter 3) and articulated more thoroughly by Blurton Jones in his introduction to Part II: Why do humans have longer childhoods than other primates and mammals? Is the extraordinary length of human childhood an artifact of human life history (e.g., low adult mortality), as suggested by data in Chapters 6 and 7, or, as suggested by Bock in Chapter 5, an adaptation to the complexities of human lifestyles? Do children, for example, need a long period of dependent apprenticeship to learn the complex subsistence and social skills needed to be successful adults as many anthropologists and psychologists have long assumed? Additional data on this debate are also provided in Chapter 11 by Sugiyama and Chacon.

Part III includes five chapters in which contributors examine the distribution of childcare responsibilities, a topic introduced by Konner (Chapter 2) and Hrdy (Chapter 3) when discussing the importance of maternal and allomaternal care, respectively. Although most chapters in Part III provide data that support Hrdy's cooperative breeding hypothesis, some of the data reported in these and other chapters (e.g., Hirasawa, Chapter 17) are also consistent with Konner's emphasis on maternal primacy. In addition, as Hrdy (Chapter 3) and Blurton Jones (Introduction to Part II) point out, the questions Who cares for children? and Why childhood? are related. The "grandmother hypothesis" (Hawkes et al. 1998) proposes that the long human lifespan is the product of selection favoring the provisioning of benefits by older women to their descendents rather than that long childhoods are necessary for the acquisition of life skills. Hrdy (Chapter 3) suggests that extended childhoods and cooperative breeding co-evolved whereas brain size increased later in the course of evolution.

Are fathers or grandmothers more important to the survival of forager children? Paternal provisioning, especially postweaning, used to be viewed as central to child survival (Lancaster and Lancaster 1983), with fathers expected to go hunting and return with game to share with their families. Hawkes (1991) pointed out, however, that forager men shared most of the meat with other adults in camp and that the hunters' families actually received relatively small portions of the meat. Men also bypassed small game, which could be captured on a daily basis, to go after larger game, which was often captured irregularly. Among the Hadza at least, by contrast, grandmothers and other older adult women provided food for postweaning children on a regular, dependable basis in the form of tubers and other high-caloric food items. With these data in mind, Hrdy (Chapter 3) suggests that fathers are important but unreliable caregivers or providers whereas Hewlett (1991b) and Marlowe (1999a) describe them as central secondary providers, especially when they are present in infancy and early childhood. Three chapters (8, 10, 11) in Part III and two in later sections of the book (Chapters 14 and 17) contain field data relevant to the father-grandmother comparison.

Part IV comprises four chapters in which contributors examine developmental issues in light of the debates and issues raised in Parts I, II, and III. For example, Konner and Hrdy clearly integrated developmental and evolutionary theory, with Hrdy describing the ways in which maternal and child psychology influence the level and nature of allocare and attachment formation. Fouts and Lamb (Chapter 14) and Hewlett (Chapter 15) examine attachment in young children and adolescents. Takada (Chapter 13) and Kamei (Chapter 13) discuss the physical stimulation of infants and play among children, respectively, using the "culturalist" perspective introduced by Bird-David in Chapter 4 to interpret their results. In addition, Kamei returns to another issue discussed in Chapters 4 (Bird-David) and 6 (Bird and Bliege Bird): are there cultures of childhood, that is, bodies of knowledge or practices that relate to living and interacting with other children rather than adults?

Part V, the final section of the book, includes three chapters, two of which examine the impact of culture change on the experiences of infants and children in forager communities. As noted earlier in this chapter, all the foraging societies discussed in this book have experienced some degree of culture change: The Yora (Chapter 11) have undergone dramatic population loss, Mardu adults (Chapter 6) drive trucks when hunting, and the !Kung and !Xun now live in settlements. The authors of Chapters 17 (Hirasawa) and 18 (Pandya) make culture change central to their reports, however. Hirasawa examines the impact of sedentarization on Baka infant care and Pandya examines the impact of history, politics, and formal schooling on Ongee children and childhood.

DISCUSSION

Infancy and Early Childhood

Most theoretical and empirical studies of hunter-gatherer children involve infants and, to a lesser extent, children who have not yet been weaned. It is not clear why the focus has been so narrow (the impact of Bowlby's attachment theory, and Western scholarly emphases on early sensitive periods of development are possible explanations), but we can now draw on systematic and detailed studies of infancy and toddlerhood among the !Kung, Ache, Baka, Aka, Bofi, !Xun, Hadza, and Efe. This database enables scholars like Konner (Chapter 2) to develop and evaluate characterizations about the care of infants and young children in hunter-gatherer cultures. Konner's excellent summary and data provided by other contributors suggest that, in comparison with the patterns of care that characterize farming and urban-industrial cultures, young children in foraging cultures are nursed frequently; held, touched, or kept near others almost constantly; frequently cared for by individuals other than their mothers (fathers and grandmothers, in particular) though seldom by older siblings; experience prompt responses to their fusses and cries; and enjoy multiage play groups in early childhood.

Other features appear to be characteristic of some rather than all forager groups. Reflecting the emphasis of many foragers on the development of autonomy, for example, some forager care providers do not intervene when infants or young children use or touch items that caregivers in many other cultures may perceive as dangerous (knives, machetes, spear points, axes, sharp digging sticks, hot pots). Thus, several participants at the conference reported observing the kind of behavior Marlowe describes in Chapter 8: "Children grasp knives and suck on them." Similarly, weaning in some groups, although not among !Kung, is gradual and often child-directed (see Chapter 14) and infants often initiate breastfeeding on their own. Breastfeeding by women other than the child's mother is common among the Ongee, Efe, Aka, and Agta but not among the Hadza or !Kung. Reflecting a commitment to gender egalitarianism, older boys and girls provide equivalent amounts of infant care.

As noted earlier, the data reported in this book support both the cooperative breeding and maternal primacy hypotheses. The cooperative breeding hypothesis is supported by data reported in Chapters 2 (Konner), 8 (Marlowe), 9 (Ivey Henry et al.), and 12 (Draper and Howell), whereas support for the maternal primacy hypothesis can be found in Chapters 8 (Marlowe), 11 (Sugiyama and Chacon), and 13 (Hirasawa). At the conference, several participants pointed out that babies in foraging cultures typically die when their mothers die, but not when their fathers, aunts, or

grandmothers die. In addition, even in the cultures characterized by particularly high levels of allocare (Efe and Bofi), mothers are more likely than other available caregivers to respond to their children's crying and fussing.

It is important to remember that forager infants receive much more direct care, holding in particular, than do their peers in farming communities. Forager infants and young children are held almost continually by a variety of individuals, including fathers, grandmothers, and other children. A restricted focus on either grandmothers or fathers misses the fact that almost everyone provides more infant care in foraging cultures than in other cultures and that variations in the ecological, demographic, and cultural context affect which "others" help out. Aka men, women, and children net hunt so fathers are more available to their infants than foragers whose hunting techniques involve men leaving camp alone. Aka men are also more likely to provide for children because they contribute half the calories to the diet and hunt small- and medium-sized game. By contrast, Hadza women forage for more predictable fruit and tubers with other women while Hadza men tend to forage alone, travel further, and are gone longer in search of less predictable foods so it is not surprising that grandmothers become secondary providers (Marlowe 2003). Individuals can enhance their own reproductive fitness by attending to genetically related children or by trying to attract new spouses by helping care for their existing offspring.

These data and theories raise several questions for future research. Why do foragers have this distinctive pattern of intensive care in infancy and early childhood? Konner emphasizes the need to understand phylogenetic origins, but the analysis needs to be taken further. Why are forager caregivers so indulgent? Why do foragers always hold their infants? Hrdy concludes that cooperative breeding existed in humans before brain capacity increased, but why did it emerge? Finally, does the quality of care (e.g., responsiveness, ability to soothe) vary among care providers? Allocare is extensive and common, but we do not know if child caregivers, fathers, grandmothers, and others afford similar or different types of experiences for the children in their care, and what significance this may have.

Older Children (4- to 20-Year-Olds)

Few researchers have studied forager children between the ages of weaning and first marriage. Draper (1976) pioneered child-focused research with older (4- to 14-year-old) !Kung children in the late 1960s and early 1970s, while Blurton Jones, who studied !Kung infants with Konner in the early 1970s, turned his focus to older Hadza children in the 1980s. Blurton Jones and his colleagues encouraged a new generation of child-focused researchers, many of whom have contributed to this book, and we

now have a clearer picture of what forager children in many cultures contribute to subsistence, what they do during the day, and how skilled they are in subsistence tasks. Despite these efforts, so many questions remain unanswered that we cannot yet offer broad generalizations like those that can be made about infancy and early childhood, although Konner (Chapter 2) suggests two: that premarital sex is common and that childhood is carefree (i.e., children are generally not expected to provide food or care for siblings as they would be in farming cultures). Qualitative ethnographic accounts suggest that premarital sex is indeed common, although no systematic studies on this topic have been conducted. By contrast, Blurton Jones et al. (1989) and several contributors to this book provide data about the responsibilities and activities of forager children, suggesting that, under certain social-ecological conditions—for instance, where foraging areas are close to camp, free of predators, and children cannot easily get lost—children spend a considerable amount of time in subsistence activity and provide up to 50 percent of the calories they consume (Bird and Bliege Bird, Chapter 6; Tucker and Young, Chapter 7). This suggests that childhood may not be carefree as suggested by Draper (1976) and Konner (Chapter 2), but the ethnographic accounts that accompany the behavioral observations suggests that children frequently “work” by choice. Forager children are often not expected to contribute to subsistence or childcare until first marriage, although they may be praised for hunting or collecting. By contrast, older children in most farmer groups expect older female siblings, in particular, to care for their younger brothers or sisters.

Other data suggest that, in at least some forager cultures, “cultures of childhood” exist (Bird-David, Chapter 4; Bird and Bliege Bird, Chapter 6; and Kamei, Chapter 16); children learn complex subsistence skills very quickly and easily at a relatively early age (Bird and Bliege Bird, Chapter 6; Tucker and Young, Chapter 7; Blurton Jones, Introduction to Part II); children up to the age of about seven are usually in the proximity of adults, although this is not the case among the Mardu; grandparents are important sources of care and food during middle childhood because many children live with grandparents at these ages; and foragers do not feel strongly about socializing their children.

Unfortunately, research on 4- to 20-year-olds is only now beginning, so many questions remain to be addressed in the future. Among the most important might be the following:

1. How is forager culture transmitted? What is the impact of group living? What are the costs and benefits of the different types of transmission and acquisition?
2. When do children acquire the knowledge to make the tools needed to take advantage of complex technology? Children may be very

- good at using the tools at an early age, but most of these tools (e.g., nets, spears, mortar and pestle) are made or provided by parents.
3. What is the impact of frequent practice on skill acquisition? Physical maturation is emphasized in Chapters 6 and 7 while skill is emphasized in Chapters 5 and 11 but it is crucial to understand whether and how experience and body size affect the acquisition of specific skills.
 4. When, how, and why do forager children acquire the social skills needed to survive in highly egalitarian societies? What are the interactions between experience and cognitive development?
 5. We know the least about forager adolescence. How is it different or similar to childhood?
 6. A "culture of childhood" exists, but we know almost nothing about forager children's views, ideologies, or explanations of their own lives.
 7. Like many developmental psychologists, Bogin (1999) suggests that early childhood (from weaning or eruption of the first permanent molars until ages of five to seven) should be distinguished from late childhood ages (five to seven until puberty) and adolescence. Several chapters in this book distinguish childhood from adolescence, but as Blurton Jones points out (Introduction to Part II), we know very little about these distinctions and their recognition in hunter-gatherer societies.

We hope that this book will encourage researchers to seek answers to questions such as these in the years ahead.