Appendix

Explaining It All: Nutritional Anthropology and Food Scholarship

What could I tell you, my lady, of the secrets of Nature which I have discovered while cooking? . . . Lepezio Leonardo was right in saying that it is possible to philosophize and prepare dinner at the same time. And I could also add: if Aristotle had known how to cook he would have written even more than he did.

—Sor Juana Ines de la Cruz (eighteenth-century Mexico)

1 Research on food in culture was, until recently, a rare pastime. The only country where food was taken seriously was, of course, France. There, gourmetship and food scholarship had always flourished together. Starting in the 1920s, the “Annales School” of historians, a group associated with the journal Annales: Economies, Sociétés, Civilisations, devoted particular attention to food and its effect on history (see Forster and Ranum 1979). Classic research in the tradition includes Fernand Braudel’s work on France and the Mediterranean (e.g. Braudel 1973) and Emmanuel Le Roy Ladurie’s writings on Provence (notably Le Roy Ladurie 1971). In general, the Annales historians stuck close to basics: ecology, economy, trade. These they considered to be the major determinants of foodways over the long term, a time frame that Braudel made famous as the longue durée. They were, however, acutely aware of the role of culture and style; how could French eaters be otherwise?

Thanks to them, and to historians more concerned with shifting styles, food history became more and more respectable, even outside of the French cultural sphere. The United States was the last to follow; food studies were still dismissed as frivolous until the 1980s. Studies of food...
consumption, in particular, were relegated to the academic Siberia of a “women’s field.” (By contrast, food production—agricultural science—was a “men’s field,” in fact one of the last bastions of almost-all-male academic departments. Thus it got many times the funding of food-consumption studies.) Women’s liberation probably had more effect than Annales School influence on the rise of food research.

In the 1990s and since, an explosion of superb scholarship on food has occurred, spearheaded as usual by historians (see below) but also by cookbook writers, sociologists, psychologists, and anthropologists.

Nutritional anthropology is the study of food in human ecology and in culture. It starts from the biological needs of the human organism and from the study of human evolution and prehistory, and progresses onward to study the ways that human groups construct cultural foodways. It takes us from the relatively simple and straightforward needs of the body for nutrients to the marvelously diverse ways that human societies have found to get those nutrients. As far as basic needs, such as dietary iron, are concerned, “biology is destiny”; we have to have iron or die. Culture enters in determining where we get it: some human groups obtain their iron largely from caribou meat, others from millet, still others from iron-supplement pills, and some from the rust on cast-iron cooking vessels.

Nutritional anthropology is thus, by definition, biocultural and biosocial. It cannot separate biology and genetics from cultural and social studies. In any study of actual foodways, these approaches must be combined.

Anthropologists studied food right from the beginning of the discipline. Lewis Henry Morgan (widely called the “father of anthropology” in the United States) built his theories of culture on “modes of livelihood”—subsistence technologies, such as fishing, hunting, herding, and farming (Morgan 1877). Influenced by Morgan, Frank Cushing carried out the first extensive field work in anthropology, inventing the methodology later known as “participant observation.” Cushing lived with the Zuni of New Mexico for four years, learning, among other things, everything about their foodways. His still unexcelled account of Zuni foods was published in 1920, but the research was done in the 1870s. The great anthropologist Franz Boas assembled and published George Hunt’s three-hundred-page collection of “Kwakiutl” ( Kwakwaka’wakw) recipes from British Columbia (Boas 1921). Such epochal studies were often dismissed at the time as mere trivia; today we recognize them as invaluable sources of information. Both Cushing and Boas recognized that foods could not be seen in isolation. They supplied information on the social context of
production and consumption, the relevant religious beliefs, the myths, the etiquette of feasting—everything one would need to understand food production and consumption in those societies.

Following them, Bronislaw Malinowski in the first half of the twentieth century stressed the importance of biological needs (at a time when most anthropologists were concentrating on society and religion). His own studies of food were impressive enough, but were largely embedded in longer ethnographic works (Malinowski 1922, 1935). His students, however, concentrated more specifically on food. Raymond and Rosemary Firth produced exemplary ethnographies (Raymond Firth 1936, 1959, 1962; Rosemary Firth 1966), but the true leader in the field was Audrey Richards.

A British lady in the grand tradition, Richards went to one of the most remote, harsh, and food-stressed parts of Africa. Here she studied villages in drought areas and in areas impacted by copper mines that drew off adult males and left the farming to women and children. Her studies make harrowing reading, especially when one realizes that conditions in “Rhodesia”—now Zambia—have not greatly changed since she wrote (as my wife and I were recently able to observe). She describes children starving, women desperately seeking scattered seeds, men lying near-motionless for months on end because they did not have enough food to get up and move around. She dedicated her life to bringing economic and agricultural progress to Africa, and was able to accomplish a great deal. Perhaps fortunately, she did not live to see that progress reversed by AIDS and evil governments. In the process, she launched nutritional anthropology and defined a focus on how social, economic, and cultural conditions impact the food situation. Her major works (Richards 1939, 1948 [orig. 1932]) remain foundational in the field.

On the American side of the Atlantic, a similar role was played by John Bennett. Bennett remains one of the least appreciated historic fathers of anthropology. During World War II, he worked with Margaret Mead and others to see how anthropology could contribute to the war effort (Committee on Food Habits 1943; it did not help Bennett find appreciation that his work often came out under such anonymous headings as this). He found a niche in the question of nutrition on the home front. One of the startling findings of World War I was that many, if not most, draftees were so poorly nourished that they were unfit for service. This was more true in England than in the United States, but it was bad enough everywhere (Drummond and Wilbraham 1958). It led to crash
programs in nutrition and, ultimately, to studies by Bennett and others of
the cultural matrix that allowed a rich country to malnourish its children
(Bennett 1946). Bennett did not stop with malnutrition, however. He
went on to develop a career of comprehensive studies of agriculture and
food use.

Peace brought hopeful efforts to rebuild war-torn areas and, by exten-
sion, to develop areas that had always been poor. This brought Richards
back to Africa; it also brought to Latin America such workers as Nevin
and Mary Scrimshaw, and their daughter Susan (who has lived an entire
lifetime in nutritional and public health). The Scrimshaws introduced nu-
tritional supplements in Guatemala (Scrimshaw 1995).

From the above researches came the concept of the food system (see
Goody 1982 for a classic formulation of this idea).

The “world food problem” was extremely serious during the 1950s
and 1960s; more and more attention was devoted to it by governments
and individuals. Anthropological studies grew apace. By the 1960s, “nu-
tritional anthropology” was a buzzword. The Council on Nutritional An-
thropology began life in 1975. I was there, a green kid, in awe of the
Scrimshaws and other leaders in the field who organized the society. By
Fitzgerald and with preface by Audrey Richards, set the seal on the field;
it was real and was oriented not only toward understanding foodways
but also toward coping with malnutrition worldwide.

By 1984, Ellen Messer’s comprehensive review could turn up 340 titles
in a selective review of the field (Messer 1984; cf. Messer 1997). Subse-
quent work extends the universe of nutritional anthropology to archeol-
yogy (Bray 2003; Dietler and Hayden 2001; Gosden and Hather 1999),
gender issues and their relation to power and community (Counihan
1999, 2000), and many other realms (see e.g. such collections as Bringéus
2001; Dietler and Hayden 2001; Sharman 1991). Above all, anthropolo-
gists have examined the social order. Classic works in this area include
Jack Goody’s Cooking, Cuisine, and Class (1982), and Sidney Mintz’s

Nutritional anthropology is founded on the premise—going back to
Cushing and Boas—that one cannot understand foodways, and thus can-
not really succeed in feeding the hungry, unless one understands the full
range of meanings that become attached to food in traditional and mod-
ern cultures. Food must be produced; farming has its own traditions and
ways. Food consumption, everywhere, is associated with home, family,
and security. Food also can symbolize wealth and power, or sophistication, or identification with particular groups. Cooking can be a fine art, regarded as highly as painting and poetry; conversely, fine food can be seen as evil and sinful, a mark of vaunting pride or degeneracy and corruption.

Even though such matters are cultural, they have biological roots that cannot be ignored. Human food sharing, for instance, has its primate analogues (see e.g. de Waal 1996; Strier 1999) and its own evolutionary history (Barkow et al. 1992; Cronk 1999; Ridley 1996).

Nutritional anthropology fuses at its margins with other areas of food research, including sociology of food (Mennell et al. 1992; Murcott 1984), history of food (Albala 2002; Braudel 1973; Flandrin and Montanari 1999; Toussaint-Samat 1992), agricultural and plant science studies (Salaman 1985), food science (McGee 1984), and much else. There is a large and active field of food psychology (Capaldi 1996; Conner and Armitage 2002; Logue 1986; Lyman 1989), which has found, for instance, that most or all mammals avoid food that has made them vomit, even if only once. Humans display this trait. (I still cannot even bear the sight of a certain type of hard candy. My parents bought, and hid, a whole pound of it, just before my sixth Christmas. You can guess the rest. . . .) Mammals even avoid foods first tried at a time when they were nauseated for other reasons. Even historians of science (Laudan 1998) and philosophers (Curtin and Heldke 1992) have deigned to sully their usually pure hands with such lowly, earthy matters.

Even cookbook writing lies close to food anthropology. The better ethnic cookbooks are true ethnographies, describing the social and historical causes of foodways as well as giving recipes. An early exemplar of this breed was George Lang’s Cuisine of Hungary; the tradition continues with works like Scharfenberg’s Cuisines of Germany. Sometimes, as in the cases of Clifford Wright’s A Mediterranean Feast (1999) or Diana Kennedy’s books on Mexican food (e.g. Kennedy 1998), we have a serious historical work that has some recipes in it, rather than a “cookbook.” Sometimes one is clearly dealing with the latter case. Medievalists in particular have been busy in recent years taking cookbooks and food writing very seriously indeed, as a major source of insight into medieval society. For instance, Dembińska’s Food and Drink in Medieval Poland (1999) is a formal piece of historical research that includes carefully reconstructed recipes. Appropriately, it was published by a scholarly press rather than by a cookbook publisher. Mary Ella Milham’s recent translation of
Platina’s classic Italian Renaissance cookbook *De Honeste Voluptate* (Milham 1998) is also solidly in the “scholarly” camp. So is Paul Buell and E. N. Anderson’s edition of the medieval Mongol/Chinese cookbook *Yinshan Zhengyao* (Buell et al. 2000), and Charles Perry’s collection of medieval Arabic foodlore (Rodinson et al. 2001). The Society for Creative Anachronism, not usually noted for its ivory-tower bookishness, has been a leader in developing serious scholarship on medieval foodways. Food is no longer a trivial matter.

What sets nutritional anthropology off from these disciplines is, above all, our focus on explaining foodways in terms of root causes—especially the biocultural matrix. For a historian of Spanish food, it may be enough to show that potatoes entered Spain from Peru and Chile, and spread slowly as they became locally adapted and accepted. For anthropologists (and “virtual” anthropologists like Salaman 1985), it is necessary to explain why potatoes spread at all: why they are nutritionally and agriculturally advantageous. Only this can explain their unique level of acceptance in Spain, where they have been far more successful than any other New World crop.

Anthropologists are, however, not always unique in this. Where we are really unique is in our focus on cross-cultural comparison. No other discipline systematically compares the ways of all human groups. Anthropologists not only take all these societies into account; they also study nonhuman primates. Rare is the food historian who is an expert on two non-neighboring societies, but anthropologists are expected to be experts on the whole world.

Obviously, this means that anthropologists often have less knowledge of most (or all!) of the societies they talk about than historians do. Similarly, we usually know less about the biological side of eating than do the professional nutritionists. But, since our task is general explanation rather than specific detail, we are usually content to make the tradeoff. Different goals lead to different strategies.

On the other hand, anthropologists often specialize in the study of small, isolated, highly traditional societies—Australian aborigines, Bangladeshi villagers, Maya farmers, Chinese fisherfolk. This is an area of research that has been left to us. It is not true that anthropologists study primarily such groups; the majority of anthropological research is done in modern industrial societies. What is true is that few people other than anthropologists acknowledge the existence and importance of the
small, tradition-oriented groups that still survive in this contemporary world.

It is often difficult to figure out the home discipline of a writer of articles for, say, the food journal *Petits Propos Culinaires*. Anthropologists, historians of science or of culture, sociologists, cookbook writers, medical nutritionists, agriculturalists, and ordinary food-lovers cheerfully share their knowledge, and one usually has to look at the author’s work address if one cares to know what is the author’s home discipline. Typical edited volumes today have titles such as *Food: Multidisciplinary Perspectives* (Harriss-White and Hoffenberg 1994) and *Food and the Status Quest: An Interdisciplinary Perspective* (Wiessner and Schiefenhövel 1996). In these book, anthropologists, sociologists, historians, biologists, and others all find a place.

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The reader will perhaps find it interesting to see how anthropologists do research on these matters.

Assessing the nutritional status of a community is a specialized and rather difficult art (see Dufour and Teufel 1995; Jelliffe 1966; Jerome et al. 1980; Shils et al. 1999). Food composition can be roughly estimated from food composition tables (e.g. Pennington 1998), but chemical analysis is needed for serious research.

The main method used in anthropological research is *participant observation*. This involves living with people and doing, more or less, what they do. We are lucky, studying food; in most cases, we can cook and eat with our informants. True participant observation is normally impossible in studies of sexual behavior, and by definition is impossible in studies of people’s inner spiritual lives. But it is the way to find out about food. Without living for months in Chinese households, cooking as they did, I would not have understood Chinese fuel economy, water economy, patterns of moving around—things that Chinese homemakers cannot easily talk about because so much of the behavior is “overlearned” to the point of being done quite unconsciously or preattentively. There is no substitute for participant observation, and it must be done for a long time.

With it go several standard techniques. The *twenty-four-hour recall* is perhaps the most widely used. This involves simply asking people what
they have eaten in the last twenty-four hours. After they tell all they can remember, one may prompt a bit. One-week or two-week recalls may be used for finding out about shopping, bulk purchases, and the like. Recalls are less than ideal. First, people forget minor snacks and drinks. An extreme case is Anne Fleuret’s finding in Tanzania (Fleuret, personal communication ca. 1978) that—judging from their twenty-four-hour recalls—her informants had all starved to death years ago. Since they were alive and talking to her, she naturally doubted their twenty-four-hour recalls. Following them around, she found they were continually nibbling on leaves and berries as they worked and walked to and from fields. They got critical calories and most of their vitamins this way. When they went to the city, they naturally failed to eat all these trivial little things, and consequently were in extreme danger of death from malnutrition.

Second, people are not always fully honest. Alcohol sales figures in the United States are several times as high as the alcohol consumption reported by people answering questionnaires. One study found that their interview data agreed with local stores’ sales figures for meat, milk, vegetables, and so on, but when it came to alcohol the sales were five times the reported consumption! I suspect that this was not just lying. Ninety percent of the alcohol drunk in the United States is drunk by 10 percent of the drinkers, and I fear that these were in no shape to fill out a questionnaire or answer an interview!

Some of my students, working with a religious sect that has very strict food laws, happened to notice that the food cabinets of their informants were stocked with many cans and boxes (some open and obviously recently used) that contained forbidden items—items that the informants did not mention in their recalls and interviews!

In this modern world of dieting, people can be unrealistic about their calorie consumption. This is more true of women than men (Poehlman and Horton 1999:100).

Following people around is standard. Christine Wilson resorted to “child following” in Malaysia (personal communication, 1971) because children could not recall all the snacks they had at various houses they visited during the day. The best people to do “child following” are, of course, children.

Grownup following is also useful, but behavior of the research subjects is bound to be affected. I have talked to fledgling anthropologists who
were amazed at the care and health consciousness of American shoppers they studied. I asked, “Don’t you think it might have made a difference in their behavior that they were being watched and taped by a couple of university experts?”

Interviews in anthropology may be structured—written out in detail beforehand—or open ended and unstructured. The interviewer must know what she wants to find out, and ask it in the most culturally appropriate way.

In calculating nutrition, one can weigh the food people eat, and then look up in a table how much food value it has. A pound of potatoes has so many calories, so much vitamin C, etc. This method is broadly adequate, but in many situations it has problems. The people may be growing a special variety that is quite different from the samples used in preparing the tables. Guatemalan peasants, who appeared to be getting far too little lysine, were actually growing a local high-lysine corn variety. Local varieties of greens and berries often run higher in vitamins than commercial varieties. Salmon at the rivermouth are much fatter than salmon at the headwaters; they use all their stored fat to swim up the stream. Therefore, the specialist will always collect extensive samples, freeze them immediately, and rush them to a lab for analysis. (Vitamin C and other nutrients disappear quickly, hence the care.) The ordinary anthropologist will find this difficult to arrange and impractical, and will fall back on the food tables most of the time. But beware: when studying salmon fishermen way upstream, allow for that fat loss.

Specimens of unknown foodstuffs must be collected and identified (ideally, by local biologists at local universities). Photograph, tape, and videotape documentation of foods, food preparation, and eating transactions is highly desirable and frequently necessary. Building up a file of photos, for identification and teaching, should be done early.

Anthropologists never get the full story. In fact, no human can possibly know ultimate truth about anything. On the other hand, the extreme phenomenological position (we can’t know the truth, so anything goes and any belief is equally valid) is a contemptible cop-out in medical and nutritional work. We know enough to save lives, and we can easily find out enough to save a lot more. The correct mix is proper humility about one’s knowledge; constant search for more; constant testing of knowledge against reality. The latter really requires that different people check each other’s findings.
Forces that change foodways are thus complex and contingent. Even so, there is enough order and predictability to allow us to plan. Biology, economics, social roles, and traditional cultural ways are all reliable enough determinants to provide sharply defined and usually quite limited contexts for change and agency. People react predictably to certain forces. This is most obvious when decreasing income leads to consumption of cheaper food, but we can also observe the universal appeal of high-status foods or, more precisely, the foods of high-status people; the universal use of food to mark festivals and celebrations; the great stability of religious rules over time and space; and many other generalizations apparent in preceding chapters. One can usefully (if a bit simplistically) model this process by saying that people must first satisfy very wide nutritional constraints and innate taste biases; then satisfy much sharper and more immediate ecological and economic ones; then satisfy social pressures to conform and to mark their station; then go on to create individual plans according to taste. Anyone explaining foodways will naturally gravitate to the appropriate level of generalization; those interested in very broad, overall determinants will look to biology, while those interested in very specific foodways will look to local history. Knowing that people generally like the effects of alcohol is one thing; knowing about that Napa vineyard that produces three different wines on three different soil types is another.

In short, to paraphrase Marx’s observations on history, people construct their foodways, but not in a vacuum; rather, they optimize nutrition given the constraints of income, labor, time, and environment they face, and given the cultural knowledge and practice they bring to the table. “Cultural construction” is not only not arbitrary; it is enormously influenced by interaction with the world out there. It is comprehensible only when one knows what the constructors know, and understands the limits and possibilities they face.