Everyone Eats
Everyone eats rice
Yet no one knows why
When I say this now
People laugh at me
But instead of laughing along with them
You ought to step back
and give it some thought
Think it over, and don't let up
I guarantee the time will come
When you'll really have something worth laughing at

INTRODUCTION

The eighteenth-century Zen poet Ryokan probes us on many levels. He is most concerned with the ultimate questions: What is life? Why live? Is there such a thing as life or existence? Indeed, if you ponder those, you will find much to laugh about. . . .

But there are more immediate, if no less laughable, questions posed by this innocent-seeming verse. Why do we eat what we eat? How did “rice” become synonymous with “food” throughout so much of eastern Asia?

We may further ask, How many of our foodways are determined by biology, how many by culture? Why do we love spices, sweets, coffee? Why do the British and the French not only eat so differently but also tease each other so mercilessly about it, century after century? The British call the French “frogs,” to which the French respond that “the English have a hundred religions and only one sauce.”1 Why did pizza zoom from total obscurity to favorite American food in only a few years? In fact, human foodways are a complex result of the interaction of human
nutrition needs, ecology, human logic or lack of it, and historical accident. Humans make food, but, as Karl Marx said of history, “they do not make it just as they please” (Marx 1986:276). They construct their foodways within limits set by biology, economics, and psychology. There is an infinite number of possible dietary regimes, but no dietary regime can long endure if it does not provide protein, carbohydrates, fats, vitamins, and necessary minerals.

Ryokan also stimulates us to ask, Who developed the staple foods that support us? Who created the wondrous variety and complexity of cuisines that so greatly enrich our lives? The answer is thought provoking, and this time the humor is subdued and gentle. No one knows the names of the great inventors. We know the names of a few latter-day chefs, but food history—unlike the history of war and violence—is generally a history without names. Whoever developed bread wheat—a complicated, difficult hybrid—benefited humanity more than any named hero, yet we have no clue as to his or her name or language, though we know every detail of the lives of archvillains like Stalin and Hitler. The unknown Mexican indigenous people who developed maize gave life to countless people. We know nothing about the maize breeders, though we know the names of the conquistadors and generals who massacred their descendants.

Millions and millions of humble, gentle, caring human beings—farmers and homemakers, innkeepers and famine-relief workers, lovers and helpers—gave us the benefit of their insight, brilliance, creativity, and labor. To the familiar record of oppression and exploitation, they counterpose a hidden record of generosity, concern, and responsibility. We do not know who they were. They live on, but only in the silence of bread, the calm of a bowl of rice, the joy of wine, the light of a cup of coffee.

Strange immortality! To help so much, to pour the goodness and care of life into the most neglected and most important of everyday things, and then to be forgotten. Perhaps they did not care; perhaps they felt that fame is for those who have nothing better to leave.

Even their modern descendants, whose names we know, are not household words. From the late unlamented twentieth century, almost everyone knows of Madonna and Elvis, but few indeed recall E. V. McCollum or Albert Szent-György (the discoverers of vitamins A and C, respectively). Ryokan, in other poems, poses the classic Buddhist
opposition between the glory, fame, and transience of kings and the obscure but enduring world of the common folk. Those ordinary people must survive the wars and famines that their rulers unleash. Somehow, those ordinary people have not only kept their loved ones fed; they have steadily improved crops, recipes, and cultures. One can only repeat, in their memory, that most poignant of all food metaphors: “Ye are the salt of the earth” (Matt. 5:13).²

Savoir pour prévoir, prévoir pour pouvoir. (Know in order to predict, predict in order to be able to do something.)
—Attributed to Condorcet (France, eighteenth century)

This book attempts to explain why people eat what they eat and to apply that knowledge to the world food problem—the increasingly severe problem of feeding a huge and rapidly growing population. A great deal of this book is devoted to looking at contingent factors that determine foodways on the ground.

Knowing about food is fun, but there are more cogent reasons to worry about understanding foodways. At least 15% of the world’s population does not have enough to eat (Farley 2002). The figure rises to 18% of those in developing regions. UNICEF (2002) reports that almost 30% of children are undernourished. Most of the hungry are in areas of war and unrest or of massive disease epidemics, especially AIDS epidemics.

Conversely, many people have too much, or at least too much of the wrong things. A far larger percentage of the world’s people has too little iron, or too little vitamin A, or folic acid deficiency (a common cause of horrible birth defects). Even iodine, easily added to salt, is deficient in some areas (UNICEF 2002). The problems of hunger, of obesity, and of malnutrition are among the world’s most serious concerns. Diabetes, heart disease, cancer, and other diseases owe much of their prevalence to poor eating habits.

Humanity has succeeded—only recently—in providing food for everyone. Yet undernutrition continues. Much food is lost in storage or distribution. Most important of all, those who need it are the poor who cannot afford it.

Population growth threatens our hard-won food security. Environmental damage is a more serious and immediate threat. Most
unfortunate of all, however, are the wasteful eating habits of those who can afford to ignore the poor and the needy. Grain that could go to the poor is fed to chickens and cows. Too much farmland is producing luxury crops of no nutritional value. Too much of the world’s fish catch is thrown away because buyers accept only a few luxury species. Many people who should be eating fruits and vegetables are living largely on highly processed foods, especially bulk starch, oil, and sugar. In all these matters, we need better understanding so that we can provide better food and encourage better use of it (Brown 1995, 1996; Smil 2000). Environment can modify our needs somewhat but cannot change our basic biology; we all need protein, vitamin C, and so on, no matter what we think or believe.

Most studies of world food problems, until recently, concentrated on production and took consumption for granted. This has changed with the rise of nutritional anthropology (Bryant et al. 2003; Counihan and van Esterik 2007; Goodman et al. 2000; Goody 1982) and food history (Davidson 2000; Flandrin and Montanari 1999; Kiple and Ornelas 2000). This changes our understanding of what to do about world food problems. Until recently, the sober literature stressed producing more and convincing people to eat more healthily. Consumption determines what is produced by creating effective demand (i.e., basically, the actual buying or otherwise acquiring of food). Production and consumption determine each other. Thus, recent works often deal with the entire food system, looking at production, distribution, and consumption as part of a single process (West 2012). That is the approach used here. I follow a biocultural approach. This involves paying close attention to human biology, to culture, and to political economy, all at once—recognizing that all are necessary and important determinants of food systems (Goodman et al. 2000; Goodman and Leatherman 1998). The biocultural approach contrasts with narrowly biological or narrowly cultural ones. Foodways simply cannot be explained by simple nutritional considerations or by simple cultural ones, such as symbol, meaning, or text.

The alternatives to a biocultural practice theory are two. First, there are strictly ecological and economic theories that see foodways as determined by biology—human nutritional needs, instincts, and environment. Second, there are theories that see society and culture as monolithic structures, separate from biology and (usually) divorced from the
ordinary actions of mere mortals—who are expected to be the “bearers” of culture, not its creators. These two types of theory have dominated nutritional anthropology at various times in the past but are now rather widely seen as inadequate. We need to combine them into a biocultural synthesis to get at why everyone eats.

Society is made up of individuals interacting with each other to try to satisfy their various needs. “Culture” is a word used by anthropologists to refer to the rules, customs, and other shared plans and behaviors that result from this interaction. The understanding of society as interaction, and of culture as the knowledge that dynamically flows from that interaction, goes back to Kant (1978 [1798]), if not earlier; it was developed as a theory of society by the nineteenth-century Kantian social scientist Wilhelm Dilthey (1985 [late nineteenth century]) and his student George Herbert Mead (1964). My own understanding of it is practice oriented, and draws on theories of culture as practice (Bourdieu 1977, 1990 [1980]; Latour 2005; Lave 1988). I see both economics and ideas as growing out of practice—out of interactions that are repeated and repeated until people develop from these interactions the generalizations that we know as “foodways” or, more broadly, as “knowledge” and “culture.” Practice is structured by class, gender, ethnic, and regional identities, as well as by historical accident and incident, including sheer fads.

It is easy to understand why impoverished Mexicans ate maize until recently and have now switched (locally) to white bread; these were and are the cheapest foods available. It is not so easy to understand why slightly more affluent Mexicans love chiles, avocados, and tamarind. The chiles are nutritious as well as tasty, but they hurt the mouth, at least until one is accustomed to them. The avocados are nourishing also, but expensive, and they were a rather unpromising candidate for domestication when they were brought into cultivation thousands of years ago. Tamarind, a newcomer to Mexico from Asia, is sour and strange flavored—not the sort of taste one would expect to see spreading like wildfire among ordinary people. Nobody knows how it managed to do this in Mexico, especially since it is not popular elsewhere in North America.

Foodways provide us with an almost perfect case study in social theory. Unlike sex habits, they are easy to study. Unlike religion, they are
grounded in obvious biological fact; no one can deny the reality of food or of starvation. Unlike politics, they are not often the subject of highly polarized and violent debate. They rank with kinship—social scientists’ favorite institution for cross-cultural study—in being universal, well recorded, and usually highly structured.

Basic biology makes some regimens more likely than others; where grain abounds, people will rarely overlook it. No one will use strychnine as a staple food or construct a diet lacking in vitamin C. However, biological, economic, and ecological realities underdetermine foodways, except in desperate cases. Starving people will eat anything available, but anyone above the desperation threshold exercises considerable choice. Food is used in every society on earth to communicate messages. Preeminent among these are messages of group solidarity. Food sharing is literally sacred in almost all religions and takes on a near-sacred quality in many (most?) families around the world. It also carries messages about status, gender, role, ethnicity, religion, identity, and other socially constructed regimes. It is also, very often, used in even more finely tuned ways to mark or indicate particular occasions, particular personal qualities, particular hangups and concerns. It is subject to snobbism, manipulation, and debate. It has served as a source of metaphors for writers and artists from ancient Egypt and Mesopotamia on down to Marcel Proust, James Joyce, and D. H. Lawrence, to say nothing of films like Ang Lee’s Eat, Drink, Man, Woman. (If there is one omission I most regret in the present book, it is the lack of a section on food in art and literature; I am simply not qualified to go there.)

Many anthropologists explain cultural ways by recourse to functions—usually fairly simple, straightforward functions such as providing food, getting money, protecting the group, or keeping the society together (Malinowski 1944; Turner and Maryanski 1979). Optimal foraging theory (see Chapters 2 and 3) is a functionalist theory. Functionalists often see culture as an adaptive mechanism, allowing people to survive and reproduce. They are concerned with nutrition, mating, and child rearing, economics, social conflict, and harmony. Other anthropologists see culture as a complex network of symbols and symbol systems and see the anthropologist’s task as one of interpreting and explaining these meanings. They see culture as communication and representation. They are thus concerned with art, music, traditional
literature—in short, texts. Foodways, for them, become texts to interpret and analyze. Many, perhaps most, anthropologists see these explanatory styles as complementary, not exclusive. In general, the more they see humans as united by broad, general concerns based on common human genetics, the more they look toward biological functionalism; the more they see humans as dramatically different from each other because of profound cultural differences, the more they involve themselves with meaning and experience.

I see them as the two wings of the bird of social theory; without both wings, equally developed, the bird doesn’t fly. People everywhere have to deal with the full range; they have to get food and shelter, but they also have complex personal lives heavily informed by language and belief. Experientially and phenomenologically (to use the long words), people are simple functionalists sometimes, complex meaning generators at other times. One can follow Mennell et al. (1992) in classifying foodways explanations as functionalist, structuralist, or developmental (broadly historic and political-economic). However, structuralist explanations do not capture all the interpretive, meaning-based explanations in the field.

Humans are not simple, uniform, easily understood creatures. One corollary is that the present book is not tightly organized around one theme. A more unified work would ensue if foodways were all ecology (Harris 1985) or all political economy (as the Marxists hold) or all cognitive structure (Lévi-Strauss 1962). But they aren’t. Foodways can only be understood holistically, with every aspect of human life taken into account. Daily practice brings together many disparate determinants, from need for vitamin A to desire to emulate the rich and famous. Unity is provided by the fact that people must integrate into one meal, or one snack, or one shopping trip, the satisfaction of many needs: health, affordability, social and sexual life, a sense of control, and, last but not least, enjoyment. No computer on earth could run a program optimizing the satisfaction of all these. But people are brilliant approximators, and they manage to integrate all those goals—not perfectly effortlessly, but successfully enough for everyday purposes.

Many encyclopedic and comprehensive works on food already exist (notably Katz and Weaver [2003] and Kiple and Ornelas [2000]). I have tried to minimize repetition of easily available information. Standard
sources, including my own works, are not summarized in much detail. I have concentrated instead on less well known material and especially on my own observations and unpublished research. I have included as much as I can from my own experience—verifying published material when I could not do the research. This means that, among other things, China, Maya Mexico, and the Mediterranean area—the areas I know reasonably well—get a good deal of attention, while other areas—including India (for which, see Achaya 1994, 2002) and northern Europe (see Adamson 2002 and references therein)—get short coverage. I have included a good deal on hunter-gatherer foraging and on scent, but I have regretfully left to others the task of going in detail into matters like obesity and anorexia, where my expertise is not sufficient to allow me to add much to the many excellent works available.

One of the best ways to improve world nutrition is to pick up the best ideas from the thousands of cultures that humanity has developed. Each culture encodes a vast amount of knowledge of local foods: how to identify them, prepare them, grow them (if they are planted), and so on. We need to see “other people’s foods” as not merely exotic delicacies, to be eaten for variety, but as sources of ideas for saving the planet. The most cost-effective, time-effective way to broaden our food systems enough to insure nutrition through the twenty-first century is to draw on these vast existing stocks of knowledge. We have no guarantee that this will be enough to put us over, but at least it will help; we need to investigate all possibilities. “Valuing diversity” is a life-and-death matter.

If these sleeves of my black robe were only wider
I’d shelter all the people in this up-and-down world
—Ryokan (1996)
When I finished the first edition of this book, in the early twenty-first century, I was cautiously hopeful. The world was producing enough food. Distribution was improving. Structural reforms had forced many people off needed supports and hurt food production in some areas, but they had also freed up food production in many other areas. Above all, governments were showing some awareness that they had to take action to save key natural resources and to make food widely available and affordable or else face mass disasters.

The situation in the subsequent 10 years has been a disappointment, especially the economic crisis that began in 2008. Little has been done for farming.

The world food situation has unraveled, while governments have often—perhaps understandably—acted in ways that relieved short-term problems (or at least attempted to relieve them) while sacrificing long-term interests. World food supplies have been devastated by urbanization and erosion. Cropland and forest land has been sacrificed
to produce biofuels or to grow non-nutritious commodities, from sugar to palm oil (used largely to make biofuel or heart-damaging trans fats). Distribution has broken down in many nations as a result of wars often due to religious and regional hatreds. Structural reforms have run out of control; no longer freeing up economies, they have become ways of taking control by giant multinational corporations, often those most destructive to the food-producing environment (Anderson 2010b, 2012).

As pointed out over many years by Amartya Sen (1992), there has been enough food for all since at least World War II. Starvation and hunger are due to political decisions that simply deny consideration to the world’s poor, especially the world’s “invisible” rural poor—the people who live what Giorgio Agamben (1998) calls “bare lives.” They are forgotten by planners, especially in this time when even the rich are facing economic stresses. The world problem especially involves the “bottom billion” (Collier 2007), if not 2 or 3 billion.

Governments have retreated from commitments. Not only do they refuse to cope seriously with global warming, many refuse to admit that it exists—though it has long been settled science, and the denials that still circulate in the media are dishonest (see Oreskes and Conway 2010). The United States has not ratified the International Biodiversity Treaty, a baby step but a necessary one for beginning any serious program of coping with the future.

There are still plenty of natural resources in the world, but the day is now past when we can simply draw them down and use them without economizing or working for efficiency. The world economy since the Age of Discovery has found new areas, rapidly used their forests, waters, soils, and minerals, and gone on to the next area that could be conquered or colonialized. There is now no land left unclaimed or easily conquered, in spite of attempts by some crowded Asian countries to buy large tracts of Africa. The world economy simply has to change to one based on efficiency and good management. Yet the great agencies, such as the World Bank, International Monetary Fund, and World Trade Organization, are still too often devoted to mass-drawdown, mass-throughput economies. Suggested cures range from abolishing capitalism to setting it free of subsidies and controls, and from going back to organic farming to going on to a new, far more technological farming. These cures are discussed and evaluated—to some extent—in
the present book, but we really do not know the ideal mix. What we do
know is that the destruction of world water, soil, forests, fisheries, and biodiversity must stop now.

The world has faced many challenges before, and people have always coped—sooner or later. However, in many cases the coping was very late indeed, and the disasters on the way were appalling. One thinks of the fall of the Roman Empire in the West, the collapse of central Maya civilization in the 800s CE, the collapse of China in the 200s CE and again in the 900s CE, and the bubonic plague epidemics that ravaged the Western world in the medieval and Renaissance periods.

Such things are wholly preventable today. We know what is wrong and, in general, how to stop it. The treaties and technology are there.

Much of the problem is due to the economic decline—which, for billions of people, began long before 2008. Decline leads to increasing fear and stress. Those who deal with it by joining forces to attack other groups become more visible and usually succeed in the short run.

The purpose of this book is not to push any particular political agenda. We simply do not know enough to prescribe a perfect political-economic formula. Those who promote either socialism or capitalism as the answer to all problems do so in the absence of evidence. The one thing that emerges clearly from the historical record is that absolutist and totalitarian governments always fail to provide adequate food. But many governments of all political stripes have also failed. Grassroots efforts have better success records but are not a cure-all. Anyone committed to solving the world food problem must be skeptical and agnostic about political and economic solutions until further evidence comes in.

The response of the continental European nations to the last world depression, in the 1930s, was a mix of totalitarianism, corporate power, and bigotry: fascism. If the current economic doldrums worsen again and produce a real depression, we may expect the same on a worldwide scale; too many nations are already well along the path.

If, however, the world economy continues to grow, slowly but surely, we may be able to seize the opportunity to rebuild world food production capacity and potential. This would involve saving resources, helping small-scale and middle-scale farmers as well as (or even instead of) large operators, and greatly improving storage and distribution so that food gets to humans rather than being lost to rot and rodents. It would
involve greatly broadening the genetic base of our crops, to avoid the dangers and problems of a world food system based on only a handful of varieties of a handful of species. It would involve much more research on food safety and on the problems of obesity and diabetes. Above all, it would involve retargeting world food policy, including research, to benefit the wide mass of humanity.

As the economy recovers, the need is to look pragmatically and open-mindedly at what can actually help feed the world better. Too many grand political-economic plans and programs have failed. Efforts need to go into serious research, development, and education, not only in food production but also in finding out what policies are actually effective in fighting poverty, changing food habits, and raising hopes and dreams of a better future.

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