

## **THE ANTHROPOLOGY OF FOOD, DIET & NUTRITION: A SELECTIVE OVERVIEW**

**Eric B.**

The George Washington University

**Keywords :** Agriculture, Anthropology, development, diet, ecosystem, environment, food, food distribution, food production, nutrition, seeds, world system.

### **Contents**

1. Introduction
  2. The Beginnings of a New Perspective
  3. The Contradictions of Agriculture
  4. The General Impact of the World Economy
  5. Food Taboos: Anthropological Insights, Limits
  6. Globalizing Systems
  7. Conclusions
- Glossary  
Bibliography  
Biographical Sketch

### **Summary**

Describing and applying the approach known as cultural/human ecology, the chapter organizes a general discussion around a manageable number of articles and books that are regarded as indicative benchmarks in the development of an Anthropology of Food. With this expression it is meant not simply an ethnographic archive of arcane customs, but a systematic, comparative and analytical approach to worldwide foodways, in order to formulate coherent, predictive and testable generalizations and, overall, an Anthropology of food in the sense of “study of human beings focusing on: food culture, food production/processing and consumption”. To accomplish that it is deemed necessary, in the first place, to look at food-related patterns and customs, not merely as ideas, nor as ways of classifying resources in a people’s immediate world as potential food, but as components of more comprehensive, integrated systems of adjustment to specific environmental challenges.

### **1. Introduction**

Since its academic origins early in the twentieth century, anthropology has examined local food beliefs and practices, not only because they particularly indicate the broad range of cultural variation in which its practitioners were interested, but also because any reflection on their significance inevitably seemed to reinforce that sense of cultural indeterminacy – what as notable a figure as Robert Lowie called “capricious irrationality” (Lowie 1938:306; cf. Harris 1968:343ff.) — that was long a guiding principle of the field.

It was really only in the 1960s, with the emergence of cultural/human ecology (Harris 1968), that there was a notable (and productive) shift, on the part of a limited but committed group of scholars, away from a localized, largely mental view of food habits, to one that regarded them as integral elements of more comprehensive subsistence systems and, as such, began to explore the way that dietary behaviors not only reflected and embodied strategic interactions with a people's immediate environment but also, through that environment, with a larger social and economic context that would be defined and studied as a world system.

In taking that general approach here, the author purposefully does not intend this essay to be either exhaustive or encyclopedic, nor does he wish to repeat or just update such exemplary literature reviews as Mintz and DuBois (2002) or Messer (1984). The author's aim is, rather, to organize a general discussion around a manageable number of articles and books that he regards as indicative benchmarks in the development of an anthropology of food—by which it is meant, not simply an ethnographic archive of arcane customs, but a systematic, comparative and analytical approach to worldwide foodways, in order to formulate coherent, predictive and testable generalizations (cf. Harris and Ross 1987). To accomplish that, above all, it is necessary to look at food-related patterns and customs, not merely as ideas, as ways of classifying resources in a people's immediate world as potential food (cf. Bulmer 1967), but as components of more comprehensive, integrated systems of adjustment to specific environmental challenges.

## **2. The Beginnings of a New Perspective**

One of the most important works to take this approach was Lee and DeVore's *Man the Hunter* (1968), which focused on a global representation of pre-horticultural economies in a way that began to establish an objective, comparative sense of food procurement activities on which testable theories of human livelihoods as adaptive strategies could genuinely be based. Within that seminal volume, perhaps the most influential chapter was Lee's own essay on the !Kung San of the Kalahari of Botswana, which marked the beginning of a long-term, multi-disciplinary study that, among other things, would not only clarify the empirical relationship between hunting-gathering practices and resource availability, but correct (perhaps even over-correct) many misconceptions about the role of wild plant resources (in the !Kung case, the mongongo nut). In a broader sense, Lee's essay and work inspired by it over the years that followed would do much, both theoretically and methodologically, to encourage the emergence of a view of diet, not as a menu or a classificatory scheme, but as a process. As Lee himself succinctly observed, his general analytical method drew on "the tight articulation between the demographic, energetic, nutritional, and spatial subsystems of !Kung ecology to show how a change in one of the parameters triggers changes in the other parameters as well (Lee 1979: xxiii).

### **2.1 The Lessons of the New Guinea Maring**

That kind of systems approach paralleled the new analytical disposition of ecologically-minded archaeologists such as Flannery (1968), who were trying to understand the emergence of agriculture, as well as the work of cultural anthropologists such as Vayda and Rappaport, in their ground-breaking research project among the Maring of the

Central Highlands of Papua New Guinea. And, of course, it is necessary to mention one of the most under-appreciated publications of this innovative period: Leeds and Vayda's edited volume, *Man, Culture and Animals* (1965), a collection devoted to an examination of human-animal (domesticated and wild) interactions, that quietly inspired a small number of anthropological researchers over the next decade and a half (cf. Ross 1978, 1983). One of its most important papers, for example, was Harris's first discussion of the material basis of the sacred cow in India, in an essay that he would elaborate over the following decade or more (Harris 1977: 139-152), establishing an entirely new approach to food prohibitions and avoidances that ultimately would prove applicable in many different cultural settings, from lowland Amazonia to highland Scotland (Ross 1978a, 1978b, 1983).

These works taken together would lead, in a comparatively short time, to increased understanding of both the substantive and strategic nature of dietary patterns, methods of food procurement and of the satisfaction of basic nutritional needs, in regard to different modes of production (hunting-gathering, simple horticulture, complex agriculture and industrial food systems). But, what made this perspective possible, above all, was a focus on diet less as the manifestation of a set of ideas that people happened to possess than as the outcome of a process of behavioral adjustment to the challenges and opportunities presented by their particular resource base. With that theoretical (and methodological) shift, it became possible to transcend earlier facile views, either about the capriciousness of dietary customs and beliefs or about their place in any demonstrable comparative framework.

One earlier assumption, for example, had been that simpler, pre-horticultural societies necessarily had a poorer or more insecure diet than sedentary horticulturalists, let alone than all the members of industrial economies. If Lee's work with the San helped initiate a long-overdue period of reappraisal of such assumptions, research among the Maring certainly provided a substantive basis for questioning them—to the extent that Clarke (1977), a member of the latter project, would use it to draw important lessons about the sustainability—what he called the “structure of permanence”—of such (paleotechnic) systems for complex industrial (neotechnic) systems. The Maring research, which grew out of Vayda, Leeds and Smith (1961) “The Place of Pigs in Melanesian Subsistence,” (Ellen 1982:182) would result, preeminently, in Rappaport's *Pigs for the Ancestors: Ritual in the Ecology of a New Guinea People* (1968), a work that not only exemplified the new cultural systems approach to subsistence and diet-related behavior, but which developed a rather formidable model of an economy in which ritual defined the movement of that system that unified the adaptive features of hunting, intensive agriculture, pig husbandry, warfare and quality protein intake (for an intriguing effort to apply this model to the ritual cycle of guinea pig consumption in the Andes, see Bolton 1979). From this, Clarke would in turn develop his argument about the sustainability of such systems. But, in the end, it was likely that Rappaport's model overstated the homeostatic quality of the Maring ritual cycle (Ellen 1982:182-183) and that the nutritional condition of the Maring was not as secure as he had concluded. Thus, Buchbinder (1973), another member of the project, underscored not only that the intake of animal protein among the Maring was marginal but that it was not uniform across all sub-groups. So, as she noted:

one is left with the impression that among the Simbai Maring clans whose territory borders on the forest, game provides an average of about three grams of protein per person per day; for those clans without access to large tracts of forest, the amount of protein per person per day is indeed negligible.

It is evident...that the Maring are primarily vegetarians and, at best, animal food forms only an extremely small portion of their diet, Not only is the overall intake of protein low, but it appears to vary from place to place so that the Maring populations in the southeastern portion of the territory on the forest edge have diets richer in both animal and vegetable protein than do the groups in the northwest (1973:133-34).

In general, then, Buchbinder's conclusion that "it seems likely that the Maring population is not, and probably never was, in a state of equilibrium with its environment," did not support the view that the Maring economy—especially in terms of food production—was as ritually optimized as Rappaport had proposed.

### **3. The Contradictions of Agriculture**

This perhaps better conforms to our increasing understanding that the appearance of agriculture-based economies was previously regarded in too simplistic and fanciful a way. There is considerable evidence now that the emergence of horticulture was probably not a revolutionary event but a long-term process (Flannery 1968, 1969) that did not generally represent the clear, unmitigated advance that had once been thought. Thus, examining the transition to agriculture around the world, Cohen and Armelagos (1984), found that it was actually accompanied by a distinctive number of adverse effects, including a decline in nutritional quality and exposure to new diseases. As Cohen has observed, "Taken as a whole," the evidence suggests

an overall decline in the quality—and probably in the length—of human life among farmers as compared with earlier hunter-gatherer groups. Farmers seem fairly commonly to have suffered more infection and more chronic malnutrition than their forebears living on wild resources, and they seem to have suffered as many or more episodes of growth-disrupting stresses and to have had reduced life expectancy." (Cohen 1987: 275)

While agriculture may have eventually increased productivity, research from New Guinea, Amazonia and elsewhere suggests that mortality and longevity often remained problematical; and that what gains in life-span were eventually made were often compromised by a rise in warfare (cf. Ross 1978), a source of mortality that hunter-gatherers had usually never experienced.

If one would not want to assume that hunting-gathering subsistence was as difficult as had once been imagined, nor that, on the other hand, such groups were the "original affluent society," as Sahlins has tried to portray them (Sahlins 1972:1-39), then we would still need to acknowledge that most known human populations—certainly most pre-industrial and probably all foraging groups (cf. Stini 1988)—have faced some kind of seasonal ebb and flow in food availability that requires extra effort (or, at least, some compensatory strategy) at times to ensure adequate nourishment. Such seasonality may

be chiefly environmental in origin, largely economic or both, depending on circumstances; while coping strategies may include changes in household composition, often through temporary out-migration of some members, perhaps to participate in wage labor, or strategic changes in dietary composition and intra-household food distribution (Messer 1997. For an excellent review of household responses to seasonality, see Messer 1983; for a discussion of the role of seasonality and sharing, as an adaptation to it, specifically among foraging groups, see Speth 1990).

In contemporary Africa, as Huss-Ashmore and Goodman (1988) report, this often involves a varying degree of effort in different subsistence activities, with the result that, between labor input (i.e., energy demand) and productivity, there may be a notable fluctuation in body weight—though this may be compensated for by the acquisition of commercial foods through linkages with the market economy (normally through male wage labor) (Huss-Ashmore and Goodman 1988:38ff.). Murrieta, Dufour and Siqueira (1999) describe a somewhat similar situation of seasonal variability among peasant households on Marajo Island at the mouth of the Amazon, where a combination of environmental factors and local market conditions comes into play. While this may chiefly reflect the constraints that colonial history has imposed on access to resources, Wilmsen (1978) has observed a marked seasonal variability in weight, associated with varying reproductive capacity, among hunter-gatherers such as the Kalahari San, which suggests that some such variation has probably been a distinctive feature of human populations, especially foraging groups, for a very long time (cf. Howell 2010; Harris and Ross 1987: 23ff). But, more, Lee's co-researcher, Howell, would eventually conclude that the !Kung were, in fact, chronically malnourished (Howell 1986). This, in turn, led Speth (1990) to speculate that nutritional stress among foraging groups is either mitigated by food sharing or is actually exacerbated by (gender) inequities in food distribution—particularly in terms of the availability of nutrients such as animal fat for fertile women, in situations where depressing fertility may actually have strategic advantages (Harris and Ross 1987:21ff.).

### **3.1. The Seeming Paradox of the Northwest Coast**

Despite this, and with the exception of a few researchers, there has been a general tendency in anthropology to downplay the role of seasonality, resource variability and periodic scarcity in shaping patterns of dietary behavior. If one wanted to assess the import of this particular failing, a compelling example would be the peoples of the Northwest Coast of North America, a region that has been of great theoretical importance since the days of Boas, not least because it was so highly developed culturally in the absence of agriculture and seemed to thrive on an apparent abundance of wild salmon. It was that abundance that was, for a long time, regarded as underlying one of the region's most notable customs—the *potlatch*—a ceremony that seemed to exalt extravagance, as goods were given away or even destroyed (Harris 1974:24ff). In the 1960s, however, some writers began to consider that it might not necessarily be a reflection of absolute abundance.

Suttles (in *Man the Hunter*), building on the tentative explorations of Vayda (1961) and Piddocke (1965), suggested that the traditional view of the Northwest coast was extremely simplistic and that a full-scale reassessment of food resources was needed

and that, in the process, the *potlatch* would have to be reconsidered. He proposed that, far from being an ecologically uniform region with constant and abundant food resources, the Northwest Coast was actually a region of significant local diversity and seasonal variation. In that respect, the variation in cultural forms found there could not, as some writers had previously asserted, simply be regarded as a manifestation of different cultural values within a homogeneous environment (Suttles 1960). On the contrary, because Suttles maintained that “The occurrence and abundance of...plants and animals varied greatly from place to place depending on such general factors as precipitation, altitude, and salinity of water and on many other more particular factors as well, “ he supported and elaborated the Vayda-Piddock idea that the *potlatch*, which itself varied in form, frequency and intensity across the region, could perhaps be considered as a resource-distributing mechanism, “as an adaptation to a fluctuating environment rather than the ‘absurdly wasteful’ epiphenomenon it had sometimes been labeled.” (Suttles 1968:67)

Piddocke in particular was interested in reconstructing the *potlatch* as it had been prior to the arrival of the Europeans, before the introduction of the fur trade and new infectious diseases (most significantly, smallpox) (Gibson 1992). With these, preexisting ecological, economic, demographic and cultural interrelationships were dramatically altered. Above all, from the late 18<sup>th</sup> century onward, trade introduced new sources of wealth into the Northwest Coast, enabling many individuals to hold potlatches, to compete for prestige and status with traditional chiefs, as ranked positions were vacated by rising death rates. But, at the same time, under these new conditions, potlatches became “increasingly competitive and destructive,” and, one might add, no longer the mechanisms of resource redistribution they had been before the arrival of the Europeans, with the advent of waged labor and access to imported foods.

#### **4. The General Impact of the World Economy**

Less dramatically, often much less visibly, most of the societies that anthropologists have studied have been affected, indirectly or directly, by the European agents of the world economy. Not least, their subsistence activities were profoundly altered by new conditions of production determined by external forces. This transformation began to be explored by scholars such as Wolf (1959, 1972) in regard to Latin America many years ago, but an appreciation of the pervasive impact on indigenous subsistence regimes around the world was both complex and nuanced and not readily explored. This would change, like much else, in the 1970s and 1980s, with work such as Alexander and Alexander (1978) and Ross (1978, 1985) on, respectively, the subject of Java, the Amazon Valley and Ireland.

In the case of Java, Alexander and Alexander (1978), for example, have described the nature of agrarian change that took place in Java after the Dutch introduced the plantation system for sugar cultivation. Geertz (1963) had previously suggested that indigenous rice *sawah* cultivation and sugar production for export had eventually developed a mutualistic relationship, with the latter leading to an increase in rice productivity. Beyond conveying a sense that colonial rule generally had been beneficial, this view was probably much too idealistic and it would eventually come in for significant criticism (cf. White et al, 2007). According to White, Geertz had argued that

Irrigated rice terraces...can respond to labour intensification almost indefinitely without loss of soil fertility, but with only stable or declining per capita output, and this allowed a symbiotic rotation of the main export and subsistence crops (sugarcane and paddy) from the early nineteenth century until Indonesian independence and beyond (White et al, 2007:1193)

But, the Alexanders would question Geertz's view of such a symbiosis, maintaining that the priority given to sugar as a cash crop severely constrained rice cultivation, causing it to stagnate (Alexander and Alexander 1978).

That impact –and its legacy—despite whatever civilizing rationale the dominant European powers employed to justify their exploitation of indigenous lands and labor, was far more typical of the general colonial mode of production than any actual, sustained improvement in subsistence food output which, for the most part, tended to contract or languish under colonial constraints.

#### **4.1. The Case of Kenya**

In this respect, Kenya was typical. It was part of a wide swath of the Sub-Saharan region that Amin has aptly called “Africa of the labor reserves” (1976:327; cf. Harris 1959), where Europeans in the late nineteenth-early twentieth centuries created a complex constellation of labor-generating enclaves in which indigenous communities were largely confined to highly circumscribed areas that were wholly inadequate to meet their subsistence needs and were compelled to enter a new market economy, largely through male labor migration, while women had to maintain household subsistence in their absence at a lower, less secure level of productivity.

Originally known as the East African Protectorate, Kenya was administered primarily in the commercial interests of a small European settler community that secured for itself the most productive lands of the temperate highlands, where they established plantations of tea and coffee that persist there today (Mkangi 1983:39-41). At the same time, in order to ensure that white settlers had a sufficient supply of cheap labor, Africans were denied the right to cultivate cash crops (Lando and Bujra 2009:5) and were forced instead to subordinate their household economy to the labor demands of the European commercial sector.

In the years after World War II, and even after independence, Kenya became a major center for foreign capital investment at the further expense of the African rural poor. As a result, by the 1970s, multinational corporations not only dominated most of the country's manufacturing but played a pre-eminent role in agriculture as well, with profoundly detrimental consequences for domestic food production. Coffee and tea remained the country's main cash crops, to the extent that Kenya today is the world's leading exporter of black tea, earning it \$1.45 billion in 2012. But, such priorities have meant that landlessness or land scarcity continues to be the predominant structural problem in Kenya's rural economy and one of the chief reasons that, despite its enormous agricultural potential, Kenya is considered “a low-income, food-deficit country” (USDA Foreign Agricultural Service 2013). While, nationally, this can be

attributed to lack of land made available for subsistence cultivation, it is compounded by the fact that so many people are living in absolute poverty (Hunt 1984), unable to buy what food enters the national marketplace. In that regard, it is in the towns and cities, where supplies and prices are especially erratic, that the nutritional situation is most severe.

-  
-  
-

TO ACCESS ALL THE 36 PAGES OF THIS CHAPTER,  
Visit: <http://www.eolss.net/Eolss-sampleAllChapter.aspx>

### **Bibliography**

- Abramson, Evan: (2009) Soy: A Hunger for Land. NACLA Report on the Americas. Pp. 34-41. [https://nacla.org/sites/default/files/A04203036\\_1.pdf](https://nacla.org/sites/default/files/A04203036_1.pdf)
- Alexander, Jennifer and Paul Alexander: (1978) Sugar, Rice and Irrigation in Colonial Java. *Ethnohistory* 25(3): 207-223.
- Amin, Samir: (1974) *Accumulation on a World Scale: A Critique of the Theory of Underdevelopment*. Hassocks, UK: The Harvester Press.
- Bamburger, Joan: (1971) The Adequacy of Kayapo Ecological Adjustment. Proceedings, 38th International Congress of Americanists 3. Stuttgart. Pp. 373-379.
- Bankman, Judy: (2013) Mexico: Public Health, Rising Obesity and the NAFTA Effect. <http://civileats.com/2013/07/17/mexico-public-health-rising-obesity-and-the-nafta-effect/>
- Bardhan, P.: (1982) Little Girls and Death in India. *Economic and Political Weekly*. September 4: 1448-1450.
- Basso, Ellen: (1973) *The Kalapalo Indians of Central Brazil*. Holt, Rinehart and Winston.
- Berle, Adolf: (1962) *Latin America—Diplomacy and Reality*. New York: Harper and Row.
- Bhatia, B.M.: (1967) *Famines in India: A Study of Some Aspects of the Economic History of India (1860-1965)*. London: Asia Publishing House.
- Bolton, Ralph: (1979) Guinea Pigs, *Protein and Ritual*. *Ethnology* 18(3): 229-252.
- Buchbinder, Georgeda: (1973) Maring Microadaptation: A Study of Demographic, Nutritional, Genetic and Phenotypic Variation in a Highland New Guinea Population. PhD thesis. Columbia University,
- Bulmer, Ralph: (1967) Why is the Cassowary Not a Bird? A Problem of Zoological Taxonomy among the Karam of the New Guinea Highlands. *Man* 2(1): 5-25.
- Callahan, Ruth: (1997) Domestication of Dogs and Their Use on the Great Plains Nebraska Anthropologist Paper 103 <http://digitalcommons.unl.edu/nebanthro/103>
- Carneiro, Robert: (1968) Slash-and-Burn Cultivation among the Kuikuru and Its Implications for Cultural Development in the Amazon Basin. In Yehudi Cohen, ed., *Man in Adaptation: The Cultural Present*. Chicago: Aldine. Pp.132-145.
- Carneiro, Robert: (1970) The Transition from Hunting to Horticulture in the Amazon Basin. Proceedings, VIIIth International Congress of Anthropological and Ethnological Sciences, Vol. 3, pp. 244-248. Tokyo: Science Council of Japan.

Cleaver, Harry: (1972) The Contradictions of the Green Revolution. *The American Economic Review* 62(1/2): 177-186.

Cohen, Mark: (1987) The Significance of Long-Term Changes in Human Diet and Food Economy. In Marvin Harris and Eric B. Ross, eds. 1987 *Food and Evolution: Toward a Theory of Human Food Habits*. Philadelphia: Temple University Press. Pp.261-283.

Cohen, Mark and George Armelagos, eds.: (1984) *Paleopathology at the Origins of Agriculture*. New York: Academic Press.

Crosby, Alfred: (1972) *The Columbian Exchange: Biological and Cultural Consequences of 1492*. Westport, CT: Praeger.

Davenport, Charles: (1916) The Hereditary Factor in Pellagra. *The Archives of Internal Medicine* 18(1): 4-31.

De Castro, Josue: (1966) *Death in the Northeast*. New York: Random House.

Denevan, William: (1976) *The Aboriginal Population of Amazonia*. In William Denevan, ed., *The Native Population of the Americas in 1492*. Madison: University of Wisconsin Press. Pp. 205-234.

Denevan, William: (1984) Ecological Heterogeneity and Horizontal Zonation of Agriculture in the Amazon Floodplain. In Marianne Schmink and Charles Wood, eds, *Frontier Expansion in Amazonia*. Gainesville: University of Florida Press. Pp. 311-336.

DeVore, Irvn and Richard Lee, eds.: (1968) *Man the Hunter*. Chicago: Aldine.

DeWalt, Billie: (1985) Mexico's Second Green Revolution: Food for Feed. *Mexican Studies/Estudios Mexicanos* 1(1): 29-60.

DeWalt, Billie and David Barkin (1991) *Mexico's Two Green Revolutions: Feed for Food*. In Della McMillan, ed, *Anthropology and Food Policy: Human Dimensions of Food Policy in Africa and Latin America*. Athens: The University of Georgia Press. Pp.12-39.

Du Bois, Christine, Chee-Beng Tan, and Sidney Mintz, eds.: (2008) *The World of Soy*. Champaign, IL: University of Illinois Press.

Ellen, Roy: (1982) *Environment, Subsistence and System: The Ecology of Small-Scale Social Formations*. Cambridge: Cambridge University Press.

Fairlie, J.A.: (1898) The Economic Effects of Ship Canals. *Annals of the American Academy of Political and Social Science*. 11(1): 54-75.

Feder, Ernest: (1976) McNamara's Little Green Revolution: World Bank Scheme for the Self-Liquidation of Third World Peasantry. *Economic and Political Weekly* 11(14): 532-41.

Feder, Ernest: (1977) *Strawberry Imperialism: An Enquiry into the Mechanisms of Dependency in Mexican Agriculture*. The Hague: The Institute of Social Studies.

Firth, Raymond: (1934) The Sociological Study of Native Diet. *Africa* 7: 401-414.

Fittkau E.J. Irmiler U.,Junk W.J., Reiss F., and Schmidt G.W. (1975) Productivity, Biomass and Population Dynamics in Amazonian Water Bodies. In Frank Golley and Ernesto Medina, eds., *Tropical Ecological Systems*. New York: Springer. Pp. 289-311. [An ecological, economic and anthropological study on the impact on their environment, and on the use of resources, by local communities in the Amazon region]

Flannery, Kent: (1968) Archaeological Systems Theory and Early Mesoamerica. In Betty Meggers, ed., *Anthropological Archaeology in the Americas*. Washington: Anthropological Society of Washington. Pp. 67-87. [An archaeological study on Mesoamerica]

Flannery, Kent: (1969) Origins and Ecological Effects of Early Domestication in Iran and the Near East. In Ucko, P. and G. Dimpleby, eds, *The Domestication and Exploitation of Plants and Animals*. Pp. 73-100. Aldine. [An outdated yet important study on domestication of animals in the near east]

Flood Committee (Subcommittee of the Committee on Appropriations, House of Representatives): (1971) *The Population Explosion and the Green Revolution*. Washington, D.C.: U.S. Government Printing Office. [A holistic study of the green revolution]

Frank, Andre G.: (1967) *Capitalism and Underdevelopment in Latin America. Historical Studies of Chile and Brazil*. New York: Monthly Review Press. [An example of the influential works by economists that had a major impact on theories then being developed by a number of anthropologists]

Fox, Jonathan and Libby Haight, eds.: (2010) *Subsidizing Inequality: Mexican Corn Policy Since NAFTA*. Santa Cruz: University of California. [An economical and political critique of NAFTA]

Frankel, Francine: (1971) *India's Green Revolution: Economic Gains and Political Costs*. Princeton, NJ: Princeton University Press. [A thorough analysis of India's green revolution, state-of-the-art when it was printed in the 1970s]

Friedlander, Judith: (1975) *Being Indian in Hueyapan: A Study of Forced Identity in Contemporary Mexico*. St. Martin's Press. [An anthropological analysis on identity issues in Mexico during the 1970s]

Goldberger, Joseph, George Wheeler and Edgar Sydenstricker: (1920) A Study of the Relation of Family Income and Other Economic Factors to Pellagra Incidence in Seven Cotton-Mill Villages of South Carolina in 1916. *Public Health Reports* 35: 2673–2914 [One of the very first academic researches on the triangle economy-food-health]

Goldberger, Joseph and Edgar Sydenstricker: (1927) Pellagra in the Mississippi Flood Area: Report of an Inquiry Relating to the Prevalence of Pellagra in the Area Affected by the Overflow of the Mississippi and Its Tributaries in Tennessee, Arkansas, Mississippi, and Louisiana in the Spring of 1927. *Public Health Reports (1896-1970)* 42(44): 2706-2725. [A development of the previous studies by Goldberger on the triangle economy-food-health]

Goody, Jack: (1980) Rice-Burning and the Green Revolution in Northern Ghana. *Journal of Development Studies* 16(2): 136-155. [A study on the green revolution in Ghana]

Greene, Lawrence: (1973) Physical Growth and Development Neurological Maturation and Behavioral Functioning in Two Ecuadorian Andean Communities in Which Goiter is Endemic. *American Journal of Physical Anthropology* 38(1): 119-34. [Establishing a relation between health, economics and development]

Greene, Lawrence: (1977) Hyperendemic Goiter, Cretinism, and Social Organization in Highland Ecuador. In L. Greene, ed., *Malnutrition, Behavior, and Social Organization*. New York: Academic Press. Pp. 55-94. [In this remarkable paper the author has shown how the marginal status of Ecuadorian peasants, largely of highland Amerindian descent, has typically been characterized by endemic dietary deficiencies that, beyond societal impediments, further limit their ability to effectively challenge their situation]

Gross, Daniel and Barbara Underwood: (1971) Technological Change and Caloric Costs: Sisal Agriculture in Northeastern Brazil. *American Anthropologist* 73(3): 725-740. [A careful and rigorous study that, through the study of caloric costs and uses, demonstrate the increasing role of nutritional neglect as a direct result of what had initially seemed an opportunity for increased security]

Gross, Daniel: (1975) Protein Capture and Cultural Development in the Amazon Basin. *American Anthropologist* 77:526-549. [An example of the 1970s critical development on ecological zonation]

Harner, Michael: (1972) *The Jivaro: People of the Sacred Waterfalls*. Garden City: Doubleday. [An anthropological study of the Jivaro, a group settled since ancient times along the Marañon River and its tributaries, in northern Peru and eastern Ecuador.]

Harris, Marvin: (1959) Labor Migration among the Mocambique Thonga: Cultural and Political Factors. *Africa* 29 (1): 50–64. [A study on the cultural and political causes and consequences of labor migration among the Mocambique Thonga]

Harris, Marvin: (1965) The Myth of the Sacred Cow. In Anthony Leeds and Andrew Vayda, eds. *Man, Culture and Animals*. Washington, D.C.: The American Association for the Advancement of Science. Pp. 217-228. [The first paper by Harris, a deeply influential scholar in cultural and human ecology]

Harris, Marvin: (1966) The Cultural Ecology of India's Sacred Cattle. *Current Anthropology* 7: 51-54, 55-66. [A great study on India's sacred cattle that also signals the emergence of cultural/human ecology]

Harris, Marvin: (1968) *The Rise of Anthropological Theory: A History of Theories of Culture*. New York: Thomas Crowell. [Probably the book that ends the emergence of cultural/human ecology and starts the establishing of this sub-discipline]

Harris, Marvin: (1974) *Cows, Pigs, Wars and Witches*. New York: Random House. [A further step towards theoretical completion of the work of this extremely influential anthropologists, based on the *potlatch* ceremony].

Harris, Marvin: (1977) *Cannibals and Kings: The Origins of Cultures*. New York: Random House. [Elaborating on the results and reflexions of his previous papers, in this book Harris continues on establishing an entirely new approach to food prohibitions and avoidances that ultimately would prove applicable in many different cultural settings]

Harris, Marvin and Eric B. Ross: (1987a) *Death, Sex and Fertility: Population Regulation in Preindustrial and Developing Societies*. New York: Columbia University Press. [An interesting study on population growth in relation to the economy of resources and protein availability, sometimes accused of reducing the role of a number of other causes factors, such as culture, customs or individual and collective psyche]

Harris, Marvin and Eric B. Ross: (1987b) *Food and Evolution: Toward a Theory of Human Food Habits*. Philadelphia: Temple University Press. [A book widely employed, especially in American universities, as an introduction to the study of food anthropology]

Hecht, Susanna: (2005) Soybeans, Development and Conservation on the Amazon Frontier. *Development and Change* 36(2): 375-404. [A study that traces how soy plantations have played a major role in the deforestation of Amazonia, particularly in Brazil and Bolivia]

Hewitt de Alcantara, Cynthia: (1976) *Modernizing Mexican Agriculture: Socioeconomic Implications of Technological Change, 1940-1970*. Geneva: UN Research Institute for Social Development. [A study on the socio-cultural and economical impact of the green revolution in Mexico]

Howell, Nancy: (2010) *Life Histories of the Dobe !Kung: Food, Fatness, and Well-being Over the Life Span*. Berkeley: University of California Press. [A food and nutrition anthropology of the !Kung]

Hunter, William Wilson: (1886) *Imperial Gazetteer of India, Vol. 6*. London: Trubner & Co.

Huss-Ashmore, Rebecca and Goodman: (1988) Seasonality of Work, Weight, and Body Composition for Women in Highland Lesotho. In Rebecca Huss-Ashmore, John J. Curry and Robert K. Hitchcock, eds., *Coping with Seasonal Constraints*, Vol.5-6. Philadelphia: University of Pennsylvania Museum. Pp: 29-44. [According to the authors of this paper, the household responses to seasonality in contemporary Africa often involves a varying degree of effort in different subsistence activities, with the result that, between labor input (i.e., energy demand) and productivity, there may be a notable fluctuation in body weight]

Johnson, Patricia L, James W Wood and Maxine Weinstein: (1990) Female Fecundity in Highland Papua New Guinea. *Social Biology* 37(1-2): 26-43. [This study shows that in Central New Guinea one often encounters exceptionally high rates of endemic goiter, that may be a metabolic response to iodine deficiency and that may also help explain some of the lowest rates of natural fertility found anywhere]

Keay, John: (1994) *Honourable Company. A History of the English East India Company*. Basingstoke: Macmillan Publishing [As the title indicates, this is a history of the English East India Company]

Knowles, Lilian: (1928) *The Economic Development of the British Overseas Empire*. London: Routledge. [As the title shows, this is an analysis of the economic development of the British Overseas Empire. Being produced in the 1920s, it has more value as a source of information than as an actual historiography]

Kraut, Alan: (2003) *Goldberger's War: The Life and Work of a Public Health Crusader*. New York: Hill and Wang. [A biography of Goldberger, that also shows the causes of - and the social battles and cultural consequences related to - nutrition related diseases]

Lando, Samuel and Abdalla Bujra: (2009) *Class Formation and Inequality in Kenya*. Research Report. Nairobi: Development Policy Management Forum. [A sociology of classes in contemporary Kenya]

Lathrap, Donald: (1970) *The Upper Amazon*. New York: Praeger. [An anthropological research on the Upper Amazon]

Lassiter, Luke: (2014) *Invitation to Anthropology*. Lanham, MD: Rowman & Littlefield. [A great introduction to Anthropology]

Lee, Richard: (1968) What Hunters Do for a Living, or How to Make Out on Scarce Resources. In I. DeVore and R. Lee. eds., *Man the Hunter*. Chicago: Aldine. Pp. 30-48.

Lee, Richard: (1979) *The !Kung San: Men, Women and Work in a Foraging Society*. Cambridge: Cambridge University Press. [A study on hunter-gatherers society based on the !Kung]

Leeds, Anthony and Andrew P. Vayda eds.: (1965) *Man, Culture and Animals: The Role of Animals in Human Ecological Adjustments*. AAAS Publication 78. Washington, D.C.: American Association for the Advancement of Science. [A collection devoted to an examination of human-animal (domesticated and wild) interactions, that quietly inspired a small number of anthropological researchers over the next decade and a half]

Leonard, William and Brooke Thomas: (1988) Changing Dietary Patterns in the Peruvian Andes. *Ecology of Food and Nutrition* 21(4): 245-263. [The authors examined the causes and effects of dietary patterns in the Peruvian Andes]

Leonard, William and Brooke Thomas: (1989) Biosocial Responses to Seasonal Food Stress in the Highland Peru. *Human Biology* 61(1): 65-85. [The authors examined the effect of seasonality and socioeconomic differentiation on food consumption and dietary change in Nuñoa]

Lewis, Oscar: (1963) *Life in a Mexican Village: Tepoztlan Restudied*. Urbana: University of Illinois Press. [One example of how anthropology, though uniquely positioned to assess its impact on the micro-level realities of peasant life, largely endorsed efforts at agrarian modernization in the crucial period after World War II]

Lindenbaum, Shirley: (1987) Loaves and Fishes in Bangladesh. In Marvin Harris and Eric B. Ross, eds, *Food and Evolution: Toward a Theory of Human Food Habits*. Philadelphia: Temple University Press. Pp.427-443. [In this paper the author suggests that there was a geo-political aim to the Green Revolution]

Lowie, Robert: (1938) Subsistence. In Franz Boas, ed. *General Anthropology*. New York: D.C. Heath and Co. Pp. 282-326. [A classical reading on food and nutrition]

Lugard, Frederick: (1922) *The Dual Mandate in British Tropical Africa*. London: William Blackwood and Sons.

Mazess, R. and Paul Baker: (1964) Quechua Indians Living at High Altitude: Nuñoa, Peru. *American Journal of Clinical Nutrition* 15:341-351. [An early dietary survey on the Quechua people]

Meggors, Betty: (1971) *Amazonia: Man and Culture in a Counterfeit Paradise*. Chicago: Aldine-Atherton. [A fundamental anthropology of Amazonian cultures]

Mencher, Joan: (1974) Conflicts and Contradictions in the 'Green Revolution': The Case of Tamil Nadu. *Economic and Political Weekly* 9(6/8): 309+311 +313+315+317319+321+323. [An academic critique of the Green revolution based on a case study]

Mencher, Joan: (1978) Why Grow More Food?: An Analysis of Some Contradictions in the 'Green Revolution' in Kerala. *Economic and Political Weekly* 13(51/52): A98- A99+A101-A104. [A critical view of agricultural modernization]

Messer, Ellen: (1984) Anthropological Perspectives on Diet. *Annual Review of Anthropology* 205-249. [See title]Mintz, Sidney: (1985) *Sweetness and Power: The Place of Sugar in Modern History*. New York: Viking Penguin. [A cultural history of sugar and sweetness]

Mintz, Sidney, Christine DuBois and Chee-beng Tan, eds: (2008) *The World of Soy*. Urbana: University of Illinois Press. [A social cultural, historical and economic analysis of the soy production]

Mukerjee, Ramkrishna: (1974) *The Rise and Fall of the East India Company: A Sociological Appraisal*. New York: Monthly Review Press. [A sociological history of the British East India Company]

Murphy, Robert and Buell Quain: (1955) *The Trumai Indians of Central Brazil*. American Ethnological Society Monograph 24. Locust Valley, New York: J. J. Augustin [A classic ethnography of the Trumai people]

Murrieta, Rui Sergio, Darna Dufour and Andrea D. Siqueira: (1999) Food Consumption and Subsistence in Three Caboclo Populations on Marajo Island, Amazonia, Brazil. *Human Ecology* 27(3): 455-475. [See title]

Nash, June: (1981) Ethnographic Aspects of the World Capitalist System. *Annual Review of Anthropology* 10:393-423. [See title]

Netting, Robert McC.: (1981) *Balancing on an Alp: Ecological Change and Continuity in a Swiss Mountain Community*. New York: Cambridge University Press. [A cultural/human ecology study of a community in the Swiss Alps]

Nutini, Hugo: (1971) The Ideological Bases of Levi Strauss' Structuralism. *American Anthropologist* 73:537-544. [See title]

Oxfam: (2003) Dumping Without Borders: How US Agricultural Policies are Destroying the Livelihoods of Mexican Corn Farmers. Briefing Paper 50. [Oxfam is a NGO. This is its reports on US agricultural policies affecting Mexican farmers]

Peel, Derrell, Kenneth Mathews and Rachel Johnson: (2011) Trade, the Expanding Mexican Beef Industry, and Feedlot and Stocker Cattle Production in Mexico. Economic Research Service Report. Washington, D.C.: United States Department of Agriculture. <http://www.ers.usda.gov/media/118317/ldpm20601.pdf> [A survey on Mexican beef industry]

Pelto, Gretel and Pertti Pelto: (1983) Diet and Delocalization: Dietary Changes since 1750. *The Journal of Interdisciplinary History* 14(2): 507-528. [A description of the international transfers of agricultural products as rooted in the historical trajectory of global capitalism described as a process of delocalization in which food varieties, production methods, and consumption patterns are disseminated throughout the world in an ever-increasing and intensifying network of socioeconomic and political interdependency]

Perelman, Michael: (1978) *Farming for Profit in a Hungry World: Capital and the Crisis in Agriculture*. Totowa, NJ: Allanheld, Osmun and Company. [A harsh critique to the green revolution]

Podmore, Will: (2008) *British Foreign Policy Since 1870*. Bloomington, IND: Xlibris. [A history of British Foreign Policy Since 1870]

Pompa, Claudia: (2014) Paraguay—Storms Ahead. Latin America Bureau. Aug. 4. <http://lab.org.uk/paraguay-%E2%80%93storms-ahead> [Sociological study on the distribution of wealth in Paraguay]

Powdermaker, Hortense: (1932) *Feasts in New Ireland: The Social Function of Eating*. *American Anthropologist* 34:236-247. [One of the foremost studies on sociology of food]

Rappaport, Roy: (1967) *Pigs for the Ancestors: Ritual in the Ecology of a New Guinea People*. New Haven: Yale University Press. [A fundamental research on the ritual use of pigs in New Guinea]

Richards, Paul: (1997) Toward an African Green Revolution? An Anthropology of Rice Research in Sierra Leone. In Endre Nyerges, ed., *The Ecology of Practice: Studies of Food Crop Production in Sub-Saharan West Africa*. Amsterdam: Gordon and Breach. Pp. 201-252. [A study of the concept of green revolution starting from a case study]

Richards, Paul: (2010) *Green Revolution from Below?: Science and Technology for Global Food Security and Poverty Alleviation*. Wageningen University, The Netherlands. [A critique and conceptualization of the concept of green revolution]

Ross, Eric B.: (1976) The Achuara Jivaro: Cultural Adaptation in the Upper Amazon. Columbia University unpublished PhD dissertation. [See title]

Ross, Eric B.: (1978a) The Evolution of the Amazon Peasantry. *Journal of Latin American Studies* 10(2): 193-218. [See title]

Ross, Eric B.: (1983) The Riddle of the Scottish Pig. *Bioscience* 33: 99-106. [Applying Harris theories to Scottish culture]

Ross, Eric B.: (1986) *Potatoes, Population and the Irish Famine: The Political Economy of Demographic Change*. In W. Penn Handwerker, ed., *Culture and Reproduction*. Boulder, CO: Westview Press. Pp. 196-220. [A political history of the Irish Famine]

Ross, Eric B.: (1998b) *The Malthus Factor: Poverty, Politics and Population in Capitalist Development*. London: Zed Books. [An effort to explain the triangle poverty-politics-demographic employing among others the theories of Danish economist Malthus]

Sahlins, Marshall: (1976) *Culture and Practical Reason*. Chicago: The University of Chicago Press. [A tentative, today regarded as failed, at suggesting that there is a practical reason universally underlying human cultures, also in regards to what is edible and what isn't]

Sahlins, Marshall: (1972) *Stone Age Economics*. Chicago: Aldine-Atherton. [See title to understand the content of this classical reading]

Salaman, Redcliffe (1985) (orig. 1949) *The History and Social Influence of the Potato*. Cambridge: Cambridge University Press. [A cultural history of potatoes]

Scheper-Hughes: (1984) *Infant Mortality and Infant Care: Cultural and Economic Constraints on Nurturing in Northeast Brazil*. *Social Science and Medicine* 19:535-546. [A brilliant yet sad anthropological description of shantytowns of the Brazilian northeast, with their very high infant and early child mortality directly connected to a precarious income]

Scheper-Hughes: (1989) *Death Without Weeping*. *Natural History* 10:8-16. <http://www3.gettysburg.edu/~dperry/Class%20Readings%20Scanned%20Documents/Intro/Scheper-huges.pdf> [A continuation of Scheper-Hughes previous works on Brazilian shantytowns]

Scheper-Hughes: (1993) *Death Without Weeping: The Violence of Everyday Life in Brazil*. Berkeley: University of California Press.

Smole, William: (1976) *The Yanoama Indians: A Cultural Geography*. Austin: The University of Texas Press. [See title]

Speth, John: (1990) *Seasonality, Resource Stress, and Food Sharing in So-Called "Egalitarian" Foraging Societies*. *Journal of Anthropological Archaeology* 9:148-188. [A discussion of the role of seasonality and sharing, as an adaptation to it, specifically among foraging groups]

Stini, William: (1988) *Food, Seasonality and Human Evolution*. In I. de Garine and G. A. Harrison, eds. *Coping with Uncertainty in Food Supply*. Oxford: Oxford University Press. Pp. 32-51. [A study acknowledging that most known human populations – certainly most pre-industrial and probably all foraging groups - have faced some kind of seasonal ebb and flow in food availability that requires extra effort (or, at least, some compensatory strategy) at times to ensure adequate nourishment]

Stirling, Matthew: (1938) *Historical and Ethnographic Material on the Jivaro Indians*. Washington, D.C.: The Smithsonian Institution. [One of the first collection of material on the Jivaro, and therefore an important source of information for anthropologists]

The Dutch Soy Coalition: (2006) *Soy. Big Business, Big Responsibility: Addressing the Social- and Environmental Impact of the Soy Value Chain*. [http://www.bothends.org/uploaded\\_files/document/2006\\_Soy\\_big\\_business.pdf](http://www.bothends.org/uploaded_files/document/2006_Soy_big_business.pdf) [Also available online, this study addresses the Social- and Environmental Impact of the Soy Value Chain]

Thomas, R. Brooke: (1976) *Energy Flow at High Altitude*. In P. T. Baker and M. A. Little, eds., *Man in the Andes*. Stroudsburg, PA.: Dowden, Hutchinson and Ross. Pp. 379-404.

Thorner, Daniel (1953) *Investment in Empire: British Railway and Steam Shipping Enterprise in India, 1825-1849*. Bombay: Oxford University Press. [A classical study on British colonial studies]

Thorner, Daniel and Alice Thorner: (1962) *Land and Labour in India*. London: Asia Publishing house [Recently reprinted, this is a classic study of economic anthropology of India]

Torres, Gustavo: (2012) *Paraguay. Agribusiness Jeopardizes Family Farms*. Latinamerica Press. [A study on the impact of agricultural innovation on common people]

<http://lapress.org/articles.asp?item=1&art=6560>

USDA Foreign Agricultural Service: (2013) Kenya. The World's Largest Black Tea Exporter. GAIN Report.

[http://gain.fas.usda.gov/Recent%20GAIN%20Publications/The%20World's%20Largest%20Black%20Tea%20Exporter%20\\_Nairobi\\_Kenya\\_10-31-2013.pdf](http://gain.fas.usda.gov/Recent%20GAIN%20Publications/The%20World's%20Largest%20Black%20Tea%20Exporter%20_Nairobi_Kenya_10-31-2013.pdf)

Vance, R. Bayles: (1932) *Human Geography of the South: A Study In Regional Resources and Human Adequacy*. Chapel Hill: The University of North Carolina Press. [A history of the US south in relation to cotton production]

Vayda, Andrew, Anthony Leeds and David Smith: (1961) The Place of Pigs in Melanesian Subsistence. In Proceedings of the 1961 Annual Spring Meeting of the American Ethnological Society. Seattle: University of Washington Press. Pp. 69-77. [A ground-breaking research in the subfield of food and nutrition anthropology]

Wallerstein, Immanuel: (1974) *The Modern World-System I: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century*. New York: Academic Press. [Probably the first sociological study with a world-system approach]

White, Benjamin and Clifford Geertz (2007): Singular Genius of Interpretive Anthropology. *Development & Change* 38(6): 1187–1208. [A cultural history of the views of colonialism]

*Pesticide News* No. 81, September. [http://www.pan-uk.org/pestnews/Issue/pn81/pn81\\_p12-15.pdf](http://www.pan-uk.org/pestnews/Issue/pn81/pn81_p12-15.pdf) [A report on pesticide]

Wilmsen, Edward: (1978) Seasonal Effects of Dietary Intake on Kalahari San. *Federation of American Societies for Experimental Biology Proceedings* 37:65-72. [A fundamental work observing a marked seasonal variability in weight, associated with varying reproductive capacity, among hunter-gatherers such as the Kalahari San, which suggests that some such variation has probably been a distinctive feature of human populations, especially foraging groups, for a very long time]

Wolf, Eric: (1959) *Sons of the Shaking Earth*. Chicago: University of Chicago Press. [A pioneering work showing how, in Latin America, subsistence activities were profoundly altered by new conditions of production determined by external forces]

Wolf, Eric and Edward Hansen: (1972) *The Human Condition in Latin America*. Oxford: Oxford University Press. [A continuation of previous studies by Wolf, but more comprehensive]

Worsley, Peter: (1964) *The Third World*. Chicago: University of Chicago Press. [An outdated, yet influential in its time, study on the third world]

### **Biographical Sketch**

**Eric Ross** is a US-trained cultural anthropologist who has recently returned to the States after 27 years abroad, in the UK and The Netherlands, where he was chair of the MA program in development studies at the Institute of Social Studies in The Hague. At the moment he teaches at The George Washington University. His most recent book was *The Malthus Factor: Poverty, Politics and Population in Capitalist Development*. Beside being a leading anthropologist on food and nutrition, he actively researches, and campaigns for, social justice.