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

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

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

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

The biocultural approach is grounded in recent developments in evolutionary theory. I find
the new concepts in evolutionary theory useful for two reasons. First, the individual, rather
than the group, is the unit of selection in neoevolutionary thought (Betzig et al. 1988;
Hamilton 1964). Individuals are active agents in their cultural and natural environments.
Cultural beliefs and practices exist, but they can be manipulated, added to, or rejected by
individuals given their particular political, economic, or natural environment. This view is
consistent with Wallace’s statement noted in Weisner’s article: “And, most importantly, the
human organism is creative: it selects, rejects, seeks information, thinks, makes decisions,
and ultimately modifies the systems of which it is a part” (1970:22). From an evolutionary
point of view, humans are “creative,” in part, because they are interested in enhancing their
reproductive fitness in diverse demographic, institutional, ecological environments. Odd-
en’s conceptualization of children and his data analyses are in several ways consistent
with this emphasis on individuals in an evolutionary approach. He argues that “individual
variation can be included more centrally in anthropological research and theorizing” (this issue) and his analysis emphasizes how individual variation, in this case infant temperament, interacts with Samoan parental ideologies and leads to or influences cultural modifications.

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

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

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

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

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

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

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

Cultural model–schema–scripts are part of this evolutionary anthropology approach. The culturally transmitted ideas of counterculture and conventional parents, ideas about morality of cosleeping, parental theories about appropriate infant versus childhood behaviors are of interest to evolutionary cultural anthropologists. They are particularly interested in
understanding how cultural models, schema, scripts, and behaviors are transmitted and acquired by individuals.

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

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

Weisner finds that other aspects of parent–child relations, such as attention seeking, frequent verbal exchanges and negotiations, as well as components of U.S. “dependency conflicts” (i.e., parents want their children to be autonomous, but closely monitor and judge their behavior) were similar in both groups. He indicates that the interaction styles and conflicts were also transmitted by parents to their children, but that they were a “more widely shared U.S. middle-class pattern for relationships, understanding the self” (this volume). Although these interaction styles and conflicts are transmitted vertically, which contributes to their conservation, these are also patterns common to the school and other cultural institutions. Friends, teachers, and educational institutions also transmit these patterns. These are examples of conformist and one-to-many transmission that also contribute to conservation and uniformity within a culture. The evolutionary cultural anthropology approach is not entirely consonant with learning environments approach, but it could advance the discussion to focus more specifically on the characteristics of social learning.
**TABLE 1.** Types of Cultural Transmission

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<th>Type</th>
<th>Vertical</th>
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<th>Conformist</th>
<th>Status</th>
<th>Concerted</th>
<th>One-to-Many</th>
<th>Imposition</th>
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<td>Features</td>
<td>Cultural variants acquired from parents, grandparents, older siblings</td>
<td>Cultural variants acquired from frequent interactions with friends, neighbors, caregivers</td>
<td>Copy the most common cultural variants</td>
<td>Copy cultural variants of successful individuals</td>
<td>Group decides what cultural variants are important and transmits them to younger generation; initiation</td>
<td>Teacher, Leader, Internet, TV transmits cultural variants</td>
<td>Group in power limits choices of cultural variants</td>
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<td>Contribution to intracultural variability</td>
<td>High</td>
<td>Varies by cultural variant and frequency of contacts</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
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<td>Especially adaptive in these social and natural environments</td>
<td>Stable</td>
<td>Changing</td>
<td>Stable</td>
<td>Any environment, but esp. in highly stratified cultures</td>
<td>Stable</td>
<td>Changing, high social stratification, population density</td>
<td>High social stratification, population density</td>
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<td>Age especially important</td>
<td>Infancy, Early Childhood</td>
<td>Late Childhood</td>
<td>Late Childhood, Adolescence</td>
<td>Adolescence</td>
<td>Adolescence</td>
<td>Any</td>
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Weisner also reports that although parents in both groups use bedsharing practices differently to try and promote their value orientations, he found no empirical differences in behaviors (e.g., fighting or aggression in school, self-acceptance) in the two groups of adolescents. If we put the problematic measures of bedsharing aside, this statement is nonetheless inconsistent with descriptions of counterculture adolescents earlier where Weisner indicates they had “more progressive social values and goals, reported more understanding, tolerance, and empathy for others, believed in egalitarian relations between men and women and were more “pronatal” regarding child care, the environment, nutrition, and emotional expression” (this issue). Are these not the very outcomes desired by the countercultural parents?

Conclusions

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

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