

Commentary: An Evolutionary Biocultural Approach to the Organization of Intracultural Diversity

Barry S. Hewlett

Abstract The commentary introduces an evolutionary biocultural approach for understanding the organization of intracultural diversity in child development and uses the approach to critique the articles by Thomas S. Weisner and Harold L. Odden. [child development, evolutionary theory, cultural transmission]

Weisner and Odden provide ethnographic descriptions and explanations for the organization of intracultural diversity in child development in the United States and Samoa. Weisner describes how two different U.S. middle-class parental cultural schemas (conventional vs. counterculture) might or might not lead to differences in child outcomes. Countercultural parents valued egalitarian relationships (male–female, parent–child), minimal parent influence on their children’s development, and “pronatural” views of childcare, nutrition, and the environment. The more conventional parents “more explicitly intertwined autonomy and dependence, and conventional values orientations” (this volume). The two value orientations were transmitted to their children respectively, but behavioral observations indicated that some parent–child interactions were similar in both counterculture and conventional families, such as the overall frequency of verbal exchanges and negations between parent and child. The two value orientations led to dramatic differences in how often parents coslept with their infants and young children; counterculture parents cosleeping much more frequently. However, longitudinal research on the children in both groups revealed that by adolescence the counterculture and conventional parents’ desired outcomes of cosleeping, such as the counterculture parents’ desire for self-acceptance and positive relations with the family, were not realized. The two adolescent groups did not differ in measures of psychological and behavioral well-being later in life.

Odden provides rich ethnographic descriptions of how a Samoan child’s temperament interacts with parental ethnotheories and cultural values at different stages of the child’s life. Interpersonally aggressive infants and young children were valued, viewed as entertaining, and elicited considerable positive, often playful, attention from caregivers. But as these children got older, their assertiveness with adults was viewed as disrespectful and irritating, sometimes resulting in a severe beating. Behaviorally restrained infants and young children

ETHOS, Vol. 37, Issue 2, pp. 197–204, ISSN 0091-2131 online ISSN 1548-1352. © 2009 by the American Anthropological Association. All rights reserved. DOI: 10.1111/j.1548-1352.2009.01038.x.

	ETHO	1038	B	Dispatch: 21.3.09	Journal: ETHO	CE: Latha
	1038	Journal Name		Manuscript No.	Author Received:	No. of pages: 8

1 sought and received more physical contact and affection than aggressive children, were
2 easier to discipline, and had an easier time adhering to the cultural value of respect and
3 deference toward adults.

4
5 Both authors rely heavily on cultural ecological theories, such as Super and Harkness's
6 (1981) developmental niche, to explain intracultural diversity. Weisner states "cultural
7 learning environments are arguably the most powerful influence on children's development
8 and parenting" (this issue). Different parental ideologies led to intracultural variation in
9 some, although not all, beliefs and values. Odden is on the same page when he concludes
10 that "different manifestations of the developmental niche keyed to culturally salient indi-
11 vidual differences is one important way in which diversity is socially and culturally
12 organized" (this issue).

13
14 The developmental niche approach is emphasized in these two articles and it is probably the
15 dominant paradigm in cross-cultural human development today (LeVine and New 2008;
16 Super and Harkness 1997). I find it a useful conceptual tool in that it identifies three aspects
17 important to any study of the impact of culture on child development: the physical and so-
18 cial settings, cultural practices, and parental ideology. But the approach has limitations: (1) it
19 does not make specific predictions regarding the organization of intracultural variability, (2)
20 it is adult-focused, emphasizing how parental ideology shapes socialization processes with
21 little attention to the child's views-interests-culture, and (3) biology or biology-culture
22 interactions are not an integral part of this approach.

23
24 As a result, I have focused my commentary on a key question raised by Weisner: What
25 produces and perpetuates diversity, and how can we better integrate the fact of diversity into
26 culture theory and research? I provide a brief introduction to an evolutionary biocultural
27 approach, outline what this approach has to offer in terms of understanding the organiza-
28 tion of intracultural diversity, and indicate how this perspective is useful for reinterpreting
29 some of the results from Weisner and Odden.

30
31 The biocultural approach is grounded in recent developments in evolutionary theory. I find
32 the new concepts in evolutionary theory useful for two reasons. First, the individual, rather
33 than the group, is the unit of selection in neoevolutionary thought (Betzig et al. 1988;
34 Hamilton 1964). Individuals are active agents in their cultural and natural environments.
35 Cultural beliefs and practices exist, but they can be manipulated, added to, or rejected by
36 individuals given their particular political, economic, or natural environment. This view is
37 consistent with Wallace's statement noted in Weisner's article: "And, most importantly, the
38 human organism is creative: it selects, rejects, seeks information, thinks, makes decisions,
39 and ultimately modifies the systems of which it is a part" (1970:22). From an evolutionary
40 point of view, humans are "creative," in part, because they are interested in enhancing their
41 reproductive fitness in diverse demographic, institutional, ecological environments. Odd-
42 en's conceptualization of children and his data analyses are in several ways consistent
43 with this emphasis on individuals in an evolutionary approach. He argues that "individual

1 variation can be included more centrally in anthropological research and theorizing” (this
 2 issue) and his analysis emphasizes how individual variation, in this case infant temperament,
 3 interacts with Samoan parental ideologies and leads to or influences cultural modifications.

4
 5 Second, contemporary evolutionary theory is holistic—it focuses on interactions among bi-
 6 ology, culture, and ecology (Smith 2000; Winterhalder and Smith 2000). Recent evolutionary
 7 approaches emphasize that human behavior is rarely the result of only genes or culture;
 8 behavior is mutually constituted by genes and culture in particular ecological contexts.

9
 10 Within evolutionary studies of human behavior and culture, three distinct approaches have
 11 developed in recent decades (Hewlett and Lamb 2002; Smith 2000). I will take each in turn
 12 as it may bear on discussion of Odden and Weisner. Evolutionary psychology is the ap-
 13 proach that provides attention to human nature and the biological bases of the human brain.
 14 These components can come from our phylogenetic past (e.g., humans sharing attachment
 15 behaviors with Old World monkeys and apes), changes in ontogenetic development, or
 16 specific mental modules that evolved during the long period of hunting and gathering dur-
 17 ing human history (Tooby and Cosmides 2000). Weisner’s comment that mother–infant
 18 cosleeping is common cross-culturally, in part, because it is an element of our phylogenetic
 19 past (i.e., common to monkeys and apes) is consistent with this approach. He goes on to
 20 describe Shweder et al.’s study in India and the United States, where individuals selected
 21 only 15 of 877 possible cosleeping possibilities. At first he states “If cosleeping were not
 22 culturally regulated at all, many more of the options would likely occur around the world”
 23 giving the impression culture explains the limited number of alternatives, but in the next
 24 paragraph he states “there are clearly some universal cognitive, socioemotional, and demo-
 25 graphic constraints that pull toward pluralistic but constrained normative variations around
 26 the world” (this issue). The universal cognitive and socioemotional elements mentioned in
 27 this second quote are consistent with evolutionary psychology. Weisner does not elaborate
 28 on what these might be, but a preference for sleeping with biological relatives (i.e., mother
 29 and father, brothers and sisters), not sleeping with reproductive-aged children of the oppo-
 30 site sex, and attachment to specific others are biologically based aspects of human nature
 31 that likely “constrain” cosleeping patterns around the world.

32
 33 Odden’s article is somewhat biological or biocultural if one assumes that infant tempera-
 34 ment is biological, which, as he mentions, may not be the case; it may be more
 35 developmental (see citations in his article). But his approach to temperament is not evolu-
 36 tionary. He is not interested in explaining why different temperaments evolve in infants.
 37 Evolutionary psychologists are interested in human universals and human nature and at this
 38 point not interested in human genetic variability. However, evolutionary ecology, the sec-
 39 ond approach to be discussed, is more focused on intracultural variability and evolution of
 40 different temperaments.

41
 42 Evolutionary ecologists, or more precisely human behavioral ecologists, are interested in
 43 explaining how particular natural, social, demographic, and political environments influ-

1 ence human reproductive behavior. They assume that humans evaluate cost-benefit trade-
2 offs in making decisions to optimize or maximize their reproductive fitness in a particular
3 social setting (Smith 2000). They are different than evolutionary psychologists in two keys
4 ways: (1) They view the mind as flexible and designed in a general way to enhance repro-
5 ductive fitness rather than as a set of hardwired modules for specific behaviors
6 (Winterhalder and Smith 2000); and (2) They are interested in explaining human behavioral
7 diversity, rather than the universals of human nature (Winterhalder and Smith 2000). This is
8 the physical and social-setting component of Super and Harkness's developmental niche and
9 the focus of classic studies in cross-cultural human development conducted by the
10 **Whitings (1975) and their students. The evolutionary ecology perspective is different
11 from these earlier frameworks in that evolutionary ecologists view children as active agents
12 trying to evaluate the costs and benefits in a given environment to enhance their inclusive
13 fitness.

14
15 Weisner's brief discussion of demographic factors that influence cross-cultural patterns of
16 cosleeping are consistent with evolutionary ecology. He is not clear on this point, but one
17 assumes he means size of family, number of bedrooms in the house, how many beds a family
18 can afford would influence intracultural and cross-cultural cosleeping patterns.

19
20 Odden's is also concerned with inclusive fitness trade-offs in given environments when he
21 evaluates the costs and benefits of the developmental trajectories of infants and children
22 with assertive and aggressive temperaments. He suggests the possibility that children who
23 maintain these characteristics into adulthood may be more likely to defend their family's
24 reputation when challenged and acquire chiefly title later in life, but they may also be more
25 prone to suicide in adolescence because their aggressive behavior can lead to family con-
26 flicts. From an evolutionary ecology point of view, these are reproductive trade-offs in the
27 Samoan cultural environment that can influence behavioral decisions and trajectories. But
28 children also watch and learn from others about what it takes to survive and be successful in
29 a given cultural environment.

30
31 A third approach, evolutionary cultural anthropology, emphasizes the evolutionary nature
32 of socially transmitted information, knowledge, practices, technology, and institutions. The
33 ability to learn culture from others is much more efficient than learning everything by trial
34 and error, and this efficiency enhances an individual's reproductive fitness. Evolutionary
35 cultural anthropologists argue that humans have learning biases, such as the tendency to
36 learn from two categories of people—people like themselves and successful others (Boyd
37 and Richerson 1985). Individuals are likely to learn from people who speak the same lan-
38 guage or eat similar foods; and from people who have more children, wealth, and status.

39
40 Cultural model–schema–scripts are part of this evolutionary anthropology approach. The
41 culturally transmitted ideas of counterculture and conventional parents, ideas about mo-
42 rality of cosleeping, parental theories about appropriate infant versus childhood behaviors
43 are of interest to evolutionary cultural anthropologists. They are particularly interested in

1 understanding how cultural models, schema, scripts, and behaviors are transmitted and
2 acquired by individuals.

3

4 Evolutionary cultural anthropologists have identified and described several cultural trans-
5 mission mechanisms and their evolutionary properties (Cavalli-Sforza and Feldman 1981;
6 Richerson and Boyd 2004). Table 1 outlines seven of these mechanisms, their predictions
7 regarding the organization of intracultural diversity, and the social ecological contexts and
8 ages at which they predominate. For instance, beliefs, and practices that are transmitted and
9 acquired from parents (vertical) lead to greater intracultural diversity than do beliefs or
10 practices that are learned by observing what most people are doing or learning in an initia-
11 tion ceremony. Consequently, how culture is transmitted and acquired can dramatically
12 impact the organization of diversity. For instance, infants and young children learn in dyadic
13 or triadic interactions so cultural transmission is largely vertical at this stage of develop-
14 ment. At this age it is too costly to move to others with potentially more knowledge or skill.
15 The different types of cultural transmission are adaptive to particular contexts. When the
16 child's life is relatively stable, learning from parents and copying what the majority of the
17 group is doing makes evolutionary sense, but if your environment is rapidly changing it
18 makes greater evolutionary sense to focus your attention on friends and neighbors so that
19 you can be continually updated on changes in the social ecology.

20

21 According to Weisner, counterculture versus conventional “attitudes were relatively
22 successfully transmitted from parents to children” (this volume). As Table 1 indicates,
23 vertical transmission of schema or practices contributes to and maintains intracultural
24 diversity. These values and attitudes are transmitted early in life, and can remain stable
25 later in life if the environment is stable and other culturally constructed institutions (e.g.,
26 teachers at school) do not transmit alternative values and attitudes. Vertical transmission
27 maintains the intracultural variability in counterculture versus conventional beliefs and
28 practices.

29

30 Weisner finds that other aspects of parent–child relations, such as attention seeking, fre-
31 quent verbal exchanges and negotiations, as well as components of U.S. “dependency
32 conflicts” (i.e., parents want their children to be autonomous, but closely monitor and
33 judge their behavior) were similar in both groups. He indicates that the interaction styles
34 and conflicts were also transmitted by parents to their children, but that they were a “more
35 widely shared U.S. middle-class pattern for relationships, understanding the self” (this
36 volume). Although these interaction styles and conflicts are transmitted vertically, which
37 contributes to their conservation, these are also patterns common to the school and other
38 cultural institutions. Friends, teachers, and educational institutions also transmit these
39 patterns. These are examples of conformist and one-to-many transmission that also con-
40 tribute to conservation and uniformity within a culture. The evolutionary cultural
41 anthropology approach is not entirely consonant with learning environments approach,
42 but it could advance the discussion to focus more specifically on the characteristics of
43 social learning.

TABLE 1. Types of Cultural Transmission

Type	Vertical	Horizontal	Conformist	Status	Concerted	One-to-Many	Imposition
Features	Cultural variants acquired from parents, grandparents, older siblings	Cultural variants acquired from frequent interactions with friends, neighbors, caregivers	Copy the most common cultural variants	Copy cultural variants of successful individuals	Group decides what cultural variants are important and transmits them to younger generation; initiation	Teacher, Leader, Internet, TV transmits cultural variants	Group in power limits choices of cultural variants
Contribution to intracultural variability	High	Varies by cultural variant and frequency of contacts	Low	Low	Low	Low	Low
Especially adaptive in these social and natural environments	Stable	Changing	Stable	Any environment, but esp. in highly stratified cultures	Stable	Changing, high social stratification, population density	High social stratification, population density
Age especially important	Infancy, Early Childhood	Late Childhood	Late Childhood, Adolescence	Adolescence	Adolescence	Any	Any

1 Weisner also reports that although parents in both groups use bedsharing practices differ-
 2 ently to try and promote their value orientations, he found no empirical differences in
 3 behaviors (e.g., fighting or aggression in school, self-acceptance) in the two groups of ado-
 4 lescents. If we put the problematic measures of bedsharing aside, this statement is
 5 nonetheless inconsistent with descriptions of counterculture adolescents earlier where We-
 6 isner indicates they had “more progressive social values and goals, reported more
 7 understanding, tolerance, and empathy for others, believed in egalitarian relations between
 8 men and women and were more “pronatal” regarding child care, the environment, nutri-
 9 tion, and emotional expression” (this issue). Are these not the very outcomes desired by the
 10 countercultural parents?
 11
 12

13 **Conclusions**

14 Now I would like to briefly address Weisner’s key question: “What perpetuates diversity,
 15 and how can we better integrate the fact of diversity into culture theory and empirical re-
 16 search?” Diversity is perpetuated by individuals, their reproductive interests, evolutionary
 17 psychology (human nature), diverse environments (natural ecology, culturally constructed
 18 niches), and specific cultural transmission mechanisms for social learning. If the organiza-
 19 tion of diversity is understood to be based on interactions between universal evolved
 20 psychology (i.e., human nature), cultural knowledge acquired in the social environment, and
 21 the individual’s particular social, demographic ecology, a comprehensive evolutionary bio-
 22 cultural approach can augment approaches such as those focused on the development niche
 23 in particularly fruitful ways because the framework can specifically address these facets of
 24 what produces and predicts diversity. As child focused, holistic, and oriented to intracultural
 25 variation, an evolutionary biocultural approach can provide (1) specific predictions regard-
 26 ing intracultural variability; (2) mechanisms of cultural transmission and acquisition to be
 27 placed in developmental and social ecological contexts; (3) hypotheses that can be empiri-
 28 cally evaluated and tested. These modes of augmenting research on the organization of
 29 diversity from an evolutionary perspective are consistent with cross-cultural theoretical
 30 perspectives in human development past (Whiting and Whiting 1975) and present (i.e.,
 31 current foci on agency, power relations, social capital, lived experiences, and individual
 32 manipulation of culture). The promise of such an intellectual convergence in research is
 33 worth our attention.
 34
 35

36 BARRY HEWLETT is Professor, Cultural and Evolutionary Anthropology, Washington State
 37 University, Vancouver
 38

39 **References Cited**

- 40
 41 Betzig, Laura, Monique Borgerhoff Mulder, and Paul Turke
 42 1988 *Human Reproductive Behavior: A Darwinian Perspective*. Cambridge: Cambridge University
 43 Press.

- 1 Boyd, Robert, and Peter J. Richerson
2 1985 *Culture and Evolutionary Processes*. Chicago: University of Chicago Press.
- 3 Cavalli-Sforza, Luca L., and Marcus Feldman
4 1981 *Cultural Transmission and Evolution: A Quantitative Approach*. Princeton: Princeton
5 University Press.
- 6 Hamilton, William D.
7 1964 The Genetical Evolution of Social Behavior. *Journal of Theoretical Biology* 7(1): 1–52.
- 8 Hewlett, Barry S., and Michael E. Lamb
9 2002 Integrating Evolution, Culture and Developmental Psychology: Explaining Caregiver-Infant
10 Proximity and Responsiveness in Central Africa and the USA. *In Between Culture
11 and Biology: Perspectives on Ontogenetic Development*. H. Keller, Y. Portinga, and
12 A. Scholmerich, eds. Pp. 241–269. Cambridge: Cambridge University Press.
- 13 LeVine, Robert A., and Rebecca S. New
14 2008 *Anthropology and Child Development*. Maiden, MA: Blackwell.
- 15 Richerson, Peter A., and Robert Boyd
16 2004 *Not by Genes Alone: How Culture Transformed Human Evolution* Chicago: Chicago
17 University Press.
- 18 Smith, Eric A.
19 2000 Three Styles in the Evolutionary Study of Human Behavior. *In Evolutionary Biology and
20 Human Social Behavior 20 Years Later*. L. Cronk, N. Chagnon, and W. Irons, eds. Pp. 27–48.
21 New York: Aldine de Gruyter.
- 22 Super, Charles M., and Sara Harkness
23 1981 The Infant's Niche in Rural Kenya and Metropolitan American. *In Cross-Cultural Research
24 At Issue*. L. L. Adler, ed. Pp. 47–55. New York: Academic.
- 25 1997 The Cultural Structuring of Child Development. *In Handbook of Cross-Cultural
26 Psychology*. J. Berry, P. R. Dasen, and T. S. Saraswathi, eds. Pp. 3–39.
- 27 Tooby, John, and Leda Cosmides
28 2000 Toward Mapping the Evolved Functional Organization of the Mind and Brain. *In The New
29 Cognitive Neurosciences*. M. Gazzaniga, ed. Pp. 1167–1178. Cambridge, MA: MIT Press.
- 30 Wallace, Anthony
31 1970[1961] *Culture and Personality*. New York: Random House.
- 32 Whiting, Beatrice B., and John W. M. Whiting
33 1975 *Children of Six Cultures*. Cambridge, MA: Cambridge University Press.
- 34 Winterhalder, Bruce, and Eric A. Smith
35 2000 Analyzing Adaptive Strategies: Human Behavioral Ecology at Twenty-Five. *Evolutionary
36 Anthropology* 9(2): 51–72.
- 37
38
39
40
41
42
43

