approaches to development underscore, as a minimum, the heuristic value of this perspective. In challenging common understandings of both culture and development, and in laying the ground for innovative research on a wide range of developmental topics,[18] our explorations of a practice perspective serve a specific case of the generativity of the committee's interdisciplinary conversations both among committee members and with valued non-committee colleagues.

[18] As an indication of this range of topics, note that Barbara Miller's chapter in the *New Directions* monograph focuses on how bicultural constraints and opportunities for adolescent identity formation among Hindu immigrant communities in the United States affect adolescent development; and Terezinha Nunes' deals with how Brazilian children's everyday use of arithmetic strategies in street selling contains symbolic systems that influence the ways they perceive and solve arithmetic problems in the classroom.

Ethnopediatrics: An Outline

*by Carol Worthman**

At present, international variation in life expectancy arises largely from mortality differences in infancy and childhood.[19] Efforts to ameliorate these differences have largely focused on structural conditional factors, but the uneven success of these attempts has led to recognition of the "human dimension."[20] Specifically, cultural-behavioral factors such as local conceptions and customary practices, rather than pathogens *per se*, have been found to play a central role in infant and child survival and well-being. The increasing export or borrowing of Western medicine, its concepts and practices, has brought the realization that cultures and subcultures vary widely in their views of what constitutes health, how it is maintained, and how departures from a healthy state come about and may be treated. This variation in beliefs and practices affects the response to and effectiveness of new forms of health care.

The need to recognize the "perspective of the actor" is therefore increasingly acknowledged in studies of adults and their illnesses. In Angel and Thoits' terms,[21] "what has been lacking in the epidemiological approach to the study of the impact of culture on illness is an understanding of the cognitive structures that mediate the illness-labeling and help-seeking process at different points." For adult states of health and illness, local cognitive structures or conceptions—one dimension of what we term "local biology"[22]—are seen as including the vocabularies available for labeling states of health and illness, the granting of importance and a probable cause to various states, the dimensions used to categorize forms of illness, and the decisions or considerations that lead people to either ignore "symptoms" or take action.

With respect to children, the processes of illness-labeling, wellness-maintenance, and health-seeking are also grounded in adults' notions of human development. As discussed below, in this domain relevant issues include: local understanding of acceptable ranges of behavior, function, and maturational status for developmental stage or age; beliefs about necessary and appropriate antecedents for and responses to the child's developmental change or deviation; and concepts of developmental vulnerability or resiliency that influence the perceived linkage of early maturational and health experiences with adult outcomes.

Identification of such aspects of health and illness among children clearly lags behind research conducted concerning adults. Gaines makes this point in his analysis of case histories for children of immigrant workers in California.[23] These histories, he notes, leave "unexamined the conceptions, beliefs, logic, understanding or anything else, about the patient or his or her significant others." For example, with reference to a child with a heart condition, brought in the first time for treatment at age nine, he asks: "What were the perceptions of parents of a listless child of abnormal stature and clubbed fingers? What did they

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[19] World Bank, *World Development Report 1993: Investing in Health*. Washington, DC: Oxford University Press, 1993.

[20] UNICEF, *State of the World's Children*. New York: Oxford University Press, 1986.

[21] Ronald Angel and Peggy Thoits, "The Impact of Culture on the Cognitive Structure of Illness," *Culture, Medicine and Psychiatry*, 11: 465–494, 1987.

[22] See footnote 60.

[23] Atwood Gaines, "Cultural Constructivism: Sickness Histories and the Understanding of Ethnomedicines beyond Critical Medical Anthropologies," In B. Pfleiderer and G. Bibeau, eds., *Anthropologies of Medicine: A Colloquium on West European and North American Perspectives*. Wiesbaden: Vieweg, 1991.

think was happening? Why was assistance not sought? And why, for another child with polio-based paralysis of both arms, was the presenting symptom one of poor appetite?"[24]

Questions such as these can best be answered through the integration of developmental with health-related dimensions of local belief and custom, and by conceptualizing child well-being as embedded in everyday settings (and all that constitutes those). In this view, non-clinical, everyday processes need to be recruited to maintain and improve health. We have labeled such an integrative view "ethnopediatrics" and conceive of it as a field of inquiry which explicitly aims, first, to characterize local understandings and practices that inform behavior, and, second, to determine their relationships to child well-being.

We use ethnopediatrics, then, as a provisional term to signal the need both to pay attention to perceptions, beliefs and motivations of all actors who influence child well-being, and to view health and development of the young as socially and ecologically situated. Ethnopediatrics concerns culturally-determined sets of beliefs and attitudes about how development (physical, cognitive, social) and child survival occur, and ways in which those notions inform the actions of parents and other caregivers and socializing agents. These beliefs are rarely arbitrary; they are grounded in observations, interpretations, and emphases of experienced reality. Furthermore, the actions of parents and socializers are seldom capricious, but respond to or are shaped by actions, attainments, and perceptions of the child. Thus, a dynamic loop is closed. Treatment of children is grounded in ethnobiological beliefs that are grounded in some empirical reality, and the treatment of children both has direct effects on the health and development of children, and responds to the status and behavior of the child.

Ethnopediatrics thus seeks to provide a framework for research, analysis, and planning in an area that has been poorly integrated and thus difficult to apply in public health and policy. To this end, our goal is to promote review of existing analytic concepts (e.g., "developmental niche," "differential care") and existing research from a variety of cultural settings in order to: (1) construct an integrated framework for understanding behaviors relating to child health and illness and, to this end, promote dialogue among the social sciences, biomedicine, and public health policy; (2) suggest methods for investigation in this area, including linkages between qualitative and quantitative data; (3) highlight areas and conceptual issues that either urgently require work or would provide critical tests of the approach; (4) provide a forum for articulating conflicting goals and values concerning child health. This last goal relates directly to decision-making about policy and allocation of resources.

Committee work in this area so far has been primarily comprised of a workshop ("Ethnopediatrics: Concepts and Practices Related to Health and Illness in Children"), held at the Carter Center at Emory University in October 1994.[25] Organized by Carol Worthman, Jacqueline Goodnow, and Robert LeVine, the workshop sought to advance the overall committee goal of bringing together social science, biomedicine, public health and policy by focusing on a specific developmental period (infancy) in specific domains (survival and growth). Participants came from psychology, public health and medical anthropology, pediatrics, and anthropology.[26] Importantly, young scholars and students who have worked in various countries also participated.[27]

The workshop aimed to identify conceptual, analytical, and practical problems or issues, viewed from the vantages of the various disciplines represented at the meeting; to sketch out models for understanding these issues; and, ultimately, to evaluate whether an ethnopediatrics perspective brings extra purchase on the complex issues of child survival and development. The

[24] Among the few studies of such issues relating to children, Frankel and Roer-Bornstein's research on the differential acceptance of Israel's health services by Kurdish and Yemenite immigrants is instructive.

[25] We also convened a session on "Ethnopediatrics: Cultural Factors in Child Survival and Growth" at the February 1995 AAAS Meetings in Atlanta. The participants in that session were Ron Barr, Montreal Children's Hospital; Sara Harkness, Pennsylvania State University; Robert LeVine, Harvard University; James McKenna, Pomona College; Karen Olness, Case Western Reserve University; and Carol Worthman.

[26] The participants were: Ron Barr, Montreal Children's Hospital; Margaret Bentley, Johns Hopkins University; Suzanne Dixon, University of California, San Diego Medical Center; Sara Harkness, Pennsylvania State University; Carol Jenkins, Papua New Guinea Institute of Medical Research; Betsy Lozoff, University of Michigan; Reynaldo Martorell, Emory University; and Catherine Panter-Brick, Durham University. They were joined by Beatrix Hamburg and Lonnie Sherrod from the William T Grant Foundation, which provided supplementary support for the workshop, and the SSRC president, David Featherman. The Council's Comparative and Transnational Research Program was the source of the workshop's primary funding.

[27] David Attyah, Harvard University; Stephen Harper, Emory University; Thomas McDade, Emory University; Usha Menon, University of Chicago; Lebo Setiloane, Harvard University; and Joy Stallings, Emory University.

meeting format involved the use of four published case studies as springboards for half-day discussion sessions. These case studies were: infant feeding, crying and colic (Ron Barr); dietary management of diarrhea (Margaret Bentley); cultural beliefs, infant feeding practices, and growth faltering (Carol Jenkins); and maternal workload and infant survival (Catherine Panter-Brick). In a final half-day discussion, participants sought to outline general themes, identify disciplinary and practical needs, and advise on next steps.

What, then, are some of the key issues and ideas that framed the workshop? We suggest that ethnopediatrics can provide an integrated conceptual framework that will support fruitful comparative research and provide a basis for policy formation. Such a framework can be expected to incorporate elements such as the following:

Categories for states of health and illness among children. Societies differ in their etiologies and taxonomies of disease. They also differ in categories for assigning vulnerability and resistance to disorders. For instance, cultural groups in Central and North America differ in their categorization of adult illnesses, and in the bases from which these groupings are derived. They also vary in the degree to which they categorize in terms of children's versus old persons' illnesses. And within societies one may find multiple, perhaps competing or conflicting conceptual schemata relating to wellness/illness, as well as subcultural diversity in these schemata. We now need ways to determine the dimensions used for identifying children's illnesses, the attributions made for health or illness, and the beliefs of vulnerability and resilience that are attached to various ages, genders, or phases in development.

Agency and efficacy. Notions of agency, or who is responsible for child wellness-maintenance, often allocate various domains of well-being to different agents. Responsibility may or may not be linked with the material or social-political means to effect wellness goals. Such differential efficacy of agents may be compounded by beliefs about causes and preventability of disease (see following section). Beliefs and practices about what can be done about child illness, and by whom, can be integrated into hierarchies of resort. In practice such hierarchies can become complex, especially when clashing systems of agency and efficacy (customary, biomedical, educational) require parents to pick their way among multiple conceptual-evaluative systems, with each of these linked to access to valuable social and material resources (e.g., medication, child care, social status).

Illness concepts in relation to disease experience and base rates. Within societies, mode and complexity of explanation, as well as level of concern attached to illness, often vary by disease. Among adults in Western society, there is some evidence that symptoms which are widespread, as with common or endemic diseases, tend to be regarded as less serious than are those that are atypical. The least sophisticated explanations of specific illnesses are apparently given for those which have multiple causes, invisible etiology, and diverse symptomatology. Thus, experienced degree of endemicity or prevalence and virulence of a disease can influence local notions of etiology, agency, and efficacy. The presence of such variations tends to be lost in the characterization of cultural constructions of "illness" for a society in general, but may have tremendous implications for culturally-differentiated responses to widespread maladies (such as malaria, measles, diarrhea). One may predict, for example, that views of and responses to malaria will vary in areas of differing incidence of malaria.

In general, then, understanding of local illness concepts has been repeatedly shown to be crucial to understanding health-related caregiver decisions and actions. But this needs to be embedded in an analytic framework that also relates these decisions and actions to roles, values, and norms concerning child development and caregiving. Reciprocally, local diversity in beliefs about illness, agency, and efficacy is affected by people's specific histories of illness and health care system experiences.

Biological and social bases of developmental sequences. Cultures differ in their notions of developmental progression and how it occurs. Conversely, developmental progression varies across populations and is affected by cultural practices and social conditions:[28] the influence of local, culturally-constructed conditions on biological development and function is a second sense of the term "local biology."[29] Comparative analysis will require careful characterization of varying ideas about developmental sequences, how progression is expressed, and how it is driven and altered. We need to know the terms used for children

[28] Carol Worthman, "Bio-cultural Interactions in Human Development." In M. Pereira and L. Fairbanks, eds., *Juvenile Primates: Life History, Development and Behavior*. New York: Oxford University Press, 1993.

[29] Again, see footnote 60.

at different ages; whether their needs for food, for attention, for training are regarded as shifting from one point to another; and whether parental expectations and responsibilities likewise shift. Perceived developmental contingencies require description in terms of how adults think of the link between a child's state or experience at one point and at a later point. Do they, for instance, have a concept of a critical period, and think in terms of provision of care or resources being too soon or too late? Is there insistence upon "one right path" to development or a recognized diversity of paths to a healthy adult state? A starting point for such research is provided by Jenkins and Heywood's analysis of the six-stage model of infant development used by the Amele (lowland New Guinea).[30] Similar models, and ways to identify them, are needed for the entire period of immaturity in a variety of cultural settings.[31]

The perceived value of children and of particular developmental trajectories. Children provide constant evidence of change and variation. How that evidence is "read" depends in part on cultural factors. Interpretation of these signs, by both the child and others, needs to be regarded as part of a general value system and is, literally, the "evaluation" of developmental status. In addition, health or growth may not be the features most monitored and valued by caregivers; mothers often attend to and try to preserve aspects of psychomotor behavior (e.g., qualities of alertness, locomotion) or progress, rather than trying to maximize growth. More generally, children are known to be valued for a variety of reasons, such as for their economic contributions or their entertainment value, or for the insurance they provide for emotional and material support in old age. Children are also regarded as involving various costs, and certain family characteristics of size, spacing, and gender composition come to be differentially valued from one subgroup to another, and from one historical time to another. Perceived value of a specific child has been consistently found to affect the relative quality of care provided. Moreover, particular forms of development are differently valued in various groups; the Kaluli of New Guinea, for instance, place high value on a child's ability to speak and to use proper forms of address.

The parental frame of values informs differential interpretation of a child's development and well-being. Thus one would not expect the Kaluli to respond negatively to a child's early speech, as do some other Pacific groups. We need, then, to find ways to relate frames of value to the interpretations of developmental sequences and individual differences. Further, a hierarchy of values ranking child, parental, and other material or social needs implicitly or explicitly informs allocation of scarce resources. In other words, understanding the cultural frame of values is key to understanding differential parental and community allocation of care and other limited resources among individual children and at different developmental stages.[32]

Co-construction of human development by biological and contextual factors. A key element of the ethnopediatric perspective is that human development is not simply an automatic matter of unfolding biological programs, but occurs through interactions between individual and context. Child health and development are interdependent with social processes; they track, and are often used as an index of, environmental quality. Thus, measures of developmental status and physical states can provide a useful basis for cross-cultural comparison.[33] From the outset, well-being relies in part on others. Whether those others are parents, pediatricians, or policy-makers, the beliefs, values, and intentions which inform their behaviors and decisions are important determinants of health and development. Often, these beliefs and values become so self-evident, natural, and transparent a part of the "right way" to do things that one does not even consider that they might be done differently, or that accepted practices may have some unintended or negative effects on child

[30] Carol Jenkins, Alison Orr-Ewing, and Peter Heywood, "Cultural Aspects of Early Childhood Growth and Nutrition Among the Amele of Lowland Papua New Guinea," *Ecology of Food and Nutrition*, 14: 261–275, 1984.

[31] One such model, framed in terms of "developmental niche," is provided by C. M. Super and S. Harkness, "The Developmental Niche: A Conceptualization at the Interface of Child and Culture," *International Journal of Behavior Development*, 9, 545–569, 1986.

[32] A related issue is how various individual differences—for example, within gender and age groups—are accounted for in various (sub)cultures and how such accounts are related to the differential care that adults provide to particular children.

[33] Such measures can be used as both independent and dependent variables. As an instance of the former, in comparative studies of Canadian and !Kung (Botswana) infant crying, Barr and his colleagues have identified a clear developmental trajectory of crying which peaks at six weeks in both populations, but also established that the absolute amount of crying was inversely related to the amount of holding and carrying. An instance of the latter is Barr's finding that the occurrence and extent of colic in infants varies inversely with feeding frequency, due to the effects of mother's milk on intestinal function. Ronald G. Barr, "The Early Crying Paradox: A Modest Proposal," *Human Nature*, 1: 355–389, 1990.

health and development.

An important corollary of a biosocial view of development is that, beyond a universal base of physical similarity, babies' and children's bodies are not identical around the world, and their physical condition and needs must be viewed in a local context. That is, because human development emerges through biosocial interaction, details of physiology and morphology differ across populations, from variable growth rates and size to metabolic and body compositional differences. Large population differences in infant growth and mortality due to contrasting infant feeding practices illustrate this point. Culture thus contributes not only to psychological and behavioral variation, but also to biological variation. Ethnopediatrics, therefore, deals with these two aspects: the social practices, values, and conditions concerning child well-being, and the biological variation that arises through these different social ecologies.

Having covered most of the ideas outlined in the conceptual framework above, the workshop discussion revealed several important, supplementary issues. These include the following: (1) Infants and children need also to be viewed as actors in their own health and development, and their goals and perceptions require greater attention. (2) Understanding the complete caregiving "package" is key to uncovering proximate factors in infant and child well-being; this will require considerable multi-level (micro to macro), cross-disciplinary research that is both closely attentive to local variation and tightly tied to everyday settings. (3) Methodologically, the previous point underscores the importance of quantitative and qualitative methods, of direct observations and epidemiological, as well as interpretive, analyses of behavior. (4) Social change can have complex and at times unpredictable effects on ethnopediatric systems influencing child well-being. (5) The effects of social-material constraints and competing demands on caregiver decisions and behaviors deserve greater attention: thus, workload can significantly constrain maternal care, as could other demands on and availability of resources (such as time, food, energy/attention), and access to additional caregivers. (In such a context child labor remains a widespread but neglected factor.) (6) Directions for further work may include: biocultural perspectives on the "new morbidities" of childhood (homelessness, asthma, accidents, violence, developmental impairment); relations of the child and the state from a critical perspective; and the need for culturally informed and nuanced measures and research on childhood mental health.[34]

What, then, emerges from these exploratory discussions and analyses? We are persuaded that an ethnopediatric perspective does raise a rich range of conceptual and research challenges pertaining to issues of child well-being, as much in the U.S. as elsewhere. We thus plan to continue to engage the challenge of how competing cultural ideals, biological ideals and everyday realities in child health and development might be framed and negotiated. Pluralistic views on what are acceptable health and development outcomes need to be critically evaluated and perhaps modified via these competing frames.

It is, in the end, worth remembering that one-third of the world's people are children, and that their survival, health and development are viewed as the bedrock of humanity's future. But programmatic efforts to improve outcomes for children have been hampered by conceptual polarities and bureaucratic exigencies, so that their needs and care are balkanized among disciplines and agencies. The adoption of an ethnopediatric perspective would, in the first instance, problematize received views and call into question existing institutional structures; but it should then allow us to identify and openly negotiate among conflicting goals and values, and better mobilize existing resources for child welfare. The committee thus seeks to uncover the disciplinary-conceptual barriers to articulation across the domains of theory, knowledge and praxis related to child health (broadly conceived as both functional and developmental well-being). Overcoming balkanization in how we conceptualize and study child well-being may, in the end, promote more integrated, real-world policy and programmatic approaches.

[34] In the context of child well-being the workshop participants also concluded that separation between "basic" and "applied" social science is still to a degree desirable, because basic research provides independent analysis and critique that can inform and invigorate program- and policy-driven work; reciprocally, the latter provides practical lessons in the viability of existing models and exposes gaps in knowledge.