ETHNOGRAPHIC ASPECTS OF HUMAN NUTRITION

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Keywords: Adaptation in food use, food acquisition and distribution, food preparation and consumption, cultural aspects of food use, genetic adaptation, lactose intolerance, musculo-skeletal growth, slash-and-burn agriculture, food aid, hunter-gatherers, women's role, pastoralists, horticulture, genetically modified foods, bioavailability, biocultural approach

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Summary

This review highlights several major ethnographic aspects of food use and human nutrition, and highlights the interplay between the biological and social sciences. Such an approach is appropriately labeled biocultural. This approach is firmly grounded in the biological basis for nutrient requirements. It builds descriptions and hypotheses from the fact that nutrients are embedded in food, and goes on to examine the ways in which human adaptation for the acquisition, preservation, distribution, and consumption of food has major influences on multiple aspects of social and cultural life throughout human history. The processes of adaptation involve the interactions of biological, social, and environmental factors. These are evident in the evolution of the five main strategies for human food systems: hunter-gather, pastoral, horticulture, intensive agriculture, and industrial agriculture.

As industrial, multinational agriculture and food distribution become more widespread, the diversity of patterns that were produced over the course of human history are declining, thus making the identification and analysis of universals and culture-specific variations a contemporary imperative. Intersocietal and intrasocietal food distribution, along with intrafamilial food distribution, have profound effects on nutritional status of individuals, families, and communities. Cultural aspects of preservation and preparation...
of food, thus transforming it from its natural state into food acceptable for human consumption, are central features of human adaptation and ingenuity to provide nutrition. Ideas and beliefs about what is food, and what constitutes meals, include the symbolic and ritual significance within a culture that has nutritional consequences. Definitions of culturally specific acceptable food, its use, and nutrient composition and bioavailability are all part of this picture. Food-based programs to improve nutrition will be most effective when ethnographic aspects of food availability and use are well understood, and established societal adaptations are incorporated.


The dual nature of human nutrition provides nutritional sciences with unique challenges and opportunities as a multidisciplinary field. On the one hand, food is a biological necessity, and, on the other, social and cultural factors condition its availability and consumption. Thus, understanding the interplay between the biological and social aspects of nutrition requires an approach that incorporates both biological and social science. Such an approach is appropriately labeled biocultural. A biocultural approach to the cultural ecology of nutrition requires attention to a number of sectors. These have been identified as follows:

1. the biological and psychobiological needs of the individuals who comprise the society;
2. the physical environment (including climate, soil and water conditions, flora and fauna);
3. the technology that the society has available for food acquisition/production, distribution, and consumption;
4. the social organization of the society (including the family, community, and extracommunity systems for the management of food);
5. the ideological aspects of culture (the totality of beliefs, knowledge, and practices related to food) and
6. the social environment (the other societies and external social relations that affect how the society in question manages food acquisition, distribution, and consumption).

A holistic nutritional ethnography of an individual society covers each of these sectors and seeks to explain their interrelationships. Adding a time dimension provides a means of understanding the processes of adaptation that produced the ethnographic picture investigators seek to describe.

A central idea that underlies a cultural-ecological approach to food and nutrition is the concept of adaptation. Anthropologists distinguish three different types of adaptive mechanisms: genetic, physiological, and cultural. All three types of human adaptation—genetic, physiological, and cultural—can be seen in the biocultural history of human nutrition.

Lactose intolerance is a well-known example of genetic adaptation, which is manifest as population differences in individuals’ ability to produce lactase beyond the period of
early childhood (see Food Allergies and Intolerance). It appears that in populations that are heavily dependent on dairy products as a major dietary component there has been a selection in favor of individuals who continue to synthesize lactase after early childhood. As a consequence the proportion of individuals in such a population who are lactose intolerant is small compared to populations in which this genetic selection has not occurred.

An important example of physiological adaptation is growth stunting. In the absence of sufficient intake of macronutrients to maintain normal growth in infancy and childhood, various mechanisms come into play to spare essential functions at the expense of musculo-skeletal growth. While the capacity to activate these mechanisms has a genetic basis, which is present in all populations, this type of adaptation occurs at an individual, physiological level.

The third type of nutritional adaptation is cultural-behavioral. Included within this category are a great variety of behavioral and cultural innovations to acquire, distribute, and consume foods. These include:

- the development of systems of food production,
- techniques for food preparation and storage that make it possible for humans to consume a wide variety of foods that would otherwise be inaccessible and survive in environments that would otherwise be uninhabitable by humans, and
- cultural beliefs and practices that regulate the distribution and consumption of food within the family and the larger community.

The specific challenges faced by human groups throughout our history have changed in relation to changing technologies of food acquisition, distribution, and consumption, and to the challenges presented by different environments.

Bibliography


Life Sciences Institute. [This document provides an overview of the public health importance of micronutrient malnutrition, and highlights the value of food-based strategies for preventing deficiencies.]

Jerome N.W., Kandel R.F and Pelto G.H., eds. (1980). *Nutritional Anthropology. Contemporary Approaches to Diet and Culture*, 433 pp. Pleasantville, NY, US: Redgrave. [This edited work gives approaches to understanding the cultural and ecological framework for food and nutrition, and identifies the main social and environmental sectors for this understanding.]


Kuhnlein H.V. and Pelto G.H., eds. (1997). *Culture, Environment and Food to Prevent Vitamin A Deficiency*, 205 pp. Boston, MA, US: International Nutrition Foundation for Developing Countries. Ottawa, Canada: International Development Research Centre. [This descriptive companion volume to an ethnographic research manual shows how important local food resources are for maintaining Vitamin A nutrition in developing countries.]


Biographical Sketches

**Harriet Kuhnlein** received her doctorate in nutritional sciences from the University of California at Berkeley (US) following her Bachelor’s degree from Pennsylvania State University (US), and received her Master’s degree from Oregon State University (US). From the mid-1970s until 1985 she was an assistant professor, then associate professor, at the University of British Columbia, Vancouver, Canada. In 1985 she assumed the directorship of the School of Dietetics and Human Nutrition at McGill University, Montreal, with a cross-appointment in the Faculty of Medicine. From 1993 to 1999 she served as Director of McGill’s Centre for Indigenous Peoples’ Nutrition and Environment (CINE), and now continues as Professor of Human Nutrition and Founding Director. Her research has focused on cultural and environmental considerations of traditional food systems of indigenous peoples, with emphasis on patterns of food use, nutrient composition, and nutrition improvement programs. In addition to work in developing countries, she has worked with more than 15 cultures of indigenous peoples in North America, including the Dene/Metis, Yukon First Nations, and Inuit in Arctic Canada.

**Gretel Pelto**, Ph.D. has an undergraduate degree in sociology, and earned her Master’s degree and Doctorate in anthropology at the University of Minnesota. She was also awarded an honorary doctorate in nutrition from the University of Helsinki, Finland. From the mid-1970s until 1992 she was a member of the academic faculty in the Department of Nutritional Sciences at the University of Connecticut, with joint appointments in the Department of Anthropology and the School of Medicine. Her research, which focused on sociocultural aspects of infant and young child nutrition, was conducted primarily in Mexico and Finland (including coprincipal investigator of the Nutrition CRSP on Intake and Function: Mexico).
In 1992 she joined the World Health Organization in Geneva, Switzerland, where she was responsible for behavioral research on home case management in the Division of Child Health and Development. She is currently Professor of Nutritional Anthropology in the Division of Nutritional Sciences at Cornell University, Ithaca, NY, US.