The Handbook of Food Research

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THE HANDBOOK OF FOOD RESEARCH

Edited by
Anne Murcott, Warren Belasco,
and Peter Jackson

With a Foreword by Sidney W. Mintz

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To Come

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Handbook—a compendious book or treatise for guidance in any art, occupation or study; *spec* a book containing concise information for the tourist

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focused on agricultural and environmental policy and politics. For much of the 1990s, he worked on farmer responses to policy and farmer knowledge. Recently, his major work has been on cross-disciplinary approaches to agri-environmental and land use issues in the United Kingdom. He is currently working primarily on food security-related issues. Michael's work has been funded by the Economic and Social Research Council, the Department of the Environment, Food and Rural Affairs, environmental agencies, charitable trusts, and local and regional authorities.

FOREWORD

The Handbook of Food Research commits its authors to a task that only looks easy. They have undertaken to figuratively cut several enormous slices out of a pie so huge that its circumference can hardly be imagined. By way of a foreword to so solid a scholarly enterprise, I would like to raise two questions that have been on my mind. The first is how to explain the lasting attention that food in all its aspects now seems to demand in life. The second is to ask what category is really comprehended when we speak of "food studies" or refer to a book or monograph as a "food study." The relevance of these questions to the present work is lively, I think, for this is a book meant to help readers, even those who may be unaware of the tsunamis of food research that now pound all our shores.

WHAT HAS MADE FOOD FASHIONABLE?

Need it be said that there is a vast difference between the importance of food in the life of a people, and consciousness of the importance of food in the life of a people? The importance of food is obvious. During nearly four centuries, starvation was a principal cause of the death of thousands of enslaved Africans on Caribbean sugar plantations. In the German siege of Leningrad, 1941–1944, more than six hundred thousand Russians starved to death. Mao's deranged experiment with the domestic production of pig iron led to the starvation of an estimated thirty-five million Chinese. Such is the horrific evidence of the vital and inescapable importance of food. Just as important, though less dramatic, is the slow and remorseless killing off, by malnutrition and disease-related weakness, of enormous living populations each day, seemingly inevitable (in principle avoidable) deaths that we know about—that Paul Farmer (2004) calls the results of "structural violence"—but of which we are nonetheless not quite aware enough.

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Consciousness of the importance of food, however, can take endless different forms. Some are deadly serious, some amusing, some useful—and some, well, not so useful. Attention to the writing, reading, and practice of cookbooks, the study of the domestication of everything from cows and llamas to microorganisms and fungi, to the sciences of agriculture and dairying, even to one's efforts to be the very first customer in the most fashionable restaurant, opened by the most renowned chef in the world, since last night—all and much else are aspects of our growing consciousness of food.

Looking back eight decades, though, we discern a different atmosphere. From 1929 to 1939, getting enough food was what people thought about. Then from 1939 until at least 1945, rationing was certainly what civilians thought about in the United Kingdom and the United States. The peoples of war-torn Europe and Asia suffered great privation, as well as injury and death. But as the horrors and effects of war receded and European agriculture and import systems were restored, the threat of famine in the West came to an end. Adequate food became the norm in Europe and the United States. By the 1950s food was viewed as a mundane topic—a subject fit for domestic science courses. There was at last *enough*, beginning with Boston baked beans, Campbell's Soup, and their equivalents elsewhere. In those years, being genuinely interested in food usually meant being too interested—too sensual or too indulgent. For males, caring about food and cooking, except for professional chefs, was a bit too effeminate; after all, most food was foreign, anyway.

Before the 1980s in both the United States and Britain (e.g., Mintz 1985; Murcott 2011), the social sciences were relatively uninterested in food. My discipline, anthropology, is illustrative. What follows is to some extent caricature, but what it says about the state of culinary ethnography is accurate. Most male anthropologists thought of food as women's work, hence best studied, if at all, by women. Male ethnographers disdained serious attempts to describe food in their fieldwork unless it had some other (usually ritual or religious) significance. Anthropology students were trained to study war, initiation, religion, kinship, social structure, and the economy, but rarely food itself. Female anthropology students worked mainly with the women in the societies they studied. It was often for solid reasons—in many societies male anthropologists are excluded from women's activities. But female anthropologists were sometimes encouraged too vigorously to study motherhood, the socialization of children, the aged, individual artists such as potters or weavers, and food preparation.

In our own societies, meanwhile, teachers of domestic science understood which sex they were supposed to be educating, and most such teachers were themselves women. Though the underlying ideology was less obvious among dieticians and specialists in nutrition—many of them men—food was underrepresented academically. Except for schools of agriculture, public health, food technology, and other parts of the business of food, food was not dignified academically. Outside of those fields there was in fact a yawning absence of solid information about food, and even about food systems.

But changes, some global in their effects, were unfolding. By the 1970s, the increasing interest in (and ease of) migration, the broader effects of nearly continuous wars, and the massive rise in travel would result cumulatively in making interest in foods

more fashionable. That was also the time when two-salary families were becoming normal. Shifts in familial responsibilities brought innovations in awareness. How people thought about a whole range of subjects was in motion. The role of food in family life—who produced it, who cleaned up and put the garbage out, when and with whom it was eaten—became contested. And as small shifts in these social settings began to effectuate change in what people were aware of, the foods themselves, and then their cuisines, would become more relevant indices of social hierarchical position, sophistication, and the status-linked power of knowledge about food. In other words, food was becoming as fashionable as it had been important.

For understandable reasons, during the 1980s the knowledge of food's immense importance was enriched by a growing popular consciousness of that importance. Food seen as a widely recognized item of fashion was becoming part of the broadening worldwide democratization of taste. Now, as the representation of food expands ever further into art, film, and literature—and electronically, into the most plebeian spheres of imagination and display—writers and critics continue to marvel out loud and on paper at this phenomenon. A speck on the screen in 1950, interest in food has persisted and grown. Fashion—as in art, vacation spots, high-end global conferences, and so forth—can be defined as that which is forever temporary. What seems to have long baffled observers of the fashion of food interest is its persistence. I do not have the answer to that question, because there were indeed food historians and other scholars of food before the 1980s. But here are some guesses.

To keep on living, organisms must do two things to hold their place in the evolutionary scheme of things: they must metabolize the substances that sustain them, and they must reproduce, so that the young of their own species will survive them, to reproduce in turn. Of course the human animal conforms to these realities; both processes figure powerfully in human existence. These underlying motors of life are usually referred to as drives or instincts, structurally determined and species-wide—the hunger drive, the sex drive. They also may be called wants or hungers, appetites or lusts—to refer to much else that humans desperately crave to achieve. But only these two drives, sex and hunger, are demonstrably built in.

Setting these drives apart from all others is not enough for my purpose here. The ways in which they differ from each other is significant. I begin with the wonderfully concise assertion of the great British anthropologist of food, Audrey Richards. She writes: "The impulse to seek food is, after all, a desire that cannot be inhibited or repressed, at any rate beyond certain limits. Unlike the drive of sex, it is a periodic urge, recurring regularly every few hours" (1932: 1). The two motors that typify all life are hugely powerful, but they are also hugely different. Unthinking youths believe sex is the more powerful drive. I would tell my students that if they thought the sex drive was more powerful than hunger, it was because they were young and too well fed; I urged them to prove me right simply by fasting for thirty-six hours or so. In her statement, Richards might also have noted that hunger is a lifelong drive. Sexual urges may also be lifelong; reproductive sexual activity is not.

Because these drives are so deeply rooted in our flesh, uneven but metaphoric symmetries between sex hunger and food hunger and their satisfactions may seem as natural as are our inclinations to repress them (Mintz 1996: 7–11). Such metaphors turn up in the crude figurative language of people in many different societies and may be universal. No doubt they arise from our distinctive human reflection upon our own bodies and the incessant life activities of those bodies. Many movies and novels lend to such metaphors the look of being intuitively accurate. After all, eating and reproduction are life's two inescapable commitments. Yet the differences between them are immense.

For there to be eating, food must be acquired, must be produced. Sexual *activity*—in contrast to what eating entails—requires little beyond desire. But there is surely no confusion about consequences; and symbolic meanings are not the same as material consequences. Hunger, like thirst, the "periodic urge, recurring regularly every few hours," is utterly imperious. And because we humans can and do symbolize about everything, the difference between these urges is tied tightly to that hunger that is the most frequent, the most insistent—the hunger that always had to come first, and still does. Now, though—at least in the West—most people have enough to eat.

It is in the sphere of representation and communication, such as fashion, the press, cinema, the electronic media, literature—in the ways people think—that food has steadily gained on sexuality in its richness of imagery. I would argue that this is probably an accurate reflection of changes in the way food is experienced as a necessity. At the same time—during the past half century—sexual mores have been changing. The term "gastroporn" may be relevant here. It has in its favor how ordinary people, at least in the United States, have changed the ways they think about sexual behavior, sixty years since the first issue of *Playboy Magazine.*

BY WHAT NAME IS FOOD RESEARCH TO GO?

Trying to find out what "food studies" means by enumerating the topics that are about food runs the risk of merely surrounding the subject; our list threatens to become infinite. Even as we ponder the words, what is food-related spreads outward before our eyes, less like words and more like the house paint that advertises itself as covering the earth. If we talk about microorganisms that populate our bodies and help us digest, we may also think of those that poison our food, as well as of those that ferment it. If we think of fermentation, we find ourselves remembering beer, salami, yogurt, sauerkraut, or cheese. If we write of cheese, must we not deal with the domestication of food animals? If we talk of sauerkraut, must we not talk of *kim chi*? And *kim chi* leads us to the capsicums, among them those that yield the paprika so beloved in Spain and Romania, the "hot" ones that stretch from Sichuan, India, and Senegal, back to the origins of all the capsicums in the Americas. Back, that is to say, to the greatest exchange of foodstuffs in world history. From Old to New, there were the cows and sheep and goats, and then the ecological dangers of too many grazing herbivores, and the red meat diets, *gauchos,* and corned beef of Argentina. From New to Old, there was the maize, potatoes,

tomatoes, the cashews and Jerusalem artichokes, the chocolate and vanilla, ending up here and there, yielding remarkable new flavors to local genius. And from maize as food to maize as fuel, and on to world hunger, potatoes and the Irish famine, not to mention food security, soymeal, KFC, and McDonald's. And so far, not so much as a word about *Babette's Feast*, Tom Jones, Julia Child, *The Iron Chef* anorexia, gluttony, eating horses, eating persons, breast feeding, eating algae, eating earth, baby formula, and by that route, it seems almost inevitable, back to the other powerful instinctual drive, sexuality. How can we claim that food research—in the social sciences and humanities as much as in the other sciences—lies within a "field" if the field can be stretched so far?

The methods used to realize what are usually (in the United States) called food studies do not stand apart from other kinds of research. The authors of a dozen books arguably describable as "food books" may well be using methodologies as numerous and as different as the books themselves: ethnobotany, cooking, the history of agriculture, the biochemistry of fermentation, and so on. In contrast, a subject defined as a discipline, such as chemistry or mathematics or English literature, is bounded by its methodology, the ways its scholars learn more. Such disciplines take their shape from the specificity of their methods. We have no difficulty in perceiving that those methods are applicable to the study of food, much as they would be to a wide variety of other subjects. They are not only about food; they are about a specifiable range of phenomena, our understanding of which they can help to advance. Much the same may be said of history and anthropology, quite different disciplines that can also serve to advance our understanding of food, though in different ways.

But a number of fields of study that are not disciplines, strictly speaking, have been integrated into university curricula, not because they boast a distinctive methodology, but because they have been responses to changes, needs, or crises in the society of which they are part. After World War II, for example, the American academy developed a good many programs in what were called area studies, more or less explicitly engendered by the invention of the Cold War. It seemed at times as if the entire globe had become a new theater of war; academia was encouraged to follow along. Such area studies programs did not have a distinctive or new methodology. Instead, disciplinary specialists drawn from particular existing departments became participants in area studies programs, while continuing to use the methodologies of their respective disciplines, at times interdisciplinarily.

The pressures and tensions of domestic relations may lead to programs in a similar way. Thus the civil rights battle in the United States played a part in the rise of African American studies programs on numerous campuses. Though the basic issue behind these programs was political and social equality, they were attacked as intellectually dubious, partly because they seemed to lack a distinctive methodology. But those who would teach in the new programs came from traditional disciplines, such as history or anthropology, and would demonstrate the intellectual validity of the field by their work in those disciplines. No need for courses in black mathematics, but intellectually defensible courses in African history and philosophy, the roles of African Americans in the

Civil War, the cultures of the enslaved in the New World, and ethnic and racial discrimination, taught by historians, philosophers, anthropologists, and sociologists.

The issue of method bulks large in this contemplation. Must every field of inquiry require its own distinctive method to win acceptance? It bears noting that there were no intrinsic intellectual reasons why the social sciences, for example, should have been divided into the *particular* disciplines they now comprise. In many places to this day anthropology remains nested within sociology. What is more, a field like geography, which surely has its own methodology, has stopped existing altogether in most of the United States. In the United Kingdom anthropology as known in the United States does not exist. The four traditional anthropological subfields (physical anthropology, archaeology, linguistics, social or cultural anthropology) are all taught in the United Kingdom, but each is taught and studied by different groups of scholars and students. The methodologies of these subfields are fundamentally the same as in the United States (or elsewhere). The four subfields did not grow apart; in Europe, they had never formed a single discipline. These are relatively new disciplines in academia, but I do not think older ones were immune to similar experiences.

Many scholars of the nineteenth century actually deplored the rise of the separate disciplines. To the extent that the disciplines were dedicated to studying the same phenomena, the divisions seemed unjustified and arbitrary. In other words, the conventional divisions of knowledge and its pursuit cannot be fully explained or justified on the basis of traditional academic organization alone. But there is no gainsaying the significance of scientific advance, further specialization, new ways of thinking about old phenomena, and new political pressures, such that a novel coalescence of research interest can inform and justify intellectually what had not been a field (let alone a discipline) before.

To break new ground in the search of greater understanding in all the sciences (the social sciences and the humanities among them) requires only that those who teach and do research employ the methodologies they already know to discover and explain phenomena heretofore unexamined or, for other reasons, simply unrecognized. I believe that those of us represented in this volume take that to be the case.

Sidney W. Mintz

A Burgeoning Field: Introduction to *The Handbook of Food Research*

ANNE MURCOTT

This timely book is, as far as is known, the first of its kind.[1] Spanning the highly differentiated field of research on food across history and the social sciences, *The Handbook of Food Research* complements other encyclopedias, dictionaries, and handbooks on food history (e.g., Kiple and Ornelas 2000), the anthropology of food (e.g., Watson and Klein forthcoming, a companion volume to this), cultural geography (e.g., Atkinson et al. 2005), and food studies (e.g., Albala 2013) among others.[2] Some, like Albala's, are written for students entering graduate programs; others, such as Poulain's *Dictionnaire des cultures alimentaires* (2012) or Andrew Smith's *Oxford Encyclopedia to American Food and Drink* (2004),[3] are also geared to the interested general public. *The Handbook of Food Research,* however, is primarily intended for practicing researchers, academics as well as graduate students, chiefly but by no means exclusively in history and the social sciences. Its principal purpose is to provide a view of the overall state of play for anyone involved in and actively engaging with *research* on the social, political, economic, anthropological, psychological, geographical, and historical aspects of food. Ranging across boundaries within and between the disciplinary perspectives implied in that list, it presents a *tour d'horizon* attempting to provide a novel as well as authoritative survey of the field.

Making this book timely is the recent and widely remarked burgeoning of such research, from the Nordic countries to New Zealand, the United States to the United Kingdom, and, lately, Latin America (e.g., Gómez 2008), India (e.g., Devasahayam 2005), and beyond. Even more timely is the sense that this burgeoning field has reached a critical point at which a survey of so substantial a body of existing work is not only worthwhile in its own right, but has the potential for simultaneously providing a solid grounding for future progress in research. Testament to this growth over the last

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two or three decades is the formation of associations and convening of annual conferences specially dedicated to the academic study of food,[4] the proliferation of master's degree courses,[5] and the establishment of book series.[6] Perhaps even more significant is the foundation of journals dedicated to research on food: notable examples include *Ecology of Food & Nutrition* (1971), *Food Policy* (1975), *Appetite* (1980), *Food and Foodways* (1985), the online journal *Anthropology of Food* (2001), *Food & History* (2003), *Food, Culture & Society* (2004), (previously *Journal for the Study of Food & Society* 1996), and also *Petits Propos Culinaires* (1980) and *Gastronomica* (2001)[7] (see also Le Heron, Chapter 2, this volume).

Consolidating the impression of growth is the publication of review articles (e.g., in anthropology: Messer 1984; Mintz and Dubois 2002; in anthropology and sociology, Murcott 1988) and edited collections in anthropology (e.g., Watson 1997), geography (e.g., Munton 2008), and history (e.g., Claflin and Scholliers 2012; Jacobs and Scholliers 2003; Pilcher 2012), as well as those ranging across disciplines (e.g., Belasco and Scranton 2002; Cheung and Tan 2007; Du Bois, Tan, and Mintz 2008; Grew 1999; Harvey, McMeekin, and Warde 2002; Kuper 1977; Maurer and Sobal 1995; McMichael 1994; Nuetzenadel and Trentmann 2008; Wilk 2006a; Wu and Tan 2001), together with readers (e.g., Counihan 2002) and a proliferation of textbooks (e.g., Atkins and Bowler 2001; Beardsworth and Keil 1997; Belasco 2008; Booth 1994; Jerome, Kandel, and Pelto 1980; McIntosh 1996; Mennell, Murcott, and Van Otterloo 1992; Ogden 2003 [2010]; Whit 1995).[8] Furthermore, there is the emergence of important institutional developments represented by the funding of large-scale multiproject research programs in, for example, food history in Belgium[9] and across disciplines in agriculture on the production/supply side in the United Kingdom[10] and New Zealand,[11] with a further two in the United Kingdom, one on the consumption/demand side,[12] and another straddling both[13] (see Murcott 2011).

Particularly striking is that, from around the mid-1970s, authors of a small spate of additions to the literature introduced their work by proclaiming its novelty and/or noting the neglect of the study of food. This is noticeable in history as well as several other social sciences. So Johnston opened his book on a century of British eating with the remark that it was "somewhat surprising to find that in the past historians have devoted only scant attention to this *basic necessity* of life" (Johnston 1977: xi; emphasis added. See also Spary 2005). A couple of years earlier, Bringéus (1975) mentioned a similar oversight in anthropology. The twin theme of neglect and novelty continued into the 1980s and 1990s in both the United States and the United Kingdom: again in anthropology (e.g., Robson 1980) followed by sociology (e.g., McIntosh 1996; Murcott 1983a; Wood 1995), with Beardsworth and Keil even entitling the first chapter of their textbook "Food and Eating: A Case of Sociological Neglect?" (Beardsworth and Keil 1997: 1).

New variants of such proclamations appeared: Teuteberg announced that a 1989 conference held in Münster was "the first international symposium which dealt exclusively with the problems and development of food conditions in Europe since modern

times and especially, with their scholarly interpretation" (Teuteberg 1992: x). Other social sciences presented their own versions. Bell and Valentine observed that "[T]he geography of food has thus far concentrated on production . . . There is a need to expand on this, and think about the geographies of food consumption" (Bell and Valentine 1997: i). In the introduction to Flandrin and Monanari's extensive collection of essays on culinary history, Sonnenfeld risked a food metaphor, declaring that "[C]ulinary history has moved to the front burner . . ." (Sonnenfeld [1996] 1999: xv). Social psychologists commented on the significant attention social scientists had paid to food for a couple of decades (Connor and Armitage 2002: ix), a view echoed in Watson and Caldwell's apt summary that "[S]ince the early 1990s, the study of food has moved from the margins to the center of intellectual discourse in the English-speaking world" (Watson and Caldwell 2005: 1). And as recently as 2007, Rozin drew a fine distinction between well-established food-related work in psychology in general (see Wansink 2006 for a popular summary of earlier such work), as opposed to underdeveloped investigations in cultural psychology (Rozin 2007, but see also Capaldi 1996). A year later, "recognition of the neglect of food and drink in organization studies" prompted a special issue of the journal *Human Relations* (Briner and Sturdy 2008: 907).

this typo has just been noticed - the name is Montanari (the 't' is missing)

This catalog of rapid development, never mind the litany of self-consciousness,[14] provides the springboard for the remainder of this chapter—with the important proviso that none of this is to deny that research on one or other aspect of food is "naturally" built into many disciplines' long-standing foci.[15] While a detailed historical analysis of the scholarly trends sketched here has yet to be written—it is perhaps still too early even to begin such work—it may turn out to represent a typical case of the way academic specialties emerge. Many of the elements of such a case—as proposed by Merton (1977)—are already detectable, including attempts at borrowing across disciplinary boundaries (e.g., Barker 1982; see also Lien and Nerlich 2004) or calls for their dissolution (e.g., Counihan and Van Esterik 1997: 1), the coalescing of new scholarly communities (as the creation of associations already mentioned illustrates), and the preparation of programmatic statements and manifestos (e.g., Nestle 2010; see also Jackson 2010 and Belasco et al. 2011).

That the new growth is unexceptionably described as *burgeoning* mirrors a self-lubricating, almost palpable sense of enthusiasm and commitment that the apparently sudden growth of meetings, associations, and publications (never mind online lists and blogs) can generate. But, as will be seen, the novelty is both real and apparent, profound and superficial. Precursors risk being under-recognized; reference to earlier work becomes highly selective and the nub of their contribution unaccountably neglected. So, in attempting to provide a novel and authoritative survey of the field, the *Handbook* aims not just to review some origins of the field, but in the process to reappraise those earlier beginnings. That way it attempts to provide a reconfigured and refreshed grasp of the current state of play, the more securely on which to build future research. This introduction looks to the past by way of embarking on a tour of the state of the art presented in this *Handbook.* It endeavors to prefigure its purposes, indicate the book's

intellectual origins, comment on its coverage, and describe the way it has been put together—beginning with a view of the background from which it emerges. In so doing it presents a short rereading of some, and only some, of the prehistory of the burgeoning field as a backdrop not just to recent developments, not just to the arrangement of the book's parts, but also to the undergirding rationale for putting together *The Handbook of Food Research.*

BACKGROUND TO A BURGEONING FIELD

The story, then, has a twist—one of a type that may also be "standard" in the emergence of new subspecialties. For, despite those signs of a burst in wholly new research departures, it is possible simultaneously not only to uncover the juxtaposition of claims to novelty with declarations of long-standing interest,[16] but also to find evidence of longevity. Usefully, this twist makes the idea of a dateably burgeoning field more obvious, and its early beginnings in, very roughly, the mid-1970s provides the starting point for sketching its background here. Outlining it necessarily benefits from hindsight. How far it was easily knowable at the time (before, of course, the availability of electronic databases or Internet searching) to a historian or social scientist newly embarking on research on food is not easy to reconstruct. Nonetheless (in addition, as already mentioned, to preexisting attention to food production and consumption in disciplines such as agricultural economics or psychology, especially clinical psychology), there were notable and significant contributions already available in both the United States and the United Kingdom: in the historiography of food and agriculture (e.g., Aron [1973] 1975; Forster and Forster 1975; Tannahill 1973; Thirsk 1957; Van Stuyvenberg 1969; Wilson 1973; Woodham-Smith 1962), with more by the end of the decade (e.g., Forster and Ranum 1979; Revel 1979; Root and de Rochemont 1976); "classics" in anthropology (de Garine 1971; Mead 1943, 1970; Richards 1932, 1939; Simoons 1961; Wellin 1953); cross-disciplinary conference proceedings (e.g., Fenton and Owen 1981); and a major research program in southern Illinois on foodways and culture (Bennett 1942; see also Redfield and Lloyd Warner's contribution to the 1940 USDA Yearbook *Farmers in a Changing World*).[17] In addition is Salaman's 1949 study of the potato, which, in the words of Hawkes, who revised it for republication in 1985, ranged across "anthropology, archaeology, botany, potato breeding, agricultural history and economic and social history" (Hawkes 1985: ix).[18] And not to be forgotten are the long-standing investigations in the psychology of eating disorders, whose pre-mid-1970s history is detailed in Bruch (1973).

The rest of this section divides to indicate what was readily available (typically as book-length treatments rather than "buried" in journals) by the mid-1980s, tracing precursors to the recent growth in historical and social scientific research, mentioning some forerunners in considerable detail, simply logging reference to others. Roughly chronological, it proceeds extremely selectively, picking out what, for many, are familiar landmarks (even if perhaps infrequently taken together) that presaged significant shifts in

research orientation, helped establish analytic attitudes, or signaled new lines of inquiry in the burgeoning contributions to come—landmarks chosen too to illustrate enduring themes and interests that remain evident alongside newer concerns in recent research discussed in this book. Food historiography is considered first, thereafter the origins of agri-food research, followed by attention to a key debate about studying food in anthropology, each foreshadowing the first three parts of this book (the fourth part is considered in the final section of this introduction). That the three are separable in this fashion is not, as could be supposed, a function of the way the discussion here is organized, but the reverse—a reflection of the state of the literatures in the mid-1970s to mid-1980s.

THREE LANDMARKS IN THE HISTORIOGRAPHY OF FOOD

Three works stand out: two by academic historians, one by an anthropologist. Writers of food history have not necessarily been trained historians or located in university history departments—as the coverage of this *Handbook* illustrates.[19] A feature of the field its future historians will have to think through is the intellectual implications of the variety of disciplines involved in addition to crossovers between those trained in one discipline but whose research roves into another's territory. A corollary also to be pondered is that correspondingly, not all readers are trained in the discipline of the work they are reading. Arising from a normal assumption, what an author intends, even if clearly stated, may not be fully appreciated in the same way by readers. The latter's dispositions, interests, or purposes may mean they pick out some components and set aside some, while completely failing to notice others. In those instances when readers are from different disciplines, this type of normal selective reading may arise in the idiom of disciplines. As a result, readers in varying disciplines may see different things in the same text from one another. They may co-opt what they read for all kinds of purposes or interpret them in a way the author may not have intended (or possibly not even noticed until later). Whether or not it is possible to detect if this is exactly the case here may be debated on another occasion. But to give one example, not only does Sidney Mintz's *Sweetness and Power: The Place of Sugar in Modern History* join John Burnett's *Plenty and Want* and Steven Kaplan's *Bread, Politics and Political Economy in the Reign of Louis XV* as the three major landmarks discussed here, *Sweetness and Power* turns up again as a mainstay of the anthropological debate considered later.

Published earliest of the three, John Burnett's (1966) social history of diet in England spans well over a century—"from 1815 to the present day." The two-volume study of the politics of bread production and consumption in prerevolutionary France by Steven Kaplan (1976) deals in close and meticulous detail with barely more than twenty years of the eighteenth century. Almost a decade later, Sidney Mintz published *Sweetness and Power: The Place of Sugar in Modern History* (1985). Though differing in several profound ways,[20] all three introduce topics that are significant not simply in the history of food, but that *remain* significant in the various social scientific approaches to the study of food represented in this book: urbanization and provisioning the city (e.g., Scholliers

and Van Eeckhout, Chapter 3); scarcity and want (e.g., Messer, Chapter 22; Midgley, Chapter 25); regulation in the food supply (e.g., Marsden, Chapter 7; Pritchard, Chapter 9; Campbell, Chapter 10); attention to the public's trust in food provision (e.g., Kjærnes, Chapter 24); and technological developments in the home and in food processing (e.g., Truninger, Chapter 4), among many others.

"Plenty and Want"

Like others, in a book that ran to two later, revised editions (Burnett 1966, 1979, and 1989), Burnett expressed surprise at the neglect of the history of food, with no "serious attempt" to study "the changes that have taken place in man's basic needs," pointedly adding "since Britain became an industrial society" (Burnett 1966: 9). The significance of the Industrial Revolution (which of course first took hold in England) for food, both in access to supplies as well as for its production, is so familiar it risks, at times, being underestimated. To this oversight, Burnett attributes the rise of several myths about food of the past that veered from crude—an idea that the Victorian era was some kind of golden age of cheaper, more plentiful, and more wholesome food than before or since—to more sophisticated—the view that the 1870s marked a point when the cost of basic foods fell sufficiently to allow the working classes to buy what had until then been thought of as luxuries—to one that he considered enjoyed continued currency at the time he was writing—that rural dwellers able to grow their own vegetables or keep a pig could eat better than those living in the towns of the early industrial revolution.[21] And it is to dispelling these myths that he attends in his book, able to show that for instance neither did the working class diet improve to any appreciable degree nor did the wholesomeness of the food supply until the twentieth century—and that the worst fed of all nineteenth-century workers was not the urban dwelling factory hand but the agricultural laborer.

His book is a chronology of changes in patterns of eating, access to food, and its availability and is of a piece with his abiding interests in related topics. One such is the nineteenth-century adulteration of food,[22] pursued in part to demonstrate that previous historians' assumptions of the stability in the quality of commodities was ill founded. In the process he was able to dispel another mid-twentieth-century myth: that earlier periods' foodstuffs were purer (see Atkins, Chapter 5, this volume). A second was a concern with the nineteenth-century cost of living (Burnett 1969) in England, which, in part, led him to study diet as an indicator of its history. He also addresses the interests of governments in the state of the population, picking up what alarmed late nineteenth- and early twentieth-century authorities in Britain so greatly when they discovered far too many recruits to the army were in such poor health and sufficiently badly nourished they had to be rejected. Burnett makes the sharp observation that the remedy put in place for the discovery of widespread "C" ness (too many classified as unrecruitable grade "C") was less the result of any concern for people's health and more to allay "fears grounded upon concern for national safety" (Burnett 1966: 271). All the same, the remedy, which was to appoint a commission[23] that reported in 1904, is still seen by

historians as the origin of UK school feeding, medical inspections, and welfare measures tackling mal- and undernutrition, which represent models of their kind (see Smith, Chapter 23, this volume, and for comparison with developments in the United States, see Levenstein 1988 and Levine 2010).

Bread in the Reign of Louis XV

Echoing the desperate contrasts between hunger and sufficiency of Burnett's title, Kaplan's point of departure is his observation that "[T]he subsistence problem dominated life in old regime Europe in a merciless and unremitting way" (Kaplan 1976: xvi). What he calls "cereal dependence" meant that subsistence was a pressing concern of the state and the people alike. Failed harvests, rising prices, and shortage faced people with hunger and starvation, simultaneously entailing the sort of economic disarray and social disorder that threatens governments. "In the crudest terms, it can be said that fear of the people commanded attention to the people's fears" (Kaplan 1975: 677). Kaplan's study brings together investigation of the intricate interlocking of markets and regulation, policy, and the policing (in the broad sense of the word of the period) of food-producing trades—farmers, millers, and bakers—as well as of attitudes and preoccupations of the public (consumers). His work also proffers a methodological comment on a particular kind of neglect in the history of food. The historical record tends to be fuller for major upheavals of history, which, he argues, has led historians to overlook the banal in everyday life of which daily eating—whether or not under the continued shadow of the threat of shortage—consists. Attempting to secure a suitable grasp of the mundanity of eating is a thread that continues to run through studies (especially in sociology) of everyday food buying and consumption (Warde and Gronow 2001; also see Holm, Chapter 18, and Julier, Chapter 19, both in this volume).

There are, then, several legacies of rereading Kaplan's study. Particularly striking is Kaplan's insistence that his study demonstrates the emergence of a new consciousness of the problem of subsistence that replaced an earlier sense of the futility of efforts at keeping shortage and hunger at bay. A new "subsistence consciousness" was created that was both political and scientific, creating a space in respect of the latter for imagining and initiating research on topics as diverse as dietary habits, the nature of subsistence, trade reforms, bread making, and milling technology. He points out that, apart from limiting the risk of riot, the state also has an interest in a properly fed populace in that it is thereby likely to be more productive (of both goods and children) and thus earn more, pay more taxes, and so enhance national prosperity.

Noteworthy too is that his work transcends—or does not need to notice or be troubled by—a division between production and consumption, in part because a food processing and manufacturing industry had, comparatively speaking, barely begun to develop. Furthermore, his work is one among myriad reminders that the dread of dearth and the threat of hunger is *normal* for most of human history, as well as for many nowadays both in the global South in addition to those in the well-off North. Being able

to assume the easily accessible super-abundance of a Western-style supermarket or the niches of artisan foods and farmers' markets is peculiar to distinct population groups over a very short historical period indeed.

"The Most Remarkable Upward Curve"

During that extremely short period, sugar production's remarkable increase, greater than the growth of any major foodstuff on world markets, had, even after several centuries, not yet peaked. When Mintz published his book in 1985, he declared the trend "is continuing upward still" (Mintz 1985: xxi). How, he asks, did sugar move from being a medicine in late medieval Europe, a costly luxury so enjoyed by Elizabeth I of England that her teeth were reputedly blackened as a result, to being a rare and expensive necessity for the English gentry, to "supplying nearly one-fifth of the calories in the English diet" (Mintz 1985: 6) by 1900? As he explains, however, he did not begin his study by posing those questions quite like that. It is significant that his thinking about sugar began from the time he embarked on his research in the late 1940s in an area of Puerto Rico wholly given over to sugar cane cultivation for the American market. His research at the time was conceived more as a community study where the main industry happened to be sugar production, with relatively little sense of the historical investigation it was to become. In this fashion, his fieldwork started from the production end of things, with his familiarity with the everyday consumption of sugar like that of any other young American of the time—unremarked and unremarkable. But over subsequent decades Mintz came to ask a succession of questions as to how the two ends of this particular chain came to be linked: "following production to where and when it became consumption" (Mintz 1985: xv). Thought in such terms necessarily leads to thoroughgoing attention to history.

Mintz notes that he came to history not as one who could answer questions historians might pose, but as an anthropologist with a particular view of what his discipline could offer. And along with taking the ahistorical nature of earlier anthropological work to task, he argues that the study of so homely a substance as sugar in the late twentieth century can help an understanding of the world in which those who spoon it into their coffee are now living. In the mid-1980s, Mintz dared contend that "the social history of the use of new foods in a western nation can contribute to an anthropology of modern life." As noted in the final section of this chapter, this is one form of motivation for social scientists and historians to take up the study of some aspect of food.

THE "NEW RURAL SOCIOLOGY" AND THE EMERGENCE OF AGRI-FOOD RESEARCH

Paralleling developments in the historiography, the emergence of agri-food research as a distinct (sub-)field is also marked by contributions from those trained in different disciplines, including geographers, political scientists, policy analysts, and sociologists. Again

a matter for future historians of the divisions of research, it remains to be understood whether this reflects shifts in each discipline at large, or whether it is prompted by novel and urgent developments in agricultural production newly requiring research attention, a combination of both, or something else altogether. As will be seen in a moment, Buttel (2001) suggests that one spur was the upsurge of Marxian politics in the academy in the 1970s, a period where the following brief account begins.

Debunking myths of rural life recurs in Howard Newby's pioneering sociological study of the class position of agricultural laborers (Newby 1977, 1980a). But in a short offshoot of that study, he focused specifically on seeking to dispel the myth "of the agricultural worker's access to vast amounts of food paid in kind and/or to sources of food which are peculiarly wholesome and untainted by 'industrial' processes" (Newby 1983a: 31). His brief chapter is divided into two sections that are at such different levels of generality that at first sight they might seem to belong to separate articles. The first is a detailed ethnographic report of the routine shopping and eating habits of the Hector family—the pseudonymous agricultural laborer's household in which Newby lodged while undertaking his fieldwork—contrasted with the second, a schematic examination of the changing structure of food production in Britain at the time and the role of agriculture within it. The latter summarizes the corporate concentration in agricultural inputs and in the food processing industries, showing too the movement toward wholesale and retail distribution evident at the period, in short, "from agriculture to agribusiness" (Newby 1983a: 36).

The juxtaposition of the two parts of his chapter allows Newby to illustrate several ironies, noting first that, unlike the majority of the population, farm workers[24] are engaged in *both* the consumption and the production of food. Yet, far from having better access to food than their counterparts living in towns and cities, agricultural workers obtained their food in much the same way as everyone else. And, in like fashion, meal patterns and menus in that household looked much the same as those in urban working-class households across the rest of Britain.[25] Limited availability of and access to public transport (and no private car) meant the household relied heavily on smaller, family-run shops in the nearby very small town where prices were some twenty-five percent and more *above* those of urban supermarkets (whose ubiquity was not so great in the late 1970s and early 1980s; cf. Hallsworth, Chapter 15, this volume).

The retail sector that served this and other rural households geographically remote from larger town centers lacked the volume of sales to deal directly with food manufactures/processors, unlike the supermarkets. As a result, they relied on local smaller trade distributors, which in turn obtained their goods from the same corporately owned major wholesalers who dealt with processors. Newby notes the point so familiar now: because of vertical integration along the production chain (with the wholesalers commonly also the processors), economies of scale could be enjoyed by major retailers in a position to negotiate directly on bulk-buy terms unavailable to small shops, who incur greater costs that end up reflected in the final prices of their goods on sale to the public. Jack and Doreen Hector, Newby reports, were very well aware of the markup on their

essential food supplies, but they were baffled rather than angry at the contradiction that, although daily engaged in food production in his working life, Jack and his family had to pay more than those who lived in cities far removed from the countryside and farming. Even agricultural workers' position in food production gave them no better understanding of its modern organization than their urban counterparts—the opacity of food chains being a recurrent theme through several of the following chapters.

Apart from his prescient concluding observation that "agriculture will continue to become organised according to non-agricultural criteria, on the assumption that agriculture is merely a disguised form of manufacture" (Newby 1983: 44), Newby's contribution is crucial to any consideration of the background to current research on food (see also Lowe 2010). For he is credited, in Buttel's view, with a pivotal role in a "dramatic change of course during the mid- to late-1970s and 1980s" in "[R]ural sociology in North America and Northern Europe" and with coining the phrase "the new rural sociology" (Buttel 2001: 165). This set of new theoretical and empirical directions in which Buttel himself also played a central part is widely regarded as the progenitor of the subsequent decades' work that fits under the rubric of agri-food (agro-food) research (Pritchard, Chapter 9, and Campbell, Chapter 10, this volume provide additional detail of the intervening history). Buttel and Newby's earlier collaboration presented an agenda for this change in direction toward agrarian political economy—including focus on "the structure of agriculture in advanced capitalism, state agricultural policy, agricultural labor regional inequality, and agricultural ecology" (Buttel and Newby 1980a: 15). A final item in their list covers environmental problems of agriculture—including very high demand for energy and a tendency for what is now described as intensive agriculture to result in "severe environmental degradation, especially soil erosion and chemical contamination" (Buttel and Newby 1980a: 17; see Winter, Chapter 11, this volume).

Can this be redone to reposition [R]ural on one line?

Not to be forgotten is the inclusion in their edited collection of translation into English (by Jarius Banaji) of selections of Karl Kautsky's *On the Agrarian Question,* a work published in 1899 that was neither completely translated nor widely available at the time (see Marsden, Chapter 7, this volume). As Buttel notes, neo-Marxism in any case enjoyed considerable renewed attention in the 1970s, and Kautsky's political economy of agriculture promised a means of dealing with several analytic questions prominent at the time (Buttel 2001). On the face of it, his work was prophetic: lodging analysis of supplying food in relation to industrial development, seeking to analyze the shifting balance between industrial (urbanized) manufacture and industrializing (rural) production, the transformation of agricultural production into agribusiness and agro-industrial production, as well as the application of chemical sciences to food production—including a view on the preindustrial import for peasants' survival of "soil exhaustion" in years when harvests were bad (Banarji 1980: 44).[26] The significance of Buttel and Newby's new research agenda is that its emphasis centered "on socioeconomic consequences of technological change in agriculture" (Buttel and Newby 1980a: 18). Self-evidently, any discussion of change requires serious analytic attention to history,[27] a vital perspective in the later

stages of the anthropological debate that in the process moves the center of attention from production to consumption—considered next.

A MAJOR DEBATE AMONG ANTHROPOLOGISTS

Claude Lévi-Strauss held that for food to be good to eat (*bonnes à manger*), food has to be "good to think" (*bonnes à penser*)[28] (see Alexander, Gille, and Gregson, Chapter 28, this volume). His concern is to understand a universal of human thought (if not the human mind, *l'esprit humain*). Something has to be thought of as food for it to be culturally defined as edible, for a person to eat it willingly (see the observation made by French physiologist Tremolières [1970]). Thus is picked out a human tendency to accord symbolic significance to phenomena, including and especially what is counted as food, a tendency with many ramifications: allowing food to serve as a medium of communication; to highlight systems of cultural classification, whether of people in relation to nature, of animals in relation to people, or of eating to social groups, occasions, and foodstuffs themselves, along with the associated sets of rules, prescriptions, and proscriptions (see Leach 1964). (In)famously, Lévi-Strauss also attends to cooking, a universal and distinctively human activity. He formulated his "culinary triangle" couched with reference to linguistic categories (Lévi-Strauss [1965] 1966). Thereby he sought to analyze the application of heat and other transformations of raw ingredients (rotting, fermentation) as part of the process whereby items become definable as something to eat, belonging to the world of human beings rather than of wild animals. He argues that thus is represented a way of grasping the reflexive human apprehension of the duality of people's character as both "civilised" and "biological" beings, "cultural" and "natural" (see Leach 1970).

The culinary triangle attracted varying degrees of skepticism, from Leach's (1970) ambivalence—evident when presenting a sympathetic exposition that also talks of a game of acrostics and intellectual gymnastics—to sharp criticism (Farb and Armelagos 1980: 238; Mennell 1985). Goody accorded it detailed and careful inspection, and in an extended and considered critique, points out the formulation's inattention to change over time, the relegation of phenomena such as links between cooking and family economy to the level of the unconscious, never mind selective reference to the ethnographic literature (1982). In these respects and more besides, Goody's own study of cooking and cuisine (1982; see Klein and Murcott forthcoming) cogently isolates limitations of earlier work, in particular in his attempt at a cross-cultural and historically situated investigation of the differential emergence of a high cuisine in some societies but not others. Although infrequently cited, his work deals with a great many of the themes and debates that presaged discussions to come in the later rapid growth of the field.

Despite such misgivings, Lévi-Strauss' formulation is nonetheless of a piece with a mid-1960s interest in the metaphorical dimensions of food and eating (e.g., Barthes 1961). Some elements have a *prima facie* plausibility; differences in meanings attributed to menus for feasts as distinct from everyday meals, foods for women rather than men, dishes especially appropriate for the elderly or infirm, or foodstuffs deemed especially

luxurious are readily recognizable. And although reference to Lévi-Strauss' work is rare nowadays, the symbolic import of food and eating remains a leitmotif of discussions of food consumption, eating, and identity (see Ray, Chapter 21).

A sensitivity to the attribution of meaning to food and eating was developed over a parallel period by Douglas, whose work appears to have a more durably explicit influence (see Julier, Chapter 19, this volume). Like Lévi-Strauss, Douglas presents her analyses with reference to some sort of code whereby meaning and the symbolic are to be deciphered. She too incorporates linguistics into her analyses of eating conventions (see especially her dissection of the dietary laws of Leviticus), notably those prescribing the structure of a meal. So within what is counted as a meal are patterns held to be repeated between courses, found to be repeated in weekday versus weekend menus, and between routine as distinct from feast day meals such as Thanksgiving, birthdays, or Christmas (Douglas 1972; Douglas and Nicod 1974). Powerful echoes of this work persist, reflected in subsequent interest in recounting patterns of meals and mealtimes among, be it noted, not only social anthropologists, but also sociologists and those with an interdisciplinary purpose (e.g., Douglas 1984; Fjellstrom 2004; Kjærnes 2001; Mäkelä 2000; Meiselman 2000; see also Jerome 1980).

By the mid-1980s, however, it was possible to describe the contours of a major and explicit debate in the discipline between contrasting analytic approaches of varieties of structuralism (considered to verge on idealism or mentalism) represented, among many others, by Lévi-Strauss and Douglas, and versions of materialism that obtruded into studies of food. Marvin Harris published a strongly expressed counter, which he deliberately entitled *Good to Eat,* to the dictum that foods are "good to think." Opposing Lévi-Strauss' structuralism, he proposed a plainly presented version of materialism: "[T]here are generally good and sufficient *practical* reasons for why people do what they do, and food is no exception" (Harris 1986: 14; emphasis added). His book presents a succession of instances of what in the words of his subtitle are "riddles of food and culture." What human groups strive to eat—especially meat—in other words, what is good to eat, is, on the whole, better for health and more nutritious, more cost-effective, and more calorie-effective than what is deemed bad to eat. "Food," he declares, "must nourish the collective stomach before it can feed the collective mind" (Harris 1986: 15), providing an important (and arguably overdue) reminder of the fundamental importance of the realm of the material.

Harris' book appeared a year after Mintz's *Sweetness and Power.* As well as representing a significant contribution to the historiography in the background, Mintz's book also provides a new perspective on the risk of some sort of structuralist versus materialist impasse. Like Harris, Mintz regards the material as prior to the symbolic, but unlike him, he is not just less inclined to be dismissive, but accords far more weight to the significance of the symbolic. And it is this conjunction that makes his contribution to the debate so especially important: decoding rituals, whether of cooking or meals, he agrees, is indeed necessary, but, he adds, it is vital to "decode the process of codification, and not merely the code itself" (Mintz 1985: 14). The analysis must include material

circumstances that make codification possible. When trying to understand the shift in so short a time of so prodigious a consumption of sugar, the question becomes not just what did taking sugar mean to people for whom it had become an essential dietary component, but what purposes did it serve and what were the uses to which it was put. Meaning is thus consequent upon activity.

As already considered, the history could not be ignored any more than could the astonishing, four-hundred-year shifts in the meaning of sugar in Europe. But in inspecting the history, Mintz is at pains to bring together supply and demand—the political economy of sugar cane cultivation, plantations and slavery, colonialism, and technological developments in processing on one hand, and on the other, the gradual change in meaning from luxury among the very privileged to sugar's becoming an accompaniment among lower social strata to those other exotic imports to Europe of tea, coffee, and cocoa. The history of supply inevitably encompasses demand—even though for presentation purposes he is obliged to split the discussion in his book into production and consumption—for analytically, the two must go together in accounting for the complex processes that contribute to one another's generation. Demand induces supply, supply lubricates growing demand—and supplier-induced demand must never be forgotten.

PRECURSORS' THEMES

The landmarks picked out for rapid rereading signal several of the enduring themes evident in the research effort that burgeoned from the late 1980s onward. Over and above theoretical debates, arguments for new research directions, meticulous attention to detailed archival research, the major substantive themes in the contemporary historical and social scientific study of food are securely established: industrialization and the agricultural question; rapid urbanization and provisioning of cities; the emergence of agribusiness and the adverse environmental and nutritional consequences of industrialized food production; the opacity of the hugely extended length of modern food chains; the persistence of scarcity and want; the interests of the state, regulation, and public trust; the meanings of food and the symbolic significance of forms of eating. And overall, the need to study the socioeconomic consequences not as static but changing phenomena in an informed, historical context.

Further, a rereading such as that presented here highlights lessons to be learned from studies otherwise thought less relevant—even though it deals with only two decades in eighteenth-century France, Kaplan's book illuminates a great many concerns that have relevance for studies of other places at other times, including the present. Again, some read *Sweetness and Power* as if it is "just" a food book, while others classify it "only" as either history or anthropology, seeing the same text through different disciplinary eyes. Though it can indeed serve separate purposes, apprehending a duality in a contribution can equally be instructive. There is a case for saying that Mintz's study is a major landmark in its own right. What makes it so is, in part, for some, an idiosyncratic anthropology treated as an offshoot of history. In part too it derives from the analytic

conjunction linking supply and demand that is coupled to detailed attention to history, all integrated into a theorized apprehension of the material conditions responsible for creating the circumstances in which the symbolic may arise. It brings together most of the items on that list of enduring themes into a single investigation. For the same reasons, the work also represents a sort of capstone to the perspective on the background of food research in history and the social sciences sketched in this chapter.

That it is accorded this kind of pride of place here is firmly not to endorse concentrating on a single item that happens to be emblematic of myriad socioeconomic, political, and symbolic dimensions (whether it be Mintz's work on sugar or Kaplan's on bread) as somehow *the* answer to assuring a suitable mode of investigation. Nor is it to think that landmarks have no shortcomings just because detailing them may be beside the present point. Neither is it to adopt a form of history that proceeds merely by praising the famous or to assume that a field develops simply and solely by individual forbears' efforts: as already noted, it is supported by a range of institutional arrangements including journals, conferences, and newly established courses. Nor too is it to overlook the importance of subsequent theoretical and methodological elements newly applied to aspects of the study of food—for instance inspiration from the multidisciplinary field of science and technology studies (STS) and the increasing interest in actor-network theory (ANT) to augment apprehension of the material as well as the symbolic (e.g., Campbell, Chapter 10; Alexander, Gille, and Gregson; Chapter 28, both this volume). Yet in its efforts at bringing all these elements together into analytic purview, *Sweetness and Power* appears to be relatively rare. For as this swift view of a selection of precursors to the newly burgeoning field indicates, development was patchy, with a scatter of topics, methodological attitudes, and technical approaches as well as some blurring of disciplinary boundaries, with quite distinct compartmentalization also evident. Except for the very occasional instance (e.g., Mennell 1985), attention to work on aspects of food in psychology or in agricultural economics incorporated into the continuing general research in those academic arenas hidden behind disciplinary palisades seems to have been negligible among contributions readily identifiable as precursors.

As suggested previously, an historical analysis of the scholarly trends outlined in this chapter has yet to be written. Much has had to be omitted here—notably the hugely influential contribution to history and beyond of the Annales School in France (see Braudel 1984, 1992), even though Forster and Ranum (1979) put together their invaluable collection, which itself has remained oddly overlooked. In any case, continuing to trace intellectual lineages becomes more perilous as it moves nearer the time of writing when developments are still under way and their significance not yet apparent. There is a danger too in that the sheer volume of material grows apace, with the result that the nature of the enterprise becomes increasingly complex and difficult to envisage dispassionately adding to the risk of becoming (even more) invidious. Finer grained detail of the history of a research effort on a specific topic together with the emergence of theories and methods are provided as additional background in the following chapters. But

It possible, please break this after compartment leaving 'alizatio n' on the new line

sketching the backdrop to the burgeoning field pauses at this point, to remain open-ended until future historians of the field continue or rewrite it.

In the meantime, to supplement the remainder of the *Handbook,* this section ends by attempting to help the interested reader find a way into the field that has grown so rapidly since the mid-1980s. Summarized here is a very short, indicative list of reviews, dictionary entries, encyclopedias, and edited collections together with a striking article or two (not mentioned elsewhere): Timmer, Falcon, and Pearson's (1983) discussion of food policy that aims to provide the necessary analytic tools for dealing with the complexities of developing adequate domestic food policies; Zubaida and Tapper's (1994) collection of essays on Middle Eastern culinary cultures; Appadurai's (1988) analysis of the invention of a national cuisine; Gordon's (2000) thoroughgoing coverage of eating disorders and their sociocultural contexts; Pennell's (2000) ingenious use of early modern sources; Grignon's (2001) shrewd observations on commensality; Counihan's (2002) reader on American food and foodways that brings together seminal articles by U.S. researchers; Fairburn and Brownell's (2002) handbook on the psychology of obesity and eating disorders; Katz and Weaver's *Encyclopedia of Food and Culture* (2002); Gardner and Rausser's *Handbook of Agricultural Economics* (2002); Rappaport's (2003) lively, popular discussion of appetite and the culture and psychology of eating; Burch and Lawrence's (2007) edited collection of articles on supply chains and retailing; Ogden's (2007a) review of diet and health; Inglis, Gimlin, and Thorpe's (2007) interdisciplinary four-volume collection of reprinted articles; Cook's summary of recent geographical and related research (2011); Warde's encyclopedia entry on eating (2012); Klein, Pottier, and West's account of recent anthropological work of food (2012); Anderson's (2005) accessible anthropology of food; Carolan's (2012a) textbook; and Lavis and Abbots' collection of interdisciplinary conference papers aimed at redressing an undue emphasis on the symbolic by incorporating the material into the study of food (2013).

CHARACTERIZING A BURGEONING FIELD

Serving as brief reflection on the "straws in the wind" among which this book has evolved, the previous section sketched a view of antecedents to the burgeoning of the field. But in referring to "the field," the discussion thus far risks begging the question: what the field is has been subsumed under a very wide designation of history and the social sciences, deliberately assumed rather than specified. So doing, however, offers the prospect of some purchase on divisions and overlaps, different names,[29] and varying coverage; it might even be preferable to refer to burgeoning fields in the plural. It was against this background of unevenness and limited amount of intellectual debate about theoretical approaches or about research design and method across the board that *The Handbook of Food Research* was imagined. Very often, research appeared to proceed in complete isolation, uninformed by relevant (and from time to time superior quality) research in other parts of the field. Indeed exposing that this can be so is one of the rationales for putting this book together, in the hope that making parts evident to each other allows future

researchers to learn from others and incorporate into their own work superior insights from previously unknown research efforts. Four separate features of this unevenly developed, compartmentalized arena are noteworthy: the profound division between research on food production and consumption; the relation between disciplines; the geocultural bias of the existing research effort; and the absence of researched boundaries between food and other substances human beings ingest—a feature considered first.

In fixing on food as the object of investigation, an artificial line is drawn. Yet the boundaries between food and drink (alcoholic and nonalcoholic) and between food and drugs (pharmaceuticals, licit and illicit use), remedies and nourishment (see Foust 1992; Helman 1981) are not simple (nutraceuticals and functional foods representing just one set of instances); neither is taking them for granted always intellectually desirable. Apart from what may be considered aberrations, such as pica (Abrahams and Parsons 1996; Strungaru 2007), things other than food go into the mouth: betel leaf, khat (Anderson et al. 2007), and tobacco for chewing; implements for smoking; toothpicks (see Petroski 2007); and chewing gum (Redclift 2004) through to the products of small children's nose-picking habits (MacClancy, Henry, and Macbeth 2007), surrounding all of which are various etiquettes of varying kinds in varying cultures in different historical periods (Elias [1939] 1978). These are somewhat akin to eating the inedible that arises *in extremis*, the "bark bread" of earlier-era famine in Finland (preserved in a jar in a nutrition department museum), the desperations of sieges such as Leningrad in World War II along with other wartime shortages (Matalas and Grivetti 2007). Overlooking them risks indefensibly sidelining investigation of the very definition of food—Schwabe rehearses the cross-cultural variability in the parts of animals deemed (in)edible in his *Unmentionable Cuisine* (1979), and see, of course, the early geographical work of Simoons (1961). But empirical research investigating the range of those boundaries appears to await fully systematic exposition, review, and analysis.

A second aspect of the compartmentalizing of the field is the obvious and very deep division between research on food production and food consumption. In key respects, this is part of a wider debate about the relationship between economy and culture—which too frequently entails the false and facile equation of production with economy and consumption with culture. It remains notable that so much research on production and on consumption proceeds cut off from the other's literatures to such a degree that it is tempting to describe it not as isolation but insulation (e.g., Kinsey 2001). Calls for rapprochement remain relatively few and far between. Those there are tend still to see one or other side from their own perspective, or do no more than juxtapose reviews of the differing literatures (Goodman and Du Puis 2002; Lockie and Kitto 2000; Murcott and Campbell 2004; see also Lockie 2002, as well as Freidberg 2004a). Some prospect is afforded by thinking in terms of food chains (see Pritchard, Chapter 9, this volume), but even here it often amounts to little more than putting work on different parts of the chain between the covers of one volume (Belasco and Horowitz 2008; Inglis and Gimlin 2009). Investigations that straddle this divide in terms of a thoroughgoing and nuanced understanding of the research literatures on each side look to be still some way

in the future—a prediction for which there may be good reason given the institutional organization of the academy (and educational systems) into different disciplines—a third feature of the unevenly developed field.

Given food's nature as a basic human necessity, research on it would seem *prima facie* to require the contribution of a multitude of disciplines. Calls for multidisciplinarity are not new, neither are claims to have achieved it. There are, of course, significant distinctions to be made between multi-, inter-, cross-, and transdisciplinarity, which need little rehearsal here. But for some, going beyond borrowings however powerfully illuminating—as Mintz's *Sweetness and Power* illustrates—by those in one discipline from the methods and literatures of another or doing more than simply juxtaposing research undertaken by different disciplines (e.g., Atkins and Bowler 2001) does not yet seem to be happening. Camp put it pointedly: "The contemporary history of foodways scholarship does not reveal a great willingness of researchers to share methods, or even vocabulary" (Camp 1982: 289). The obvious obstacles include fundamental epistemological and ontological differences, different traditions in research procedure and what is to count as research, contrasting traditions of favored genres and writing style for publications,[30] never mind differences in the importance accorded by politicians and publics to one rather than another set of disciplines reflected in the differential access to funding that may result. In recognition that several of these obstacles need to be overcome to achieve tangible movement toward interdisciplinarity, a significant attempt at doing so has become a prime intention of one of the major UK research programs mentioned earlier. RELU is breaking new ground in its radical approach that includes the unprecedented cooperation among discipline-based funding agencies (Phillipson and Lowe 2006). In addition, the difficulties of peer review across disciplinary boundaries, where finding properly qualified reviewers is almost by definition hard if not impossible, has been explicitly tackled (Lowe and Phillipson 2006; see also Harvey 2006). Here may lie real prospects of effectively straddling the division between research on food production and consumption, but they are still embryonic.

A further and very noticeable feature of the lopsided development of the field is its geographical bias. It is not only the result of incomplete knowledge of the literature that most of the research discussed so far has been conducted by researchers based in Australasia, Europe, and North America. This is one relatively easily identified characteristic; simple counts of the institutional affiliation of authors of edited collections and handbooks is a crude but telling indication. This bias has potentially momentous consequences for the core of the research effort itself via the very terms in which it is couched. If some of the social scientific contribution to the literature suffers from inattention to history (and may stand guilty of presentism or, as some prefer to put it, hodiecentrism), the whole field risks entrapment in a fairly fundamental version of ethnocentrism even if it may, for the moment, be impossible to evade completely.

The matter is not peculiar to research on food, and is unlikely amenable to remedy in just one research arena. Originating in Europe, the academy itself has its own history and geography, as does the emergence of fields of study now named as disciplines

(along with the very word *discipline* itself), and English is now the single, international language of science. Rozin's generalizations about the contrasting meanings of food in India versus the United States (2007), together with his observation that had academic psychology begun in India it would have looked very different (Rozin 1997), rehearse the anthropological truism Goody put succinctly when he noted that it is self-evident that, unlike mathematics, social scientific research is carried out in the language of the researcher—and, he might have added, the data themselves come in different languages, making internationalized research very different from mathematics (Goody 1982). Certainly it is possible to translate words from other languages into the researcher's own, and by borrowing terms try to avoid importing ideas from the researcher's own cultural background to describe another's culture. But, Goody goes on, "translation is not the issue . . . It is a process in which we are only too liable to give our folk-concepts or metaphors a universal significance" (Goody 1982: 26 and see Jackson and the CONANX group 2013).

Had the word *choice* not become embedded in neoclassical economics, perhaps the expression *food choice* would not have taken root among late twentieth-century researchers (and policy makers) as if it were a neutral term[31] (see Dickinson, Chapter 26, this volume) any more than would the word *consumer* (which has its own history; see Trentmann 2006a) have been adopted as if it were no more than a synonym for person, citizen, or member of the public, and no more might the word *convenience* be limited, often pejoratively, to highly processed foodstuffs and ready meals/television dinners. Had much of the research effort not emanated from among members of well-fed privileged social groups, perhaps the underlying assumptions and selection of topics for research in the West would look different. It is likely, perhaps, that the number of pieces of work on farmers' markets, on drives for "local" food, on illegal if daring activism such as "dumpster diving" (Edwards and Mercer forthcoming; Eikenberry and Smith 2005), or the extent of "cooking from scratch" (deemed worryingly low), coupled with (over)reliance on industrially prepared meals, all of which are found among a tiny minority, would have a less disproportionate relation to their incidence let alone to the importance of feeding a whole populace.

Certainly recognizing the implications of geocultural bias in the field helps make the case for a distinct and necessary outlook among researchers in the social sciences and history of food. Such an outlook entails taking great care not to adopt popular terminology uncritically or to take it for granted, but instead making it part of the research task to complicate the vocabularies to which their (publicly funded and publicly disseminated) projects may be heir. A case in point is the general designation *ethnic*—and with it the now widespread unremarked designation *ethnic food.* Such usages only make sense when two differing groups with differential access to power need to name one another, with the less powerful typically designated *other,* that is, *ethnic.* Popular terms also promulgated by food marketing have their own history, commercial and/or political purposes, and fluidity. As Cook and Crang (1996) point out, foods become "exotic" as meanings attributed to them change in the process of moving from everyday object

packed by low-paid workers to more expensive specialties on the shelves of Northern supermarkets.

A BURGEONING FIELD: THE ARRANGEMENT OF THE BOOK

No single book can compensate for such wholesale diversity and compartmentalization of a field or provide a solution/resolution of deep divides. Although in limited mitigation the *Handbook* does include chapters on drink of all kinds (see Brennan, Chapter 20, this volume; see also Banwell 1991; Burnett 1999, 2004; Fenton 2000; Hartley 1964; Holt 2006; MacAndrew and Edgerton 1969), as well as on the hitherto commonly overlooked topic of food waste (Alexander, Gregson, and Gille, Chapter 28, this volume, but see Goody 1982).[32] This book's objective is more circumspectly to display and attempt to represent something of the variation. Its four parts reflect and repeat such divisions—virtuously in one respect in the insistence from the book's very earliest beginnings on the need to start with history and historical perspectives. Entitled historical *essentials* to signify a bulwark against the tendency across the social sciences to take an unduly shallow historical view, six chapters are devoted in Part One to an array of historical considerations.[33] Between Part Two, seven chapters under the heading of *Frameworks of Provision: Production and Distribution,* and Part Three, eight chapters headed *Buying and Eating,* the troublesome division between production and consumption looks as if it is being reproduced, but both parts to some extent encompass the production and consumption of food as well as overlapping interconnections. The seven chapters of Part Four cut across these divisions in turning to *Contemporary Issues, Problems, and Policy.* Amounting to an ambitious enough aim, the *Handbook* attempts to provide an innovative contribution to the further development of historical and social scientific research on food by presenting a point of departure as well described as possible; one that, ideally, no new investigations can ignore. As already noted, volumes such as this can be neither comprehensive nor exhaustive. Moreover, for readers and editors alike, there are several possible ways of approaching the organization of such a venture.

From the outset, the editors decided that the *Handbook* would comprise original, specially commissioned pieces; the starting point, given the disparate state of the field, had to be to work from strengths—primarily a combination of known experts on one hand and more fully developed arenas on the other. This does not, of course, mean that there are not missing topics that deserve social scientific investigation (such as the boundaries between food and drink and food and drugs already listed), but they are arguably still too sparsely represented in the literature to merit fuller treatment. The brief provided to contributors asked that one way or another their chapters cover the following: the history of the emergence of research on food in the relevant discipline/subfield; identification of key scholars contributing to its development and an exposition of their main contribution; presentation and description of the various main research approaches, theoretical and methodological; key debates and major gaps as well as a sense of direction for future research. There was, however, no expectation that authors slavishly conform

to some regimented format. Rather, they were encouraged to write in the clearest, most engaging, but, above all, most scholarly and authoritative way that suits them best—or, put another way, that brought out the best in them. And contributors were made aware from the outset that editing would be active—chapters went through at least one often extensive revision, sometimes more. Each chapter is devised to be readable as a stand-alone piece. References are consolidated at the end of the whole volume, thereby representing an extensive bibliographic resource in its own right.

A BURGEONING FIELD: CONCLUDING OBSERVATIONS

This sketch of trends leading up to conceiving and compiling this *Handbook* has, thus far, omitted any mention of a crucial feature of the overall research effort: namely the types of rationale researchers offer for electing to study food in the first place. Simplistically put, they are twofold. One kind focuses on food as a way of studying other topics of interest. The second seeks to address and help solve societal problems. They are not mutually exclusive (as efforts to classify research on a scale between "basic" and "applied" illustrate; see OECD 2002). Somewhere between the two, a common enough rationale has been described as strategic, aiming, for instance, to provide "good" (that is, adequately studied in the style of basic/pure research) reasons for "bad" behavior (that is, that which governments, public health, and agriculture educators consider ill-advised) (e.g., Burton, Kuczera, and Schwarz 2008; Shahar et al. 2001).

Increasingly widely used to describe the former is the declaration that food offers a "lens" through which to study social institutions, economic issues, or features of political organization. It is a view found among social scientists (see Jackson 2009; Wills et al. 2008; also see, for example, Vegard and Raghavendra 2006 or Broadway and Stull 2010) as well as historians (Scholliers and Claflin 2012: 1).[34] The idea is not new: "[F]or anthropologists for whom 'holistic' study is assumed, it has long been 'impossible' to imagine studies of marriage, exchange, or religion that do not consider food" (Watson and Cauldwell 2005: 1; see also Camp 1982; Fortes and Fortes 1936). In any case, research, in principle, is to build on as well as to work against earlier contributions—even if it means seeming to start all over again by, as Geertz put it, going back "better informed and better conceptualised…[to] plunge more deeply into the same thing" (Geertz 1973: 25). So doing is rather more clearly represented in Buttel and Newby's recreation of a research agenda based in part on a criticism of researchers' acting as servants with an unduly accommodating attitude to practitioners—professional educators, agricultural program administrators, and economists (and for another angle on the relation between research and service to a constituency, in their case the hospitality industry, see Mitchell and Scott, Chapter 13, this volume).

Their discussion is a reminder that the relation between "science and society"—between researchers and policy makers, politicians and those dealing with or suffering problems—has to be repeatedly reviewed and rebalanced. As Arnott noted, the impetus for her work was, yet again, renewed attention to the enduring threat

of hunger: "[I]n an age of abundance as early as the 1950's anthropologists were aware of the diminishing supply of food to feed the world's increasing populations" (Arnott 1975: ix). Four decades later, the position is far worse, with the "perfect storm" Messer (Chapter 22, this volume) refers to—also invoked by the UK's chief scientist in 2009[35]—preceding famine in Somalia in 2011. The final group of chapters in this book (Part Four) puts together a disparate and small selection of topics dealing with contemporary issues and problems. Here are discomfiting juxtapositions that represent ironies and inequalities in the "age of abundance" to which Arnott referred: obesity (Ogden, Chapter 27, this volume; see also Guthman 2011; Guthman and Du Puis 2006; Sobal and Maurer 1999a, 1999b) and waste (Alexander, Gregson, and Gille, Chapter 28, this volume; see also Evans, Campbell, and Murcott 2013); population and the food supply (Tiffin and Salois, Chapter 8, this volume); famine and food insecurity (Messer, Chapter 22, and Midgley, Chapter 25, both this volume; see also Pottier 1999); nutrition science and nutrition policy (Smith, Chapter 23, this volume) that offer just a glimpse of twentieth-century national and international efforts at feeding the world properly—jarring juxtapositions that persist alongside others not touched on here, from molecular gastronomy or the competition for Michelin stars to well-publicized campaigns demanding attention to major challenges in the food system by journalists and food writers such as Colin Tudge (1977), Derek Cooper (1967), Joanna Blythman (2004, 2006), Felicity Lawrence (2004, 2008), Graham Harvey (2006), Michael Pollan (2006), Eric Schlosser (2001), and Tristram Stuart (2009).

Researchers live in a society where, to paraphrase Raymond Firth, getting food occurs in breaks *between* work, whereas in nonindustrial society getting food *is* the day's work (Firth 1973). Researchers' society is one in which J.K. Galbraith observed some time ago that "[I]t is not necessary to advertise food to hungry people, fuel to cold people, or houses to the homeless" (Galbraith 1993: 96–97).[36] In her historical research on the Great Famine of 1959–1962 in China, Zhou Xun reports in detail what happens when desperate people are starving. People become selfish; they steal, cheat, and lie. They fight; husbands with wives, sisters with brothers, resorting to violence over a piece of bread (Zhou forthcoming). "The famine," she writes "was a direct consequence of the Great Leap Forward, Mao's attempt to achieve full communism and economic progress instantly" (Zhou 2012: x).

While her observation may reasonably be taken as an indictment of the political ideology involved, it is not only under such regimes that famine can be caused by human political, social, and economic interventions (see Woodham-Smith 1962). In any case, such judgments are beside the point here. For present purposes in the context of a book dedicated to exposing the workings of *research* on food, Zhou's work, like Kaplan's for eighteenth-century France, underscores the manner in which food is never just about nutrition, or the industrialization of farming, or individual choices, or the high proportion of new products that fail to sell, or the pictures of starving pot-bellied children used in campaigns for donations to aid agencies, or a symbol of group inclusion/exclusion, or the introduction of *sous vide* equipment for the home kitchen, or gross inequalities in

access to adequate "healthy" foodstuffs, or the glossy cookery books of celebrity chefs, or the achievements of supermarkets in selling safer food. It is always also, as this *Handbook* illustrates, about the economic, geographical, psychological, social, and political realms that historians and social scientists strive to makes sense of in their research.

NOTES

1. For their conversation about and comments on earlier drafts of this chapter I am greatly indebted to my coeditors, Andy Balmer, Hugh Campbell, David Evans, Nicola Frost, Richard Milne, Sid Mintz, Virginia Olesen, Anne Pyburn, Lindy Sharpe, and Harry West—all of whom are absolved of responsibility for the final version. Faults are mine alone.
2. See Farndon and colleagues (2012) and Southerton (2011), both of which include entries on food.
3. See Davidson's *The Oxford Companion to Food* (2006, Oxford).
4. For example, the Association for the Study of Food and Society; the Agriculture, Food and Human Values Society; the Australian and New Zealand Agri-Food Research Network; the British Sociological Association's Food Study Group; the Canadian Food Studies Association; the International Commission for Research into European Food History; the International Food Choice Conference, to add to longer-established examples such as The Oxford Symposium on Food and Cookery, and the International Commission on the Anthropology of Food. URLs are not provided, since they tend to change; details are most readily found by typing these names into a search engine.
5. For example, courses at: the University of Adelaide, www.adelaide.edu.au/food-studies/; School of Oriental and African Studies, University of London (SOAS), www.soas.ac.uk/anthropology/programmes/maanthoffood/; Indiana University, www.indiana.edu/~foodsci/; New York University http://steinhardt.nyu.edu/nutrition/food/ma/.
6. For example, Ashgate's Critical Food Studies under the editorship of Michael Goodman and University of California Press' California Studies in Food and Culture under the editorship of Darra Goldstein.
7. And see the *American Journal of Agricultural Economics* (1919), *Environment and Planning* (1969) (which gradually expanded to four stand-alone journals that carry contributions from geographers and agri-food researchers), *Agriculture and Human Values* (1997), *Rural Sociology* (1936), *Sociologia Ruralis* (1960); see also the *British Food Journal* (1899) and the *International Journal of Gastronomy and Food Science* (2012).
8. About which the future historians of the field will need to consider competition, changes, and mergers in the book publishing industry, along with the late twentieth-century enlargement of university student populations.
9. For example, "European Culture and Identity: Diversity and Convergence in Food Habits c.1800–c.2000," Vrije Universiteit Brussel (VUB) research fund GOA43, 2005–2009 (see special issue of *Food & History* 10(1) [2012]) and "Omnivore Paradoxes in History: Food Traditions and Novelties in Europe since 1800," VUB research fund GOA69, 2010–2014, both directed by Peter Scholliers.
10. Rural Economy and Land Use (RELU) Programme, directed by Philip Lowe, University of Newcastle, funded by the Economic and Social Research Council (ESRC), Biotechnology

and Biological Sciences Research Council (BBSRC), and the Natural Environment Research Council (NERC).

11. Agricultural Research Group on Sustainability (ARGOS), a longitudinal study of farms and orchards in New Zealand hosted by the University of Otago, Lincoln University and The Agribusiness Group, funded by the New Zealand government's Foundation for Research, Science and Technology 2003–2018.
12. The "Cultures of Consumption" Research Programme, 2002–2007, funded by the ESRC and the Arts and Humanities Research Council (AHRC) and directed by Frank Trentmann.
13. " 'The Nation's Diet': The Social Science of Food Choice" Research Programme, 1992–1998, funded by the ESRC and directed by Anne Murcott.
14. Which continues in, for example, the call for papers for the Eighth Annual Assembly of the Canadian Association for Food Studies: "At the Edge: Exploring the Boundaries of Food Studies," June 2013, University of Victoria, British Columbia.
15. For instance, social history's concern with the relation between standards of living, agricultural production, food supply, and mortality; social anthropology's preoccupations with religion, the sacred, and the cultural significance of food and eating together (Mintz 1985: 4); early social reformers' researches on poverty (Rowntree 1901; see also Orr 1936 and Smith, Chapter 23, this volume); economists' investigations of demand for food as for any other good or service; psychologists' work on perception, motivation, and other determinants of behavior, as well as clinical applications to psychopathologies of ingestion, to mention just a very few (see Rozin 2007). In any case, many of these disciplinary preoccupations overlap and intersect with well-established concerns in other sciences, obvious instances being branches of biomedicine such as nutrition, epidemiology (e.g., the "Whitehall Studies" directed by Michael Marmot at University College London), and public health (e.g., McKeown 1976, 1985). In the case of nutrition, John Yudkin's work initiated a subdiscipline he called "social nutrition," explicitly co-opting the contributions of anthropology, sociology, and social psychology, among others, when setting up the first British bachelor's degree in nutrition in 1953. At around the same time, he initiated a cross-disciplinary seminar that continued for at least three decades (see, for example, Barker, McKenzie, and Yudkin 1966; Geissler and Oddy 1993; Oddy and Miller 1976, 1985; Yudkin and McKenzie 1964).
16. "I was starting from scratch. Subsequently I have discovered that to be partially untrue" (Whit 1995: xi; see also Watson and Cauldwell 2005: 1).
17. See Wansink, who has resurrected earlier work for inspection (2002).
18. Regarded as an early example of what decades later was dubbed "single commodity" studies by journalists and food writers (e.g., Kurlansky 1998, 2006; Wild 2005), chemists (e.g., Laszlo 1998), historians, and social scientists (e.g., Coe and Coe 1996; Cook 2004; Fischer and Benson 2006; Foust 1992; Friedland, Barton, and Thomas 1981; Harvey, Quilley, and Beynon 2002; Smith 2001; Terrio 2000; Walton 1992), to name only a few—see also Kopytoff (1986).
19. The trend for histories of food to be written by those other than trained historians and/or those not located in universities was already established: studies of the history of food in England by Drummond and Wilbraham (1939) (for discussion of Drummond's role as a scientific adviser to the UK Ministry of Food during World War II, see Smith, Chapter 23, this volume) and Hartley (1954) (expressly written for cooks) are among the best

known. This trend continues with work by independent scholars, journalists such as Christopher Driver (1983) as well as Waverly Root (1958), and food writers, for example, Colin Spencer (2003), histories of food in Australia by Michael Symonds, a restaurateur at the time he wrote *One Continuous Picnic* (1982), and by Beckett (1984), as well as Simpson's *A Distant Feast* (1999), a history of food in New Zealand, never mind more popular works such as Pullar (1971), Houston Bowden (1975), Freeman (1989), or Colquhoun (2007). It is also possible to find curios such as Renner—considered quirky even when it was first published in 1944; see Anon 1945. In addition, there are "insider" histories; for some British examples, see Bird (2000), Harrison (1963), and Penn (circa 1949).

20. Not least that first, Kaplan's work is primarily addressed to fellow scholars while Burnett's was no less scholarly but published by a press aiming at the general public as well as an academic readership and, second, Kaplan is explicit about the scholarly traditions into and against which he is writing.
21. He takes to task Drummond and Wilbraham—the authors of a history of *The Englisman's Food* noted earlier as among early contributions not written by trained historians—for promulgating one of these (Burnett 1966: 271). And see Smith, Chapter 23, this volume.
22. Especially tea and bread, on which he wrote his PhD dissertation.
23. The Inter-Departmental Committee on Physical Deterioration.
24. He implied this held true of Britain, but it applied then and probably even more so now to most of the West.
25. Extending, Newby notes, to the belief that men had larger appetites than women and were thus apportioned more food, which led him to gain more than fourteen pounds (7 kilos) in weight over the six-month fieldwork period.
26. Providing sustained inspiration for the field, Kautsky's work is also more recently discussed further by Goodman and Watts (1997: 7–9 in particular), by which time a full translation had been published (see Marsden, Chapter 7, this volume). Their edited collection entitled *Globalising Food* represents a later landmark in the agri-food literature, not least for research on the implications of industrialized agriculture and agri-food business in the newly dubbed "global" world central to additional developments in the field (see Bryant, Bush, and Wilk, Chapter 1, this volume, and also Inglis and Gimlin 2009). In key respects, their book is also a turning point, giving wider currency to terms and concerns such as environmental pollution and sustainability (see Winter, Chapter 11, this volume), rural industrialization, and global restructuring.
27. See notably the introduction of the concept of food regime by Friedmann and McMichael (1989) to capture the distinctive political economic character of production in successive periods; also see McMichael 2009a and Le Heron, Chapter 2, this volume.
28. See Leach's view of the impossibility of a grammatical translation (1970).
29. Illustrated in part by difference in the names adopted such that, for instance, the term *food studies* is found primarily in the United States (e.g., all but three of the forty or so contributors to Albala's 2013 *Handbook* are based in the United States), Canada, and Australia, but is virtually nonexistent in the United Kingdom and elsewhere in Europe, while *agro-food/agri-food research* is mostly found in Australasia and the United States but is rarely referred to as such in the United Kingdom (but see RELU). See the debate on the ASFS list 18–19/04/2012, www.food-culture.org/listserv.php. Accessed October 1, 2012.

Englishman's - the 'h' is missing

30. For instance, sociologists and psychologists are expected to present the detail of their research methods and experimental designs in a way not required of historians, making Berridge and Stewart's (2012) explicit presentation of the way historians work most unusual.
31. For beginnings of problematizing the usage, see Murcott 1998; Brooks et al. 2013.
32. Introducing another boundary neglected by historians and especially social scientists, between food and dirt (see Campkin, and Cox, 2007; Douglas 1966; Hoy 1995; Wood 2005) and food and sewage/fertilizer, as well as that between food and another necessity of life, water (e.g., Hartley 1964).
33. Taking to heart Hobsbawm's urging of the value of history for other disciplines, especially in the social sciences (Hobsbawm 1997).
34. See an example in the way working-class men, otherwise not given to talking or describing their emotions, expressed the experience of war via their apprehensions of food and eating (Duffett 2012).
35. "There is an intrinsic link between the challenge we face to ensure food security through the twenty first century and other global issues, most notably climate change, population growth and the need to sustainably manage the world's rapidly growing demand for energy and water." Quoted in Food Standards Agency magazine *Bite,* Issue 09 (autumn 2012), 2–6. www.food.gov.uk/about-us/publications/bite/#607637. Accessed October 30, 2012.
36. I am grateful to Xaq Frolich for locating the source of this quotation.

PART ONE

Historical Essentials

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Editorial Introduction

The Handbook of Food Research aims to highlight the value of rigorous research and a solid evidence base in understanding contemporary debates about food, starting from a firm understanding of what here are called *historical essentials.* To paraphrase the late Eric Hobsbawm, history reports what was never known and provides reminders of what may have been forgotten as much as what is well known and widely remembered: in this alone, history is essential. Hobsbawm's dictum is illuminated in the six chapters in this first part of the book, in their attention to continuity, change, and context. Furthermore, these six chapters also seek to *complicate* popular assumptions. So doing entails investigating "what everybody knows" instead of merely accepting it at face value—an intellectual attitude that is a hallmark of good scholarship. For example, the very first chapter puts to rest the modernist conceit that globalization is a recent phenomenon, while the fifth reminds readers that people have worried about the chemical adulteration of commercially provided food for many centuries. Similarly, the third and fourth chapters, respectively, argue that provisioning cities has long been an engine of agricultural expansion—demand spurring supply—and that the quest for labor-saving technologies has roots much deeper than the modernist post–World War II era. At the same time, good historians are wary of overburdening the past with a search for precedents and perspectives, given the unevenness of data about the past. Yet the following chapters suggest that history's source problem can be mitigated by ingenious scrutiny of neglected materials (such as cookery books, trademarks, and appliances) as well as through intensified cross-disciplinary, holistic, and comparative approaches. Indeed, a spirit of collaborative boundary crossing enlivens many chapters in this book.

Appropriately ambitious, the first chapter by Adrianne Bryant, Leigh Bush, and Richard Wilk examines globalization, a contentious issue for both advocates and opponents of the transnational integration of trade, politics, and culture. While the modern

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face of that dynamic is often represented by McDonald's, with its limited menu, universally recognizable logo, and ultra-Fordist management, the authors of this chapter point out that food ingredients, practices, and regimes have been crossing borders for millennia. Going beyond this almost simplistic observation, the authors consider the underlying question of how to define food. What exactly crosses borders—ingredients, culinary practices, social structures, or controlling institutions? To complicate the inquiry further, the authors take time to define and differentiate foodstuffs, dishes, meals, cuisine, and diet. Warning that care needs to be taken with terminology, they put food at the center of world history by offering a brief chronology of people, plants, and animals "on the move." In the process, they discuss the Neolithic domestication of plants and livestock, the post-1492 Columbian Exchange, the effects of imperial expansion, migration, and mercantile capitalism, and the history of agricultural intensification and specialization. Anticipating later chapters (especially that by Bill Pritchard in Chapter 9), they discuss the usefulness of commodity chain analysis in illuminating transnational food connections, also noting possible effects on food security in regions that export raw commodities (discussed by Jane Midgley in Chapter 25). Picking up another theme that runs throughout the book, Bryant, Bush, and Wilk note how a global food system lengthens the distance between producers and consumers, thereby increasing risks and related concerns about food safety. With globalization also comes the possible spread of health and environmental problems (discussed by Michael Winter in Chapter 11) associated with industrial food production. The chapter ends with a review of the debate as to the pros and cons of globalization, closing with a call for a calmer, less judgmental examination of this thorny issue.

Taking up the call for a fresh examination of world food networks in the next chapter, Richard Le Heron argues that our future existence as a species may depend on a better understanding of human impact on planetary ecosystems. To do so, he presents an innovative and expanded conception of "food choice." At the center of such an inquiry is agriculture, which alters the environment in drastic ways and serves as a primary means of surviving the consequences of human-planetary interactions. Yet obscuring that basic truth is the long institutional separation between those who study food production (including agronomy and food science) and those who study food consumption (including the social sciences and humanities)—a separation still only tentatively addressed by food researchers (as discussed in the introduction). This schism can be seen in the clear demarcation between colleges of agriculture, business, and home economics (discussed by Helene Brembeck in Chapter 16), as well as the estrangement between historians of agriculture and historians of food. Transcending such divisions, Le Heron reviews recent research on global commodity chains, food regimes, and alternative agricultural movements and networks—all covered in greater depth in later chapters. All of these approaches foreground the role of "consumer choice," which Le Heron extends beyond the psycho-biological determinants of taste to include values, perceptions, and needs. But unlike advocates of regressive "neoliberalism," Le Heron argues that private, "free market" dynamics are insufficient to effect the necessary reforms. Rather it is through

responsible, conscientious consumption that citizens can revive and energize political action. In addition to closing the gap between production and consumption, country and city, Le Heron invites alliances between academics and activists through notions of "food sovereignty" and related social movements.

The next chapter returns to the urban/rural contrast. In a sweeping historical survey of the way cities have been fed, Peter Scholliers and Patricia van den Eeckhout further demonstrate how food research moves beyond assumptions often taken for granted, in this case the agrarian populist claim that cities are parasitic "sponges" that soak up the countryside's wealth and virtue. Instead, they argue, by serving as primary markets for agricultural surpluses, growing cities have been a central spur to innovations in agricultural technology, manufacturing, transportation, and marketing. Urbanization stimulated domestic industrialization as well as international trade. Concerns about the growing distance between rural producers and urban consumers—a theme running throughout the *Handbook*—stimulated research on nutrition and food safety, along with significant public efforts to regulate slaughterhouses, markets, and waste disposal. Taking the comparative approach also advocated by other authors, Scholliers and Van den Eeckhout note regional variations in the spread and acceptance of modern distributive institutions such as supermarkets and restaurants. Their discussion anticipates later chapters on retailing (by Alan Hallsworth, Chapter 15), hospitality and tourism (by Richard Mitchell and David Scott, Chapter 13), identity formation (by Krishnendu Ray, Chapter 22), and eating out (by Alice Julier, Chapter 19), in putting cities at the center of major transformations in the preparation, usage, and meanings of food. In all, their chapter illustrates the way that much can be learned about culinary inventions, business, social stratification, consumer culture, the challenges of providing food security, and conflicting anxieties and fears through the study of urban food history.

Taking her inspiration from science and technology studies (STS), Mónica Truninger reviews the evolution and consequences of industrial and domestic food technologies. Like Scholliers and Van den Eeckhout, she identifies urbanization as a key stimulus for the intensification of agriculture (through improved seeds, the use of chemicals, and the development of machinery), as well as technological innovations in food preservation, processing, and storage. From at least the late eighteenth century, military needs also spurred research and development of food technologies. As also noted in Unni Kjærnes' chapter in Part Four, the increasing distance between rural producers and urban consumers induced government intervention not least to address distrust and anxiety. Noting the central role of women in food work, historians have shown how industrialization relocated elements of food production from home to factory, thereby reducing the drudgery of housework—or so marketers claimed. But recent research suggests that it was more of a transfer of drudgery from *some* women (housewives and servants) to *other* women working for low wages in food manufacturing and, with the expansion of opportunities for eating out, in commercial catering and food service. And as Truninger argues, it is not at all clear that domestic food work was much reduced, for new "labor-saving" appliances, along with more demanding standards of

hygiene and efficiency, may have raised expectations for home cooking and cleanliness. Building on this thesis, Truninger reviews recent studies of the effects of new kitchen technologies: Did they empower women or deepen existing gender inequalities? How much work did they reduce, if at all? Did modern processed foods and high-tech gadgets "deskill" women or improve home cooking? For answers, Truninger urges a shift in the focus of research from technological advances to social contexts and uses. She also calls for more attention to non-Western examples, more work on men's relationships with new technologies, more attention to the coevolution of industrial and domestic technologies, and, like many of the authors in this *Handbook,* more thought about the environmental and ethical implications of "convenience."

Like the opening chapter, Peter Atkins' historiography of adulteration starts with the deceptively simple question: What is food? Without a clear definition of what food is *supposed* to be, he argues, it is impossible to identify what should *not* be in food, that is, adulterants. Rather than answering the question directly, however, Atkins invites further study by surveying various ways other scholars have approached adulteration. Some researchers focus on immediate, acute threats to health of poisons and toxins. Others look at concerns about dishonesty and fraud: Does the food have the "correct" composition or ingredients; Do manufacturers and retailers take advantage of the lengthened food chain to substitute cheaper components? Some accounts focus on the rise of expert systems, often based on the development of chemistry as a means of policing components and restoring trust in the industrial food supply. Others look primarily at the evolution of state regulation and litigation. Atkins suggests that all of these approaches suffer from a lack of comparative or multidisciplinary dimensions. So, he argues, much of the social scientific literature on adulteration focuses on recent scares in the West without taking stock of a much longer and wider record of food scares and regulatory responses. Decrying the top-down orientation of much of the previous literature, Atkins (like Le Heron) recommends greater attention to the role of citizen activism and advocacy, which, he notes, goes back much earlier than the conventional focus on the period since World War II. Moreover he also recommends more focus on the market-building efforts of the food industry itself, which as early as the late nineteenth century attempted to build consumer trust through strategies such as branding (see Marianne Elisabeth Lien and Eivind Jacobsen, Chapter 14), trademarks, labels, and third-party certification (see Hugh Campbell, Chapter 10). Anticipating discussions in later chapters about the maintenance of food quality (see especially the chapters by Hugh Campbell, Chapter 10 and Harry West, Chapter 12 in Part Two), Atkins urges researchers to go deeper (by concentrating on individual commodity chains) and wider (by comparing the way different places and periods have addressed the endemic and perhaps timeless problems of risk, safety, and honesty).

In the final chapter of Part One, Kyri Claflin addresses one of the fundamental challenges facing food historians—the scarcity of good data about how and what people ate in the past. Given food's perishability, little remains from earlier meals other than the bones and chards examined by archaeologists. Even more elusive is the ability to

understand how people experienced those meals. Historians of the relatively recent past have printed materials, along with other visual representations, to use as clues, but, as Claflin demonstrates, exploiting such sources requires considerable delicacy, a firm grounding in the wider social context in which they appeared, and a willingness to borrow methods and insights from other branches of history (e.g., the history of the book itself but especially the histories of medicine, technology, and science) that examine how craft knowledge is produced, disseminated, used, and applied. Also useful are methods learned from art history, semiotics, and literary criticism. Claflin shows how printed recipes and cookery books emerged within the context of late medieval/early modern European court life, then changed to meet the evolving needs of an expanding bourgeoisie. She also examines differences in cookery book development between France (which remained more court-based) and Britain and North America (whose cookery books were intended more for private, middle-class use). Care must also be taken to allow for the class, gender, and ideological biases of prescriptive literature, much of which is intended to change behavior rather than to reflect it. And as "fantasy," cookery books often represent extremes and ideals, not ordinary, messy realities. To illustrate the complexity of such analysis, Claflin reviews pioneering work by Barbara Ketcham Wheaton and then offers a detailed, multifaceted interpretation of Amelia Simmons' *American Cookery* (1796), which, Claflin notes, is the first published cookbook written by an American cook. That such an analysis reveals a wealth of insights into Simmons' world confirms the faith of those who investigate material culture that studying "small" things such as recipes and household manuals can yield rich rewards. It is perhaps fitting, Claflin notes, that medievalists and early modernists, whose data are often more scarce than the range of sources available to their modernist colleagues, have led the way in their skillful interpretation of these rare, often underappreciated, resources. Claflin concludes her chapter with a series of questions for further investigation, like other chapters, pointing out future research directions.

Taken together, the chapters in Part One demonstrate the value of establishing an appropriate social and historical context in orientating contemporary food research. These chapters also demonstrate that taking a rigorously historical perspective provides an essential foundation for all that follows in subsequent chapters of the *Handbook.*

1

The History of Globalization and the Food Supply

ADRIANNE BRYANT, LEIGH BUSH, AND RICHARD WILK

The rapid international march of fast-food chains like McDonald's, Subway, and Starbucks has convinced many, from People for the Ethical Treatment of Animals (PETA) to protesters in Moscow to angry Punjabi farmers, that we live in an era of unprecedented food globalization. The truth, however, is a complicated blend of history and politics, and a lot depends on how one defines *globalization.* After all, human beings began sharing food early in their evolutionary history, and started storing and trading food more than ten thousand years ago. Since then, the amount and scale of food trade has risen and fallen, and it reached a threshold we might call "global" as early as the ancient Roman Empire.

In this chapter, we first sketch the nature and scope of food trade and the spread of foodstuffs, cuisines, and food technologies through time, and point out some of the key social, political, and technological trends in this history. In the second section, we review the key drivers of food globalization, the explanations proposed by scholars, and some of the key points of controversy and debate about globe-spanning food systems. Finally, we point to areas where further research is needed and outline key issues that still need to be resolved.

To begin, the term *globalization* can be used in two distinct ways: as a description of actual events and trends in the historical record (e.g., the growing consumption of tea in eighteenth-century Britain) or as a theoretical argument about how and why human economies and cultures have changed and will keep changing. At this theoretical level of analysis, the process of globalization transcends the nation-state or region, binding distant places together into a system with its own dynamics, akin to what Wallerstein calls a "world system" (1974). Debates continue over even the most basic qualities of this system, and theories of globalization are often closely connected to concepts like colonialism, postmodernism, empire, and neoliberalism (Bonanno and Constance 2008). To complicate things further, historians debate the ways this global system has changed over time, as different institutions (e.g., merchants, states, banks, multinational

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companies) become dominant. For the purposes of this chapter, we first define globalization most broadly as the historical process of forging material, social, and information connections over long distances.

One reason for the plethora of contradictory ideas about globalization is that writers are not specific about what they mean by "food." What exactly is being globalized when KFC franchises become so popular and common in Trinidad that most local people think of KFC fried chicken as "local food" Wilson 2013? These international chains import only small quantities of physical ingredients; many franchises are locally owned, staffed, and managed; and the actual dishes have often been adjusted to fit local tastes and preferences. This is a very different kind of globalization from that which occurred on the same island 200 years ago, when almost all foods, from fish to flour, were imported from Europe and North America, but the imported ingredients were made into local dishes, forming a distinctive Caribbean cuisine in which European and African cooking styles have been fused (Toczyski 2010).

To make the discussion of globalization clearer, we will distinguish here (as much as possible) among the following:

1. *Foodstuffs* are raw or processed ingredients, some of which can be eaten directly without preparation (e.g., fresh fruit).
2. *Dishes* are foodstuffs transformed through specific procedures and often named and formalized as a recipe.
3. *Meals* are specific times set aside for eating, often combining particular dishes with elaborate social rules and a "grammar."
4. *Cuisine* is a combination of foodstuffs, dishes, and meals that characterize a particular group of people. A cuisine may be named and recognized or be deeply embedded in daily routines and practices but unrecognized (Wilk 2009).
5. *Diet* is an abstraction for the total of what an individual or group of people eat over a specified period.

These distinctions help us see just how uneven and partial globalization has been and how food globalization is connected to other kinds of change. For example, as countries around the world become more urban, they tend to shift away from eating the largest and most substantial meal at midday to having the largest meal in the evening (see Julier, Chapter 19, this volume). This is certainly a form of globalization, and it has many consequences for cuisine, health, and diet. It shows clearly that the actual movement of food from place to place is only a small part of globalization, which also includes the movement of ideas, seeds, knowledge, technologies, tastes, fashions, and more.

THE CHANGING SCALE OF HUMAN FOOD SYSTEMS

Around eighty thousand years ago, biologically modern humans were on the move. Our species ventured out of northeast Africa to western Asia and over the next fifty

thousand years colonized the Arctic, Australia, Eurasia, the Americas, and even the far-flung islands of Polynesia and the Caribbean. Before the development of agriculture, human groups followed two basic strategies for getting food: foraging, moving across the landscape in search of food; and collecting, staying in one place and bringing food back to a base camp for processing, storage, and consumption (Bettinger 1987; Binford 1980). New archaeological discoveries constantly push the origins of food production backward in time, and what used to be called the "Neolithic revolution" now appears to have been a slow and gradual process through agriculture and pastoralism that may have begun as early as twelve thousand years ago in places as diverse as Jordan and Japan (Fuller 2006; Harris 1996, 2010; Zohary and Hopf 2000). Sometime during this long transition, people in many places also began to settle down and build the first year-round dwellings, forming permanent villages (Bellwood 2004; Cowan, Watson, and Benco 2006; Zeder 2011). Whether or not we call this change *globalization,* it fundamentally changed the way all human societies sustained themselves, transforming the human relationship with the natural world.

The domestication of specific plants and animals proceeded independently in at least eight or nine separate areas, after which cultigens rapidly spread through trade and migration. For example, wheat and barley were domesticated in Asia Minor and the Levant as early as 6500 B.C.E. but then quickly spread into Africa, Europe, Central Asia, and the Indian subcontinent (Harris 2010). Recent genetic evidence suggests that farming groups migrated along with their crops and animals, displacing hunter-gatherers (Skoglund et al. 2012). Meanwhile, east Asian and southeast Asian cultures domesticated taro, rice, and yams, which quickly spread south and west (Denham 2011; Stark 2006). Over 100 crop species were domesticated in Africa, including rice (a different species from Asian rice), millet, watermelon, coffee and sorghum, all of which were later spread across the world (Carney 2009). In North, Middle, and South America, people cultivated maize, chili peppers, tomatoes, potatoes, sweet potatoes, squash, sunflower, and others (Piperno 2011). In an epic long-distance voyage, the sweet potato was carried thousands of kilometers across the Pacific Ocean, probably by seafaring Polynesians, becoming a staple food in Melanesia and New Zealand long before Europeans "discovered" this useful plant in the Americas (Kirch 2010).

Animals went through a similar process of domestication and travel beginning with dogs and dog-like canids as early as thirty-three thousand years ago (Ovodov et al. 2011). Larger animals helped increase the productivity of farming and provided new means of long-distance land transportation, which was significant for the growth of trade (Sherrat 1983). Beyond their role in providing a ready supply of food, clothing, and traction, domesticated animals profoundly changed the way humans interacted with the natural environment and contributed to the many ways humans were altering the planet's geography, even when their population was relatively low (Kirch 2005; Price 2002). Whether or not we want to call this *globalization,* over many years, humans bred thousands of new plant and animal varieties and distributed them widely, well in advance of the modern era.

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At the end of the Neolithic period, civilizations arose in Egypt, northern China, the Indus Valley, Mesoamerica, and Mesopotamia. Some of the earliest signs of civilization and markers of early cities were communal grain storage facilities, presumably used as insurance against famine and to support new classes of functionaries, including priests and artisans, who did not produce their own food (Crawford 1973; Steel 2008). These early civilizations were already involved in large-scale food processing, with communal bakeries and breweries and organized herding and hunting, and they experimented with many techniques of food preservation (Maksoud et al. 1994; Mosely et al. 2005). The earliest forms of writing are about food—proto-cuneiform documents from Mesopotamia at the end of the fourth millennium B.C.E. provide evidence of commodified and standardized food trading systems for bread, beer, dairy products, and others, which were traded over long distances (Nissen, Damerow, and Englund 1993; Wengrow 2008). The trade in food created demand for many other products like pottery and salt, so it was feasible to quarry 100-kg blocks of salt from old lake beds in what is now northern Mali, load them onto camels, and transport them 700 km to Timbuktu and then across the Sahara to North Africa, from where they were traded to the Middle East and Europe (Fagan 1969; Good 1972). The later Romans and Carthaginians traded copious amounts of salt, which they used as a preservative, especially in their famous fish sauce, *liquamen* or *garum* (Corcoran 1963; Ruddle and Ishige 2010).

War, imperialism, colonialism, migration, and invasion spurred the movement of food, while preservation, through salting and drying, enabled it. By the time ancient Greek city-states reached their peaks of power and influence (circa 500–300 B.C.E.), most depended on imported wheat from North Africa, which the citizens preferred to local millet. In Athens, these supplies were under control of *aediles,* officials in charge of feeding and entertaining the people, hence the origin of the phrase "bread and circuses" (Garnsey 1988; Lomas and Cornell 2003).

While bulk grain was one part of long-distance food trade in classical antiquity, flavors and other sensual and magical properties of food were also important in this early phase of integrating food markets. Spices were particularly valued among many early civilizations, and they were often traded along with cosmetics, incense, medicines, gemstones, ivory, and gold jewelry (Swahn 1991). As the security and volume of long-distance trade waxed and waned with the growth and decline of early states and empires, these exotic ingredients were augmented with specialty products including wines, edible oils, sauces, and preserved fruit, nuts, fish, and meat. Particular areas became known for the special quality and flavor of their products. Demand grew because imported goods, particularly food and drink, could be shared and displayed at feasts, rituals, and private entertainments and became an integral part of the competitive display of wealth and power among the ruling classes. The Persian Gulf became a main artery of commerce where the Indian-influenced elite cuisine developed as an early example of "fusion." Areas like China, where new cultigens and practices came from many directions, developed rich and diverse food cultures and large food economies.

The allure and value of spices is well documented in medieval and early modern Europe, and the Crusades were particularly important in exposing Europeans to Arabic culture and Asian spices and sugar. In the sixteenth century, Portuguese ships bombarded Calicut's Muslim shipping companies, establishing a 400-year European empire in Asia whose focus was to control the spice trade. Despite missing the Spice Islands, Spain's discovery of the New World did reveal the initially underappreciated native chili pepper—now enjoyed daily by a full quarter of the world's population (Andrews 2000).

Though both Columbus and Cortés encountered chocolate among the people they met and conquered, organized export to Europe did not begin until 1585. Before that, other crops and foods made their way in both directions across the Atlantic in what has become known as the Columbian Exchange. And although European botanical gardens and official plant-collecting expeditions played a role, thousands of unrecorded packages of seeds and pots of cuttings quickly moved New World crops like potatoes, maize, beans, papayas, avocados, and pineapples to Europe. Meanwhile, many Old World crops and domestic animals adapted to the New World and were integrated into the diets of both the indigenous peoples and their conquerors. The degree to which different regions and ethnic groups played a part in the Columbian Exchange is still a matter of controversy among economic and social historians. Judith Carney, for example, is well known for her work that emphasizes the important role of Africans and African slaves in establishing rice cultivation along the Carolinas coast region of North America (Carney 2001, 2009; see also Fields-Black 2008). Yet others dispute her claims, finding little African legacy in New World agriculture (Eltis, Morgan, and Richardson 2007; see also Higman 2008).

Ultimately, the global reshuffling of cultigens and domestic animals was largely complete by the middle of the eighteenth century. Because most diets and cuisines included foodstuffs that originated from many places around the world (and over time became foundational ingredients in "local" cuisine), we could say food globalization was complete (Ashkenazi and Jacob 2000). Ironically, this process began well before most people were even aware of the shape of the globe.

When empires expanded, they often imposed their cuisine, along with laws, languages, and other customs, on the peoples they conquered. Cuisines became powerful emblems of civilizations, means of defining identities and boundaries, and even tools of statecraft and early methods of cultural imperialism. Ottoman cuisine, for example, had a strong influence throughout much of Asia, Africa, and Europe (Singer 2011). Similarly, the elaborate haute cuisine that developed around the French royal court in the eighteenth century carried influence far beyond the French empire, including on its British rivals (Goody 1998; Mennell, Murcott, and van Otterloo 1992; Trubek 2000). French-trained chefs, French cooking, and French styles of presentation became foundational to the development of an "international" style that became a global standard for hotels and Western restaurants worldwide (Trubek 2000). Similarly, expatriate Chinese communities nourished and developed Chinese cuisines in cities and regions throughout the world, adding new ingredients and flavors (and subtracting others) as migrants

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adapted to local markets and tastes (Cheung and Wu 2004). The Indian diaspora of the nineteenth century was paralleled by many others from northern and southern Europe, Latin America, southeast Asia, Africa, and the Caribbean, moving millions of people, their tastes, and cuisines in all directions throughout the globe.

Discussion of food diasporas and migrations has become a lively area of study for food historians and anthropologists, revealing a surprising diversity in the way migration affects food and cuisine (Anderson 2011). Some migrant groups, for example, quickly adopt the foods of their new environment, while others are highly resistant to change (Diner 2002), and migrants within the French colonial empire may have adapted in ways quite different from migrants in the British or Italian empires (Cusack 2000; McCann 2009). There is a fair amount of work on the fate of different migrant communities within the "melting pot" of the United States (e.g., S. Roberts 2004), as well as the mutual interchange between colonial masters and subjects (Hamilton 2001; Leong-Salobir 2011; Ray and Srinivas 2012), but so far there have been few comparative and synthetic works that seek to explain this variability (see Wilk and Barbosa 2012 and Ray, Chapter 21, this volume).

As foodstuffs became commodities sold by wholesale merchants and shippers through markets and trade fairs, the price of many staples began to respond to supply and demand, as well as taxation, tolls, duties, and other forms of regulation. Braudel created a new form of food history when he demonstrated that European regional markets were connected as early as the fifteenth century—earlier for goods such as salted herring (1984) (also Fagan 2006). Food prices were thus affected by wars, financial crises, plagues, and the pulses of financial expansion and contraction, characteristics becoming apparent within mercantile capitalism.

In the imperfect markets created by colonial empires, farmers who switched to producing lucrative cash crops could become vulnerable to price fluctuations, changes in fashion, and political problems in distant countries. For example, in the early 1700s, southeastern Chinese merchants exported rice in bulk, which they traded with Siamese and European intermediaries for spices, silver (mostly from Spanish mines in Mexico and the Andes), and raw Indian cotton. As cotton became increasingly popular, rice farmers along the coast switched to sugarcane, a more lucrative crop when sold to the sugar-craving English for cotton. As a result, by the end of the eighteenth century the region produced only half as much rice as it needed, and the area became a market for rice produced elsewhere in China, driving up prices throughout the region (Marks 1996).

Historians, economists, and geographers who trace this kind of connection between distant groups now do so under the label *commodity chain analysis* or the study of "food chains" (Belasco and Horowitz 2009; Gereffi and Korzeniewicz 1994; Goodman and Watts 1997; and see Pritchard, Chapter 9, this volume). Social historians like Davis argue that opening up India and China to global food markets in the late 1800s caused famines that killed millions, many of them farmers, who were no longer self-sufficient and lacked the money to buy food when droughts or other disturbances caused prices to rise (Davis 2001). As in the Irish potato famine, people starved when plenty of

food remained available (Sen 1981; Woodham-Smith 1962 and see Messer, Chapter 22, this volume)—India continued to export food during the famines, as did Ireland when the potato crop failed in 1842 (Vernon 2007). The ideology of laissez-faire capitalism helped justify colonial government policies that allowed famines to kill so many (see Messer, Chapter 22, this volume). Others argue famine was caused by heavy-handed government policies that forced farmers to grow export products, thereby restricting their ability to follow more sustainable traditional practices (Netting 1983; Scott 1999). Meanwhile, some scholars believe exactly the opposite: crops failed because of primitive production techniques, and that more would have died without the intervention of colonial authorities (N. Ferguson 2004).

The growing dependence of farmers throughout the world on markets—not just for selling their products, but increasingly for technologies, including equipment, improved seed, fertilizer, and crop storage—raised issues of balancing the interests of producers with growing urban demands for cheap food, as well as with national goals of industrial growth and economic security. The debates about "free trade" and "fair trade" that are so prominent in global food politics today have deep roots in arguments over trade policies in the colonial empires of the nineteenth and early twentieth centuries (Trentmann 2007, 2008).

Yet another kind of food globalization began in the seventeenth century, driven by the need for cheap and portable foods to serve the growing number of mobile work gangs. These groups, employed by European corporations (like the Dutch and English East India Companies) and governments, were integral to an age when extractive industries yielded huge returns to investors (Linebaugh and Rediker 2000). Miners, navvies, loggers, sailors, and the newly professional armies and navies could not feed themselves through conquest and plunder—they required cheap rations. The solution was what could be called the first "global diet," feeding workers as diverse as Texas cowboys, Norwegian loggers, and Tasmanian seal hunters. It consisted of heavily salted and brined meat (usually beef, pork, or fish), wheat flour (sometimes prebaked into ship's biscuit or hardtack), and often a legume like split peas or beans. It was accompanied by coffee, and frequently sugar, tobacco, and alcohol in the form of wine, beer, or rum (Wilk 2006b, 2007). Because these ingredients were so cheap, they also served as basic rations for indigenous people driven off their own lands onto reservations, as well as prisoners and slaves. Ironically, the cheap industrial diet of one age eventually became the comfort food of following generations: corned (salted) beef, salt fish, and cured pork, along with dumplings, biscuits, fried breads, and pancakes made from white flour have become the basis for hundreds of local, national, and "nostalgia" foods worldwide.

While workers' rations were being industrialized, the mobile governing and managerial classes in expanding colonial empires sought connections with the home country through imported luxury food and drink. Casks, crates, boxes, hogsheads, barrels, and, later. Bottles were used to export huge amounts of wine, beer, liquors, and even mineral water to colonial outposts. As the European empires became more cosmopolitan, a taste of home might actually mean drinking Chinese tea, using Indian curry powder,

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and ending a meal with African chocolate; all of it, however, processed and packaged back in the home country and sold under European brand names. As early as the eighteenth century, Europeans were producing and trading a wide variety of prepared sauces, ketchups, and condiments in glass bottles (Shurtleff and Aoyagi 2010; Wilk 2008). Like the flourishing trade in patent medicines and liniments, these often used alcohol, salt, and vinegar for preservation.

At the beginning of the nineteenth century, impelled by the demands of feeding armies and navies, canning became an important advance in food preservation, now combining durable packaging with physical preservation of the contents. The invention is credited to Nicolas Appert (1811), who developed a method of packing food in glass jars fit with compressed corks and sealed with a concoction of fish bladder collagen, brandy, and water, followed by a paste of powdered lime mixed with, of all things, cheese. Appert's laborious lids were improved in 1859 by John Landis Mason, while metal cans were first used by Bryan Donkin, who manufactured and sold tins of meat in the early 1800s (Robertson 2006). Only much later were lighter, more practical cans produced, and in 1925, the modern manual can opener was developed and patented (Scruggs 1925). Because canning required a form of cooking and was relatively expensive, from very early on it was used for prepared dishes like soups and stews rather than raw ingredients.

In the mid-1800s, the use of ice also transformed food preservation technology. Stored winter ice had been used to cool beverages and create exotic drinks and sweets in China, the Near East, and Europe for thousands of years. But in the 1820s, commercial ice houses constructed in New England began to ship the material in standardized blocks over long distances to places like Brazil and Calcutta (David 1994; Weightman 2004). As ice became cheaper and more available, it provided an economical way to preserve meat and dairy products for transportation by rail and steamships. By the mid-twentieth century, ice dealers served dairies, slaughterhouses, breweries, restaurants, and butcher shops (Friedman 2007). Ice allowed people to consume foods otherwise unobtainable in their fresh form, far from where they were produced. As mechanical refrigeration and transportation infrastructure developed, fresh meat, fruit, fish, and vegetables became cheaper. Eventually the fresh and frozen commodities replaced many kinds of salted, dried, and canned foods. Inland consumers could develop a taste for fresh seafood while cheap Argentinean beef was a staple in London by the early twentieth century (Pilcher 2004).

The rapid industrialization of food processing expanded the scale of food trade and introduced many new food products into regular use in the nineteenth and twentieth centuries. Canned soup, gelatin, corn oil, and margarine are just a few of the thousands of products (and appliances) that transformed kitchens and diets as preservation moved from the kitchen to the factory (Pilcher 2006; Shapiro 2005; Shephard 2000). Meanwhile, food businesses aimed for ever-increasing efficiency and output by breaking production down into steps, minimizing human labor, taking advantage of economies of scale and standardization, and mass marketing techniques.

While mass production lowered prices by reducing food to a standardized commodity, at the same time the market encouraged specialization and reputation for quality in producing luxury foods. Regions, cities, or groups of artisans developed the quality or special character of their raw materials or production techniques. Even as early as the Bronze Age in Europe and eastern Asia, wines, pickles, sauces, and preserved fruits and nuts were given the name of the region from which they came and were traded to distant places, functioning in the same way as modern brands (Wengrow 2008). Specialized knowledge, unique ingredients, and secret methods were all important in establishing the reputation of local products, along with distinctive packaging, sealing, and trademarks (Anholt 2009). Medieval European monasteries specialized in brewing or distilling products like Benedictine and Chartreuse.

So-called location branding (see West, Chapter 12, this volume) was highly developed in seventeenth-century Japan, where hundreds of towns and villages along the major highways offered local specialty dishes, restaurants where they could be eaten, and organized tours of workshops where they were made. Elaborately wrapped packages of local dishes became popular gifts, and like all such products they had to face the problems of counterfeiting and faking, which could quickly damage the profitability of a brand (Francks 2009).

During the era of European colonial expansion, location branding (see West, Chapter 12, this volume) was a common way to maintain links with home. English foods like Yorkshire ham circulated widely, along with Italian cheeses and wines and products like pickled sardines from Brittany (Simmonds 2001). Because they were so widely copied and adulterated, the power of many location brands faded over time, replaced by products identified with a trusted merchant, partnership, or corporation (Wilk 2006a). The first truly global food products, in the sense of goods sold under the same brands in many different countries by the same corporation, were condiments like Worcestershire Sauce, Tate and Lyle's Golden Syrup, and French Maille mustard, as well as branded beverages like Schweppes carbonated water, Anglo-Swiss condensed milk, several German and English beers, and the prosaic Oxo bouillon cube (and its predecessor Leibig's extract of meat) (Weston 2006). The soft drinks industry, built on a wide variety of ever-changing business models, including many hybrids of local and foreign ownership (Foster 2008; Pendergrast 2000), quickly took up branding as a central tenet. While drinks like Coca-Cola may be identified as American, they have been ubiquitous parts of daily life in many parts of the world, and in some places are now seen as local (Miller 1998). Finally, food chemistry and the professionalization of nutrition in medical science contributed to the development of many other extracts, powdered starches, flavorings, and nutrients, which could be added to dishes in the factory, the restaurant, the cafeteria, or the home.

The food-processing industry became a major player in the global food system in the early twentieth century, disassembling agricultural products into components, then recombining them into new substances like margarine or condensed milk (Pilcher 2006). Maize was no longer simply dried for storage and transport. It was instead broken down

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into dozens of products (including corn starch, gluten, dextrose, and high fructose corn syrup), which found their way into thousands of processed foods. Soybeans, the world's largest legume crop, have become more an industrial feedstock than a foodstuff—while most people in rich countries consume multiple soy products every day, very few of them ever eat a soybean (Mintz et al. 2008). Soybeans become partially hydrogenated vegetable shortening, soy lecithin, and soy protein isolate, which are then traded internationally in bulk tanks and shipping containers, finding their way into inks, plastics, textiles, and paints.

Over the last century we have seen a marked increase in licensing and franchising, which, in the late twentieth century, led to a rapid burst of international expansion of restaurant chains. Following a business model developed in the United States since the middle of the nineteenth century, a company making a well-known product for export will license its brand and technology to a well-established local company, thus garnering profits for both parties (Dicke 2010). The originating company may also set up a local branch and manufacture the food itself, or, alternately, sell or lease the rights to a local franchise holder. Kellogg's cornflakes, one of the most visible global brands, are manufactured in 18 countries under various arrangements, and its products are sold in more than 180 countries (Kellogg's 2012). There are several reasons why these franchises, and their shared industrial models of food production, have become popular: use of standardized bulk materials, assembly line production, and unskilled labor makes them cheap, and the products are carefully tested for broad taste appeal.

This industrial model attracts critics as well as customers. Critics decry the loss of consumers' power over the contents of their foods, distancing from nature, and the dangers of adulteration in heavily processed foods (e.g., Cook 2006, and see Atkins' discussion of Accum 1820, Chapter 5, this volume). Advocates claim that processing can make food safer, cheaper, and more nutritious, while they see adulteration as a technical issue that can be solved with better science and management (Campbell-Platt 2009; Redman 2007). The intense passion shown by critics and advocates suggests that deep moral issues and political philosophies are at stake (Konner 2010; Merino 2011). The industrialization of food production has generally lowered the relative price of foods and introduced many new staple products and luxuries to an ever-increasing portion of the world's population (Goodman and Watts 1997; Redclift 1996). It has not, however, necessarily improved their health, and it has had negative effects on many of the poorest people (Patel 2007).

With food industrialization, diverse landscapes once owned by small farmers have been replaced by vast chemical-sodden monocrops of soybeans, oil palms, genetically identical bananas, corn, oranges, coffee, sugarcane, and sugar beets, veritable "factories in the fields" (Busch and Lacy 1983; Magdoff, Foster, and Buttel 2000; McWilliams 1969). Poultry and swine are raised in small pens in large climate-controlled buildings, while cattle roam millions of hectares of what was once rangeland or rainforest. An industrial diet rich in fat, salt, and sugar has replaced the varied daily fare of rural and urban citizens alike. Furthermore, as the proportion of the population living on farms

continues to decline, so does both rural and urban populations' access to healthy food due to poor transportation, lack of nearby markets, or extreme poverty. This transformation in diet, often referred to as the "nutrition transition," introduces highly processed convenience foods that save time and, often by way of subsidies, cost less, an important issue for households where all adults and children have to work to provide an adequate household income (Caballero and Popkin 2002). In rapidly changing countries like Brazil and China, the switch to an industrial diet among the urban middle class has, according to some commentators, led to massive increases in obesity, diabetes, hypertension, and a host of other problems (e.g., Nestle 2007; Weng and Caballero 2007). While *malnutrition* was once defined as a lack of food, nutritionists have now broadened the term to include people not getting the right balance of healthy foods (see Smith, Chapter 23, this volume).

Today, agricultural trade worldwide amounts to over $1 trillion annually, according to the UN's Food and Agriculture Organization (FAO 2012). Food processing, preservation, and transportation technologies enable the rapid movement and trade of food and ingredients on an unprecedented scale, with some small island nations now importing as much as ninety percent of their food (FAO 2012). Nevertheless, the volume of international trade in foodstuffs is still a relatively small proportion of the total food human beings consume. The globalization of brands, technologies, cultivars, recipes, cuisines, meal patterns, and nutrition science has probably had more impact than the physical trade of foodstuffs. One of the more subtle forms of food globalization is the spread of discussion and debate about the impact of globalization itself (Wilk 1998). We turn to these debates next.

CONTESTED GLOBALIZATION AND FOOD

The most heated debates about globalization are deeply political and revolve around competing ideas concerning what kind of economic system is likely to reduce poverty, promote prosperity, and adequately feed the still-expanding global population without destroying the planet. The "proglobalization" camp tends to argue that real globalization—defined as the "frictionless" spread of money, goods, and information across national boundaries—is completely new and drastic, making a complete break with the past. These conservative intellectuals, including those such as Thomas Friedman (2007), Samuel P. Huntington (1996), Lawrence Harrison (1985), and Francis Fukuyama (1991) portray globalization as an inevitable tide of free market capitalism and market liberalization, an epochal change in human relations where states deregulate and privatize all industries, opening the way for multinational banks and companies to dominate the economy.

Just like the Cold War proponents of "modernization," the proponents of "free trade" argue that government regulations and old-fashioned ideas and cultures are holding development back (Myrdal 1957). What this means for food is that every country should use industrial techniques to produce foodstuffs at the lowest possible cost for

export markets, buying the other foods they need on the global market. Progress means following the U.S. model, getting rid of "unproductive" small farms, using the latest production and processing technologies, and trading food like any other commodity such as oil or memory chips (Wallace 1987). In this model, making food as cheap as possible means more people can afford a better diet. These ideas remain dominant in most government offices and agricultural schools, and policies based on them (under the label of neoliberalism) have been enforced by the World Bank in most poor countries of the global South (see Klitgaard 1991; McMichael 1994). Biotechnology corporations and scientists and massive agricultural industries profit from this paradigm, and they promote the manipulation of agricultural systems to bend toward this vision of industrial integration at the expense of natural resources (Lang and Heasman 2004).

Opponents of globalization have argued for many alternatives. During the Cold War, the Soviet and Chinese models of collective farming under government management were advocated in many countries with socialist regimes, where the results were often disastrous (e.g., Hyden 1980; Netting 1993). Much of the opposition is morally driven by the idea that food should be a human right, not a commodity, holding that markets inevitably trigger a competitive race to the bottom, which means growers will pay starvation wages to workers, endanger them with agrichemicals, and destroy the environment in the quest for higher profits (e.g., Cavanagh and Mander 2004; Korten 2001).

Clearly, food plays a prominent role in debates about globalization; *McDonaldization,* for example, refers to the bureaucratic model by which the corporation offers efficient, predictable, and highly standardized products worldwide (Ritzer 1996, 2010). The contested global reach of McDonald's, however, has also come to symbolize a much larger movement of Westernization and the global diffusion of mass consumer culture. Many scholars and activists see globalization as a juggernaut of American cultural imperialism, represented by the complete takeover of the global food system by large corporations like McDonald's, Monsanto, and Starbucks. The global movements for food justice, food security, slow food, relocalization, sustainability, and fair trade reject the global takeover by such corporations, building on the arguments of the antiglobalization campaigns of the 1990s (Klein 2002) and making many of the same arguments about the dangers of free trade and untrammeled capitalism. Correspondingly, preserving or reviving local heritage, foodstuffs, and cuisines becomes a means of resisting globalization while also promoting sustainability, food security, and food sovereignty (e.g., Allen 2004; Hinrichs and Lyson 2008).

Arguments for and against the globalization of food rest on untested assumptions. For example, many proponents of globalization assume that the free flow of information and goods will break down cultural distance and lead to a more peaceful world (Barber 1995). Yet the idea of a single global culture is itself controversial, and many social scientists argue that it is limited to small groups of rich and mobile cosmopolitans. Meanwhile local culture, local cuisine, and other expressions of tradition may become much more important as a way to resist foreign ideas and practices (Gaytan 2005; Robertson 1995; Smith 1990; Wilk 1995). Comparative research on this issue is

sorely needed, because existing work has largely been based on single case studies, using varying definitions of *culture.*

Many critics of globalization worry that the free flow of goods, people, and ideas divorces the material substance of food from its cultural and political context. Because people do not know where their food comes from, who produced it, or how it was produced, they cannot understand the connection between food and health of individuals and communities, the state of the natural environment, and issues of fairness and social justice. Marketing food as "traditional" or "home made" can further obscure these connections by lulling the purchaser into thinking a product comes from small rural farms and was produced or grown using old-fashioned methods (Berry 1999; Cook and Crang 1996; Hendrickson and Heffernan 2002).

For example, products like French wine appear to be authentic creations of nature and fine craftsmanship, and in appreciating this we lose sight of the massive industrial base that actually makes it possible to get a bottle into the hands of a consumer at a reasonable price. Or eating the "national dish" of rice and beans may make people feel patriotic, though importing the ingredients actually undercuts the local economy. In the same way, the "civilizing" mission of teaching Nigerians to eat European bread made from wheat (while offloading surplus flour from the United States) turned the country from a food exporter into a massive importer (Andrae and Beckman 1985). If globalization is the democratic benefactor many propose, why is the process so uneven and variable from place to place? More seriously, was there ever a time when the meaning of food was connected to economic reality, or is this just a nostalgic fantasy about the past (see Latour 1993)?

The separation of food as substance from its meaning is mirrored in the academic and popular literature on globalization. Proponents tend to focus on economic arguments about prices and the value of interdependence and stable systems of trade. They claim that large-scale food processing, marketing, and industrial farming are responding to the public's desire for cheap, tasty, and diverse diets that come from the convenience and economies of shopping in a supermarket or chain store. Furthermore, if rich countries stopped importing things like coffee, cacao, sugar, and bananas, millions of poor people would be out of work and destitute. Opponents usually base their critique on issues of *quality,* claiming that cheap food is not based on real flavor, but on high levels of fat and salt, which can cause health problems. Industrial farming degrades the landscape, steals the intellectual property of indigenous farmers, and lowers the quality of life for farm workers (Otero 2008; Wright and Middendorf 2008). Clearly, more work is needed on globalization that deals with issues of quantity *and* quality and that develops a more complex portrait of consumers instead of the caricatures either of the dupe, fooled by advertising, or of the logical decision maker.

There is often a political or polemical purpose behind arguments that globalization is a unique product of our own times that represents a sudden and epochal shift that changes the nature of human society (see Friedman 2007). These claims have been made before with the advent of gunpowder, the steam engine, the telegraph, and

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the airplane (McMahon 2002). They are positions firmly grounded in contemporary Western political philosophies, conservatives favoring free markets and the absolute right of consumers to buy whatever they want, and liberals blaming the advertising industry for instilling destructive habits in consumers, whose behavior must be corrected by government intervention in markets. But both positions rest on quite a shallow reading of history. They fail to recognize that earlier generations of scholars and activists wrestled with the same questions of fair trade and food ethics and have already noted the corrosive effects of Western consumerism on local culture and practices (e.g., Burke 1996; Trentmann 2007). The same arguments about the proper role of governance were voiced in the late nineteenth century, and scholars still argue about whether the great famines of that era, killing millions in Asia, were the products of too much or too little government interference in markets (Davis 2001). The ancient Greeks also argued endlessly about whether citizens could be trusted to make the right decisions in the marketplace, and if feeding the population was the state's responsibility (Davidson 1999).

Using a more sophisticated definition of food globalization can allow us to develop better chronologies of how food was globalized in different periods and in different parts of the world, and how we might consider it currently and contextually (Nuetzenadel and Trentmann 2008; Wilk 2006b). One interesting approach looks at globalization as a series of waves: globalization followed by waves of local reaction and represented gastronomically under the labels of "traditional" and "authentic" cuisine (Scholliers and Geyzen 2010; see also Murray 2001).

Food researchers may profit from a much closer engagement with the work of students of consumption, a flourishing field that has grown rapidly (e.g., McKendrick et al. 1985; Morton 2004, 2006; Sassatelli 2007; Tiersten 1993). Still, depending on their area of specialty and their definition of consumer culture, historians often disagree fundamentally about when and where consumer culture began. But they accept, for the most part, that the growth in consumer demand resulted from a breakdown of rigid class hierarchies, the rise of middle classes, and a relaxation of religious and social inhibitions on conspicuous consumption. Much scholarship focuses on domestic life and the key role of gender distinctions in the emergence of modern consumer cultures (e.g., Andrews and Talbot 2000).

Globalization poses many problems for the tradition of place-based research, where researchers specialize in a particular region and time period. Some have proposed more fluid ways to capture connectivity and movement (e.g., Tsing 2005) and "multi-sited" projects that sacrifice depth for breadth (Coleman and Von Hellermann 2011; Falzon 2009). A popular method among social scientists is to follow a single food, such as sugar (Mintz 1985), tomatoes (Barndt 2008), green beans (Freidberg 2004b), broccoli (Fischer and Benson 2006), mutton bellies (Gewertz and Errington 2010), acai fruit (Brondizio 2008), and coffee (Tucker 2010). Again, many of these projects focus on gender and the way food trade disempowers women both as producers and consumers (Allen and Sachs 2007).

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A good example is "Follow the Thing: Papaya" (Cook 2004), an article in which the author follows the chain of papaya production, distribution, and consumption, tracing the pattern of winners and losers. This broad multi-sited approach reveals the overworked and impoverished farm workers and papaya packers, the distributors and farm owners willing to exploit farm workers to make profits, the supermarkets that effectively block the flow of information about production, and the British consumers who may feel virtuous or healthy buying fair trade or organic papayas. Because the flow of information along these food chains is blocked—consumers do not know about production and processing, and growers know little about distant markets and consumers—it is hard for even trained experts to calculate the contribution of food to environmental degradation, climate change, and workers' rights violations (Thomas 2002). Yet the prevailing philosophy of the marketplace puts all the weight of deciding about these complex issues of environment, health, and equity on the consumer, despite the inadequacy of labels (Bostrom and Klintman 2011; Roff 2007).

While there is much controversy about the direction and consequences of globalization, none of the authors discussed so far have directly disputed the idea that food has become globalized. Yet, it is important to remember that most large countries still provide a substantial amount of their own food. Arce and Marsden argue that portraying food systems as rigid and monolithic ignores the flexibility and variability of local cultures (1993). A substantial number of studies shows that local cultures quickly absorb and localize foreign foodstuffs and cuisines, effectively appropriating them. The Japanese, for example, have a long history of adopting foreign dishes and adapting them to their own tastes (Tobin 1992). Watson (1997) and Lozada (2000) explain how the globalized American fast food restaurants have been localized; for example, rather than being served as a quick, cheap, convenience food, McDonald's in Rio de Janeiro was served by candlelight with champagne in the 1970s (Pilcher 2006). While many Europeans thought fast food was demeaning to Western culture, in Beijing in the 1970s, the novelties of clean public washrooms and waiting in an orderly queue at McDonald's were enthusiastically accepted (Pilcher 2006).

There are also many cases where small, local forms of artisanal food production and distribution are effectively connected with and embedded in global market relations. These examples problematize the idea of a unified industrial globalized food system. Imbruce (2007), for example, describes east Asian immigrants who brought culinary and gardening traditions to their new homes in Florida, where they now grow southeast Asian food crops for ethnic markets in New York. These gardeners capitalize on niche markets that emerge because of the global movement and dispersion of food tastes and trends, and they piggyback on a distribution infrastructure created by larger-scale industry. As Wilk (2006b) suggests, rather than being opposites, *global* and *local* can be seen as two movements of a single system where movement in one direction provokes and enables its counter. It is up to future scholars to develop a more balanced approach that recognizes both the positive and negative consequences of globalization and localization, as processes rather than states.

CONCLUSIONS

The production, movement, and consumption of food has become global in a number of different senses of the term. First, humans themselves, as a species, spread throughout most of the world, bringing with them new technologies for hunting, gathering, and processing food. Next, these humans began a long process of spreading the plants and animals they domesticated, along with the knowledge of how to use them, and they began trading raw and processed food over ever-increasing distances. Finally, cuisines, suites of techniques, recipes, flavorings, and serving styles spread around the globe, so that a food court in a shopping mall in a rich country might present dining options from four or five continents (even if all of them are deep-fried).

No matter how we define it, the process of globalization can never be complete. The strong forces toward global integration always seem to be countered by localism and new divisions and boundaries that create new kinds of diversity. Despite the hopes and fears of many people, there is no sign that all the distinct local cuisines of the world are about to melt into one giant stew of fast food and corporate swill. But there is also no question that many sources of food are stressed, and some, particularly wild game animals and fish, have already become commercially extinct. The choices for the future are often painted as a stark contrast between high-tech industrialized production of increasingly artificial "food-like substances" or a bucolic world of small, intensive family farms full of animal friends, making artisanal delicacies for the nearby farmers' market. A more realistic prediction, though, involves a continuing struggle over how and what people should eat, and a set of heterogeneous food systems in which many forms of production, marketing, and consumption will coexist. Food has always been about human values, and it has been both the source and the subject of political and economic struggle, probably since the Neolithic era.

This conflict, for all its pathos and drama, cannot distract us from difficult economic and geographic problems. It will not be easy for the food systems of the planet to support ten billion people, many of whom have the money and desire for high-protein, highly processed diets. It will be even more difficult now that industrial civilization is affecting the global environment in diverse and unpredictable ways. Will this drive greater global integration of the food system, or fragmentation as regions and countries seek to take care of their own needs first? The only thing we can predict with confidence about the future of food is that it is not going to get any simpler to trace or understand.

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2

Rethinking the Economic and Social History of Agriculture and Food through the Lens of Food Choice

RICHARD LE HERON

This chapter examines the changing fields of structural and individual choices humans have about food on the planet and shifts in how humans are able to influence food choices. It discusses humanity's cojourneying with agriculture and food and reaches the view that food has to be discussed relationally and in planetary terms, with greater attention to shaping food choices on multiple spatial scales and in multiple institutional settings. This is not a standard economic and social history of agriculture and food, but rather a repositioning of bits of what we know from past and present agricultural and food research into a narrative dealing with where we are on making choices over food. From reknowing of agriculture and food using insights from existing food research around food choice, I conclude that food politics in different spaces and places can be further mobilized around the strategic task of performing new systems of food relations and choices.

In the twenty-first century, natural scientists (Crutzen and Steffen 2003; Zalasiewicz et al. 2011) and social scientists (Gibson, Fincher, and Rose 2010; Whitehead 2012) are acknowledging the Anthropocene,[1] where human social and ecological actions and impacts in total and in their diversity are spoken of as coconstitutive forces *in* planetary processes. This has created a working space where the common ground for researchers is the hope to reframe and facilitate humanity's work for survival on the planet. Important, food researchers (Atchison, Head, and Gates 2010; Carolan 2012b; Goodman 1999; Head and Atchison 2009; Lang, Barling, and Caraher 2009; Pretty 2012; Pretty et al. 2006) are in this space. A key concern is reestablishing understandings and sensibilities about ecological processes, and contextual and connective awareness, among food producers and consumers (Butler and Dixon 2012; J. Moore 2000).

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This idea of epistemic distance has rarely been picked up by food researchers. One could suggest that social science is still catching up; in recognizing ideas influencing conceptions of agriculture and food, in the pursuit of knowledge about realities of agriculture and food production and consumption, and in terms of grasping how agriculture and food research has been put to work in the name of making a difference. This is a view that research methodologies and framings (of any and every time and place) are technologies that help make *particular* agricultures and foods durable or material.

From my interest in situated economic geographies (Larner 2011; Larner and Le Heron 2002; Le Heron and Lewis 2011), I see the scattered geography of the international food research community posing challenges to the production of knowledge about agriculture and food. An obvious implication is that, since only a small number of researchers work in this field, few contexts are actually researched in depth, and effort and insight is limited and partial. Food issues are also going to be read and perceived differently because of variable economic, institutional, and ecological relations of the space in which the researcher works. In my case, I am influenced by New Zealand's continuing neoliberal experiment. There the agri-food sector is caught up in globalizing, marketizing, privatizing, financializing influences, various forms of regulation, governance, and political assistance to facilitate a neoliberal momentum (Campbell et al. 2009; Campbell et al. 2012). This is a direction of change where freedoms to choose are emphasized above freedoms to design systems of choice.

The chapter is organized to reveal how the nature of food choice has emerged through a series of developments in the relations of agriculture and food. This genealogy, or sketch of significant moments of shift and development, exposes a cumulative legacy of influential imaginaries[2] and prior assumptions about what the food scene ought to look like. The scene is more complicated with the infusion of neoliberalizing ideas about which actors should be allowed to shape systems. Humanity's bigger project of looking after the planet and itself demands new strategies of knowing our circumstances and how we might enact new options.

Once the nature of food research at different times and places, and the knowledge produced about agriculture and food, have been rethought, we have a new perspective on the changing landscape of food choice. It shows that in systematic ways our individual and social abilities to imagine how we engage with agriculture and food have been distorted and diminished. This is a serious development, as it means motivations and understandings of the past may have little effect in the present. Food researchers, however, have begun to address these issues through politics. Food is now seen as highly political. Alternative food politics is accepted as more complex than first thought and the making of new political openings around and from food has become a priority.

FOOD RESEARCH IN MAKING FOOD FUTURES

It is increasingly accepted that research plays a part in making real worlds (Busch 2007; Gibson-Graham 2008; Law and Urry 2004). This ontological claim enables, first,

scrutiny of the broader role agriculture and food research *might* perform, and second, centers understandings about agriculture and food and *doing politics as a necessary part of any contemporary food research.* But we must also recognize that research is a concept of the twentieth century, which we take for granted. Research has been institutionalized, and it is comforting to know through research. Yet we are reluctant to consider that the wider relations of our research may be even more important than the narrow questions we are working on, or what work research might do, as it travels into new contexts. Making any kind of epistemic break, however, such as planetary awareness, means thinking away from our usual categories, as they inhibit the very idea of enacting differently. As a first step in making a shift we need to gain a sense of our intellectual heritage in agriculture and food research.

A 2010 study by Philip Lowe of early rural sociology suggests that to ignore the influences of our intellectual traditions is to limit how we might develop new directions. He argues that much social scientific agriculture and food research springs from North America and Europe. Rural sociology started as a formal discipline in the United States when government assumed an active role in social and economic development and where science was promoted as an instrument of progress. There, according to Hofstee, the focus was "the adjustment of the farmer to the existing technological and economic possibilities" (1968: 243). When this imaginary was transplanted to Europe after 1945, it met a tradition that emphasized social and economic planning, not just technological change. Agriculture was a vital part of abating hunger and poverty. Thus, rural sociology, and the rural specializations of other disciplines in North America and Europe, was caught up in the larger socio-technical regime of managing agrarian change (involving farmers and peasants) within liberal capitalism. The social sciences took on the task of making new social orders, either by adjustments or transitions. The social designs on hand maximized agricultural productivity and production.

New lines of intellectual engagement in European and North American geography, sociology, and anthropology in particular in the 1980s changed the direction and content of agricultural and food research.[3] These engagements revealed the social as being made through wider social forces *and* from research-informed, technology-oriented efforts made in response to such forces. Buttel (2001), Campbell (2012), Carolan (2011a, 2012a), and McMichael (2009a) identify many origins. Awareness of changes in the material conditions of agriculture and food in the decades since World War II led to ill ease over modernization, the agrarian-technological project, the rise of the nation-state system, and the diffusion of these development impulses around the world. In geography and sociology in particular, researchers galvanized around a renewed interest in political economy, and in the case of agriculture and food this interest was linked to the knowledge projects of a wide range of scholarly approaches, including Marxism and world systems theory (see Carolan's [2011a] broad discussion and Campbell [2009]as examples of contested ideas in a national context). Looking back, we can see the knowledge quest was to reveal the structural realities and lived experiences of agriculture and

food under capitalism. Only recently have there been efforts to look ahead to new food futures by practicing possibility politics.

Viewed in 2012, the agri-food world is paradoxical, a complex assemblage producing cheap food for mainly urban masses and expensive food for elites (see Marsden, Chapter 7, this volume). This assemblage is dominated by "an oil-dependent feed grain-livestock complex supplying a meat-centric diet for those who can buy it" (Jarosz, 2009, 2011). It contains contradictions that have generated the current food crisis and reopened debates over food security and insecurity and food sovereignty (see Midgley, Chapter 25, this volume). There are many signs of anxiety—food scares, food riots, and questions about the nature of food itself—reflecting breakdowns in the food chain, despite promises of quality with quantity; the failure to connect the food system to hungry people; and bodily impacts from consuming particular foods. Equally, counter and independent initiatives are evident, such as the declaration by La Via Campesina of principles of food sovereignty at the 185-Nation World Food Summit in 1996, the monitoring activities of the Pesticide Action Network Asia and Pacific (2012), and vigilance of agribusiness behaviors and patterns by the ECT Group (Erosion, Technology and Concentration) (2012). This prompts a pause: what is the world agri-food system doing for (or is it to?) humans, and nonhumans? Why have food (in)security and food sovereignty kept returning as issues? Are issues connected to food choices designed into the organization of food systems, leading to contradictory and inexplicable behaviors when considered in planetary terms?

AGRICULTURE AND FOOD (FOR HUMANS)

In *The Origins and Spread of Agriculture and Pastoralism in Eurasia,* editor David Harris states: "[T]he most fateful change in the human career can be said to have occurred some 10000 years ago when the transition from foraging to farming began" (1996: ix). This followed one hundred and fifty thousand years of successful colonizing by humans of almost all habitable and accessible areas of the earth, during which they learned to subsist, as hunter-gatherers, on a great variety of plant and animal foods. The achievement was to move people-plant and people-animal interactions from relations with wild plants and animals, into increasing dependence on domesticated plants and animals.

Nonetheless, humans continued to be vulnerable—they begin to suffer and underperform after no water for twenty-four hours, no food for forty-eight hours, or no shelter for seventy-two hours. From inhabiting different places and times, humans developed strategies to improve agriculture and its reliability for food (Thomas 1956). These include: mobility of cultivators and herders (e.g., shifting cultivation, nomadic herding); knowledge about plants and animals, plant-animal relationships, and food supplements needed for human (e.g., salt); rituals to be responsive to biophysical variation; storing water; and organizing systems of production to maximize absolute output for dependent populations (e.g., hydraulic civilizations).

But about 200 years ago, the means to support humans as a species underwent some fundamental transformations, so much so that these profoundly altered the landscape

of practices and character of agriculture and fisheries, and the foodscape made up of the quantum and qualities of food and the choices of foods on hand. Estimates suggest the world's human population in the early 1800s was one billion. By 2010, the earth's population was put at nearly seven billion. In simplified terms, since the early 1800s, the population-food relation has come under great stress. While we can grasp that dramatic changes happened, we can only imagine the lived pressures of transformation endured to deliver food to an expanding population. Pausing to reflect on population is important for at least two reasons: there are more people to feed and now more than half live in cities (see Scholliers and Van den Eeckhout, Chapter 3, this volume).

The relationship between human population and food requirements, especially the earth's overall carrying capacity, has regularly attracted the attention of the powerful, scholars, researchers, and commentators (Campbell 2012; Grigg 1981). Debate is polarized, from prophets of doom arguing that there are insufficient resources for humans (Malthusians), to believers in human abilities to provide sufficient food (Cornucopians) (Ross 1998). The uncertainties implied by these competing views are constantly pushed back by the lure of productive advances and productivity gains. In one stroke of chasing productivity, the path of population control is averted and human adaptability can be celebrated. But the planet's population has hardly been still—it has relocated, from countryside to cities, from cities to cities, in cities, and from country to country, and this continues. This ongoing re-templating of where food is consumed in relation to where it is produced has impacted on the infrastructure of agriculture and food, and on the nature and exercise of food choice in different contexts.

LINKING AGRICULTURE AND FOOD (FOR PRODUCTIVITY)

To think the idea that agriculture and food were being linked into new and increasingly complex and more productive relations, required theoretical systems and methodological strategies that broke away from earlier knowledge. A major breakthrough came with the work of Goodman and colleagues, who placed agriculture and food in the same conceptual space to discuss two intersecting processes, those of *appropriationism* and *substitutionism.* The former signals the intermixing of preexisting biophysical processes with new processes derived from industrial, scientific, and business domains; the latter, the rise of product substitutes. These concepts represent "parallel processes and broadly correspond to the industrialisation of rural production and of the final agricultural product" (Goodman, Sorj and Wilkinson 1987: 2). They concluded that bio-technological industries "potentially break down the chain uniting farm product and final consumption [offering] alternative and autonomous strategies to the economic interests, located at different parts within a previously interdependent chain of production" (Goodman, Sorj and Wilkinson 1987: 183). The anatomy of how agricultural productivity was achieved had been laid bare. For them, "biotechnology and micro-electronics mark[ed] *the end of the pre-history of the food industry* and its incorporation within the broader dynamics of the industrial system and post-industrial society" (Goodman, Sorj and Wilkinson 1987: 189; emphasis added).

On the ground, new levels of organization and productivity were achieved, but rarely as anticipated or claimed. A number of research groups were well positioned to investigate the changes as they happened, which hindsight shows was an edging toward a new system of agri-food. Researchers in the San Francisco Bay area (University of California, Berkeley and Santa Cruz) reinvigorated the research-scape of agriculture when they used political economy to examine and interpret changing Californian agriculture.

Major changes in U.S. agriculture triggered by the 1964 federal government abolition of the *braceros* program gave researchers the chance to "ride with" advancing capitalist processes. The sudden shortages of labor in tomatoes and lettuce production, following the abolition of the *braceros* program of government subsidy of low-cost migrant labor, became the focus of early inquiry (Friedland and Barton 1975; Friedland, Barton, and Thomas 1981). New interactions appeared, but they were almost completely opposite in nature. Tomato production moved from one of many crops on farms to a specialty crop. Changes took place in the field (who was involved and how), in terms of local geographic patterns (which areas in California were better suited for the new interactions) and adjustments made in areas of tomato production, and at the national level (the relative advantage of California growers over competitors in other growing areas of the United States, moving from fifty percent to eighty percent because of mechanized harvesting). In lettuce, by contrast, attempts to replicate the obvious success of tomato harvesting failed. Nonetheless, other interactions resulted, though centered on a new model of labor organization, the lettuce gang. Later research showed the breadth of transformation afoot. Miriam Wells (1996), for example, discusses how the strawberry was named *la fruta del diablo,* the fruit of the devil, since the life expectancy of strawberry workers was only forty-nine years (Schlosser 1995). The fruit is still ranked third by the Environmental Working Group (2011) for pesticide exposure of fruits and vegetables, and its calorific value is low. FitzSimmons (1986) explored the rise of specialty agriculture in the Salinas Valley and the integration of specialty production into the emerging food economy. Her research showed how regional production changes underpinned supply chain developments tied to supermarket expansion and the rapid growth of fresh fruit and vegetable production for supermarkets.

Such studies focused on the capitalist heartland. But what was the experience when the paradigm of capitalist agriculture developed from the industrialization and capitalization of agriculture in the heartland was transferred elsewhere? The *Green Revolution* refers to the diffusion of a specific agrarian-technology project of doing agriculture—one based on introducing high-yielding seeds into the hands of traditional farmers. This was seen as a solution par excellence to the productivity challenge.

Yapa's 1993 genealogy of the early Green Revolution in Mexico, for instance, is especially instructive. It shows the politics behind moving high-yielding seeds into agriculture, a technological fix with *implicit* choices about how society should be organized and the resulting and compounding *social consequences.* He picks up on imaginaries formed around simplified models of change. "Seeing" the seed as only a thing, instead of the seed as an implicit model of social organization, avoided thinking about human futures involving different seed.

Yapa argues that the Green Revolution sprang from the separation of two basic functions of seeds—reproduction and provision of food. Because of this, seeds became a commodity purchased at each planting. Applying science to seed improvement focused on hybridizing seeds to improve seed and plant productivity. Favored staples included wheat, corn, rice, and soy, which with increased yields paved the way for extensive industrial farming of a small number of mass crops—crops for the poor and for livestock.

The Mexican example shows dimensions ordinarily absent from the popularist "let's follow the seed" story. Its historical trajectory reveals *the conditions that made possible the arrival of the seed, as well as what happened when and where the seed arrived.* To return to Mexico, the reformist government of the 1950s emphasized research on corn (rain-fed), the main staple of the sizeable peasantry. A change of government boosted large-scale commercial growers by prioritizing hybrid varieties of wheat, which could be farmed with irrigation, while closing down the research into rain-fed corn. Yapa suggested this did much for the agribusiness of pumps, machines, credit, fertilizer, and pesticides, but did little for the nutrition and welfare of Mexican peasants.

In his conclusion he discusses the inadequacy of *certain types of questions,* such as "Was the green revolution a success" or "how productive are improved seeds?" His argument is simple: these questions treat seeds alone as a sufficient object of analysis, completely missing the fact (which is empirically demonstrable) that seeds are a nexus of relations. To omit such dimensions is overtly political, though it is usually claimed to be objective. As Yapa notes, the Green Revolution's genesis was a political imaginary, the "possibility of a green technical revolution in food production as counter posed to a red political revolution" (1993: 257). Unsurprisingly, green revolutions and market integration became the central leitmotivs, especially after the retreat of state intervention in the 1980s and 1990s (Vanhaute 2011: 62). More recent studies document the spread of the Green Revolution project into other continents (Das 2002; Holt-Gimenez 2005; Mushita and Thompson 2008; Otero and Pechlaner 2010; Perkins 1997; Teubal 2010; Wald, Rosin and Hill 2012), raising concerns about why it is still a favored instrumentality of change (see Rigg 1989 for a divergent view of impacts and implications).

Crucial developments in expanding capitalist agriculture were identified at this time: switches out of subsistence to export agriculture, the replacement of diversified agriculture by specialized monoculture agriculture, the role of large private and public TNCs in creating agribusiness chains that connected "new agriculture" to "new food," and the rise of supermarkets as key organizers of how more and more consumers would meet *only food* because its agricultural and industrial links had been screened out.

However, the very principles of knowledge production used to trace developments impeded a global sense of the restructuring of agriculture and food that was apace. It was not yet empirically possible to speak of an international food system or global food. Researchers worked in isolation. Nation centrism stifled appreciation of local-global processes. Researchers worried about falling farm numbers and about how growing farm sector concentration was being tied into new capitalist arrangements. New questions implied by the increasing differentiation into quantity or quality food from agriculture

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(e.g., fruit and vegetables for processing or for supermarket produce displays) were yet to be stated. Most significant was the fact that knowing about what was going into producing food was slipping out of public consciousness. Efforts to ignite concern were swamped by the new faces of food, not those working in agriculture. This is epitomized by an activist (Payne, 1998) who reported that shoppers meeting picketers outside Californian supermarkets (over the already mentioned strawberry worker conditions) were saying they were "only concerned with the healthy things they could put into their bodies… They didn't care if the people who picked their food were exposed to pesticides, didn't have latrines or were underpaid." Where was this mentality and the system features it fed on leading?

INTERLINKING AGRI-FOOD (FOR PROFIT)

Agri-food is a category that summarizes a deep directionality in the history of agriculture and food relations. The abbreviation of agriculture to "agri" suggests food's growing dominance over agriculture as an imaginary. Since the 1980s, agriculture and food researchers have tried to keep up with the emerging realities of agri-food. For many, this is a very familiar story, involving globalizing processes, which have led to global food (see Bryant, Bush, and Wilk, Chapter 1, this volume). Carolan regards this development as significant, arguing that the altered "experiential horizon of food consumers comes from the level of epistemic distance from the global nature of today's food system" (2011b: 32).

Three trajectories of research have been especially generative of understandings about agri-food: global commodity chains (GCC) (see Pritchard, Chapter 9, this volume) food regimes (FR), and alternative food movements and networks (AFMN).[4] They have different priorities regarding on what to focus and how to research agri-food worlds. Agri-food researchers reacted to material developments and intellectual currents like those before them. Earlier political economy studies became new political economy of agriculture and food (Bonanno et al. 1994; Friedland et al. 1991), and new influences from outside agriculture and food stimulated fresh initiatives.

GLOBAL COMMODITY CHAINS

In a rapidly neoliberalizing world, the detail and dimensions of the globalizing agri-food economy enticed food researchers. Massive and unprecedented infrastructural and organizational developments were under way: the supermarket revolution that first gathered momentum in the United Kingdom, the advent of supply chain management that soon permeated all agri-food global commodity chains, new systems of transport and logistics that ensured raw and processed agricultural products and food ingredients moved around the world, and growing monitoring of quality throughout the supply chain.

GCC research attempts to *follow the evolving relationality* of the commodity in commodity chains. This includes deeper accounts of the political economy of the commodity

and making visible the social life of the commodity (Appadurai 1986; Dixon 2002), foregrounding the consumer, showing influences shaping the nature of choices over commodities, commodity qualities and commodity consequences, and making visible contestation in commodity journeys. The GCC approach stimulated a remarkable burst of research, covering commodities as diverse as papaya (Cook 2004), green beans (Freidberg 2004b), coffee (Mutersbaugh 2002), oranges (Mather and Rowcroft 2004), bananas (Fagan 2005), dairy (Gray and Le Heron 2010), beef (Oro and Pritchard 2010), tea (Nielson and Pritchard 2009), apples (McKenna, Roche, and Le Heron 1998), cocoa (Fold 2004), and wine (Ponte 2009) (www.globalvaluechain.org lists many more).

An expanding body of literature, drawing on poststructural understandings as its intellectual catalyst, started to reframe the spaces and places of the agri-food world. Edited volumes such as Hughes and Reimer (2004) and Burch and Lawrence (2007) highlight and reinforce understandings of ethical consumer behavior, corporate responsibilities, fair trade, labor relations, gender, ethical investment, and more recently sustainable development and ecological vigilance. Moreover, governance arrangements within the commodity chain gained attention, with the widespread adoption of standards, audit systems, accreditation systems, benchmarking, and new metrics of monitoring and decision making. Much research attached significance to the supermarket revolution, but Campbell and Le Heron suggest that "while a blanket claim of a shift in power from food producers to food retailers may be appealing, it actually misses a range of diverse power gains (from audit and other systems) within agri-food systems and dismisses their cumulative effects" (2007: 149).

FOOD REGIMES

Food Regime (FR) thinking forms a crucial, distinctive, and influential body of thought. Its influence stems from it being "not a structural formation in itself so much as an . . . optic on one or more historical conjunctures" (McMichael 2009b: 148). From its objective of "historicising and politicising food it keeps open doors to further development of the concept" (McMichael 2009b: 146). Important, this attachment to theorizing has sharpened understandings of the contours of agri-food developments.

The FR project questioned world-level patterns around agri-food, initially from an agrarian perspective, of how farmers were distanced from consumers, then by looking at corporate redistribution in the agri-business chain, and most recently, by giving credence to food sovereignty movements. In so doing, FR researchers have consistently mapped the expansionary and restructuring dynamics of agri-food's emergence and what happens when agri-food encounters *other* agriculture and food organization within periodizations of capitalist accumulation.

First-generation FR theory (Friedmann and McMichael 1989) delineated the diffusion of the nation-state system that altered the empire and colonial relations of food, the first food regime, and highlighted how nation-state ambitions and strategies of

intervention were constitutive of a second food regime, wherein nations prioritized and socialized food security and developed national self-sufficiency in food and a minimum diet. The nation-state gave context to the push for productivity. This was met via farming stability, deepening monoculture, land intensification, and the industrial foods. Behind this lay various forms of intervention—national and pan-national support structures, state food standards, and agricultural research. International food aid became a safety valve for the largesse of productivity, subsidized surpluses, and surpluses became part of the diffusing modernization project.

Second-generation FR theory (Friedmann 2005; Friedmann and McNair 2008; McMichael 2005; McMichael and Friedmann 2007) broke new ground and was a story centered on growing United States-Europe links and the links of the agri-food system of those geoeconomic and geopolitical blocs to developing countries. Friedmann and McMichael in particular posited that there had been an erosion of socialized food security, this being replaced by globalizing markets as the safety net for food security. Agriculture was framed, as trade, with an adequate diet depending more and more on the ability to earn enough income to purchase "traded" food in markets, from wherever it was sourced.

The 2009 special issue on FRs in *Agriculture and Human Values,* arriving in the aftermath of peak oil, peak food, climate change, food scares, and food riots, signaled fresh thinking. It made food relations central to many processes (e.g., public health, energy) and food as a site for expansion of particular processes (e.g., financialization) (see Burch and Lawrence 2009; Campbell 2009; Campbell and Dixon 2009: 262–263; Dixon 2009; McMichael 2009a; and B. Pritchard 2009 for elaboration).

This generation of FR writing enables corporate activities to be understood as coconstituted by and coconstitutive of developments in regulation and governance that have implications at all geographic scales. Busch (2010) contends four organizations—the World Trade Organisation, the World Bank, the International Monetary Fund, and the World Intellectual Property Organisation—and two strategies—supply chain management and the Tripartite Standards Regime, covering standards certifications, and accreditations—"have provided large firms with new ways of acting in a neoliberalising world." Many of the strategies and specific behaviors adopted have been studied as phenomena in their own right, and as patterns emanating in, and from, crises facing the nation-state and international institutions: global sourcing, third-party audit, the privatizing of security (food security, biosecurity), privatizing of agricultural research and so on. These developments in the rules of business and investment involving food and agriculture are interpreted as facilitative of accumulation, rather than efforts directed at mediating investment, which had been the concern in the past.

Contemporary FR research is now illustrating how expansionary agri-food is a source of new contradictions, while its interests promise planetary solutions and human benefits. First, new classes of technology are appearing: genetics and genomics and nanotechnologies (Scrinis and Lyons 2010). These developments are in fact new forms of

enclosure, or private property (White et al. 2012), often reducing space requirements, by shifting the field biology of earlier plant and animal breeding programs into the laboratory, bringing, through intellectual property, the realm of life in the body into the realm of calculation and translation, and altering the scale of perceptions around food (Busch 2010). Labeled the bio-economy, they encompass activities derived from research and science at the genetic and molecular levels and the application of this knowledge to agriculture, energy, chemical, and health industries (Organisation of Economic and Cooperation Development [OECD] 2009). Second, "beneath the surface [of agri-food] lies a larger question, namely when public discourse will acknowledge that global agriculture is responsible for between a quarter and a third of greenhouse gas emissions" (Busch 2010: 139). The 2006 FAO report on "Livestock's Long Shadow" (Steinfeld et al. 2006) recast debate about agriculture and planetary relations. Third, agriculture is now food for humans, feed for animals, and feedstock for machines. Research by Rosin and colleagues (2012) examines how decisions made in one context about agriculture's particular end-uses trigger large-scale effects that are rapidly felt elsewhere. Fourth, increasingly research is examining the inability of the human body to cope with the food choices presented by agri-food. Butler and Dixon, for instance, argue that the production and consumption of the nutritious food humans evolved to eat, has not kept pace with the "enormous expansion in the production and consumption of animal products, fat and carbohydrates" (2012: 110). This has resulted in a "maldistribution and inequitable consumption of dietary diversity." They see this worsening as "wealthy consumers seek health protective foods." Fifth, the capacity to switch agricultural activity among several competing industrial systems has been heightened by financialization (McMichael 2012a). Multiple sourcing has been joined by investment flows connected with land grabs in many countries (White et al. 2012). The new scales of operation and returns demanded by agri-food enforces social reappraisal of existing land, infrastructure, and processing options with those that might be put in place in "green" fields somewhere else. This latest development is accelerating and compounding agri-food effects planet-wide.

ALTERNATIVE FOOD MOVEMENTS AND NETWORKS

The descriptor AFMN makes immediately visible a loose confederation of activism and research directed at marginalized, oppositional, and alternative food initiatives. Unlike GCC and FR research, which deals with the structuring of existing food choices, AFMN research seeks to articulate new systems of food choice. Research dealing with activism has been especially significant because it gives politics an entry point, and because of this, has been open to new lines of inspiration. It has also thrown a lifeline to reimagine the contributions of farming and farmer strategies to the making of food options and to confront more generally the reorganization of food systems.

One stream of work has been profoundly anticapitalist and simultaneously revolutionary in narrating economy *as far more diverse,* on many dimensions. From their

development standpoint, Gibson-Graham (2005, 2008) and coworkers (Gibson-Graham and Cameron 2007; Gibson, Cahill, and McKay 2010) contend that rebutting representations of capitalist development dynamics is crucial as their existence and use denies credibility to the host of other dynamics that might be deployed. This ontological project challenges vested interests and allows the food economy to be seen more fully as a "space of decision, and resilience . . . to be actively achieved through ethical decision making, not by relying on structural imperative or logic" (Gibson, Cahill, and McKay 2010: 250). Initially vehemently contested and resisted by many earlier food researchers, the Gibson-Graham influence is gathering pace.

Early enthusiasm of AFMN researchers, however, was directed to counter movements that had survived and coexisted with agri-food expansion. Organic agriculture in particular became a rallying point of alternative movements. Researchers are looking at the translation and transition challenges of going from capitalist and industrial agriculture to other systems and practices.

Work in the late 1990s (Morgan and Murdoch 2000) and then a decade on (Campbell et al. 2011) comments on the developed agricultural contexts. Morgan and Murdoch (2000: 171) argue that industrialized agriculture tied together all elements, "so farmers' local knowledge was displaced by standardised knowledge emanating from up-stream supply industries." In difficult conditions, the fragility of farmers' economic situations has been exposed, along with "their reliance on external, specialised sources of knowledge for this weakens their ability to explore new agricultural practices" (2000: 171). They showed that farmers must forget many of the practices acquired under the conventional system, (re)learn to farm in tune with local ecosystems and the rhythms of nature, and develop new distribution strategies.

Using the insights from perhaps the largest farm-scale and longitudinal study of farm-level sustainability in the world, the Agricultural Research Group on Sustainability project (ARGOS) Campbell and colleagues (2012) point to the saliency of the Morgan and Murdoch theoretical explanation and the more subtle and tension-filled adjustments farmers and growers make as they try to coinhabit the knowledge spaces of different agricultural production, marketing, and audit systems.

Reviewing AFMN research, Maye, Holloway, and Kneafsey (2007) identify some of the knowledge shortcomings inherent in much of this trajectory. While suggestive of alternative food possibilities and of politics, it also contains stern warnings about difficulties ahead. Guthman, for instance, is adamant that "moving forward without looking back is wishful thinking; transforming food systems involves paying attention to the historical geographies that got us to where we are in order to address the inequities that have endured" (Guthman 2007a: 251) Allen and Hinrichs (2007) take issue with the widespread claim that local food systems are automatically comparable to sustainable food systems, while Blay-Palmer and Donald (2007) explore the influence fear exerts on the food industry, which among other things leads to a co-option of alternative by mainstream food producers.

A striking feature of AFMN research is the energy expended on relocalizing the imagination of food consumers, especially by popular writers (Pollan 2006). Although food researchers are disposed to trying to reconnect producers and consumers as the local and slow food advocates and regulators attempting to institutionalize provenance seek to do, they have been quick to show the many conceptual fallacies of these "localizing" movements (Born and Purcell 2006; DuPuis and Goodman 2004). Empirical investigation (Feagan 2007) has further demolished assumptions normally made, showing that local does not necessarily imply food is produced locally, the biggest contributor to food miles is likely trips to and from supermarkets to buy food (Christensen and Saunders 2003), labeling is an incomplete indicator of origin because of multiple ingredients, provenance claims around products of designated origin or "qualities" such as *terroir* are far more complex than first thought (Ilbery and Kneafsey 2005; Morgan, Marsden, and Murdoch 2006; Parrott, Wilson, and Murdoch 2002; see West, Chapter 12, this volume), and farmers' markets frequently sell food sourced from afar. Irrespective of the point of entry—alternative farming models, farmers' markets, competing food chains, styles of eating, provenance, distributional arrangements such as food boxes—local is in reality a series of geographical scalings. But whether local, or indeed provenance, is a synonym for food justice (Allen 2010; Morgan 2010a), a geographic concept to guide transition (Eaton 2008), or, as Kneafsey reflects, a performance at the regional scale of "economies of care and connection" and the "politics of respect" in relation to the needs of those "within" and 'beyond' a territory', remains an 'open question' (Kneafsey 2010: 187).

A final reflection concerns the relative absence of the urban in food research, this despite heroic attempts in some settings to ignite the urban-oriented research agenda. Notably Canadian-based food researchers, Francis Lappé (1971), Anna Lappé (2010), and later Friedmann (1993, 1995), until the 2000s, spearheaded urban food politics. Three threads epitomize the shifts afoot and the gravity of the issues. Food tensions in different cities are now being examined: Cairo (Gertel 2005) and Johannesburg (Abrahams 2007) are examples. World cities are seen by Morgan (2010b) and Morgan and Sonnino (2010) as sites of innovative trials to break the grip of agri-food food choices. And the idea that some populations may be systematically disadvantaged for dietary diversity because the location behavior of fast food outlets and supermarkets creates "food deserts," or areas of under provisioning of food options, has seen academic (Wrigley 2002) and government efforts (U.S. Department of Agriculture [USDA] 2012) to map and advertise such inequities.

But we should be very wary of assuming that many new understandings are widely sensed or understood (Allen et al. 2003). In a recent study of the organic movement in California, Guthman identified that "stakeholders played a constitutive role in producing the neoliberal outcomes of the project, in part because their input reflected *already-developed notions of the possible* within the current climate of neoliberalism" (2008: 1242; emphasis added). Most people find it hard to comprehend the realities food researchers

are revealing. As Busch states, in commenting on Guthman's finding, "Petitioning the state for legal redress was not merely absent from the discourse; it was beyond the imaginable!" (Busch 2010: 345).

POLITICS OF FOOD, FOOD IN POLITICS (ENACTING NEW FOOD CHOICES)

Why new food choices? What is striking from the chapter's overview is the extent to which politics—concerns over relations of power exercised to particular ends—are still written out of the vast majority of discussions about food. While many would agree that food issues are often contentious and therefore political, conventional wisdom is that food questions are largely about being more productive. According to this interpretation, all that is needed is better knowledge, incentives, and technology. The handmaiden of this interpretation is the belief that markets are apolitical mechanisms of social organization, which makes it easy to slip into the market-reinforcing mentality of producing more. Such a view, however, ignores the situated relations of power that create "food" problems and impede "food" solutions and misses the systemic and cumulative distancing of food production and food consumption. It also ignores the ways food questions are approached. While purporting to avoid politics and moral sentiments, it makes opaque the power relations supported by any framing of food. Thus, the wording "food choices" in the chapter is really shorthand for the political work of *making of choices about food relations.* This is multifaceted: it is about how food systems should be designed for concentrations of population such as cities and nations, what food systems should deliver to whom, the principles on which they might operate, and the responsibilities and accountabilities of different actors, private and public. In short, as Friedmann stated some years ago: "The real alternative is democratic regulation of regional food economies . . . *Food,* not agriculture, is the appropriate unifying principle of politics and policy" (1995: 29–30).

Food research shows the expansionary and globalizing dynamics involving increasingly private interests that have become central to shaping the dominant direction and nature of food relations and how individuals, households, communities, cities, and countries are being placed and distanced in these food relations. This is traceable back to the perennial issue for humanity of feeding local and regional populations and the implied power relations of organizing agriculture for food. Arguably sovereigns used food as an instrumentality of rule. Nation-states took food security for their populace seriously, but this obligation is being increasingly abrogated as a corporate-organized global food system based on markets has been facilitated by a range of governmental frameworks. The food sovereignty movement, in its many expressions, focuses on the fact that *rights to organize to meet particular food goals and stable food relations through negotiated practices* are being lost or ignored (Anderson and Bellows 2012; Menezes 2001; Patel 2009; Rosset 2011). Food sovereignty research appears to have superseded earlier

entitlement- and livelihood-focused initiatives (Bohle 2002; Watts and Bohle 1993). The food security discourse in its many forms, in contrast, *does not engage in scrutiny of how the food system is made and maintained* (Crush and Frayne 2011b; Falcon and Naylor 2005; Jarosz 2010; see Midgley, Chapter 25, this volume).

Food research also warns of powerful trends: predictions of a world population of 9 billion in 2050, which is probably equivalent to 12 billion because of trends in food habits in developing countries; 2 billion of the present 6.6 billion are food insecure in some way because they cannot afford a healthy diet and suffer from vitamin and micro nutritional deficiencies that limit cognitive and physical activity (Morgan and Sonnino 2010: 209); livestock used for the meat-intensive diet of the other two-thirds of the human population is a major contributor to greenhouse gases (Busch 2010); global trade in the 2000s in processed foods outstripped global trade in unprocessed products for the first time (Oosterveer 2007: 5); and processed foods in many countries now account for more than half of household expenditure on food (Carolan 2012b). These are sobering statistics. And they expose the growing magnitude and geographic reach of the disconnection in food knowledge underpinning food choice.

If we accept that actors are already changing the world, then we must ask forward-looking questions that engage more in real time. This is a crucial step because it rotates thinking away from representing what has happened, to representing the moment, but mindful of the past, and casting forward, using knowledge in the present, to engage with the diversity of actors who are *already enacting possible worlds.* At this juncture, a top priority is knowledge politics to reset the discussion of food relations. What might we do? Are there hopeful frontiers?

My first step to answer these questions is to re-present the chapter's argument in diagrammatic form. I was guided by three broad strategies to make known key points. First, we need to move from abstract and anonymous actors to naming actual actors so we can know and remember who they are and what they are doing. Second, we need to shy away from studying short-term disturbances and impacts and look instead at trajectories of revealed behaviors and assessments of the consequences of behaviors, so as to feed these forward into debate and decision making. Third, there is a need to rethink agriculture and food simultaneously, as already being, and yet also already in transformation.

A question of the moment is how to start a new planetary debate over food choice that uses the rich heritage and insights of food research. Figure 2.1 is a heuristic conceived in the conditions of the Anthropocene that has at its center humanity's dilemmas over food.

I have suggested that food research imagination has often been slow to evolve with particular developments and the overall assemblage of food systems. This Achilles' heel is transcended by giving equivalence in the conceptual space of the figure to the situated immediacy of context (the left-hand box, the food system hour glass [Carolan 2011b: 191] of nameable actors) and wider sensibilities of trajectory (the right-hand box, changing agriculture-food relations). Figure 2.1 thus attempts to serve as a directional resource for acting in and through food research. As a heuristic, it differs radically

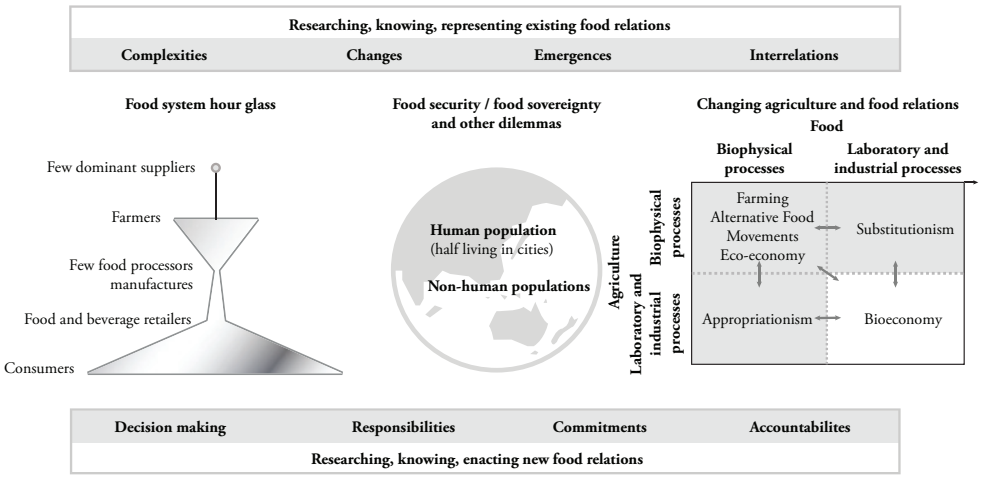


FIGURE 2.1 A heuristic conceived in the conditions of the Anthropocene.

from the usual rush to "declare" about food security, without first visiting, and then working from the material, discursive, and corporeal conditions, from which calls for food sovereignty spring.

Carolan (2011, 2012) has used the hour glass form as a way to illustrate shifts in strategic and numerical power in city/regional, national, and international settings that are so consistently reported by food researchers. It is a potent pictorial of concentration in the food chain and concentration in identified components of the food chain. He refers to the food system as "hanging by a thread," the hour glass imaginary graphically exposing key (but by no means all) sites where both agriculture and food are configured. In a single framing its transparency encourages identification of actors mostly responsible for the now understood consequences and the subset of surprises or unintended consequences their actions produce. Similarly it becomes possible to position and deconstruct claims and promises associated with actors in a more systematic and interdependent manner. This portion of the figure helps with grasping how food choices are multiple and often sequentially constrained. This gives new meaning to the idea that we do what we are increasingly directed to do, that power exists in its exercise in prefigured arrangements that constrain daily behaviors and practices relating to food choice. Acknowledging the presence of big (along with small and medium) actors driven by profit making means we gain an appreciation of the extent of scaling up of activities and the potential scale of waste that typically accompanies such processes.

Important, this portion of the figure helps ground questions such as: "Why can't all food produced be better distributed?"; 'How is it that supermarkets are so dominant in everyday food purchasing?"; "Why are the voices promoting different goals and organizational models for food production and delivery often overlooked, suppressed, or ignored?"; and "Why can't regional/urban populations be aided in their efforts to build resilient food frameworks?"

The depiction of changing agriculture-food relations on the right-hand side of the figure picks up another major conclusion of agri-food research, which we must not ignore. This is the wider field of dynamics and their pressures and the possibilities they contain. This is simplified in the figure into expanding trajectories of emergence, using the framework of Goodman, Sorj and Wilkinson (1987), which also highlights Marsden's (2010) concerns around the deepening tensions between the bio-economy and the eco-economy. The tidal drift of investment in agri-food has favored the bio-economy, the lab and IP, and functional and protective foods. Marsden, writing against the new mode of global Malthusian and sustainability intensification, holds that the legitimacy of the bio-economy paradigm "will not be seriously challenged if the debates remain at the aggregate global level without critically confronting or transcending both the problems of scale, diversity, context dependency and the sanctity of generic ('one-size-fits-all') technological solutions over more place-based technologies and knowledge systems" (2012a: 5–6). He argues: "Eco-economical approaches could 'feed the world' and thereby contribute to a 'real' green revolution, but this requires a more radical shift and widening of the debate amongst scientists and policy makers about fostering new types of diverse and embedded agri-food economies" (6). The multiple paths for constituting food are thus made very visible and the directionality of economic, social, and ecological history of capacities and capabilities to "do" agriculture and food can be discerned at a glance.

The figure would not be complete without recognition of the knowledge production tensions around the contributions of representational and more performative or enactment-informing knowledge. This takes us back to the chapter's premise, that food research is always coconstitutive of food choices and food worlds. The anticipation of making a difference energizes the kinds of research reviewed in the previous section. There, much recent research is distinguished by its ethical and political activism. This development is hardly unique to food; the International Social Science Council (2012), for instance, is seeking to place the social sciences at the center of a new vision for and practice of research for change. The figure is bordered, top and bottom, by transformation cornerstones identified by the International Social Science Council (2012). This is a reminder that research *understood as a technology of change is a commitment to coproducing change.*

My argument is that today the focus needs to be redefined into issues about food choice. In targeting choice, I go beyond "informed choice," phrasing that denotes choosing from an already set menu created in particular power-knowledge relations. Rather, I am urging engagement in activities aimed at negotiating actual situated and scaled arrangements for food.

Cognizant of the urgency of actually engaging processes of making food choices, Carolan (2012b) has developed a strategy to fire up imaginative responses to the bodily experiences of food, anywhere on the planet. His Food and Human Security Index (FHSI)[5] across 126 countries embraces *objective well-being* (life expectancy at birth) and *subjective well-being* (life satisfaction), *ecological sustainability* (total per capita water/food print as percent of total per capita renewable freshwater), *nutrition*

(per capita consumption of oils, fats, and sugars), and *food system market concentration* (supermarket concentration). Its comparative calculations, using variables that go to the heart of food security and food sovereignty, means both the absolute score for countries and their relative positioning is likely to engender controversy, be a fertile source of imagination about food relations, and redefine debate.

CONCLUSION

In the twenty-first century we cannot avoid acknowledging that the very idea of food is an ongoing construction of ordered and organized choices that become available to individuals to "exercise" or practice directly or indirectly wherever they are. We are attuned to choose, though we know little about either the origins of the choices we make and how these stand in relation to other possible choices, or, indeed the consequences of our choices for ourselves or for others. The chapter's exploration of food choice points to knowing more about neoliberal tendencies, especially those of marketization and individualization. The mentality of the supreme worth of capitalist markets perfected and sustained by the rationality of informed choices dangles food choice as if it is the end in itself. It is probably fair to describe the idea of food choice and its supportive discourse of food security as macro-myths of the twenty-first century, part of the background 'mood music' to extant and place-specific social and fiscal policies relating to food. And yet decades of food research shows that the complex and discernible knowledge-power relations in which food choices are made are inseparable from what become food choices in places and spaces. I have shown that the systemic, systematic, and ongoing remaking of food dilemmas is intimately linked into the trajectory of food choice. These dilemmas have structural and individual dimensions that spring from and are increasingly amplified by the commitment to profit from food. This expansionary path, in particular settings and overall, constrains other possibilities, in spite of a wellspring of initiatives dedicated to other goals, practices, and principles.

The chapter has shown that food researchers are catching up and are setting new research agendas, partly from reassembling particular research and partly by prioritizing a *knowing and doing differently* agenda in various guises. Incorporating urgencies of the Anthropocene allows discussion of food choice to be fuller and openly planetary. But we should not underestimate the difficulties ahead. Bill Pritchard (2012) has thrown down a challenge to the WTO that it tries to understand why food security and food sovereignty should coexist in a market-driven global food world. This is a request to see in ways other than through neoliberal eyes. Bonneuill and Levidow, on the other hand, offer a disheartening reading, saying that the WTO disputes procedure has already become a site for "innovating ontological categories," which has opened the door to challenge "trade restrictions as being unduly cautious" (2012: 96–97).

This is probably the first moment historically when humanity's experiences of living and eating can be co-scrutinized, as a whole and in its individuality, the enacted

nature of these experiences better understood, and fresh possibilities imagined from a critical food research knowledge base. This is an unprecedented opportunity for food researchers, one opportunity of which is to renarrate contemporary food questions around food choice.

NOTES

1. Recognizing the crucial influence of humanity on planetary processes is an attempt to escape human-centered or anthropocentric privileging of the terms of planetary occupancy. Planetary awareness is one thing: being able to move from being informed of stark choices and grasping the need to act to alter outcomes, to instituting processes that lead to new outcomes, remains one of humanity's current dilemmas and challenges.
2. I use the word *imaginaries* to highlight particular relations of people, plants, animals, in places, and the possibilities constrained by the relations. Strictly speaking, all imaginaries are both geographically and historically contextual, that is, they are products of conditions, technologies, organization, knowledge, and how different actors are able (or not able) to work in and on their immediate and wider worlds. Rarely, however, are imaginaries identified and examined in food research.
3. The gradual differentiation of social science journals devoted to agriculture and food, for example, signals a changing history of intellectual engagement: *Rural Sociology* (1936) and *Sociologia Ruralis* (1960) catered to the North American and European traditions, while *Agriculture and Human Values* (1984), the *Journal of Rural Studies* (1985), and the *International Journal of Sociology of Agriculture and Food* (1991) were arguably started to depart from established traditions and give intellectual space to research communities in other parts of the world.
4. It must be noted these trajectories are a conceptual device to facilitate discussion of the burgeoning literature on agriculture and food. But it is a conceptualization that acknowledges dimensions of material, discursive, and corporeal change that took new forms as agri-food relations became an increasing presence around the planet. Researchers, with few exceptions, have tended to research in only one of the trajectories.
5. I am indebted to Mike Carolan for introducing me to this index and for discussions about its potential as a knowledge intervention.

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3

Feeding Growing Cities in the Nineteenth and Twentieth Centuries: Problems, Innovations, and Reputations

PETER SCHOLLIERS AND PATRICIA VAN DEN EECKHOUT

Cities seem like enormous sponges that absorb masses of staple and luxurious foodstuffs from nearby and distant shores. This image of the city, perhaps going back to ancient Rome, emerged resolutely in the seventeenth century but boosted in the late eighteenth century when Paris, for example, was depicted as a "voracious beast" (Radeff 2012: 30). With rapid urbanization during the nineteenth and twentieth centuries, many more voracious beasts appeared, which increasingly affected the entire food chain. Because of the cities' multiple roles in this process, it is difficult to separate urban food history from food history *tout court,* which implies that this chapter should actually consider the all-inclusive history of food. This is not viable, and therefore emphasis will be put on particular aspects in which cities have played, and will play, a determinant role. The European city in the nineteenth and twentieth centuries will be taken as the prototype of modern urbanization, although this cannot be seen as the model of cities in all places at all times. Besides, now and then examples from outside Europe will be referred to.

This chapter has four parts. The first section surveys the general literature on "urban food" history. The second section addresses the growth and emergence of cities since 1800 and considers the way municipal authorities tried to overcome particular food supply problems. The last two sections focus on aspects in which cities played the decisive role, namely food retailing (see Hallsworth, Chapter 15, this volume) and eating out (see Julier, Chapter 19, this volume). Two general questions steer this chapter: how did townspeople obtain food, and how did they modify its meaning? The relation between food and cities cannot only be conceived as the city being an all-absorbing sponge; the

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city must also be viewed as a place of transformation that radically alters the significance of food. Both questions are valid for ancient Rome, medieval Córdoba or seventeenth-century Amsterdam, but the rapid post-1800 urbanization posed particular problems as well as offered new opportunities.

AT THE CROSSROAD OF URBAN HISTORY AND FOOD HISTORY

This chapter cannot lean on stacks of to-the-point literature. Although the term *food* inevitably and frequently appears in urban historiography and the term *city* in food historiography, both (blooming) branches of history writing have rarely interlinked. A survey of the content of specialized journals in both fields (e.g., *Urban History* and *Food & History*) shows the lack of the explicit presence of *food* and *city,* respectively: the city is taken for granted in food history writing, just like food is an evident part of urban historiography.

This relative scarcity of history writing on food in the city was the reason why in 2005 a colloquium was organized that focused on food and the city in Europe since 1800.[1] The introduction to the book that emerged from this colloquium emphasizes the lack of pointed historical interest in the role of cities in shaping eating practices, food safety, diets, food commerce, and so forth (Atkins and Oddy 2007). The editors of this book wished to fill some of these gaps by granting the city a chief role in diverse developments related to food and drink. The titles of the four sections that organize this book reveal the main considerations ("Feeding the Multitude," "Food Regulation," "Food Innovations," and "Eating Fashions").

In surveying the literature on food and the city, the introduction to *Food and the City in Europe since 1800* shows that the food supply of preindustrial cities has benefited from much attention. For example, the grain trade, bread baking, wholesale and retail markets, slaughtering and butchering, public drinking, and per capita food consumption were studied (Abad 2002; Brennan 1988; Campbell et al. 1993; Kaplan 1996; Marin and Virlouvet 2003; Murphey 1988; Smith 2002). There are only a few monographs or collections that address the general food supply of cities in the nineteenth and twentieth centuries (e.g., Morris 1993; Scola 1992). Recently, studies have begun to explore new themes and approaches (e.g., Csergo and Lemasson [2008] on gourmet cities and regions; Hauck-Lawson and Deutsch [2010] on New York's tastes and flavors; Rich [2011] on middle-class eating culture in London and Paris). Also, present-day and future problems of feeding the city are increasingly addressed (e.g., Steel 2009), while particular aspects of provisioning cities are investigated now and again (e.g., Philipp 2010). Two fields, though, have been widely explored. From the early 1960s, estimates of per capita food intake up to 1940 for some European cities, for which adequate source material is available, have been quite successful (e.g., Aron 1975; Gomez Mendoza and Simpson 1988; Lis and Soly 1977; Mokyr 1988; Segers 2002; G. Shaw 1985; Vandenbroeke 1973). Many of these studies contributed to the debate on the standard of living during the industrial revolution,[2] which, generally, suggest deteriorating food

consumption by the working classes and increasing social inequality. Other research on (per capita) food consumption in cities considered social prestige, cultural differences, or the transition from poor to satisfactory and even abundant diets (Atkins 2007; Hänger 2000; Horowitz, Pilcher, and Watts 2004; Nicolau-Nos and Pujol-Andreu 2004). Nutritional conditions in cities also led to frequent historical research, particularly when dealing with harsh consequences of wars, the fate of the deprived is studied, or class differences are considered (e.g., Amilien 2007; Bonzon and Davis 1997; Davin 1996; Davis 2000; Trentmann and Just 2006). Urban food monographs, in which various themes combine, would be highly welcome to better interpret the role of cities in the making of modern consumption (advocated, for example, by Cohen 2003).

GROWING CITIES AND URBAN FOOD POLICIES

European cities were confronted with immense problems of rapidly rising population in the nineteenth and twentieth centuries, a phenomenon that since 1950 has accelerated worldwide. Old cities, like London or Paris, became ever more congested, whereas new towns, like Essen or Newcastle, developed untidily. Neither provided infrastructure or suitable housing for all until the 1870s. A direct consequence was the dramatic rise of inequality that showed in the construction of agreeable new residential districts for the richer layers, as well as in the transformation of older buildings into degraded lodgings and the disordered construction of new, modest houses for the poorer city dwellers (Clark 2009). More segregation appeared with regard to the utilization of the inner city that often developed into loci of opulent consumption and diversions, aimed at locals and visitors (theaters, parks, concert halls, opera houses, museums, and shops), with food and drinks playing a prominent role (restaurants, cafés, and specialized groceries) (Clark 2009).

New use of urban space also appeared with regard to food production. Up to the 1950s, many European cities had possibilities to grow food or keep animals within the city (Atkins 2003; Clark 2009), but this practice disappeared in the second half of the twentieth century. Yet food continued to be grown on small, systematically organized plots in (the periphery of) cities, which was particularly successful during wars (De Knecht-Van Eekelen 2003), and which regained interest in the last decade (Hynes 2004). Production of food became a major feature of cities as new industries developed in the course of the nineteenth century. Naturally, food has long been produced in cities, but mechanization drastically altered products. Chocolate illustrates this well. Up to the 1850s, chocolate was an expensive drink sold exclusively at apothecaries and luxury grocers in cities. Mechanization (use of cracking machines, blenders, and automatic wrapping machines—all driven by steam) changed chocolate's structure, form, wrapping, price, and significance, turned it into an easily marketable bar, and made it a widespread item by 1900. This was an urban phenomenon (for example, Cadbury in Birmingham, Toblerone in Bern, Menier near Paris, or Côte d'Or in Brussels). Production of mustard, biscuits, sweets (candy), and sauces went through a

similar process of industrialization (about which, however, little is known because of, among other things, lack of business archives). With the intensification of international trade and enhancements of transport in the nineteenth century, more products, originating from distant shores, reached urban factories where basic foodstuffs, such as tea or exotic fruit, were transformed for consumption that, at first was definitely urban, but as the overall purchasing power grew in the twentieth century, became nationwide.

Prior to this mechanized processing of food, cities had been the center of manufacturing, commerce, marketing, and consumption: cities have always appropriated products from the surrounding countryside, adding surplus value (Montanari 2011: 210), which sometimes led to naming agricultural products by a city's name (e.g., Parma ham, Paris mushrooms [i.e., white button mushrooms], asparagus from Malines, or wine from Porto). Unlike preindustrial times, however, food produced in urban plants was seldom connected to the name of a city. In the last quarter of the nineteenth century, (universal) brand names had taken over topographical references. Still, some brands remained linked to the name of a city (such as *pâte alimentaire Bertrand de Lyon* [1913], *chocolat Meunier-Lombart de Paris* [1895], or *Vermouth de Turin* [1911]) (examples taken from the catalogs of Brussels grocer Delhaize Le Lion). This shift from local/traditional to international/modern modes of food labeling needs further investigation. Recently, EU labeling of geographic origin revived the topographic mentioning of food, which is not limited to towns and cities (see West, Chapter 12, this volume).[3]

It took decades before city administrations could solve problems of rapid population growth. In general, social inquiries were the first actions taken. Living conditions were investigated, which included surveys of working-class diets and spending. Particularly the huge immigration from the countryside to cities in times of economic downturn (for example, 1853–1854) initiated inquiries and observations. These brought about debate over wages, rent, hygiene, the role of the housewife, and very general comments on social relations and individual and civic responsibilities (Bruegel 2012: 6–7). Together with the establishing of social statistics (especially about mortality), these inquiries and comments led, little by little, to general interventions. One of these consisted of the construction of public sewer systems and a public water supply that reached, at first, only very few private houses because of the huge cost, but once municipalities organized these works in the second half of the nineteenth century, more households got access to piped water (Clark 2009: 274, 335; Taylor and Trentmann 2011). This improved sanitary conditions in cities, which, together with the progress of urban diets, resulted in decreasing infant mortality rates around 1900, which, however, occurred later than in the countryside (as shown for England and Wales by Gregory 2008).

Aid to the needy has long been well organized in European cities by both private and public charitable institutions. The growing population of cities, however, caused new, vast problems for which the habitual solutions, such as price control of basic foodstuffs, hardly brought relief. In some cities during particular periods (the 1840s crisis or both world wars, for example), special aid was offered to the needy (Verschueren 2009: 351–352). Such initiatives ended as soon as normality resurfaced, because of the general noninterventionist

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attitude of European municipalities. This, of course, differed from totalitarian regimes in the twentieth century, when cities enjoyed a privileged position in matters of food for reasons of propaganda (Franc 2007; Gronow 2003). Nonetheless, municipal control in the nineteenth-century European town involved yet another initiative, namely the crusade against food adulteration (see Atkins, Chapter 5, this volume). Food fraud is potentially ever present, but in the early nineteenth century it was widely believed that dishonest merchants adulterated food to a much larger extent than ever before (Burnett 1989: 87). National laws were inadequate to prevent this up to the late nineteenth century, and therefore city administrations tried to restrain food fraud. In many European cities around 1850, the police were authorized to control millers, bakers, wholesalers, grocers, and eateries. The Brussels municipality went further, when in 1856 it set up a chemical laboratory for food analysis (Scholliers and Van den Eeckhout 2011). This example was followed in other towns on the European continent (Pacquy 2004: 53), while private initiatives also emerged (Hierholzer 2007). By the 1890s, the industrialization of production (coloring, preservation, taste supplements, or wrappings) had altered the nature of adulteration that was no longer only a matter of fair trade and commerce regulation, but had primarily become an issue of food safety, public health, and opinions about chemical additives. Around 1900, many countries had passed national laws and established state laboratories (in France, for example, in 1906, Stanziani 2007: 113), but most municipal laboratories continued playing their role. By then, chemical laboratories, which not only analyzed food but also gave advice about the optimal diet, had appeared in university cities.

Another action by municipal governments consisted of increasing the regulation of food trading places like markets, slaughterhouses, and street merchants. Vegetables and fruit were sold on particular squares, dairy products and fish in other marketplaces; very diverse food products, raw as well as cooked, were supplied by street vendors. Regulating this commerce gradually became a concern of municipalities for economic, hygienist, and organizational reasons, although the nineteenth-century laissez-faire ideology gave way in some cities to deregulating the food market (as in London's central districts; Oddy 2007: 91). The case of slaughterhouses is illustrative. In Western Europe, up to the second quarter of the nineteenth century, and in other regions up to the early twentieth century, animals were slaughtered and meat sold in the streets (in spite of prohibitions). Apart from the fact that some townspeople disapproved of this, physicians warned against the lack of hygiene, while municipal authorities wished to control slaughtering. Hence, confined public abattoirs and meat markets were built in cities in the course of the nineteenth century (Young Lee 2005; see also next section).

MASS AND ELITE FOOD RETAILING[4]

City dwellers obtained meat at the butchers' stalls, bread at the bakeries, vegetables, fruit, and dairy products at public markets, groceries in specialized stores, or fresh and cooked food with hawkers. Differences with regard to quality, reputation, and price were huge, and social differentiation appeared via the places where people purchased food.

Some shops sold luxury foodstuffs that could not be procured in small towns or villages, including game, canned lobster, truffles, or any other extravagances (as the Ghent *traiteur*—chef Cauderlier sold in the 1840s), while others specialized in offal, withered vegetables, or none-too-fresh fish. These retail forms did not differ from those of the eighteenth century. In the first half of the nineteenth century, market halls innovated in that new, large, and covered buildings were erected in the growing towns, offering a safe and regulated space to sellers and buyers (Mitchell 2010). In big cities, these often were vast constructions that redesigned the urban space, like Liverpool's St. John's Market (1822) with seven thousand square meters. These market halls only gradually provided more comfort and improved hygiene. The meat trade illustrates this well. In many cities, the old ways of slaughtering persisted up to the early twentieth century, much to the apprehension of the so-called hygienists (or the nineteenth-century experts in public health). Although Paris was a forerunner with regard to establishing large, public slaughterhouses (the first opened in 1818) and provided an example for other cities (e.g., Rouen in 1830, Brussels in 1840, or Vienna in 1851), the vast abattoir of La Villette (1867) offered but an "agglomeration of *tueries particulières*" without any modern features, and was considered archaic by 1890 (Claflin 2005). This contrasted heavily with modern abattoirs in German and American cities of the second half of the nineteenth century ("slaughter factories," with Chicago embodying the prototype), offering large-scale butchering (facilitated by machinery for transport and washing), hygienic conditions, and constant surveillance, efficiency, and cooling spaces.

Since the 1860s, various innovations altered the way townspeople, and later all people, obtained food. Jefferys and Mathias coined the notion of "retailing revolution," associating it with the introduction of the multiple (or chain) store in the last quarter of the nineteenth century (Jefferys 1954; Mathias 1967). In general, two phenomena concurred that explained their success: the dynamism of retailing and rapid societal changes. The former refers to the advent of mass production of food (e.g., cans or prepacked biscuits) and the restructuring of the grocery trade; the latter to urbanization and (relatively high) purchasing power (Jefferys 1954: 7–9). These changes, intensifying after around 1890, offered retailers new opportunities. While initially the individual store of a multiple was hardly larger than the traditional corner or country shop, it benefited greatly from the fact that it was part of a bigger organization. As a result of the elimination of intermediaries, the realization of the vertical integration of production and distribution, and, especially, the exploitation of economies of scale obtained by the bulk purchases of central warehouses and the multiplication of outlets, food multiples were able to offer their clientele good quality groceries at affordable and fixed prices. Because of the advantages of scale, multiples appeared and flourished particularly in big cities (for example, the Great Atlantic & Pacific Tea Company (A&P) in New York [1860s], Félix Potin in Paris [1860s], or Sainsbury's in London [1869]), but also settled in expanding working- and middle-class towns (for example, Casino in Saint-Etienne [1890s]). The mere nature of this retailing system implied the widespread diffusion of outlets, and by 1900 multiple stores had opened in many suburbs, towns, and villages.

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Delhaize, based in Brussels since 1871, shows an extreme example of this, with 770 outlets throughout the country by 1914, also in tiny, remote villages with barely a hundred inhabitants (Van den Eeckhout and Scholliers 2011). These rural stores supplied the same goods as the big shops of the Brussels conurbation (food could be ordered from the catalog), thus diffusing fancy goods nationwide. In the United States, chain companies grew steadily prior to 1914, but expanded particularly in the interwar period, with 7,700 outlets in 1920, but 30,450 in 1930, to be found in city centers and suburbs (Mayo 1993).

While there is hardly any doubt that there was a causal relation between the expansion of multiple grocers since the 1880s and rising purchasing power, there is little information on these multiples' overall clientele (marketing inquiries hardly existed, and one has to make do with indirect evidence, such as the type of advertisements or the range of goods for sale). Undoubtedly, the clientele varied according to place and time. Before the First World War, British food multiples allegedly catered mainly to the urban working classes, and they did so with a limited range of products and a minimum of cost and service. In the interwar period, the layout of the multiples' shops, the display of products, and the service to the clientele improved, while the product range was diversified. The emphasis of competition began to shift from price to service, and they no longer solely served the working classes but also the middle classes in large towns and cities. However, the Belgian Delhaize seems to have had that profile since the early years of its existence. A quickly growing product range (+ 5.5 percent per year between 1890 and 1910, including luxury goods such as champagne or canned salmon), the emphasis on courtesy toward the clientele, the layout of the shops, the design of advertisements, the possibility of home delivery and of selective credit facilities suggest a chain store with an urban middle-class clientele. Yet Delhaize had settled in industrial regions and rural villages too, and it proposed ranges of goods at low prices: this multiple aimed at all consumer segments (Van den Eeckhout and Scholliers 2011).

By 1890, multiples colored the streetscape of cities. The first shops had open windows and outside stalls, thus replicating the old market booth, as was the case with Sainsbury's in London around 1875 (Williams 1994: 18). Especially after the Great War, however, shops were given a recognizable look with logos, exclusive colors, emblems, and architecture (Mayo 1993: 80–82). The latter refers in particular to large display windows where foodstuffs were neatly piled and nicely presented (amid advertisements, photographs, and other ornaments), which was planned by the central management to create a distinguishable image (Teughels 2010). Some multiples established flagship stores in mercantile districts of cities, like Selfridges in London's Oxford Street (1909) or Albert Heijn's lunchroom in Amsterdam's Kalverstraat (1929), thus enhancing the district's commercial image. Another feature of these multiples was the insistent advertisements (in shops as well as newspapers), not only for the products for sale, but also for the proper image of the shop that became a brand in its own right. The latter was certainly the case with department stores that not only sold food but also clothing, furniture, tableware, toys, and so forth. An example is Chicago's Marshal Field's (1852),

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which sold luxury food and started to open branches throughout the United States in the 1920s. A European example would be Germany's Kaufhaus Tietz, with branches in Weimar (1886), Munich (1889), Hamburg (1896), and Berlin (1900), and which bought the Kaufhaus des Westen (or KaDeWe) in the 1920s, today still a genuine flagship store that sells a huge range of exclusive food. Investigating the development of this range would hit the essence of the history of consumption.

In 1916, the first American self-service store (Piggly Wiggly) opened in Memphis, Tennessee, which by 1932 had 2,660 outlets (Deutsch 2010: 53). The food-retailing sector was the first to adopt self-service (see also Hallsworth, Chapter 15, this volume). The late 1920s and early 1930s witnessed the introduction of another American innovation: supermarkets. These combined self-service with a minimum sales volume or a minimum sales area (how big a self-service outlet had to be to be called a supermarket differed through time and space) (Mayo 1993). In Europe, self-service was introduced in the 1940s and the supermarket in the 1950s. While supermarkets appeared in America's suburbs where they could be reached by car, in Europe they settled in the center of cities and towns because there far fewer cars were in use in the 1950s and 1960s. In West Germany, for example, the supermarket was a genuine urban phenomenon (seventy-six percent of them were situated in cities with more than one hundred thousand inhabitants), with West Berlin having seven percent of all West German supermarkets in 1962 (Lummel 2007). In London, the cooperative movement pioneered self-service with the opening of such a store in 1942, and in Edinburgh the Co-op opened the first supermarket in 1959. In Paris, an independent retailer opened the first supermarket in 1957, and in Brussels the multiple Delhaize launched the first supermarket in 1957. Growth was sudden: in the United Kingdom, for example, there were 50 supermarkets in 1950, 572 in 1961, and 3,400 in 1969 (Alexander et al. 2009; Lescent-Gilles 2005). If initially the European supermarket was a thoroughly urban affair, the success of the automobile and the expanding scale of supermarkets (with the mammoth *hypermarché* in France as an ultimate stage) pushed these retailers to the outskirts of towns (Villermet 1991).

A broad range of factors should be taken into account to explain the diverging itineraries of self-service outlets and supermarkets: purchasing power, further urbanization, labor-market participation of women, planning regulations, legislation restricting large-scale retailing, diverging shopping habits (e.g., the perception of supermarkets as providers of merely prepackaged food versus supermarkets also selling fresh meat, fruit, vegetables, and bread), public and private transport facilities, and so forth. In the 1950s, the promotion of self-service and supermarkets in Europe was also part of an ideological war, disseminating the American way of life and American retail formats (De Grazia 2005). Numerous pilgrimages of European retailers and other experts to the United States, sponsored, for example, by the European Recovery Program, but also organized by producers of shop-fitting equipment such as the cash register company NCRC, had to convert Europeans to adopt American business practices (De Grazia 1998). Impressed by what they had seen in the United States, quite a few European retailers were nonetheless skeptical of European customers' reception of these new

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shopping habits. The retail trade press, exhibitions, and even a touring bus organized as a self-service shop were important channels in the diffusion of the principles, practices, and know-how of self-service and the supermarket.

One of the reasons that may explain European retailers' reluctance to adopt self-service is their expectation that customers would react negatively to finding that they had to "serve themselves." While working-class customers allegedly appreciated the informality and the freedom to browse without buying, the middle-class clientele was less charmed by this novelty. Retailers also feared shoplifting and the substantial investment needed to convert their shop into a self-service outlet. Supermarkets, in their turn, were perceived as inappropriate for the European way of life, since European families had less purchasing power, fewer refrigerators, and fewer cars than their counterparts in the United States (Daumas 2006; Humphery 1998).

The retailing revolution of the last quarter of the nineteenth century was not only accomplished by cities' multiple stores, but also by consumer cooperatives. In contrast to multiples that settled in commercial hubs of cities and large towns, cooperative retailers were most successful in towns with a strong working-class presence. So, co-ops barely appeared in Paris, London, or Berlin, but were quite successful in Basle, Ghent, Leipzig, and Lille (Purvis 1998), particularly in the industrial suburbs of these towns. After the Great War, cooperative food stores spread to small towns and villages too. There, modest grocery shops, with hardly any allure, flourished, and, just like the multiples, supplied foodstuffs that, before 1900, were almost inaccessible to rural households. Also like the multiples, cooperative food retailers exploited economies of scale by multiplying outlets, centralizing wholesale operations, and realizing a vertical integration of producing and selling. In contrast with the multiples, however, cooperatives returned a share of their profit as a dividend to their customers/members, in proportion to the goods they had purchased. Consumer cooperatives focused on selling their members, predominantly townspeople, unadulterated and good quality bread, meat, dairy products, and groceries at a fair price, but they were also known for their critical attitude toward the temptations of consumerism and the creation of "false needs." Cooperatives' organizational and ideological development and the economic alternatives they sought to promote have attracted historians' attention rather than their day-to-day activities as grocers. Consumer cooperatives' relation to publicity could prove an interesting line of investigation. Schwarzkopf found that in contrast to their reputation, the British consumer cooperatives did not shun publicity; quite the contrary, they appeared to be "at the forefront of a number of mid twentieth-century innovations in marketing," while their "advertisements between 1900 and 1940 were at the vanguard of their time as regards design and the use of photographs and colour" (Schwarzkopf 2009: 212, 214).

EATING OUT[5]

Eighteenth-century luxury eating was a private affair. The rich and famous invited guests to their mansions and offered food prepared by full-time employed or temporally

hired cooks, unless cook shops (*traiteurs*) delivered the food (Kümin 2012). Urban-based guilds organized cooks, caterers, and other staff, but by 1800 these associations no longer existed. The job of *traiteur* for the wealthy lasted from the nineteenth century until today. Yet around 1800 fancy dining became "public," which drastically and permanently changed the way rich (and, later, all) people ate (see Julier, Chapter 19, this volume).

This is the history of the modern restaurant, an eminently urban place that, most particularly, was linked to the "city of cities," Paris. It may be defined as "a place where food is sold, served and eaten in public without its patrons having to interact with each other, and where a menu with fixed prices offers them a choice of dishes, albeit where *not* eating is not an acceptable option" (Van den Eeckhout 2012b). This history is known (Pitte 1991; Shore 2007; Spang 2000; Trubek 2000). Three players concurred in Paris in the 1780s and 1790s: cooks, diners, and writers, who created the modern restaurant (Scholliers 2011). Parisian caterers were mingled in a competitive struggle and tried to shape a market niche. Some of them combined commercial catering (their usual business) with serving cooked food in public (an innovation), calling themselves "restaurateurs." A few opened sumptuous places and served varied and increasingly refined dishes that corresponded to current norms of fancy eating, but soon they *made* the norms (which were put down in cookery books). Innovations included the menu card (implying a wide choice and individual meals and containing prices), flexible opening times, the paying of the bill after the meal, supplying select drinks, and offering private tables (Trubek 2000). The clientele consisted of old and new rich people, wishing to see and to be seen in places that mattered. The new restaurants allowed for emphasizing, in crude or subtle ways, ambitions and successes in public. Moreover, luxurious eating was highly enjoyed, and the cost seemed hardly to have mattered. Culinary critics advised diners, A. Grimod de la Reynière being the archetype who published the *Almanach des gourmands* from 1803 to 1812, judging the price, quality, freshness, decorum, and patrons of Parisian restaurants (Bonnet 1986; Ory 1998).

These restaurants were imitated in every European town throughout the nineteenth century, particularly with the coming of the so-called grand hotel in the 1870s. How this process of geographical dispersal exactly occurred is in need of attention. The fact that French cooks started work in eating places in Berlin, Madrid, or Moscow is only part of the story (the study of the labor market of restaurant staff has just begun). Alongside cooks and waiters, an extensive group of wealthy diners, who enjoyed the new fashion of public eating, had to be present. Also, local culinary critics, who understood the new fancy eating codes, had to be writing about where to dine (see Scholliers 2004, for the example of restaurants in Brussels in the second half of the nineteenth century). Hence, studying the geographical dispersion of the restaurant requires attention to cooks, diners, and writers in various places (that are part of larger networks). As a general rule, prosperous cities with wide international appeal had modern restaurants quite soon, but from the last quarter of the nineteenth century most European towns had a restaurant culture, which means they had well-established restaurants that adapted particular norms, a rather steadfast clientele

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that knew the codes of conduct, a labor market for cooks and waiters, and various guides to rank quality and prices (see Drummer 1997, for the example of Frankfurt). This type of elite eating place flourished throughout the twentieth century, frequently reinventing itself on the waves of general economic performance and continuously adapting to new organizational forms (for the latter, see Ganter 2004). So around 1890 the new-type cuisine of Escoffier replaced the highly structured cooking of Carême's 1800 cooking; Bocuse's *nouvelle cuisine* of the 1960s abandoned Escoffier's conventions; and Adrià's molecular cooking of the 1990s challenged Bocuse's way of working. Each of these culinary innovations implied changes about style (e.g., Ferguson [2012] stresses the recent informalization). Initially, these reinventions were radically urban (Carême in Paris and Escoffier in London), but Bocuse and Adrià worked in smaller boroughs (Collonges and Rosas, albeit with one foot in Lyons and Barcelona, and both situated on highly frequented tourist roads). The global diffusion of all types of restaurants in the twentieth and twenty-first centuries needs to be studied in terms of cuisine, culture, and urbanity (Ray 2012).

People have always traveled for widely diverse reasons, and thus needed to eat away from home. The success of the modern restaurant is partly due to the many wealthy visitors to cities, who were advised, for example, by Bädeker travelers' guides since 1828. These guides also mentioned humbler eating places that served decent food at a fair price. In larger cities, there were countless possibilities to eat out at cheap inns or estaminets. The rapid expansion of the railways, linking cities and erecting superb termini, created new forms of sophisticated eating out (as the Buffet de la Gare de Lyon in Paris [1905] or the Oyster Bar of Grand Central Terminal in New York [1913]), although railroad eateries were commonly rather plain (Gerbod 2000). Modest eateries went through rapid transformation after 1850. To various degrees, luxurious restaurants influenced these places (décor, dishes, presentation, hygiene, terminology), so much so that restaurant guides upgraded them and began a rating system (e.g., the Michelin guide, launched in 1900 at the occasion of the Paris World Fair). Around 1900, foreign restaurants (today's ethnic restaurants) were set up, which flourished in the last quarter of the twentieth century, first attracting the migrant community and, in a few cases, ex-colonials, then young people, and finally, but half-heartedly for long, a wide group of diners (Buettner 2008). All this coincided with the emergence of tourism that fascinated wealthy as well as more modest travelers. A particular attraction for mass tourism was the frequent organization of world fairs—downright urban phenomena—where food took a prominent role in forging cities' reputations, as shown by the example of the Swedish participation in these fairs between 1867 and 2005 (Tellstrom, Gustafsson, and Lindgren 2008). Restaurants that offer plain food have benefited twice from the special attention of gourmets: first, around 1900, as offering *local* cuisine, then, around 1990, as serving *traditional* food (which was local as well as "ethnic"). Hence, plain restaurants made their way into present-day gastronomic eating.

Tourists of modest means search(ed) for good food at reasonable cost, and could make use of the many eateries for urban workers. Such "necessity eating out" has existed for a

long time, and offered a wide variety of food of diverse price and quality to people who worked away from home or who had no cooking utensils in their homes. Bread, cheese, cold meats, or soup were sold in the streets or in very simple eateries (Kümin 2012). The selling of plain food expanded largely in the nineteenth century. In 1850, for example, about 41,000 street sellers were active in London, vending soup, fried fish, baked potatoes, sandwiches, pies, puddings, tarts and cakes, muffins and crumpets, and drinks (Burnett 2003). In Paris and other cities, cheap food could also be bought in the street (sold by women with "portable stoves"), particularly in eateries of very different types and price categories (cabarets, wine shops, estaminets, or *traiteurs*), and, for example, at La Californie (1860s), which claimed to provide 3,000 meals per day in the self-service manner, with waiters serving wine and cleaning up the tables (Lhuissier 2007). This world of street merchants and shabby eating places is in need of attention.

The expansion of factories, services, and administration led to various new forms of eating out. Big firms established canteens for their employees, selling plain and relatively cheap food and (nonalcoholic) drinks. Initially, this was not very successful (because of distrust by employees and still too high prices), but later these factory canteens became quite popular (Thoms 2003). Another institutional innovation consisted of school cafeterias. Both new forms cared greatly about cost and health. Yet another innovation consisted of the establishment of efficient, small eateries that were thoroughly urban: the modern snack bar. In the United States, coffee and tea bars like the Harvey House were set up in the 1860s, selling sandwiches and full meals (Shore 2007). In the last quarter of the nineteenth century, such eateries appeared in European cities, as illustrated by the London-based "food multiples" or chain restaurants, Lyons and Aerated Bread Company (ABC) (Shaw, Curth, and Alexander 2006). More chain restaurants appeared in the twentieth century, such as McDonald's, which served standard meals and gave way to debate about foodways and culture in general (Oddy 2003). Alongside big chains, a multitude of small, independent caterers appeared in every city (illustrated for Amsterdam in the twentieth century by Albert de la Bruhèze and Van Otterloo 2003). By 1940, teahouses, kiosks, automats, milk bars, lunchrooms, and cooperative eateries were well established in the city, offering various sorts of food to wage earners, shoppers, merrymakers, students, or travelers. Recently, this urban phenomenon was brought to smaller towns and villages in the world's four corners.

CONCLUSION

Cities transformed the way people thought about food, shopped for food, obtained food, prepared food, and ate food. In the light of present-day unceasing urbanization, this will go on well into the twenty-first century. "Cities" cannot be conceived as an abstract agent, but should be seen as places of creativity, experiment, investments, status building, social and cultural differentiation, conflicts, anxiety, policy, and, especially, as ever-changing "voracious beasts." The combination of these factors leads to the point that almost every city has a specific relationship with food. This may be the result of

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marketing strategies, but it also is the outcome of historical processes, in which townspeople appropriate ingredients and skills from nearby and distant shores to convert and upgrade these and give them new significance. In doing so, each city created, and was certainly given, a culinary reputation, whether this was good, mediocre, or bad (Murdock 2011).

This chapter has listed various themes in need of attention, among which are the city and manufacturing and transformation of food, the city as place of cultural innovation and pleasure, the city and food labeling, urban food policies, the city and the role of retailing, urban social and cultural inequality, and the just-mentioned culinary reputations of a city. With regard to the latter, a brief discussion on the Internet in early 2012 showed the relevance of this matter:[6] who created a city's culinary reputation, when was this done, which media or events (e.g., awards or fairs) were involved, how did it develop, which elements were implied (manufacturers, restaurants, patisseries, marketing), and, the most troubling question, what is the link between reality and representation? Perhaps most of the aforementioned themes may be seized by focusing on urban food monographs or a city's food chain, which involves research into production, manufacturing, trading, marketing, preparing, consumption, and significance of food. Of even more relevance may be the comparison between two (or more) cities regarding one of the elements of the urban food chain. Imagine studying the development of street vending of food in Berlin, Mexico City, and Kolkata: no doubt, such would advance our knowledge of the urban social fabric as well as offer theoretical insights.

NOTES

1. The colloquium was organized by the International Commission for the Research into European Food History (ICREFH, www.vub.ac.be/SGES/ICREFH.html) that had previously paid attention to the relationship between countryside and city (Hietala and Vahtikari 2003).
2. Using food consumption as a proxy for standard of living in England was initiated by Hobsbawm in 1957 and disputed by Hartwell a couple of years later; most of the debate, however, was concerned with the development of real wages (purchasing power).
3. See the Protected Geographical Indication (PGI) that legally protects the name and composition of, for example, oil from Jaén (Spain), Rillettes de Tours (France), or Düsseldorfer Mostert (Germany); see "Geographical Indications and Traditional Specialities," Agricultural and Rural Development of the European Commission, http://ec.europa.eu/agriculture/quality/schemes/index_en.htm. Accessed September 12, 2011.
4. For a literature survey on this theme, see Van den Eeckhout (2012a), from which a few parts are used in the present chapter.
5. For a general introduction, see Scholliers (2012) and Ferguson (2012); for the historiography on restaurants, see Van den Eeckhout (2012b).
6. "Discussion: Culinary Reputations," Association for the Study of Food and Society, http://groups.google.com/group/food-culture/browse_thread/thread/b4c270ca02c90a23#/. Accessed March 4, 2012.

4

The Historical Development of Industrial and Domestic Food Technologies

MÓNICA TRUNINGER

The historical development of industrial and domestic food technologies is partly marked by the promise of modernization, social progress, and an overall better *quality of life* for (particular sections of) the population.[1] This technological determinism is visible in nineteenth-century reformers and feminist utopians proposing automated food manufacturing and centralized kitchens, and in many of the twentieth-century commercial and marketing claims for purchasing domestic technologies or convenience foods (Belasco 2008). The promise of liberating women from difficult, time-consuming domestic chores (e.g., preservation, storage, preparation, and cooking) was one such claim. Whether these considerations reflected real improvements for women has been the subject of much debate driven by feminist technoscience perspectives.

Importantly, the development of these technologies coevolved with the increasing separation between production and consumption. Entering the twentieth century, these two spheres were geographically and technologically distancing from one another through the lengthening and complexity of food chains. And yet, both were connected through the spaces of intermediation when assembling, marketing, and using technologies for preserving, storing, or cooking food at multiple settings (industrial, commercial, institutional, or domestic).

This chapter depicts the various ways different scholarship strands and methodological approaches have explained and examined industrial and domestic food technologies. It looks at U.S. and European research and also at developments elsewhere. The text follows a science and technology studies (STS) orientation, a perspective that stands against technological determinism and underscores the social and cultural embeddedness of technological artifacts. Having assessed the emergence of research in this broad field, the second and third parts of the chapter present the main tenets of the STS

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approach, describing its main concepts to facilitate the examination of three key debates around gender, time, and competence. The chapter closes with a critical appraisal of the direction of recent and future work in the field.

THE EMERGENCE OF RESEARCH IN THE FIELD OF INDUSTRIAL AND DOMESTIC FOOD TECHNOLOGIES

The study of industrial and domestic food technologies has featured tangentially in the pioneering work of social scientists at the turn of the twentieth century (see, for instance, Marx, Veblen, or Schumpeter). These classical texts in social research have, in some way or another, touched upon the impacts of industrialization, urbanization, and technology on factory working conditions and family life. But it was with historians of social history, food, and above all, of technology that a more focused analysis of industrial and domestic food technologies surfaced. Interest in the theme was fueled by the ample transformations that took place during the nineteenth and twentieth centuries.

Industrial Food Technologies

The Industrial Revolution generated a flux of people from the country to the towns (Williams 1982). One consequence of this was the increasing distancing of food-producing from food-consuming areas, making crucial the industrial development of technologies of food preservation and storage to guarantee that perishable foods would reach urban consumers in good condition. With the population growth in towns, food supply concerns mounted (see Scholliers and Van den Eeckhout, Chapter 3, this volume). Technologies of food preservation and storage had not only to be improved and based on the modern chemical industry blossoming throughout the nineteenth century, but new agricultural technologies also had to be developed substantially to increase crop yields. For instance, it was during this time that the use of artificial fertilizers commenced;[2] steam engine machines for plowing, cultivating, and reaping crops were gradually adopted; streamlining and selection of seeds were the object of much experimentation by practicing agriculturalists (Derry and Williams 1960).

Despite the importance of the Industrial Revolution as a turning point to the fast development of industrial food technologies, one may not forget that techniques and knowledge of the best ways to preserve food were already deeply rooted in the food cultures of old civilizations. Several preservation techniques such as salt curing, smoking, wind and sun drying, the use of brine, pickling in vinegar, or fermentation were already employed by local communities scattered around the globe. The ancient Chinese were proficient in the biochemical process of fermentation applied to the making of rice wine, soya paste, or sauce (Huang 2000). Caves, covered pits, waterproof and insulating natural materials (e.g., straw, clay), snow, and ice were used to control thermal conditions and prevent food deterioration.[3] Honey served to preserve fruits in classical Rome,

and spices were important preservatives in China and India. Fruit bottling was practiced from at least the seventeenth century, and throughout the eighteenth century, most households were competent in this domestic process. Such expertise paved the way for the preservation of other types of foods (Thorne 1986).

The first attempts at canning were made by the Dutch navy in the middle of the eighteenth century (Thorne 1986). At the beginning of the nineteenth century, Nicholas Appert—a Paris confectioner—invented a new technique to preserve food in vacuum-sealed containers. However, these first experiences often met with poor results (taste, dangerous working conditions, poor sealing or heating).[4] Pasteur's groundbreaking work on bacteriology in 1861 was crucial for the advances in the canning industry; however this was a gradual process from trial and error to more scientific methods.

At the start, canned foods were mostly used in naval or polar expeditions, and given their high price, were considered a luxury item only afforded by the affluent classes. In the United States, the Civil War accelerated the domestic demand for canned foods, which further increased with urbanization and advertising techniques promoted branded processed foods in the United States and Europe (Thorne 1986). From the 1860s the canned meat industry developed in Australia and South America, enabling the export of cheap meat to feed the working classes of European industrial cities. Soon, what was once perceived as an extravagance became an affordable commodity, gradually penetrating the food habits of a previously meat-deficient population.[5]

As to the refrigeration system, it had first developed from the natural ice trade. From at least the sixteenth century, ice was transported by pack animal from the Alps to the Mediterranean countries; however this was considered a luxury item mostly used to chill drinks (Freidberg 2009: 20). Only in the nineteenth century did natural ice become an important market commodity in North America (and also Norway), exported to Australia, South America, South Africa, and India (Teuteberg 1995: 52). However, there were negative public perceptions toward cold storage. It was viewed as deceptive freshness and a health hazard because of the potential pollution of natural ice sourced from contaminated waters (Freidberg 2009; Teuteberg 1995: 54). Some of these issues were supplanted by the introduction of artificial cold, which "paved the way for the transition to an efficient mass production" of food (Teuteberg 1995: 57), revolutionizing the organization and scale of production, storage, distribution, and ultimately, consumption. After the first experiments with artificial cold in the 1830s, major developments in refrigeration and freezing systems took place in the second half of the nineteenth century, particularly after World War I (see Horowitz 2006).[6]

A "cold chain" quickly emerged for industrial and commercial use, countervailing the natural cycles of seasonality. However, refrigerators for domestic use were slower to pick up. Only after World War I, were images of freshness popularized through advertising campaigns, government agencies' health propaganda, fridge manufacturers, home economists, and the discovery of vitamins, persuading users of the benefits of cold storage (Freidberg 2009). Together with progress in transport systems, the diffusion of electricity and water infrastructures, changes in food retailing,[7] the feminization of the labor

force, among other factors, the fridge (and the freezer) became a normalized and convenient device in everyday life. However, in rural China for example, the adoption of white goods was much slower as electricity systems were only installed in the early 1970s (Wu 2008). And even when electricity was in place, the uptake of refrigerators was slower in rural China than in urban areas.[8]

The military-industry complex also had a significant role in food innovation. Military technologies put to use in a context of war were applied to the development of commercial food manufacture during the postwar years. The cases of microwave ovens and plastic gadgets for storing food (e.g., Tupperware) are poignant examples.[9] But also food irradiation developed from applications of atomic science to food safety and preservation after World War II. However, commercial and public perceptions of irradiation and its potential lethal effects on humans (after traumatic episodes with uses of nuclear weapons, nuclear plant accidents, and so forth) undermined the acceptance and trustworthiness of this technology among consumers and food manufacturers (Zachmann 2011). The same happened with European consumers' concerns around biotechnology and nanotechnology food applications at the end of the twentieth century.

Over the last decades, research on industrial food technologies has explored risk food issues, food scares, and anxieties in an era paradoxically marked by strict regulations and policies on hygiene and food safety.[10] To placate public anxieties, industrial food companies have put several strategies forward such as the recent investment in the nutrigenomics and functional foods market (Dixon 2009). Functional foods, which first appeared in the Japanese market in the 1980s, are products that claim to have health benefits. *À propos* such claims, in the 1990s an intense debate ensued on their legitimacy. After efforts to regulate the global functional foods market, which quickly became encroached upon by big corporate companies playing in both food and pharmaceuticals fields, the Japanese government has recently signaled a change in direction by launching the Basic Law of Shokuiku.[11] As explained by Dixon: "Even in Japan, the home of the functional food revolution thirty years ago, there appears to be a subtle turn away from a corporate controlled food system to a food system that is sympathetic to the environment and civic traditions" (2009: 327). Nowadays, industrially processed foods have conquered an ambiguous place in consumers' images and practices: if, on one hand they are tarnished by concerns around food safety, environment, social justice, and health, on the other hand, the flexibility and convenience they enable is a trade-off difficult to live without, given the increasingly erratic schedules of everyday life.[12]

Domestic Food Technologies

From the 1970s onward, interest in the historical development of domestic food technologies grew and concerns around the impact of such technologies on women's lives (namely their impacts on women's work/leisure time budgets) emerged. According to Wajcman (2000), the first studies on the history of domestic technology appeared in the journal *Technology and Culture* and primarily focused on a North American context. In

this field, one of the most cited publications is Ruth Schwartz Cowan's seminal history of housework, *More Work For Mother* (1983), which still remains an influential piece. Cowan's historical study of household organization concluded that despite the introduction of domestic technologies and convenience foods, housework has not decreased. On the contrary, while in preindustrial households men, children, and women contributed equally to the normal running of housework (children collected water, men chopped wood for the open hearth, and women tended kitchen gardens and cooked), in postindustrial households, men and children's activities were gradually eliminated (water was supplied by utility services, gas or electricity fed the heating or cooking stoves), and women's tasks increased.

Susan Strasser's historical research *Never Done: A History of American Housework,* matching Cowan's work on prominence and impact, advanced some explanations for the increase in housework. At the turn of the twentieth century, many middle-class housewives faced the "servant problem." As factory work in urban centers expanded, more working-class women were drawn into industrial production instead of carrying out poorly paid domestic services in middle-class households, augmenting the housework burden of this class (Cockburn and Ormrod 1993; Cowan 1976, 1983; Levenstein [1988] 2003). However, and offering a quick rebuttal, many working-class women's jobs were based on the emergent industrial food factories and food service sector (low skill and repetitive work). Thus, drudgery seemed to have switched venues, from domestic to the industrial sphere, from middle- to working-class women employed in the food industry, retailing, and service sectors.

Rising standards and conventions of food hygiene and cleanliness was another explanation for the increasing housework burden (Cowan 1976; Oakley 1974). Health professionals and hygienists in the United States and Europe of the late nineteenth century saw the house as a key location to implement their public health doctrines. They were "mesmerized by the discovery of bacteria and the germ theory of disease" (Levenstein 2003: 148), which brought concerns over the cleanliness of kitchens and food hygiene. The dissemination of these ideas was coupled with images of modern and efficient households greatly inspired by Taylorists' positions that considered the home similar to a factory where time, motion, and money were under tight management and control to increase productivity. Thus, the "industrialization" of the domestic sphere was not only enacted by the increasing material presence of processed foods and domestic appliances but also by conventions of propriety on body care and hygiene, nutrition, and health circulated by new professionals (see also Brembeck, Chapter 16, this volume and Smith, Chapter 23, this volume).[13]

These ideas spread together with functionalist images projected by designers and architects on efficiency, rationalization, streamlining, and waste elimination in house planning, domestic technology design, and kitchen layout (Freeman 2004; Nickles 2002; Parr 2002). This functionalist-rationalist movement of the early twentieth century portrayed the "servantless housewife" as an efficient and scientific manager of housework, duly performing her roles as mother and spouse but also, importantly, as a

modern consumer of domestic technologies, industrialized and processed foods (Bijker and Bijsterveld 2000; Lupton and Abbot Miller 1996). One significant conclusion of the work by historians and sociologists of technology is that the design of domestic technologies and kitchen gadgets evolved profoundly embedded in a social and cultural context and were the result of a "dynamic process of production and consumption" (Clarke 1999: 56). Different social groups played an important role in the construction and design of domestic technologies and in promoting uptake by end users.[14] Attempts to understand how technology impacts on society and how users take up new technologies have been the subject of science and technology studies.

THE CONTRIBUTION OF STS TO INDUSTRIAL AND FOOD TECHNOLOGY LITERATURE

Different strands of scholarship have contributed to understanding user-technology relations, especially after the mid-1980s with the development of science and technology studies (STS). This new discipline was the result of cross-fertilization among the sociology of scientific knowledge (SSK), the sociology of technology, and the history of technology and science. Different approaches have been particularly influential in depicting the relationships between persons and food technologies within an STS perspective: the social shaping of technology (MacKenzie and Wajcman 1985), the Social Construction of Technology (SCOT) (Bijker 1997; Bijker, Hughes, and Pinch 1987), and Actor-Network Theory (Callon 1986; Latour 1987; Law 1991). All three constructivist approaches stand against technological determinism that depicts a view of technologies as the main driver of social change, which may result in successes or failures. Contrary to this, a constructivist approach emphasizes that technological artifacts are socially and culturally embedded and subject to sociocultural meanings, and hence, open to sociological examination (Lohan 2000; Wajcman 2000).

A critique leveled at some strands of constructivist approaches is their replacement of one type of determinism (the technological) with another (the social). Yet SCOT program supporters, particularly Actor-Network Theory scholars, have striven to redress this balance. For instance, the SCOT model has popularized the concepts of *interpretative flexibility, seamless web,* and *closure.* The first concept describes the process through which relevant social groups attribute different meanings and different uses to the same artifact. Thus, the artifact is open and flexible to the unintended consequences enacted by its users (Bijker, Hughes, and Pinch, 1987; Lohan, 2000). The process of closure describes the stabilization of meanings and uses of the artifact, for instance, a fridge is used to store and keep food cool (and yet closure processes are never totally closed, as shown by Hand and Shove 2007).

The concept of *seamless web* applied by Thomas P. Hughes (1986) and then developed by Bijker, Hughes, and Pinch (1987) captures the idea that technological development is not a linear process that follows from scientific discoveries (as depicted by linear models of innovation), but is instead a fluid process. Science, technology, and society

are understood as "constituting 'seamless webs,' or sociotechnical networks, rather than as distinct entities" (Rappert, Balmer, and Stone 2008: 722).

It is precisely the mutual constitution of technology and society that ANT adherents foreground with the concept of *symmetry.* In their view, the networks assembled to the making of technologies are heterogeneous, composed of various elements, from humans to nonhumans. This opens up the possibility for other alternative perspectives of actorship beyond intentionality (De Laet and Mol 2000: 252).

Material semiotic approaches employ the term *script* (Akrich 1992) to apprehend how technologies enable or constrain human practices. In the design phase of technologies objects are in-scripted with what it allows to do or what it denies doing. These scripts, or "scenarios," "attribute or delegate specific competences, actions, and responsibilities to users and technological artefacts" (Oudshoorn and Pinch 2007: 549). Thus, competences and agency are distributed between humans and nonhumans. The script approach resembles Woolgar's notion of user configuration (Woolgar 1991), and in fact, both perspectives are concerned with grasping how designers inscribe their intended views of the use of technology. However, the script approach gives more visibility to users. Such visibility is conceptually operationalized through the notions of "subscription" and "de-inscription," whereby users may deploy an "antiprogram" to refuse using the object according to the intended views formatted by designers.

This view gets closer to users and consumers and their sociocultural contexts of acquisition, appropriation, and domestication. There has been a long tradition in cultural studies and material culture exploring how consumers use objects and how these objects have their own biographical careers as they go through systems of commodification and de-commodification (Appadurai 1986). Domestication is a useful concept in cultural studies to describe how technologies are embedded in everyday life. Thus, they become important devices in the ordering of routines (Shove et al. 2007: 8; Silverstone and Hirsch 1992).

The field of industrial and domestic food technologies has drawn from this prolific scholarship to grasp the relationship between humans and technology. In the remainder of this chapter some of the main debates are addressed.

MAIN DEBATES IN THE FIELD OF INDUSTRIAL AND DOMESTIC FOOD TECHNOLOGIES

Gender Inequalities or Female Empowerment

The first feminist studies of technology were primarily concerned with uncovering and recovering women "hidden from history," focusing on the impacts of technology on women's lives (Wajcman 2000: 449). While these first studies were marked by a "social shaping of technology" approach taking heed of structural sociocultural divisions in society, the second wave of feminist studies of technology was influenced by a social constructivism approach. Thus, the SCOT model applied to feminist studies explored

how these patriarchal and capitalist structures were symbolically encoded in technology design and manufacture.

To illustrate, in a comprehensive case study of the life cycle of the microwave, Cockburn and Ormrod (1993) revealed that gendered meanings and hierarchies were symbolically attached to this cooker from its conception up to its use (design and development, production, marketing, and use). Following the microwave throughout its life cycle has uncovered the gendering processes enacted through a split between the world of women associated with cooking and the world of men associated with engineering and managerial activities. This study of the microwave was important to the STS literature on two fronts: it has given centrality to gender issues (traditionally STS and ANT studies are too focused on following big projects, controversies, and male heroes) and has decentered the focus on design to include all stages that follow from production up to end users. This strategy of reaching out to end users goes together with making women visible. As Wajcman explains: "Once the lens is widened to include manufacturing operatives, marketing and sales personnel, and the consumers and end-users of technologies, women's work immediately comes to view. More women are literally present, the further downstream you go from the design process" (2000: 453).

In another study that looks into the tomato industry in Canada, the United States, and Mexico, the lowest-paid and the least-skilled women also become visible as manufacturing operatives and field workers (Barndt 2008). The study unearths the inequalities and social injustice that fall upon women and ethnic minorities involved in the high-tech tomato industry. Here, working-class and indigenous women in the south (Mexico) were put in strenuous conditions (labor exploitation, health-related hazards from pesticide use, racial and gender discrimination) to deliver freshness, health, and nutrition to white middle-class women in the north (United States and Canada).[15]

Feminist scholarship on industrial and domestic food technologies tends to emphasize gender inequalities by paying attention to issues of power, control, and authority in their analyses. In fact, research on the gender division of labor has enormously contributed to understanding inequalities both in food industry and households, although the latter are clearly more emphasized.

There is a long debate on the changing or prevailing structural divisions of domestic labor (Oakley 1974; Vanek 1974), and some authors call attention to their measurement problems (Warde and Hetherington 1993). This debate has subsequently shifted attention to the emotional aspects of housework, notably the caring aspects of the division of labor (De Vault 1991). Cooking and food preparation can be pleasurable tasks through which women express care and love for their families (men and children), often to the detriment of their own taste preferences (Charles and Kerr 1988; Murcott 1983b).

Contemporary feminist studies on technology offer a much more complex understanding of the relationship between gender and technology, but without leaving aside women's subordination or domination. Thus, the use of domestic technologies can be either empowering or disempowering for women (see Murcott 1983c and

Wajcman 1991). They can serve as a form reproducing gender inequalities or as resistance to such asymmetries, both in the private sphere of the family and in the public space (e.g., refusal to feed their families with processed food). Anthropological research conducted in rural China and in South Africa also depicted gender negotiations with domestic technologies (e.g., the water pump and the coal stove) in everyday life, both helping to reproduce or challenge women's identities (Meintjes 2001; Wu 2008).[16]

Time-saving Technologies or More Work for Mother

Many advertising campaigns boast about the time-saving capacities of convenience foods, microwave ovens, and other appliances. Almost forty years ago, Joann Vanek (1974) concluded that women outside the labor market devoted as much time (if not more) to housework as had the women in the period between 1926 and 1966. A few years after Vanek's study, Ruth Schwartz Cowan arrived at similar conclusions, wherein home mechanization has had a marginal effect in decreasing the time women devote to domestic tasks (cleaning, child care, laundry, shopping). To reiterate, standards and expected social norms of cleaning, feeding, and caring have become more demanding. But apart from rising standards, domestic technologies and industrially processed foods may reduce undertaking certain time-consuming tasks. Simultaneously, they also create other tasks (e.g., the first models of fruit juicers were cumbersome to clean). Solving this paradox—that "mechanization of the home had not substantially decreased the amount of time women spend on household tasks" (Wajcman 2000: 449)—has been the subject of much debate and many ambiguous findings (see Gershuny and Robinson 1988). A recent study by Bittman, Rice, and Wajcman concludes, however, that "owning domestic technology rarely reduces unpaid household work. Indeed, in some cases owning appliances marginally increases the time spent on the relevant task" (2004: 412).

Studies that focus on the distribution of time across activities (work, consumption, housework, and leisure) tend to use time-budget techniques to quantify the number of hours occupied in food work. Schor's work-spend equation (Schor 1992) shows that in the United States, as people work more to spend more, they spend more time on both activities, hence the feeling of being always in a rush. This is particularly felt among women facing the "second shift," as they tend to juggle paid employment with nonpaid domestic chores, having to multitask or follow a strict plan (Gershuny 1992; Thompson 1996).

Commercial manufacturing, service industries, and advertising agencies build on these ideas of time saving to produce and market domestic technologies or convenience foods (e.g., ready meals, frozen foods). As food work has not declined among women but has instead switched venues with the growing involvement of women in the low-paid commercial sector of food production and preparation, the appeal of domestic technologies and convenience foods has captured both middle- and working-class women, as both suffered from the "second shift." After a long day in the office, in the field, or in the factory, arriving home and still having to cook for their families may partly explain

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the appeal domestic technologies hold for women. Domestic devices and convenience foods help to "keep on top of things" and offer a sense of control and management of personal time. Paradoxically, the very same solutions for time scarcity contribute to exacerbating further the feeling of being harried (Shove 2003; Southerton 2003). This seemingly contradictory assertion is part of a set of studies on domestic food technologies that focus on the changing temporal organization of daily practices.

Studies by Shove and Southerton (2000), Southerton (2003), Shove (2003), and Hand and Shove (2007) emphasize the importance of the relationship between technology, time, and social order. Shove and Southerton's article follows the British freezer diachronically and seeks to understand different phases in its normalization. They conclude that the freezer-microwave alliance confers a "particular form of convenience" not associated "with the saving of time but with ordering, scheduling, co-ordination and timing" (Shove and Southerton 2000: 313). Importantly, convenience goods and services enable fragmentation of practices into their component parts and the resequencing and reordering into ever more individualized personal schedules (Southerton 2011).

Another relevant aspect brought in by these studies that have a clear practice-based approach applied to consumption (Warde 2005) is that the freezer "helps redistribute time and labour within the household and so alleviates some of the pressures of modern life. Yet those pressures are in part a consequence of just such redistributions of time and labour" (Shove 2003: 178). In Southerton's study, domestic technologies and convenience foods were used to resequence and reorder busy times of work and domestic activities ("hot spots") to create space for quality time ("cold spots"). As everybody was using the same strategies of fragmentation, resequencing, and time shifting, creating ever more idiosyncratic personal schedules, it was increasingly difficult to coordinate personal schedules with others (Southerton 2003). It was also found that food technologies contributed to sealing a compromise between care and convenience and ease some anxiety that ensued from failing to care enough for others (e.g., by not cooking foods from scratch).

Decline, Revision, Reskilling, Deskilling, or Distributed Competences

Research on the effects of domestic food technologies and industrially processed foods on cooking skills has become more apparent in the last decade or so. Recent studies have greatly contributed to unpacking the perceived problem of a decline of cooking skills and the (apparent) negative impact of industrial and domestic food technologies in devaluing cooking. Researchers tried to unpack the paradox of an alleged demise of cooking skills and the popularization of TV cookery programs. People may not know how to cook with their hands, but cook with their eyes and imagination while watching TV . . . . By offering a persuasive understanding of food competences and technology, social scientific research has helped to go beyond these impressionistic accounts of domestic and industrial food technology as responsible for a loss of skills (see Murcott 1997; Meah and Watson 2011). According to Short (2006), advocates of deskilling base their

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arguments on a technical or task-centered approach to cooking skills, underestimating the value of the context of cooking (e.g., looking after children while cooking). Insofar as technologies should be seen in context, so too should be the skills and competences to use those artifacts.

In the deskilling debate, kitchen technologies and convenience foods are often blamed for the decline of cooking skills. Yet authors like Silva (2000) point out that the microwave oven often demands a more skillful cook for its operation than a traditional cooker. Moreover, technologies may open up a myriad of repertoires of know-how and skills as people practice with them, up-skilling instead of deskilling. This is observed in a study of a popular multi-food processor in Portugal (Bimby), wherein embodied/perceptual skills (e.g., hearing) were recurrently used to check if a step of a recipe was complete (Truninger 2011). Users of this technology had to learn how to identify different noises produced by Bimby (the noise of grating cheese was different from the noise of grating bread), learning new skills while practicing with the technology. An interesting aspect not explored in the study is the importance of employing sensory methods (namely audio methods or sensory ethnography (Pink 2009)) to provide a better understanding of the complexity of cooking skills while doing technologically mediated food work. Anthropologists of technology have also provided fascinating studies on embodied skills and the use of domestic technologies in rural China (see the 2008 study by Flitsch on the uses of the *kang*—a cooking appliance).

Other studies take the kitchen as the unit of analysis[17] and conclude that its fabric (layout, materials, architecture) can foster or hamper what people are able to do in it or what family life images people can enact (Shove et al. 2007). In this vein, competences are seen as distributed between industrial and domestic technologies, the kitchen hardware and people. A topical and insightful study by Meah and Watson on cooking skills employed a life-course perspective to conclude aptly that: "Cooking skills are learnt, appropriated and reassessed. From multiple sources and according to shifting life circumstances, from major events of partnering, separating and parenthood, through a new TV cooking programme capturing someone somehow ready to engage anew with the challenges and pleasures of cooking" (Meah and Watson 2011: 6).

CONCLUSION: GAPS AND FUTURE RESEARCH

The preceding sections offered a critical review of the emergence and development of research on industrial and domestic food technologies. Historians of technology made important inroads to understanding the developments of industrial food technology. The first studies unpacked with great technical detail the main shifts, the key inventions, and major (male) figures of technological food development. However, the reader never quite knew what happened to failed experiences or inventions or what was the role of the "missing masses" (Latour 1994) in these technological transformations, namely the faith of other humans situated in different social positions (e.g., women, children, ethnic minorities) and also nonhumans (e.g., bacteria). Recent research on industrial food

technologies by a plethora of disciplines (anthropology, geography, sociology, economics, business, and management) has striven to correct this gap, also casting their net wider onto non-Western societies in both rural and urban areas (although more research is still welcome in this area).

If, at the beginning, there was a tendency to focus on an either/or account of the development and uptake of technologies by looking at the historical processes of invention, innovation, production, and impact, after the '80s more studies appeared emphasizing the importance of looking at the "consumption junction" (Cowan 1987). In recent decades, scholars have made a concerted effort to connect production with consumption by paying attention to the contexts of cultural intermediation (e.g., consumer organizations, women's advisory committees, home economists, food guides). Research on this topic has also benefited from the cross-fertilization between STS and sociology of consumption (notably the studies by Elizabeth Shove and colleagues on the freezer) that have helped to broaden this field. This work tapped into some of the missing elements that have not been well addressed in previous studies of technology, namely by:

1. Exploring modes of integration of consumption, technology, and practice rather than focusing on a detailed examination of single appliances (e.g., the microwave case by Cockburn and Ormrod 1993);
2. Taking more seriously the mundane, inconspicuous, and unremarkable technologies (such as the white goods normalized in many kitchens) rather than focusing on conspicuous consumption (e.g., brown goods such as TV sets, video recorders);
3. Taking heed of the environmental and ethical impacts of acquisition, appropriation, and use of industrial and domestic food technologies (e.g., energy impacts of cold chains; unfairness of labor conditions in the agro-food industry; health impacts of industrially processed foods).

On the third point, such studies were important for grasping how unsustainable systems and infrastructures, suites of industrial and domestic food technologies, and associated habits and conventions coevolve over time. How to unlock unsustainable industrial and domestic food technologies together with their practices, that move along path dependent trajectories, should be the focus of future research. This would further consolidate the findings of this recent stream of studies, some of them informed by practice theory (see Schatzki 2011 for a recent definition).

Undoubtedly, studies on industrial and domestic food technologies have contributed enormously to unveiling the reproduction of structural gender and social divisions. The contribution of feminist studies of technology was central for this endeavor. However, in that tradition there is a relative dearth of research on men/masculinities and technologies, especially in food technologies. This is surprising on two counts: the traditional hegemonic masculinity of technologies; the increasing prominence of cooking practices in shaping young men/masculine identities. Recent publications have tried

to address this gap (see, for instance, the special issue by Lohan and Faulkner on "Masculinities and Technologies," 2004), but relationships with food technologies are still under-researched. And when they are examined, there is a tendency to situate such studies among conspicuous cooking practices (celebrity chefs like Jamie Oliver) instead of looking at the more mundane and unremarkable daily food work. Moreover, the artificial separation between consumption and production has also implied a gender division of labor, wherein researchers tended to focus on men in the production sphere and on women in the domestic sphere. A more fluid account of gender performance and production-consumption connections is welcome in the future.

There is also scope for redirecting intellectual work to examine the use of food technologies in multiple sites or modes of food provisioning (domestic, industrial, commercial, state, and community). Researchers have focused their efforts in the industrial, and especially, middle-class domestic kitchens, and there is a need to understand better the use of food technology in public food services (schools, hospitals, and prisons), in community food schemes (community food/cooking training), and in commercial restaurant kitchens. Plus, more research is needed on food innovations and product reformulation in institutional and commercial kitchens, notably examining their role in alleviating or further intensifying moral panics. Going beyond the domestic kitchen into institutional and commercial sites of food preparation, preservation, storage, and cooking will unveil the way that the coevolution of food practices and of industrial and domestic food technologies is, indubitably, an instituted process of change.

NOTES

1. Whether this promise has been fulfilled or not lies outside the coverage of this chapter. See a special issue on "The Nature of Technology" at *Cambridge Journal of Economics,* 34(1) (January 2010) for more on this topic.
2. These artificial fertilizers were based on superphosphate. James Murray was the first manufacturer of this fertilizer in 1817 (Dublin). From 1834 onward John Lawes, later joined by J. H. Gilbert, established a large-scale industry. By 1870, their factory was annually producing forty thousand tons of superphosphate (Derry and Williams 1960: 553).
3. The Chinese, Indian, and Arabian cultures used snow or ice to cool drinks, fruits, and meat (Teuteberg 1995: 52).
4. A few explosions injured workers in the pioneering canning factories (Freidberg 2009; Singer et al. 1965).
5. Developments in new preserved meats provided access to meat for deprived populations and raised its profile as a symbol for public health, nutrition, and food security. The contributions by German chemist Justus von Liebig on protein were crucial for progress in nutritional science and modern food systems (Dixon 2009; Freidberg 2009).
6. In the second half of the nineteenth century, refrigerators started to appear in the market or in fairs. James Harrison developed an ether compression machine and established an ice factory in Australia in 1851. In 1874, T. S. Mort opened the first meat-freezing factory near Sydney and a slaughterhouse the following year. Both entrepreneurs tried to ship frozen

Australian meat to Europe, but failed. The first successful shipment of frozen meat took place in 1877 between Buenos Aires and Le Havre (Singer et al. 1965; Teuteberg 1995).

7. For an historical account of the shift from corner shops, through the cooperative movement targeting deprived people, to the rise of multiple retailing in Britain, see Oddy (1995).
8. Between 1985 and 1987, a survey of 100 rural households in Dingxian county shows that none had a fridge, but more than half had a TV set (Wu 2008). In urban areas, "in 1986, 65% of urban households owned a washing machine, 29% colour televisions and 18% refrigerators; by 1998 the percentages were 90.5%, 105% and 76%" (D. Davis 2005: 692, footnote 1). This urban-rural imbalance could be partly explained by China's economic reforms of the 1980s, wherein a consumer revolution started in urban areas (Flitsch 2008). Yet China's Home Appliance Subsidy Program has been an important driver for the current uptake of domestic technologies in rural areas.
9. The former ensued from the magnetron, developed by physicists in the 1920s and further improved by scientists at the University of Birmingham, and then applied to military radar equipment in the 1940s (Cockburn and Ormrod 1993); the latter originated from polyethylene (Poly-T), a plastic first synthesized at random by a German chemist in 1898 and then applied as insulation in aviation and radar sets during World War II (Clarke 1999).
10. The last decades of historical research on food technologies helped to trace public food scares since the mid-nineteenth century (see Atkins, Lummel, and Oddy 2007).
11. In 2005, the Japanese Ministry of Agriculture, Forestry and Fisheries launched the Basic Law of Shokuiku (Food Education) to transform the diets of the younger populations, who were replicating Western food patterns (rich in saturated fat, sugar, and salt). The law calls attention to the need to reconnect people to the traditional Japanese food culture, favoring local foods and discouraging processed and fast-food meals (see www.maff.go.jp/).
12. In a recent study on waste practices (Evans 2012), frozen processed foods together with the fridge-freezer-microwave complex were crucial contributors for delaying consumers' painful decisions on binning food. Thus, industrial and domestic food technologies may, at times, constitute important "moral" fixes for alleviating anxieties around food waste. This opens up an interesting debate on the construction of food anxieties and its ambiguous meanings. Yet, convenience foods connect in plural ways to debates other than anxiety; they are also sources of indulgence, pleasure, and care.
13. Home economists carved out a space of mediation between production and consumption (Clarke 1999; Oldenziel, de la Bruhèze, and de Wit 2005). This professionalized group of home economists (including experienced lay housewives often hired by food manufacturing companies and utilities) aimed at encouraging women to take on board the ideas of scientists and medical doctors on body care and hygiene, food nutrition, and health.
14. Interestingly, recent research on non-Western appropriation of domestic technologies has reached different conclusions: the appropriation of white goods in rural China has been a top-down process driven by the state with weak participation from users in the design of electrical appliances (Wu 2008). Only recently, east Asia researchers began to examine the appropriation of domestic technologies, and the findings greatly challenge the assumptions of Western STS literature, contributing to novel developments (Bray 2008). The new journal *East Asian Science, Technology and Society: An International Journal* is a good place to follow such developments.

15. Discrimination and social injustice in industry is a classic theme in social sciences. However, compelling studies on the dark history of the food industry have appeared in recent years unveiling how industrial food technologies emerged and were consolidated at the cost of the physical and mental well-being of marginalized groups in society (women, children, ethnic minorities, and indigenous populations of colonial empires). See Tucker (1994) on agricultural workers in a war context, and Freidberg (2004b) on the French beans industry.
16. For a critical review on gender and food technology transfer in developing countries, see Bourque and Warren (1987).
17. There is a rich tradition of research on kitchens by historians of science, technology, and food, see Oldenziel and Zachmann (2009) and Freeman (2004), among others.

5

Social History of the Science of Food Analysis and the Control of Adulteration

PETER J. ATKINS

This chapter is about the problem of knowing whether the food that we consume is genuine. Because of the complex underlying science, it has always been difficult for ordinary consumers to judge purity and authenticity, and hence throughout history there has been scope for manipulation. It is not the intention here, however, to slip into facile moral judgments because one person's fraud is another's product innovation. Rather than identifying "genuine" and "falsified" as different and separate categories, we can see them as modulated answers to the same question: what is food? This chapter, then, is a contribution to the ontological politics of food. This is the recognition that "ontology is not given in the order of things . . . instead, ontologies are brought into being, sustained, or allowed to wither away in common, day-to-day, socio-material practices" (Mol 2002: 6). Thus bread has no essential characteristics of its own, but when it is baked, sold, and eaten it becomes bread in the unfolding of these practices (Atkins 2011).

This chapter is arranged according to four dimensions of literature that have dominated the historiography of adulteration. In the past these have lacked a comparative frame, being researched within national boundaries and through narrow disciplinary perspectives such as the legal or the economic. A suggestion will be made at the end for writing different kinds of adulteration histories that are in effect archaeologies of quality.

ADULTERATION AND HEALTH

There is evidence from the eighteenth century onward of public concern about the health implications of adulteration (Filby 1934). In 1820, a jobbing chemist of dubious reputation, Friedrich Accum, published a book, *A Treatise on Adulteration of Food and Culinary Poisons,* that caught the public imagination in London (Brown 1925; Burnett 1958, 1989). Among the adulterants he identified were poisonous salts of lead, copper,

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and mercury, used mainly for coloring. But Accum's book was essentially a cut-and-paste job from newspaper cuttings, not the result of laboratory research (Sumner 2007). His style of borrowing and exaggeration classified him as an adulterator of science in the eyes of opinion formers such as Humphry Davy. Accum's humiliation and exile back home to Germany in 1821 was less to do with his alleged defacement of library books than his misfit identity in the new world of professional analytical science. Yet he initiated the theme of adulteration and risk, which has remained powerful right down to the present day (see Kjærnes, Chapter 24, this volume).

The anxieties about food heightened by Accum's revelations have since been extended and elaborated into several strands. Toxins introduced during manufacture are one dimension. Here researchers have emphasized dramatic cases, such as the arsenic from bungled sugar processing that killed seventy beer drinkers in England in 1901 (Phillips and French 1998), the guinea pig books that caused fear among U.S. consumers in the 1920s and 1930s (Coppin and High 1999), or the dioxin scare in Belgium in 1999. Equally, there is scope for histories of everyday impurities, such as trans fats, which, it could be argued, are a form of adulteration since they are artificial, harmful, and of benefit only to the food processor.[1] The fine lines between contamination and adulteration, and between accidental and deliberate acts by the food provider, are potentially valuable areas of research because they reveal much about our understanding of food quality.

In Accum's tradition of exposing the addition of substances to food that are deleterious to health, there have been three major incidents in recent years.[2] First, in 1981, 600 people in Spain died and over 20,000 were made ill by consuming rapeseed oil intended for industrial purposes but sold on street markets as "olive oil." Then, in 1985, a number of Austrian wineries were found to have illegally used diethylene glycol (a toxic ingredient of antifreeze) to make their wines appear sweeter. This was an organized fraud employing wine chemistry, and much modern adulteration is technically advanced in this way. Because there is usually no health risk to consumers, this type of fraud is low on the priority list of regulators and local authorities. Testing is expensive and "at the bottom line, no one wants to test. It is amazing that the marketplace is as fair as it is" (Wilhelmsen 2000: 3873).

An even more shocking event came in 2007 when thousands of babies in China were hospitalized with kidney stones and renal failure, and over three hundred thousand were affected to a lesser degree. The problem was traced to contaminated milk and baby formula produced by a dairy company in Hebei province in the north. This was not an accident but purposeful adulteration of high technical sophistication (Xin and Stone 2008). The motivation was to increase profits by watering the milk and then adding melamine, a type of resin, to boost its apparent protein content. Melamine is nitrogen rich, thus fooling the testing procedures (Xiu and Klein 2010). The draconian response of the authorities was to execute two of the factory managers and jail others implicated, although the fraud seems to have been quite widespread in a trade habituated to using "protein powder" with no questions asked.

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These three examples, and the many more that could be cited from around the world, demonstrate that the chemical modification we call adulteration remains a threat to public health.

Food Fraud and Composition

What is food? What is adulteration? The answer to both questions is a matter of understandings and expectations. If I ask for a coffee and it arrives with milk added, has it been adulterated? No, I am happy to consume this coffee-milk hybrid. But if the coffee contains chicory and the milk is watered, my response would be different. I would feel cheated even if the taste was identical. This is because I have a mental model of the organoleptic and compositional characteristics of the products I consume. But these models are simple and their tolerance levels broad because my cognitive skills are insufficiently fine-tuned to identify subtle variations. Tom Mueller's (2011) book on olive oil shows just how easy it is to dupe consumers into thinking that they are buying a quality product.

For the full implications, think of wine and milk. Wine is a commodity well-known for its variations according to grape, vintage, and micro-environment (see also West, Chapter 12, this volume). So the price of wine varies according to quality indicators that have been developed over several centuries. By comparison, milk until recently was relatively undifferentiated. In the minds of most retail customers, milk was milk. In Britain from 1901 onward, the legal description of this commodity was "milk as it came from the cow," with nothing added and nothing taken away. Similarly, the Spanish have a saying, *blanco y en botella, leche,* which roughly translates as "it's obvious—if it is white and in a bottle, it is milk." But, in truth, milk as it came from the cow was highly variable according to its composition of fat, protein, and water, mainly due to the breed of animal and how it was fed. This meant milk drinkers were consuming a product sharing some of the characteristics of wine but without either the knowledge or the expectation of its degree of variability. Only in the last decade or two has milk become an industrially standardized product.

The consequences of these points are profound. It so happens that over the last 200 years wine became the main food quality concern of France, whereas in Britain it was milk, and together they approximate the views of southern and northern Europe respectively. Wine for the French is important for their culinary culture and national identity (K. M. Guy 2003). Their regulatory objectives have been to expose any form of falsification, for instance bogus claims of quality or the addition of chemicals. Worries about milk, on the other hand, particularly in Britain from the nineteenth century onward, were about its "adulteration" with water. This was partly about the economic rights of consumers, but also about degraded nutritional qualities.

As a result, the administrative and legal practices of control have yielded two rather different conceptions of food quality. In France, the well-known idea of *Appellations d'Origine Contrôlées* (see West, Chapter 12, this volume) followed from a 1905 French

law that sought to outlaw adulteration across all food and drink products (Stanziani 2004). In seeking administrative definitions and legally enforceable compositional norms, its approach became an exemplar for many European countries, and in the 1990s it was incorporated into the legal framework of the European Union (EU) as the EU's way of disciplining market transactions through the establishment of trademarks that were to be the collective intellectual property of region-specific producers of ham, cheese, wine, and other products. This tradition of place-based quality is the intellectual forbearer of current ideas about local food, and its influence has now spread around the world (Trubek 2008).[3]

The very different milk-based tradition of Britain and North America was based on a compositional vision of food quality. The ontopolitics here were of measurement and precision rather than of place, centered on finding suitable methods and equipment to investigate the natural variability of the constituents of milk and other foods (Atkins 2010). We can now see that the two most powerful intellectual genealogies of food quality are divided by cultural, legal, and economic traditions, resulting in mutual misunderstandings and trade wars between the United States and the EU.

Expert Systems: Food Chemistry

No reliable tests for the adulteration of foods existed until about 1800, but the science of organic substances began to make progress in the early nineteenth century. Anglophone historians, because of their focus on Accum, have undervalued early work on the chemistry of adulteration in France, Sweden, and Germany, which gradually yielded tools for describing the natural variations of food composition and determining levels of adulteration. This was a new world because, as Barry and Slater remark, these practices "do not just reflect reality as it is. They create new realities (calculable objects) that can, in turn, be the object of economic calculation" (2002: 181).

In all of this, whose expertise counted? On one hand, there were the traders with their organoleptic skills. On the other, the "objective" expertise of science came increasingly to the fore, for instance in the microscopy of Arthur Hill Hassall, who between 1851 and 1854 published lists of traders guilty of adulteration (Smith 2001). Here science appeared to occupy the moral high ground above the corrupt practices of trade, and yet some products resisted scientific investigation. Wine, for instance, requires the knowledge, experience, and sense-based skills of specialists, even if these are not always strictly scientific.

The first major city to establish a municipal laboratory to investigate and pronounce on fraud was Brussels in 1856 (Scholliers 2007), followed by Paris in 1878 (Atkins and Stanziani 2007).[4] At first these laboratories tended to serve traders who were suspicious of their suppliers, and market regulation was certainly more significant than public health at this early stage. Interestingly, in many countries the peak of adulteration came in the last decades of the century, *after* analytical control was established (Stanziani 2005).

In Britain, laboratory expertise was fragmented and contested. Government scientists frequently disputed the analyses of their local authority colleagues and there was conflict about scientific expertise for several decades at the end of the nineteenth century. The same problem was found in Germany, where there were disagreements between food chemists in government employ and those working for the food industry (Hierholzer 2010). In France, the debates were between laboratories in provincial cities and the officially designated one in Paris.

Building a scientific consensus about "genuine" foods and about the methods of detecting fraud eventually came in the early twentieth century, with the role of industrial food chemistry being decisive. The large dairy companies and, later, other food processors and manufacturers invested in large-scale testing that was quick, efficient, and of a low unit cost. The knowledge generated by their standardized laboratory protocols enabled such companies to establish technologies of trust in controversial areas. As a result, although the number of analytical samples increased, the proportion found to be adulterated decreased in almost every product.

Wilhelmsen indicates that food adulteration remains a problem today in Europe and North America, in subtle ways difficult to detect (Wilhelmsen 2000). Examples he cites include corn syrup in honey, hydrolyzed inulin in apple juice, grapefruit juice in orange juice, various food oils in olive oil, and many others. Solutions lie in testing technologies that are more advanced than those employed by the adulterators. There are many of these,[5] including chromatography and spectroscopy, stable isotope and enzyme analysis, and DNA-based methods. A common feature is searching for a chemical profile or marker that is different from that of the genuine article, for instance by statistical comparison with a database of the compositional characteristics. In some countries the constituents of particular food products are codified and methods of analysis specified.

The State: Legislation, Regulation, and Litigation

In Europe and North America, a period of rapid urbanization in the nineteenth century put great pressure on existing frameworks of control. City administrations were already unable to cope with poor sanitation, social dislocation, and crime, and so food adulteration was yet another difficult challenge for them (Collins 1993). One common assertion was that food quality was deteriorating (Atkins 2010), partly because the increased distance from producer to consumer meant that supply chains were stretched and there was therefore a diminution of system trust. Complaints included watered beer and the addition of alum (hydrated potassium aluminum sulphate) to whiten bread made from low-quality flour.

Legal and administrative definitions of the adulteration of food and drink were threefold. First, adulteration was said to have taken place if any important constituent had been omitted or substituted. Second, the deliberate concealment of damage or inferiority was an issue, for instance mislabeling or misbranding. Third, adulterants were ingredients added to improve appearance or increase value, for instance by bulking out

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to increase weight. These frauds were possible because of the asymmetry of information in the market, favoring the trader, but food control, when successful, tipped the balance toward the consumer.

Significant food quality legislation was passed in France (1851, 1905), Britain (1860, 1872, 1875), Germany (1879), Belgium (1890), Austria (1896), Switzerland (1905), the United States (1906, 1938), and Spain (1908), but there were four reasons for the delayed effectiveness of these laws (Dessaux 2006; French and Phillips 2000; Guillem-Llobat 2008; Hierholzer 2010; Young 1989). First, it was not always clear whose interests were served. As Peter Scholliers comments, discourses of safe food were vague about the meaning of "the public" (2007: 81). There were obvious vested interests of commerce, but consumers were not homogeneous in their habits and views. Thus alumed bread was an attack on the poor but watered milk affected the middle and upper classes.

Second, systems of enforcement were variable. Germany, for instance, had analytical institutes and guidelines for food inspection in urban markets from 1876 onward; but there were substantial regional differences of practice and no imperial food standards. Bavaria was better prepared than Prussia in the number of food samples taken and in the training of the chemists to analyze them, at least until the decade before the First World War (Teuteberg 1994). There was this kind of geographical complexity in most countries, but it is unfortunately absent from histories of adulteration.

Third, the link between regulation and science depended upon a consensus about food standards. In some countries this was difficult to achieve given the different interests that made up the food system. There were two types of solution. On one hand, the Association of German Food Manufacturers and Retailers published the Federal Food Code in 1905 with a view to putting its views in the public realm (Hierholzer 2010). On the other hand, in some countries it was the state that sought to define the natural compositional limits of foods and so show up adulteration as beyond the agreed standard. In Austria, the *Codex Alimentarius Austriacus,* which began in 1897, was a compilation of descriptions of foodstuffs, appropriate analytical methods, and food standards. Its conceptual base was similar to that of a drug pharmacopoeia and it had a global impact in the twentieth century (Spiekermann 2011).

Fourth, the law courts took decades to make sense of anti-adulteration law, particularly in common law jurisdictions, where precedent is so important. Any social history of food standards must include this dimension because, in a sense, it was the jurisprudence that put meaning into the law. There is no doubt that the analyst, as expert witness and originator of authoritative reports, was a key figure in this drama. Perhaps even more important was the emergence of the contractual arrangements between the various parties in the food system as a guarantee of quality and trust in the sale of goods. In the early nineteenth century in Britain, for instance, the balance of the law was toward *caveat emptor,* based on the tacit assumption that the buyer would view the goods before purchase (Barton 1994; Mitchell 2001). Later, such copresence became unlikely and warranties were demanded as undertakings that the food delivered would be whole and untampered with. Although there were many technical difficulties with

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warranties, they symbolized an important shift of responsibility toward *caveat venditor.* Lack of attention to such legal arrangements amounts to a serious gap in histories of food quality.

In view of the increasing international trade in raw and manufactured food products in the second half of the nineteenth century, it became increasingly obvious that some debate about standards and convergence was desirable. A medical congress in Amsterdam in 1879 seems to have been the first occasion for this, followed by the International Commission on Adulteration established at a congress in Vienna in 1887. The latter led to the publication of the *Revue Internationale Scientifique et Populaire des Falsifications des Denrées Alimentaires* in Amsterdam.[6] The International Chemistry Congress in Brussels (1894) then set up a commission to prepare an international book of food composition, and discussions at the Geneva Congress (1908) saw the founding of the Society of the White Cross. Its *Annales de la Société universelle de la Croix-blanche de Genève* was a relaunch of the *Revue*.[7] The Paris Congress (1909) saw the compilation of a fifteen-hundred-page book of international food standards. Again, scholarship in this area deserves encouragement (Dessaux 2006; Zylberman 2004).

Despite such initiatives, the fight against adulteration remained largely at the national scale, with many countries establishing bodies to provide regulatory means for the enforcement of food quality legislation.[8] Most famous by far is the Food and Drug Administration of the United States, which gradually grew to be powerful in the American system.[9] In Britain, it was not until 2000 that an independent government department with centralized regulatory powers, the Food Standards Agency, was established, followed in 2002 by the European Food Safety Authority (Prosser 2010). Both had been initiated in response to the food scares of the 1990s.

After the Second World War, the International Standards Organization confirmed the desirability of standardization and its Agricultural and Food Products Committee has since produced over 500 standards. This was followed by the Codex Alimentarius Commission, set up in 1963 as a joint enterprise of the Food and Agriculture Organization and the World Health Organization. One of the concerns at the time was the increasing use of additives in industrial food products, many of which were undeclared on packaging yet considered potentially dangerous for health. The main objective of the Codex is protecting the health of consumers and ensuring fair practices in the food trade by promoting coordinated international food standards. It has 165 member countries and more than 220 food commodity standards that cover hygiene and risk assessment, labeling, sampling and analysis, contaminants, additives, and residues from pesticides and veterinary drugs. The global significance of the Codex was ensured by a reference to it in the Agreement on the Application of Sanitary and Phytosanitary Measures, which has been in operation since 1995.

Many countries in the Global South are members of the ISO and the Codex, but their regulatory journeys are only just beginning. In fact, since the majority of the world's population continues to live under loose food controls, any overall conclusion concerning progress with adulteration has to be provisional. After independence in 1947, India

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made improving its food standards an objective of its drive to modernity. What had been under the British a decentralized system of regulation was brought under unified control in the Prevention of Food Adulteration Act (1954), which remained in force until recently. There has been progress, with the issue taken seriously by the courts and in the media, but low-level fraudulent practices are still common. As we have seen, China faces a similar scale of problems, but the state's reaction has been less transparent and less effective. The critical social science literature on food quality in developing countries is nascent, but so far there is little research with a historical sensibility (Guyer 2009; Hilton 2007).

Activism and Citizenship

Ordinary people are largely absent from the historiography of adulteration. This is surprising given that we know that one of the original motivations of the cooperative movement in Britain from the 1840s was cutting out adulteration in what seemed to them a distorted and corrupt food system (Kassim 2001). Up to now most research on European consumer-citizens has been on the period following the Second World War, but a body of empirical work is emerging that is revealing the depth of organized activism in the nineteenth and early twentieth centuries.[10] There were consumers' leagues, for instance, in Paris in 1902, Switzerland in 1903, and Germany in 1907, followed by Italy, Spain, and Belgium. Kroen (2004) aligns these developments with the maturing of democracy, particularly the empowerment of women. Even further back, in the 1870s and 1880s in Germany, a movement of citizen self-help associations mobilized against the adulteration of food (Hierholzer 2007). The first was founded in Leipzig in 1877. This soon had 500 members and within a year or two the idea had spread to twenty or so cities. In Britain also, food quality was a central concern, leading to the formation of groups such as the Anti-Adulteration Association (1871) and the Food Reform Society (1877) (French and Phillips 2003; Oddy 2007).

The second half of the nineteenth century also saw the publication of self-help manuals written for people to detect adulteration at home. Although not all would have been aimed at housewives, there was certainly an emerging pedagogic discourse in domestic science and women's magazines addressing the practical skills of choosing affordable quality foodstuffs (see Brembeck, Chapter 16, this volume). There were also many prominent women campaigners for pure food, some of whom were able to influence the policy agenda, particularly in the United States (Goodwin 1999).

MARKET BUILDING: INFORMATION AND TECHNOLOGY

In an important paper, Marc Law (2003) has presented a "market-building" hypothesis that anti-adulteration regulations, if successful, help to build trust in those commodities perceived as the most susceptible to manipulation. This thinking draws together several types of evidence.

First, there are accounts of the various regulatory efforts across Europe that stressed fairness and honesty in the moment of sale, for instance the London Assize of Bread (1266–1815) and the efforts of the guilds in Germany with regard to both beer and bread (Teuteberg 2007). Although such histories are mainly concerned with weights and measures and prices, there is scope for arguing that their significance is deeper. The mental standardization that accompanied the process of defining honest trading can be thought of as part of the emergence of governmentality through the development of legal precedent and accompanying legal concepts (Dean 2010).

Second, markets abhor uncertainty and the adulteration of food was a major risk factor, both for the reputation of traders and for system trust overall (see Kjærnes, Chapter 24, this volume). One option was for producers, merchants, and retailers to use warranties, trademarks, trade names, labels, and third-party certification to establish niches for acknowledged quality (WIPO 1997). Emerging in the eighteenth and nineteenth centuries, these, along with geographical indications (GI) and other tools of intellectual property, are a kind of promise to the consumer as well as a statement of property rights and a lubricant of fair trade. Then, in the twentieth century, the brand introduced a conceptual thumbnail symbolizing trust and the possibility of associating with an ideology or lifestyle.

Although trademarks and brands came increasingly to offer a consistency of quality that was a refuge from adulteration (Strasser 2004), they also added a mystique, because many used secret ingredients or recipes. Their labels and symbols kept the customer informed and brought some order to an anarchic marketplace (Collins 1993; Law 2003). H.J. Heinz, for instance, had many competitors, but his slogans on purity and health were more convincing and his marketing messages about customer satisfaction could be backed up with high-quality products (Koehn 1999; Petrick 2009). Advertising was an extension of this building of trust capital through the provision of information. An example is Dr. Oetker's use of his doctorate and background as a pharmacist to establish credentials for quality that helped his Bielefeld-based baking powder factory (founded 1893) eventually to become a global player in food manufacturing.

Trademarks are usually the property of an individual or a corporation. They can be bought or sold and represent an important building block of modern capitalism. In order to prevent fake products reaching the market, with the inevitable dilution of quality and trust that would involve, there have been a number of international treaties and bilateral agreements between countries to protect the intellectual property associated with manufactured food and drink. These have not, however, prevented trade disputes, for instance resulting from the profound gulf in understanding between the United States and Europe regarding GIs. The United States has an individualistic notion of quality vested in the freedom of companies to develop their own products, but it has no legal concept of the collective reputation and environmental signature that goes with the food and drink typical of particular regions in France or Italy. In contrast, the Europeans cannot conceive of anyone owning the rights to, say, Parma ham, and local producers are encouraged to use GIs if they can meet basic standards of quality. The United States insists that its citizens have the right to use names such as parmesan and champagne because of

their vernacular currency (Creditt 2009; Nation 2011), and also claims that GIs have a protectionist and market-narrowing element that is inconsistent with the free trade principles of the World Trade Organization. Although the TRIPS Agreement is accepted by all of the signatories to the WTO, only wine is covered in the full sense of a GI, and the United States is resisting the extension of that concept to other commodities.

A third aspect of market building has been the role of food technology. A good example of the fine line between fraud and product innovation is the invention of "oleomargarine" in 1869.[11] This stood for the ambition and scientific achievements of an increasingly technological, industrialized, modern world (Burns 2009: 24). As such, it sat in a symbolic category opposed to its "natural" rival, butter.

But when does compositional innovation stop and cheating begin? Margarine's entry into the market was immediately and vigorously opposed in many countries (Stuyvenberg 1969). In Canada it was banned altogether from 1886 to 1949, and in the United States over a similar time span there were regulations in many states that meant that yellow-colored spreads were heavily taxed.[12] Ruth Dupré's account of this history is particularly instructive (Dupré 1999). There is no doubt that unscrupulous traders in both Europe and North America were prepared to pass margarine off as butter and anxious to pocket the windfall profits from a product that was half the price. Demands for proper labeling and for police action against fraudsters were therefore justified, but denying a fair wind to margarine sold as such was a restraint on trade and the direct result of special interest lobbying (Miller 1989). Dupré recalls that the lobby, particularly in the dairy states, was powerful enough to influence the political debate until the 1960s. Producer politics are still important on both sides of the Atlantic, but the twentieth century saw the gradual rise of the consumer voice to balance such vested interests. The science behind margarine has not changed, but as a product it had a very negative image at one point, on a par with alcohol or narcotics. There is no longer any association with the rendered fat of dead animals and, in the best tradition of the postmodern, the simulacrum is beginning to steal the limelight of the "real" original because of butter's association with circulatory disease (Genosko 2009; Pantzar 1995).

DISCUSSION: REGION AND MATERIAL

As we have seen, the historiography of adulteration reveals thematic clusters of work but many gaps. In this final section a suggestion for a way forward will be made based on the need for comparisons across national boundaries and legal jurisdictions, and between commodities. This is based on the main unresolved issue of food quality stretching back 200 years—the binary between place-based conceptions and other intellectual traditions such as compositional quality and the use of trademarks. These are not mutually exclusive categories, but misunderstandings and mistrust have arisen between the major proponents, indicating the need for further research to reveal their respective conceptual genealogies.

Geographers and historians of material culture have begun to work on the regional element. In recent years the former have published a significant corpus of work on local

food and place-based articulations of what have been called alternative food networks (Goodman, Goodman, and DuPuis 2011). The latter, working mainly in the anthropological and sociological traditions, have used ethnographies and other qualitative methodologies to reveal the performative construction of quality (Harvey et al. 2004, Paxson 2011). Such studies reveal a whole spectrum, from "artistic" interpretations of quality to the claims making that accompanies the reinvention of tradition. The history of trademarks and intellectual property is also relatively well developed, although less so with respect to foodstuffs. One hopes for more, and also for work on the compositional "careers" of commodities. In the latter case a new approach to adulteration is in sight.

Callon, Meadel, and Rabeharisoa (2002) privilege the material itself and argue that the qualities of goods are emergent rather than designed. This insight into ontological slipperiness can be matched by two others. First, as Benjamin Cohen (2011) reveals, the difference between "superficial" appearance and the "reality" that lies underneath was still under debate in the nineteenth century. The visual dissonance between the novel technologies of the photograph and the microscope amply illustrates this point. Physics and organic chemistry became ways to know food as never before and they provided frameworks to develop concepts such as genuine, pure, authentic, and natural.

Second, the modern era has been one of reassessment of taken-for-granted ideas about trust in food systems, as in other aspects of daily life. It came as a shock to many in the mid-nineteenth century to discover that commodities such as milk were universally tampered with and that an "honest pint" was therefore almost impossible to find. This was seen as a damning commentary on the "orders of worth" in society (Atkins 2010: chapter 6). Eliminating adulteration and falsification became a way of putting society on the right moral road.

Histories of the last fifty years are less about the grosser forms of fraud than about finer distinctions of quality. It seems to the present writer that now is the time for these histories to look into the emergence of the valuation and the materialities of foodstuffs. This demands comparative work but, above all, a holistic contextualization in terms of the social, scientific, legal, and economic threads. A proposal for research on one commodity, milk, that could be extended to others, may be found in the book *Liquid Materialities* (Atkins 2010).

NOTES

1. Note the tension here between those (Beck 1992) who write about food scares such as BSE and food poisoning as emblematic of a modern age of anxiety or maybe even of a new era—the "risk society"—and historically-based narratives that alert us to 200 years of unease about food-related morbidity and mortality (Atkins 2008; Ferrières 2002; Scholliers 2008).
2. Defining adulteration has become problematic in recent times. The prions that cause BSE and new variant CJD were the cause of much debate about food risk, but the prolonged mad cow scare was about contamination rather than adulteration.

3. Since 1966, the World Intellectual Property Organization has administered the "Lisbon System" for registering "appellations of origin," but more important is the Trade-Related Aspects of Intellectual Property Rights Agreement (1994).
4. The relatively small amount of comparative work done on food history is to be found in the publications of the International Commission for Research on European Food History and Institut Européen d'Histoire et des Cultures de l'Alimentation.
5. See the chapters in Ebeler (2007) and Sun (2008).
6. Renamed in 1889: *Revue Internationale des Falsifications.*
7. This became the *Annales des falsifications* (1912–1916), then the *Annales des falsifications et des fraudes* (1917–1959).
8. See Phillips and French (1998) for a critique of the British system.
9. This had its origins in the 1840s and before 1930 went under various names, such as the Bureau of Chemistry and the U.S. Department of Agriculture (Hilts 2003).
10. The emphasis in this section is upon Europe, but for similar developments in America, see Coppin and High (1999), McGovern (2006) and Glickman (2009).
11. *Oleo* is Latin for oil, and Mège-Mouriès mistakenly thought his process involved margaric acid.
12. Yellow margarine remained illegal in the province of Québec until 2008.

6

Representations of Food Production and Consumption: Cookbooks as Historical Sources

KYRI W. CLAFLIN

One of the more ubiquitous cultural representations of food production and consumption in the West since the nineteenth century is the cookbook.[1] Prescriptive domestic literature is so commonplace in daily life that its value as a resource for historians was overlooked until relatively recently. Cookbooks and domestic manuals are useful as primary sources because they serve as representations of practices (real or imagined)—and also of social and cultural meanings of food—in the society that produced them. Deciphering the cultural symbols in, as well as the social and historical import of, these sources draws on the methods of a number of disciplines, including history, literary criticism, and cultural studies. Cultural historians investigate representations as social mirrors and as social agents. As a result, we want to know not only what a representation *means,* but also what it *does* (Hunt 1989: 15). The researcher tries to understand what a cookbook means in the context of the society that produced it (i.e., what was the author/publisher's intention) and what effect the ideas and language may have had on individual readers and society in general. This chapter discusses recipe books and domestic manuals as dynamic representations of food production and consumption and demonstrates some of the ways scholars use these texts as sources in social and cultural history.

There are key questions the researcher can ask when using cookbooks and other prescriptive food literature as sources: What does this particular representation do and how does it do it? What is the relation between this recipe collection or domestic manual and the world it claims to represent? How do particular representations of food production and consumption relate to one another or to larger processes of social change? Cookbooks are created in (and for) a particular time and place; they are, as well, written in language meant to be understood by contemporaries. A quick look at a recipe from the seventeenth century reveals that it is unlike one we use today. In fact, an early modern cookbook can

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seem so foreign as to be practically impossible to cook from. The nature and form of recipe compilations have changed over centuries; thus, they constitute a genre of literature with a history. To use prescriptive literature as a primary source, the researcher must not only read it effectively, but also read widely in other sources to reconstruct the historical contexts. Techniques of close reading and critical thinking reveal different layers of meaning in a cookbook that otherwise remain hidden. To ascertain the extent to which a cookbook is a representation of actual practices, we use historical methods that establish the book's social, cultural, and intellectual context (Takats 2011; Wheaton 1983).

Cookbooks are, of course, books. Knowing how the genre developed over time allows us to locate these sources within the history and traditions of book publishing and book use. Methodologies of book history and the history of reading suggest ways to learn what a cookbook was created to do and how it may have been used by readers. Some cookbooks provide not only the written word, but also images that show aspects of material culture of food production and consumption. Material culture extends as well to the actual objects used in food production and consumption. Not least, a book itself is an artifact of material culture. Frontispieces, title pages, and illustrations, called extra-textual elements, have their roles to play in the marketing and utility of cookbooks as commodities. This chapter will touch on all of these ideas.

A BRIEF HISTORY OF RECIPE COLLECTIONS IN THE WEST

The origins of culinary recipes come out of another genre, that of ancient scientific and medical writing, specifically prescriptions for cures and treatments in which ingredients and instructions were written out as recipes or formulas. Medical recipes, indeed all recipes, were vehicles for practical knowledge to be reproduced by another doctor, a pharmacist, or a cook with some certainty of achieving the same results every time. Medical and culinary recipes were, in fact, related for centuries, as foods, usually in a prepared form, were the first medicines. The skills of the cook and the physician were complementary.

The history of the word *recipe/receipt/recette* in the *Oxford English Dictionary* (OED), *Nicot* (*Autrefois* of 1605), and *Le Trésor de la langue française* demonstrates that the evolution of words and meanings tells stories. In French and English, these words have a common Latin root, *recipere* ("to take"), which when conjugated as an imperative is written *recipe* (in shorthand form, *Rx*), meaning "take." These dictionaries agree that *receipt/recipe* originally meant a formula, usually in medicine and in cookery. The OED's examples from 1386, 1400, and 1530 use *recipe* in the medical sense. The OED reflects a linguistic shift that happened during the sixteenth century, as the example from 1595 has to do with a recipe for "Ippocras," a warm spiced wine that could be either culinary or medicinal (to aid digestion). In practice by this time hyppocras had a rightful place as a popular drink taken after a fine meal. Two centuries later, Samuel Johnson's eighteenth-century dictionary still defined *recipe* as a medical formula.

The earliest written recipes are on three small tablets found among a thirty-five-hundred-year-old collection of ancient Babylonian artifacts acquired by Yale University

in 1933. Jean Bottéro translated the forty recipes recorded in cuneiform script, finding that they revealed evidence of a refined and learned Mesopotamian royal cuisine (Bottéro 1987, 2004). This extraordinary find suggests that oral transmission of complex recipes before the invention of writing may have been a common practice, at least among royal cooks. The name of the Roman gourmand Apicius is associated with the oldest surviving cookbook, *De re coquinaria (On Culinary Art*), however, the recipes were not put down on paper until 200 A.D., fully three centuries after the man himself lived. Sally Grainger argues that writers of the late Roman Empire knew that the "Apicius manuscript" was in fact multiple recipe collections compiled by different cooks (Grainger 2007: 76). In Europe, no culinary recipe texts appeared between late antiquity and the end of the thirteenth century (Van Winter 2007: 60). In the late Middle Ages, manuscript recipe collections proliferated in Germany, France, England, the Low Countries, Denmark, Spain, and Italy, many of which have never been published.

Three of these were the first published cookbooks after the invention of the printing press around 1440: *De honesta voluptate* of Platina (1475); *Küchenmeisterei* (1485); and *Le Viandier* of Taillevent (1486). Printed books made texts more accessible to readers as they cost less to produce and were more plentiful than labor-intensive handwritten manuscripts. However, during most of the sixteenth century, printed cookbooks were still intended for use in royal kitchens and upper-class homes. As books became increasingly common, manuscript recipe collections still circulated. Moreover, personal manuscripts that combined *materia medica* and culinary instructions continued as a distinct type of household reference work for several centuries (Leong and Pennell 2007). Personal or family manuscripts of this type were called commonplace books in English, but they existed elsewhere in Europe (and later in the American colonies) as well.

Changes in medical and dietary writing both reflected and influenced the medical and culinary culture of early modern Europe (Flandrin 1989). Then as now medical writers were not always in agreement on healthy eating (and the authors of cookbooks were not always concerned with health over taste). Translations spread regional ideas about health, medicine, food, and drinks to other places. Medieval and early modern physicians were fairly prolific at compiling collections of medical formulas that included culinary recipes and practical botanical information about herbs, roots, and plants. The influence of physicians in spreading culinary ideas and practices may have been significant (Weiss-Amer 1992).

I would argue for a wider set of influences and suggest that making culinary knowledge in the Middle Ages and the Renaissance was a collective endeavor involving botanists, gardeners, cooks, doctors, apothecaries, chemists, and a variety of artisans. Historians of early modern science have shown the social dimensions in the process of making knowledge. As Pamela Smith and Benjamin Schmidt write, "The mechanics of knowledge production, almost always a collaborative project, must be viewed as a part of larger social dynamics" (Smith and Schmidt 2007: 10). The history of cooking will be vastly enriched by food historians following models of inquiry used by historians of science, medicine, and technology. Malcolm Thick and Lynette Hunter are among

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those researching networks of scientific and artisanal experimentation and the culture of curiosity and collecting that led to the compilation of recipes in manuscript form in early modern England (Hunter 1997; Thick 2010). Exchanging recipes for culinary dishes, medical cooking, beauty products, magic tricks, sugary delights, and so on was a widespread elite practice that established personal ties and social networks that were not hindered by geographic constraints (Cowan 2005; Hunter 1997; Schiebinger 1989). Some of these recipe collections, generally culinary-medical-confectionery manuals that purportedly belonged to aristocratic women, were published with great success (Hunter 1997; Willan 2012). Book publishers throughout Europe realized the profits to be made on such "books of secrets," as they were called, many of which contained culinary recipes alongside technical formulas for paints, dyes, drugs, metallurgy, magic tricks, and practical jokes (Eamon 1994; Ferrell 2007; Willan 2012).

Books of secrets and the culture of experimentation and exchange of specialized knowledge reached all levels of literate society. What is the production of food at all stages if not continuous experimentation and the pursuit of knowledge of how to produce a better or simply novel outcome? It is surprising that, generally speaking, historians writing about craft knowledge and experimentation have made note of nearly every category of artisan save cooks. Cooks have been practically invisible as artisans; as producers of knowledge in early modern Europe, they are seen as marginal players. We may fruitfully begin the investigation with the kinds of questions historians ask of other artisanal knowledge: What practices shaped culinary knowledge? Is a culinary recipe or technique a way of doing and a "way of knowing," and did ways of organizing culinary knowledge and objects of culinary knowledge "create knowing" as is claimed for other artisanal practices (Smith and Schmidt 2007)?

The paucity of direct evidence of what cooks were up to in medieval and early modern kitchens is often attributed to the idea that cooks were illiterate (Wheaton 1983; Willan 2012). Certainly some were, perhaps most. However, the nature of cooks' work as artisans and craftsmen places them within a well-known tradition of guild secrecy and oral transmission of specialized trade knowledge. Cooking, baking, confectionary, and distilling drinks would have been considered mechanical arts in the sixteenth century. The artisans in metals who made tools for kitchen and cook shop use would have safeguarded their secrets as well. Moreover, as Pamela Long writes, "for every craft there is a significant body of knowledge that can be 'known' only by actually practicing the craft with one's own hands" (Long 2001: 73–74). Cooking is still learned through hands-on teaching; moreover, not only was there a strong oral tradition in teaching skills, but European society as a whole was an oral culture well into the eighteenth century.

Medieval recipe collections from royal kitchens were usually the result of collective contributions over time rather than the work of one cook, even if a single name, such as Taillevent's, was attached to the work. Sixteenth-century cookbook publishing featured impressive books written by male court cooks, including Messisbugo's *Il Banchetti* and Scappi's *Opéra* in Italy, and Rumpolt's *Ein new Kochbuch* in Germany. The new development here is that these later books purport to be authored by a single, identified cook.

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The change may be attributed to the influence of humanism, which placed more emphasis on the individual, a shift away from the value placed on the collectivity in medieval social organization. The principal audience for these works remained educated elites living and working in large households. These books would, as well, have appealed to an audience of what is usually called "the rising bourgeoisie" (or middle classes). Herman Pleij writes that "long after the Middle Ages, the world of the court was to remain a model for emerging elites" (Pleij 2007: 122; see also Wheaton 1983 and Mennell 1985).

By the early seventeenth century, authors and publishers targeted recipe books (as well as related genres, such as carving manuals[2]) to specific readerships ranging from royal household staff to literate artisans to women of the upper and middle classes. Cooks and stewards in great houses wrote for other men in the same positions and for young men who aspired to move up into higher positions. Recipe collections in small formats featured less complex and costly recipes than the court cookbooks and these, we presume, were intended to appeal to readers a bit further down on the social and economic scale (AW 1591; Plat 1600). Some books addressed women specifically (Markham 1615; Partridge 1594). Still, at this time cookbooks had probably not moved *too* far down the social scale given low literacy rates for women (perhaps five to ten percent) and the resources needed to prepare the recipes (Lehmann 2003: 31). Books for and by women give us a view into women's cooking and the ways it differed from men's cooking. Early cookbooks and household manuals also document the range of women's activities in the home and community at a time when women had a very small role in the world of book authorship and publishing (White 2004).

Over time, the audience for books expanded beyond social elites and books became consumer goods. The act of creating books to appeal to broader readership produced changes in the nature of the books themselves. As noted earlier, inexpensive how-to books sparked a publishing craze from the end of the sixteenth century through the seventeenth century that made recipe collections affordable to readers in every social class. There is certainly anecdotal evidence of literacy among nonelites in all European countries, especially in the artisan and small merchant class, but it is difficult to know the extent. Books themselves are evidence that a marketing strategy popular among printers and publishers in early modern Europe was to appeal to multiple audiences at the same time, which is seen in the formulation of titles (for the mistress and her cook, or the male professional and the housewife, or the city and country cook). Publishers also developed the title page, which often ran to several hundred words and functioned as advertising connecting the book's contents to the needs of browsers (Pleij 2007: 121). In what historians call the "consumer revolution," consumer culture went hand in hand with product and marketing innovation (Coquery 1998). Cookbooks increasingly needed to attract the attention of buyers in a free market filling up with cookbooks.

In eighteenth-century France, most cookbooks maintained the focus on elite food produced in large kitchens with ample staff, more than, for example, in England where there were numerous cookbooks and domestic manuals for the middle classes with more modest kitchens and budgets and fewer servants. However, the Bibliothèque bleue

published cheap versions of French cookbooks (and other genres), including La Varenne's famous *Le cuisinier françois* (1651), which were edited specially for buyers with basic literacy skills and sold in the countryside by peddlers (Flandrin, Hyman, and Hyman 1983). In 1746, François Menon published his *Cuisinière bourgeoise,* which was the first French cookbook to directly address middle-class households employing a single female cook and bourgeois housewives who cooked. *La Cuisinière bourgeoise* was published every year from 1746 to 1853, even during the years of the French Revolution. The ubiquity of female domestic cooks in middle-class homes is now well documented by social historians of eighteenth-century France (Fairchilds 1984; Maza 1983), but the unprecedented success of Menon's book is one of the few hints in French culinary publishing that this was the case. A cookbook that breaks from the norm helps historians trace the evolution of the genre from books designed for elites and toward recognition of consumers at lower socioeconomic levels, a trend that accelerates from the late eighteenth century into the nineteenth and twentieth across all of Europe and America (Hunter 1994; Willan 2012).

COOKBOOKS AND DOMESTIC MANUALS AS PRIMARY SOURCES

Art history and literary criticism have long valued representations in their analytical methods and food historians can borrow interpretive strategies from these disciplines. Since the rise of anthropologically inflected history and the cultural turn, historians have been open to understanding words, images, things, and actions as having cultural meanings. Anthropologists see culture as a language of signs and symbols; insiders in a culture share a common understanding of what symbolic forms and actions mean, but an outsider must decode the signs and meanings that have been created within a community (Geertz 1973). The linguistic turn in history, which came out of French structuralist and, later, poststructuralist theories, deepened historians' understanding of ways that language, and thus culture, is a semiotic system. When representations are instructional books and recipes, it is too easy to assume that what is on the surface is all there is to know. Prescriptive literature serves a practical purpose and its utilitarian appearance is especially deceptive. As Ann Romines observes, "Domestic language often seems invisible to those who have not learned to read it" (quoted in Bower 1997: 37). Many cookbooks have a fairly sparse text of recipes and instructions that make cracking the cultural codes even more difficult. However, every cookbook has more to tell us than merely what it says. While food historians try to determine the extent to which a cookbook represents real practices, we also look deeper at its cultural symbolism.[3]

To return to the questions posed at the beginning of this chapter, to say what cookbooks and domestic manuals *mean* may seem at first a perfectly obvious exercise in common sense. Some say that cookbooks reify culinary production and consumption practices of the segment of society from which they emerge. They are representations of ideals of procedures and equipment, which the user of the book adapts to the tools and ingredients that are available (Pennell 1998). (Material culture is discussed in more

detail later in this chapter.) It is also true that recipes can go beyond ideals into pure fantasy of what a cook may be able to accomplish; cookbooks have even been vehicles of political satire (Willan 2012: 142). Reading a cookbook critically to decipher its social and cultural language is crucial to understanding what the book means.

Barbara Ketcham Wheaton was one of the first food historians to use cookbooks as sources in writing social history. The method of analysis Wheaton teaches in her seminar, "Reading Historic Cookbooks: A Structured Approach," is close and critical reading by which students single out the different components of a book and the different voices in the book to uncover multiple levels of meaning that are not immediately evident. Wheaton's method splits texts and recipes into smaller parts: one reads for 1) ingredients; 2) the kitchen, cooking methods, and equipment; 3) meals; and 4) the voices in the book (i.e., the presence of the author, the publisher, the reader, the cook, and the diner). Last, the students evaluate the book as a material object, the cookbook as a book. Wheaton's method of analysis isolates a variety of characteristics that enable the researcher to discover different levels of meaning in the cookbook—for example, the origins of ingredients may provide clues to income and lifestyle of the author and the intended audience; the number of cooking implements recipes require is an indication of culinary complexity, and so on. Wheaton teaches the value of looking for what is not in a particular cookbook, as well as recognizing that there is meaning that the author does not articulate explicitly.

A cookbook may or may not be a faithful mirror of its time (and this is not even always the intent); a prescriptive text must be approached critically and read against other primary sources to know if this representation portrays actual practices. A cookbook or domestic manual cannot, on its own, reveal its *actual* relationship to current practices in the society it purports to represent. Only by reconstructing the historical and social context surrounding the book can we learn the answer. For example, Wheaton's *Savoring the Past* (1983) draws extensively on cookbooks in her history of the French kitchen and table from the Middle Ages to 1789. In recreating the historical and social contexts for prescriptive literature, Wheaton demonstrates the value of biographies, travel writing, memoirs, banquet menus, encyclopedias, dictionaries, eyewitness accounts, ambassadorial relations, correspondence, gardening manuals, architectural treatises, paintings and engravings, literature, and bibliographies. More recently, archival documents have become a leading research tool in food history because more of this work is being undertaken by academic historians trained to use archival evidence (Davis 2011; Takats 2011). Archives will continue to be central in academic and nonacademic food history if we are to find answers to new questions about the history of food production and consumption.

Contextual methodology and close reading together suggest answers to the meaning of a book. Let's take the example of Amelia Simmons' *American Cookery* (1796), the first published cookbook written by an American cook. The book is a treatise of cooking with, in some editions, gardening advice, which is "calculated for the improvement of the rising generation of *Females* in America" and "those females in this country, who by

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the loss of their parents, or other unfortunate circumstances, are reduced to the necessity of going into families in the line of domestics." Although Simmons included herself in the latter group, she saw her audience as no less than women from "all Grades of Life." The low price of 2s. 3d. made it a possible purchase for modest incomes (Wilson 1957: 20). Thirteen editions (plus numerous pirated printings) between 1796 and 1831 speak to the book's popularity. Some of the dishes represent the use of specifically American foods (such as cornmeal, cranberries, and squash) in recipes that had not previously been published. Other recipes are drawn verbatim from British cookbooks, and still others adapt British recipes to use in the new republic through relabeling with American language (Election Cake, Federal Pan Cake) or with substitute ingredients available to American cooks (buckwheat cakes).

Simmons' "a fine Syllabub from the cow" is similar to Sir Kenelm Digby's 1669 recipe for "A Plain Syllabub"—both notable for the instruction to milk the cow directly into cider or verjuice (sour grape juice). This commonality suggests that perhaps there were still similarities in the lifestyle of a post-Revolution New England family and a seventeenth-century English one. Indeed, Gervase Markham's 1615 household manual and recipe book, *The English Hus-wife,* is known to have been circulating widely in the colonies in the eighteenth century (Hess 1996). Moreover, even after independence, the book trade in America was still dependent on British imports as London was the center of English-language publishing (Green 2010). However, in the decade before *American Cookery* appeared, American printers grew determined to publish more original American works (Green 2010). From this time, American styles of cooking began finding their place in print.

One of the first questions that comes to mind is why was the first American cookbook published in New England? Although the recipes differ among the various editions, they largely reflect what may be called good Yankee cooking, as attested to in the writings of Jean Anthelme Brillat-Savarin during his years of exile spent near Hartford and founding father John Adams (Willan 1992). The vegetable recipes (using these foods not as flavorings but as dishes) and kitchen gardening instructions also reflect one of the most salient features of New England life in the eighteenth century: every family's dependence on the housewife's kitchen garden and orchard to yield plentiful local food crucial to an adequate diet and to the New England economy (McMahon 1985; McWilliams 2004). John McWilliams writes that, "there can be no more eloquent testimony to the value of New Englanders' gardens than the simple fact that Yankee settlers—unlike their peers in other regions—never imported vegetables, fruits, or herbs" (McWilliams 2004: 46).

Another question we may ask is what is the relation between this book and the society it purports to represent? One of the most striking aspects of Simmons' title page and preface is her self-identification as an "American orphan," and much has been made of her claim. Was this a declaration identifying this author and this work with the new republic? In her analysis of *American Cookery,* Janet Theophano subjects the book's preface to a close reading and explication of the text, arguing that "Simmons' cookbook,

which asserted a national identity, was as much symbolic as practical. This first printed American culinary voice provided recipes in a vernacular idiom for food preparation in the New World" (Theophano 2002: 233–234). The book supplies guidance on necessary female virtues that relate to ways the newly formed republic envisioned the proper role of women. Theophano claims that Simmons was "revealing secrets belonging to wealthier households" and thus is expressing her "expectations for women's upward mobility" in America (Theophano 2002: 233–234, 236). Glynis Ridley goes further to argue that the simple words "American orphan" were "political gunpowder. In 1796, twenty years after the Declaration of Independence, the primary connotation of the phrase for American readers indisputably goes beyond considerations of the circumstances of a single life" (Ridley 1999: 115). *American Cookery,* Ridley writes, is "an overt political statement [of anti-British sentiment]" (Ridley 1999: 114).

Simmons and Lydia Maria Child, among other American women cooking authors, linked American women's frugality and hard work to their personal fates *and* the fate of the young nation. Simmons tells readers that family fruit orchards "would in time extinguish public debt, and enrich our cookery" (Simmons 1798: 17). In *The Frugal American Housewife,* Child writes, "expensive habits are productive of much domestic unhappiness, and injurious to public prosperity" (Child 1836: 89). From the early years of America cookbook publishing, authors opposed French and British books written for women with "plenty of money and well-trained servants" to the virtuous simplicity of American households (Rutledge 1847; see also Child 1836). Theophano argues that in speaking to women as patriots, cookbooks helped to form "a national consciousness" in the new republic (Theophano 2002: 233). Is this how contemporary readers received these messages?

When we ask what a cookbook *does* we are asking what is its effect on readers, as well as how it was used. Can we learn how readers responded to *American Cookery,* or any other prescriptive text? Theophano confesses: "it is not clear what role *American Cookery* played in the dissemination of a rhetoric that politicized the domestic economy and brought women slowly into the political arena" (Theophano 2002: 240). Barbara Sicherman argues that reading is "one of the most profound ways in which cultural values are transmitted" (Sicherman 2007: 294). Moreover, nineteenth-century American families placed a high value on books and reading, establishing the "cultural competency" that one gained from reading as a marker of status distinguishing, for example, "the middle from the lower classes and the genuinely cultured from the nouveaux riches" (Sicherman 2007: 295). Nonetheless, there was an abundance of books at a range of prices and a vogue for "book décor" in even modest homes (Stevenson 2007: 319–320). There is no reason to imagine that this seemingly pervasive cult of books did not extend to cooking and domestic books. Sicherman acknowledges, however, that "how people made sense of what they read is largely unexplored territory" (Sicherman 2007: 302). The work that has been done on the history of reading and audience reception has just begun to be applied to the history of cookbooks and domestic manuals. The most extensive research into the history of the book and of reading has been done by early modernists

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(see Chartier 1994; Darnton 2001; Johns 1998). Scholars of the modern era have barely registered interest in the history of reading at all (Topham 2004).

Hard evidence about reader reception or how any particular book was read and used is, by all accounts, difficult to find. Some readers leave evidence of their habits in diaries and journals, letters, memoirs, and household inventories. Most scholarship on reading practices has looked at genres where the evidence of reading habits is relatively abundant, particularly novels, religious and political tracts, and learned books. Moreover, the point of a cookbook is to be used for cooking, which can result in splattered pages, broken spines, dirty bindings—in short, a well-used cookbook may indeed show signs of use, but it may be so well used that it is discarded, not placed in the library. This is especially true of cheaply bound small cookbooks and manuals. Like the culinary preparations cookbooks represent, when used as directed, the evidence is destroyed. No doubt, historians of cookbooks will need to develop new research tools and methods to apply to questions of reading and use of cookbooks. This may involve creating new databases that contain information specific to this endeavor.

In his inquiry into whether medieval Italian cooking manuscripts reflected current practices, historian Allen Grieco examined the archival records of a group of men who were members of the highest governing body in medieval Florence, the *mensa della Signoria.* When the *Signoria* was in session, the members were required to live and eat together in the town hall. As was customary, all foods purchased during each session were recorded (including amounts and prices) in household account books. Grieco also found in the archives menus and lists of dishes prepared for special and everyday meals. Armed with his archival evidence, Grieco consulted a database that lists all of the recipes in the thirteen known Italian manuscript cookbooks dating from the fourteenth to the late fifteenth century (Grieco 1992). Grieco concluded that the cookbook recipes "were not simply a literary exercise: they reflect a cuisine which was actually cooked and served . . . All of the . . . recipes prepared by the cooks of the Signori can . . . be found in various cookbooks of the period' (Grieco 1992). Whether or not we can declare that these books were read and who read them, we can at least say that the recipes they contain were in circulation among Florentine cooks and that they were served to a group of upper-class men.

What effect does a cookbook have on society and culture? We may agree with Bradin Cormack and Carla Mazzio that "the recipes, for example, in Hannah Woolley's cookbook [*The Queen-like Closet* 1670] depended upon social and economic norms that the book was partly responsible for creating." Not only do cookbooks and domestic manuals embody and reflect cultural beliefs, they influence them as well. "To use the book was to educate oneself in dietary norms and in culinary forms of social-fashioning" to emulate tastes and behaviors of the dominant class (Cormack and Mazzio 2005: 83–84). Roger Keesing reminds us to consider the ways in which cultural representations "sustain power and privilege" (Keesing 1987: 166). Domestic literature tends to be conservative, preserving the social status quo.[4] Jack Goody agrees that written recipes are socially normative and in the cookbook's function as an aspirational text, readers learn behaviors,

tastes, and domestic "secrets" that enable them to assimilate into new social categories (Goody 2008). On the other hand, Jessamyn Neuhaus argues that cookbooks can actually reveal contradictory cultural ideals in a society. Post–World War II American cookbooks send loaded messages that modern women will be better wives and mothers by using convenience foods and labor-saving kitchen machines. At the same time, the same sources also direct the cook to use processed foods creatively so that no one can tell she has taken shortcuts. Extra kitchen work was required to disguise the products and methods advertised to reduce the very same work. Neuhaus identifies these contradictions as illustrations of "the anxieties of a middle class caught in the throes of huge cultural change" (Neuhaus 1999: 537).

Goody also notes, as I noted previously, that the recipe as a formula for passing along specialized knowledge comes out of a tradition of craft secrets. We may think we are far removed from the time when artisans protected their proprietary knowledge by obfuscating part of a formula, but most of us know at least one cook who has at last supplied an oft-requested recipe only after deleting a key ingredient. Historian Jean-François Revel argues:

> A written recipe is far removed from the finished product. Between the two there lies the indefinable domain of tricks and knacks and basic tastes that are always implicit, never explained in so many words, because the books are addressed to people who speak the same language (quoted in Pennell 2004).

Beyond the culturally and professionally cryptic nature of prescriptive language, the formula on the page represents an ideal. Unlike medical and pharmaceutical recipes, which usually require strict attention to the correct amounts of ingredients, culinary recipes are frequently altered for the cook to accommodate local ingredients or to innovate for variety. Moreover, Goody argues that the appeal of family recipes ("grandmother's cooking" in contrast to haute cuisine) is their flexibility to adapt to the ingredients a cook has on hand; often unwritten and passed along orally, this cuisine gives permission to improvise (Goody 2008). However, Sean Takats argues that French cookbook authors in the eighteenth century organized their works in keeping with the broader Enlightenment "effort to systematize the material world," thereby classifying the cook's knowledge in a discourse of natural order that freed the French cook to be creative with the building blocks of the culinary system (Takats 2011: 109–110). Some authors say just this. François Menon writes in his *La Science du maître d'hôtel cuisinier* (1750): "By reading this book it will be easy to profit from my ideas and to imagine an infinity of dishes to serve as either hors-d'oeuvres, side dishes, entrées, or entremets" (quoted in Takats 2011: 114). While the highly systematic nature of French haute cuisine is today often blamed for inhibiting a chef's creativity, thus causing French cuisine to stagnate, Menon and his contemporaries saw the system as liberating. Again, we return to questions of reader interpretation, which is quite clearly virgin territory for new approaches in food research.

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COOKBOOKS AND MASS CONSUMPTION

Many of the questions we ask when we approach cookbooks as sources and as material objects have been at the center of inquiry for historians of the book and of reading who have in turn drawn on other academic traditions, including literary criticism, social and cultural history, and the history of science and medicine. Studying the book as a physical object and even a commodity offers more opportunities for finding clues to its intended use. Every book has particular qualities of materiality that convey notions of how it should be read, starting with its size (Reilly and Hall 2007). Other practical information reveals knowledge about the production, distribution, and potential audience for the book. Prefaces and other devices often give indications of the "implied reader" (Lehmann 2003; Reilly and Hall 2007). Practical questions—where was a book sold? how many editions? cost?—can provide still more clues about a book's intended use.

In the nineteenth century, advances in paper making, printing technology, binding, and plate engraving reduced production costs and led to a vast increase in the volume of published household books as well as to changes in the appearance and contents of cookbooks. The vast majority of nineteenth-century cookbooks were directed at middle-class households. *Beeton's Book of Household Management* (1861) is typically seen as the voice most representative of Victorian middle-class cooking and housekeeping (Humble 2005). However, Valerie Mars cautions against placing too much weight on the most popular cookbooks because others of the period, less well-known books, may allow us to know more about the range of cooking and eating practices of the period (Mars 2004). Nineteenth-century books by and for women have much to tell about the social relations of cooking and housekeeping in an era of rapidly changing lifestyles (Fisher 2006; Shapiro 1986). Material changes as a result of the Industrial Revolution, Victorian domestic values, and relations between "upstairs" and "downstairs" are a few examples of relationships that make regular appearances in cookbooks at this time. Consumerism and advertising take on great importance too. Nineteenth-century cookbooks were frequently used as marketing tools even before food and appliance manufacturers began to create the recipe booklets common in the twentieth century. Cookbooks advertised and sold everything *and* the kitchen sink—gadgets, bottled sauces, stoves; they were agents of mass consumer culture that promoted related industries, including metal work, porcelain, earthenware, cut glass, and so forth. Some authors recommended their own products and inventions and others gave addresses where kitchen tools could be ordered or fabricated.

Lynette Hunter's "The Progress of Victorian Cookery Literature" examines a shift in focus of nineteenth-century cooking and household manuals and the relation of this phenomenon to changes in British society as well as the publishing industry. Working with the extensive cookbook collection at the Brotherton Library (University of Leeds, UK), Hunter found that early nineteenth-century cookbooks were comprehensive tomes about food in general and that their purchase entailed an expense most suitable to the well-to-do segment of the middle class. However, by the 1870s there was a proliferation of short cookbooks by individual authors that were topic specific, many

addressing meals or one particular meal, such as luncheon. She asks: why did this change occur on such a large scale? There were, first, significant changes in printing, binding, and distribution that made books cheaper and available at new sites, such as bookstalls in train stations, where one would pick up a book in passing. Small, inexpensive cookbooks were casual purchases rather than investments. One prolific author, Harriet de Salis, published one title in several different bindings to make her works affordable to a range of consumers (Hunter 1994: 65). New technologies enabled the supply side.

Hunter continues to say that "the radical change in the lifestyle of the middle-class housewife and increasingly in the lifestyle of working-class and artisan housewives" was crucial in driving the demand for these specialized cookbooks (Hunter 1994: 58). From mid-century, meals became "bound to social gestures" and were centerpieces of and reasons for social gatherings (Hunter 1994: 61–62). Ordinary daily cooking and fashionable dinner giving entailed different skills, and the latter required a repertoire of recipes suitable to respectable entertaining. Middle-class wives were expected to put on occasional special dinners to maintain the status of the household and to receive invitations to other women's dinners (thereby establishing their presence in a social network). If money was tight, some books advised, women could offer a nice lunch to their friends, spend less money, and still maintain the household's social status. Hunter writes, "breakfast, luncheon, picnics, teas and a variety of suppers…became meals invested with social gesture" (Hunter 1994: 63). Moreover, because new cookbooks could be put out very quickly and women's magazines came out regularly, housewives could learn about the latest fashions in mealtime entertaining. Changing fashions were a boon to sales of new books and magazines. Hunter's study demonstrates how new social patterns in the Victorian era affected the contents of cookbooks, which in turn influenced readers' social perceptions, their behaviors, and even their taste for novelty.

The near universal literacy in the nineteenth century and some increase in prosperity among the working classes contributed to further changes in publishing. Not only were there the books Hunter discusses aimed at teaching new skills to the upwardly mobile, at mid-century we see the publication, along with cheap and popular novels directed to the working classes, of the first cookbooks and domestic advice manuals specifically for working-class wives, such as Alexis Soyer's *A Shilling Cookery for the People* (1860). This book sold sixty thousand copies in just the first six weeks after publication (Humble 2005). More research into the buyers and users of these working-class cookbooks is needed.

Research demonstrates that the nineteenth and twentieth centuries witnessed a proliferation of specialized cookbooks and new subgenres that have much to tell about modern society. For example, during the American Civil War, groups of women created what are now called "community" cookbooks to raise funds for war causes. War relief cookbooks containing recipes compiled for charity publication organized by a self-defined community of women remained popular in subsequent wars, including during both world wars (Claflin 1991). Community cookbooks have since appeared all over the United States to help raise funds for just about any charity or organization. By the end of the nineteenth century, over two thousand community cookbooks had been published (Ireland 1981). It is probably futile to try to estimate the number published since then. Lynne

Ireland proposes that these books are community "autobiographies" and can reveal ethnographic clues about the compiling groups' food habits. She dissects a book, separating component parts: title, group identity and location, ethnicity, frequently cited ingredients, foods rarely or never called for, obvious everyday dishes, obvious special occasion preparations. For Ireland, these bits of information are like facts (like those found in a regular autobiography) for critical examination so that the reader might determine how closely the compilation of recipes resembles the community it purports to represent (Ireland 1981).[5]

Janet Theophano argues that early modern commonplace books are the rightful antecedents of community cookbooks because women created and shared knowledge cooperatively and in social settings (Theophano 2002). However, a twentieth-century community cookbook represents cooperative action to achieve a common and stated goal through a single text. Early modernists understand commonplace books as technical writing, how-to books, in a time when the oral tradition was declining and the use of print to convey instructions was increasing in popularity (Tebeaux 1997). The question of continuity and difference here should be further explored. In the larger sense, whether there is a single author listed (as in most of the books mentioned in this chapter) or multiple contributors, Theophano insists "a cookbook is a communal affair" (Theophano 2002: 11). Theophano's point underscores that different kinds of cookbooks do not require radically different methods of analysis. The cookbook itself does not determine how it is to be investigated; the disciplinary approach does.

Our modern cookbooks represent an unprecedented range of social norms and deviations. It was a novelty of the late twentieth century to celebrate foodways that are markers of low social status in *White Trash Cooking* (1986). The recipes in *White Trash Cooking* reveal simple Southern country cooking using local flavors of molasses, cornmeal, and salt meats—in other words, not trashy but traditional. But gimmicks might be what cookbooks in the twentieth century (and beyond) require to be noticed in a truly huge and flooded market. The young twenty-first century has seen what may be the most expensive and impractical project in the history of cookbook publishing, the five-volume *Modernist Cuisine* (2011, $625 list price). In general, cookbooks of the later twentieth and the twenty-first century are more expensive and have high production values, the recipes make use of ever more kitchen machines, and the ingredients lists nearly always include globally sourced items. What these more recent representations of food production and consumption mean in modern society is a task perhaps best left to ethnographers and sociologists for the time being.

MATERIAL CULTURE

If cooks and food preparation have recently begun to receive scholarly attention, so too the material culture of culinary production is now coming into its own. *Material culture studies* is defined as a mode of inquiry that uses the study of objects to reveal information about the culture that produced them (Prown 1982). Studies of objects situate these consumer goods and the acts of production and consumption within actual practice, which supplements and balances household inventory lists and account books (Pennell 1998).

The material culture of consumption has received more attention than production because of greater interest in elite dining practices and luxury consumption, including expensive porcelain, silver, and other beautiful and artistic objects for the table and the dining room. The material objects of elite consumption are also more likely to survive than cheap counterparts, which wear out. The wide interest in the history of consumer culture has maintained this imbalance, preferring to address luxury items that accrue social status and power to the owner. Art, such as many seventeenth-century Dutch still lifes, is a rich source for investigating material culture of elite consumption ideals, for example (Hochstrasser 2007; De Vries 2008). Many of these paintings feature luxury foods, particularly fashionable sweetmeats, found in contemporary recipe collections.

More mundane objects, such as saucepans and flour dredgers, also reveal something about personal possessions at different social levels and, in the larger picture, show how technological changes experienced by society at large filtered down into people's lives (Pennell 1998; Weatherill 1988). In the nineteenth century, particularly, it is somewhat easier to grasp a cookbook's relation to class structure because many of these books are quite specific about preferred materials and costs of objects recommended for cooking and serving. New methods for printing illustrations meant that many books have images of special items for kitchens and dining rooms. French cookbooks and domestic manuals list the ideal components of *batteries de cuisine,* or kitchen equipment, and frequently feature illustrations of all of these kitchen tools as well as various kinds of stoves typical at the time. *Beeton's Book of Household Management* describes the qualities of the ideal British kitchen and the arrangement of equipment in the kitchen. Men as well as women penned books that instructed middle-class women about the possessions they required (or might dream about acquiring) to preside over their domestic domains (Humble 2005). Popular British author Agnes Marshall wrote cookbooks in the Edwardian era with many pages devoted to advertisements for new kitchen equipment and food products, many of which she manufactured under her own label. Mrs. Marshall's cooking school shared premises with a "kitchen showroom, where 'every kitchen requisite' could be obtained" (Humble 2005: 20–21). Philip Hyman and Mary Hyman have written extensively on the history of printed French cookbooks and acknowledge that the "reality" presented in each book is necessarily selective (Hyman and Hyman 1999: 399). However, comparative readings of cookbooks can suggest a range of kitchen types that existed at a particular time.

Images and other extratextual elements of a book are as important as texts for the researcher working to recreate historical context and gather ideas about the material world at particular times and places in the past. Ivan Day and C. Anne Wilson have written that the frontispieces and title pages of and illustrations in cookery books and domestic manuals speak eloquently. Representations of eighteenth-century English kitchens begin to appear more frequently as frontispieces in cookbooks and domestic manuals. Following changes over time in these illustrations is a fascinating exercise in learning what may have been reflections of changes in kitchen culture or changes in how authors and publishers wanted readers to perceive the kitchen culture that would result from

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using their books. Take, for example, E. Smith's *The Compleat Housewife, or Accomplish'd Gentlewoman's Companion* (1742 edition) (Figure 6.1), its frontispiece a scene of disorder in the kitchen, all swirling around the central figure of a calm and confident housekeeper or mistress giving directions to a kitchen maid.



FIGURE 6.1 The frontispiece of the 1742 edition of E. Smith's *The Compleat Housewife: or Accomplish'd Gentlewoman's Companion* is a tableau of kitchen disorder. The kitchen boy sends pots tumbling out of the cabinet onto the floor, the dog has purloined some delicacy, and the kitchen maid is cooking very near to the leaping flames in dangerously voluminous clothing. In time, representations of kitchens featured on cookbook frontispieces became more orderly than this. Smith, The Compleat Housewife (1742 edition, Schlesinger Library, Radcliffe Institute, Harvard University)

Behind her is a flustered cook in voluminous clothes holding a pot in the leaping flames of the hearth while a fowl roasts on a spit below. She appears to be roasting a bit herself. In the foreground, a man kneels on the floor underneath a cabinet taking out dishes and containers; some dishes have fallen to the floor. A cat is in the foreground, its

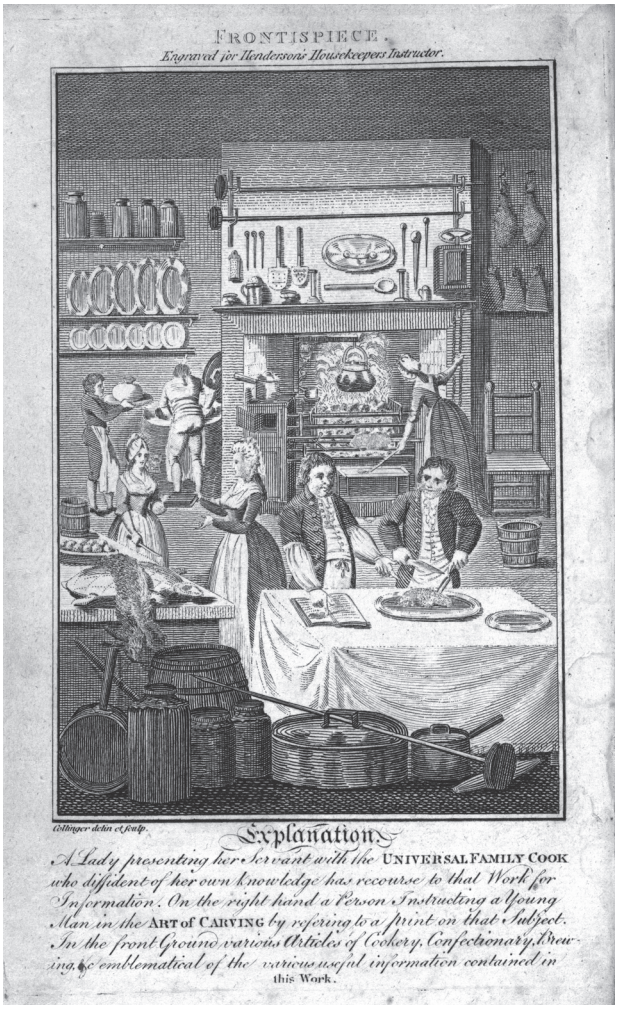


FIGURE 6.2 The frontispiece of the 1793 edition of Henderson's *The Housekeeper's Instructor or Universal Family Cook* depicts a kitchen scene where everything seems under control. The mistress of the house is handing her cook a copy of Henderson's cookbook. The older man is instructing the young servant on the art of carving while pointing to an open book. The kitchen maid by the hearth is basting the roast at a safe distance from the flames. From the late eighteenth century, books begin to appear frequently in cookbook frontispieces. Henderson, The Housekeeper's Instructor (1793 edition, Schlesinger Library, Radcliffe Institute, Harvard University)

arched back to the viewer, facing a fat dog that has a purloined a piece of food hanging out of its mouth. In the background, a door leading out of the kitchen is open; a serving boy with a full plate is rushing out to two diners sitting at a table in the distance who look toward the open door with surprised faces. Contrast this scene to the frontispiece from William Augustus Henderson's *The Housekeeper's Instructor or Universal Family Cook* (1793 edition) (Figure 6.2).

In the foreground, a steward is teaching a young footman, both in livery, how to carve a roast, pointing to the open pages of an illustrated book. Just behind them the lady of the house is handing a copy of *The Housekeeper's Instructor* to a young servant standing beside a table covered with raw ingredients.[6] In the background an attractive kitchen maid stands before a controlled hearth fire while adjusting the mechanical jack that turns the roast on the spit. In fact, everyone in this picture is not only calm, but neatly dressed. Not a live animal in sight in this kitchen. This frontispiece illustrates a model of orderly and rational kitchen comportment that may have reflected turn-of-the-century reality or an ideal mistresses would want to see prevailing in their own kitchens.[7]

CONCLUSION

This chapter is intended to guide food researchers in their approach to cookbooks, domestic manuals, and other prescriptive material as primary sources. The brief history of how recipe collections developed as a genre of literature provides historical context as well as demonstrates that forms of culinary literature are always changing and adapting to contemporary society. I describe methods researchers have employed to think critically about cookbooks as representations of food production and consumption. These include techniques of close reading to discover layers of meaning that otherwise remain hidden. Techniques borrowed from book history and the history of reading provide perspectives on publishing practices, material properties of books, and reader reception. Reading cookbooks with and against a wide variety of other sources allows the researcher to position this kind of representation within a larger social, cultural, and historical context. I discuss a relatively new area of investigation, material culture studies, which can support and augment our understanding of cookbooks with analysis on the material circumstances of both authors and readers of domestic literature. To close, many questions and areas of investigation are open to researchers today and I have noted some of these throughout the chapter: how do particular recipe collections relate to the society in which they are produced? Food historians have just begun to explore this question in depth. How can we learn more about who read cookbooks and how they used them? How do we think about cuisine as an experimental science and identify networks of cooks, botanists, chemists, and so forth engaged in knowledge production? Finally, one of the most intriguing questions today is how can we know more about the lives of cooks and authors of cookbooks?

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NOTES

1. My sincere thanks to the editors for their invaluable suggestions on early drafts of this chapter.
2. Carving was a specialized skill addressed in illustrated books completely devoted to it (e.g., Mattia Geigher, *Il trinciante,* 1621) or in larger manuals encompassing the total duties of maîtres d'hôtel or stewards.
3. These modes of analysis are not mutually exclusive, but complement each other.
4. This is certainly not always the case; one exception is the spate of counterculture cookbooks of the 1960s.
5. Unquestionably, some number of community cookbooks are largely derivative of popular contemporary cookbooks, and so, again, the researcher's critical distance from the sources is invaluable.
6. It is worth noting that books begin to appear frequently in illustrated English kitchen scenes towards the end of the eighteenth century.
7. After this chapter was completed, I discovered a 1773 edition of E. Smith's *Compleat Housewife or, Accomplished Gentlewoman's Companion* with a modified version of the 1742 frontispiece engraving. The cook's clothing is now a neat and pretty dress and she looks pleased with the saucepan she is holding near the fire. The two women in the foreground are dressed in later styles with shoulders and cleavage now modestly covered. The dog is better behaved, simply looking around the skirts of the older woman at the still-clumsy kitchen boy. The 1742 tableau of minor mayhem has undergone a metamorphosis by 1773 in the direction of Henderson's well-ordered kitchen of 1793. My thanks to Diana Carey and the reference staff of the Schlesinger Library for their assistance in locating this book.

PART TWO

Frameworks of Provision: Production and Distribution

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Editorial Introduction

As discussed in the introduction, the *Handbook* acknowledges a division of academic labor between research on food production and food consumption, noting recent calls for this separation to be transcended. Rather than seeking fully to transcend the division—an intellectual maneuver that will take many years to complete—the chapters in the second part of the *Handbook* address the issues involved in a more modest way through studies of the development of contemporary food systems, the economics of food demand, the politics of food chains, changes in food governance and regulation, environmental issues in food and agriculture, questions of *appellation* and *terroir,* and the role of food in the hospitality and tourism industries. The chapters in this part of the *Handbook* also debate the theoretical frameworks and research methodologies needed to understand the nature of contemporary food provisioning.

In Chapter 7, Terry Marsden outlines the historical development of contemporary food systems, arguing that their changing configuration can be explained as a series of "spatial fixes" for the twin problems of food security and environmental sustainability. Marsden argues that the development of urban-based industrial capitalism required increased agricultural productivity through technical innovations such as fertilization and mechanization, leading to the "intensive food regime" that dominated the twentieth century throughout Western Europe and North America. Driven by the 2007–2008 spike in fuel, food, and energy prices, this "productivist paradigm," Marsden shows, began to be challenged following the Bovine Spongiform Encephalopathy (BSE) crisis and growing anxieties about obesity and malnutrition. A "neoproductivist" food regime began to emerge, including a proliferation of alternative food networks (AFNs) and a new moral economy of food. These changes were apparent in the development of radical urban and regional food strategies in cities like Toronto and Los Angeles. Marsden

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concludes by examining the role of food in the process of sustainable place making and the prospect of future transitions in the current global food crisis.

The relationship between income, food consumption, and nutrition is explored in Chapter 8 by Richard Tiffin and Matthew Salois, beginning from the Malthusian principle of an inherent mismatch between rates of population growth and food production. Tiffin and Salois examine the relationship between income levels and the share of household income dedicated to food consumption, showing that poorer households are most vulnerable to rising food prices because they spend a higher proportion of their income on food. Cross-country comparisons confirm these household-level findings. The authors go on to demonstrate that the link between income and nutritional status is complex and poorly understood. As incomes increase, the composition of diets tends to change in what has become known as the "nutrition transition" with a switch to more processed foods high in saturated fats. Tiffin and Salois conclude that not only are relatively large increases in income needed to improve the nutritional status of poorer countries (given differential rates of food elasticity), but increasing incomes may have undesirable nutritional effects in terms of the structure of their diets, thereby raising complex issues in terms of economic development and health policy.

In Chapter 9, Bill Pritchard introduces the concept of food chains, following the social, economic, and political implications of food's transformation as it moves "from field to fork." Pritchard traces the development of the food chain concept within agricultural economics and agri-business (where the emphasis is on increasing efficiency and profitability) and within various global political economy approaches (concerned with tracing the evolution of commodity systems during different phases of capitalism and accounting for contemporary social change). Pritchard explores the proliferation of food chain perspectives, including advocates of global commodity chain, global value chain, and global production network approaches. He examines the shift from linear chains to more complex circuits and network approaches associated with poststructuralist epistemologies. The chapter concludes with an analysis of the impact on the global food system of the increasing harmonization of food trade rules, driven by the World Trade Organization (WTO) and implemented through international standards and certification schemes, all of which, Pritchard argues, have further consolidated the power the major supermarkets can exert along the supply chain.

These ideas are further developed by Hugh Campbell in his chapter (Chapter 10) on the role food has played in the development of the "audit society." Campbell traces the development of a series of technologies and metrics designed to mitigate risk and improve quality control and traceability through audit mechanisms such as grades and standards, certification schemes, and other nonstatutory means of governance and regulation. He suggests that these methods are characteristic of a transition from public regulation to private sector accountability, commonly associated with the rise of neoliberalism. Rather than deploying *neoliberalism* as an explanatory term, however, Campbell attends to the range of regulatory mechanisms and audit systems deployed in its name. So, for example, he documents the proliferation of risk management systems such as

Hazard Analysis and Critical Control Points (HACCP) and quality assurance schemes such as GLOBAL G.A.P., demonstrating their effects on disciplining food producers and managing consumer anxieties about food safety. Campbell argues that food has played a vanguard role in the wider development of audit culture driven by the specific biophysical qualities of food as "potentially perishable, risky, virtuously nutritious and phytosanitarily unsafe." He shows how new certification schemes have been introduced to regulate organic agriculture, to govern the introduction of genetically modified (GM) foods, and to validate the ethical claims of Fair Trade products. In each case, he argues, these innovations have been more than a technological fix, playing a constitutive role in shaping the structure of contemporary agri-food relations.

In Chapter 11, Michael Winter utilizes Worster's (1990) tripartite model of nature, technology, and culture to examine the impact of agricultural intensification on environments and ecosystems, assessing the contribution of various social science perspectives in understanding these changes in contemporary agri-food systems. Winter examines the complex environmental, political, and economic context in which farmers can be blamed for desecrating the landscape in the relentless search for profit while at the same time being praised as custodians of the countryside. Drawing on evidence from the United Kingdom and North America, Winter explores the evolution of post-productivist or multifunctional agricultural systems whereby landscape aesthetics and biodiversity can be valued as highly as agricultural productivity. The chapter concludes with an evaluation of the ecosystem services approach, which proponents view as a positive way of valuing human dependence on ecosystems for the supply of a wide range of goods and services, while critics deplore it as a flawed attempt to apply market mechanisms to things that might be regarded as beyond price.

Writing as an anthropologist, Harry West (Chapter 12) examines one particular form of certification, linking food products with specific places. He shows how the system of *Appellation d'Origine Contrôlée* initiated in early nineteenth-century France as various products began to move from their place of production to more distant markets. Some such claims are rooted in the physical qualities of place, as in assertions about the geographical distinctiveness of a particular *terroir,* while others revolve around notions of local expertise or indigenous knowledge. West demonstrates that all such claims are socially constructed and subject to contestation, critics dismissing them as invented traditions designed to protect the collective patrimony or to serve the material interests of specific producers. In many cases, the assertion of protected status can be regarded as a form of monopoly, restricting competition and curtailing free enterprise. Such products often command a price premium and may involve certification costs, favoring larger-scale manufacturers over smaller-scale producers. While being promoted as a means of supporting local economies, creating employment opportunities, and aiding rural development, such schemes can have paradoxical effects, leading to increased output and depressed prices. West's chapter also explores the extent to which an *appellation* can be transplanted from one place to another as, for example, when New World producers appropriate Old World names.

In the final chapter in Part Two, Richard Mitchell and David Scott document the emergence of a critical approach to research on hospitality and food-related tourism that contrasts with earlier commercially orientated work dictated by the needs of the hospitality and tourism industries. Mitchell and Scott outline the development of new methodological strategies and theoretical approaches to hospitality and tourism research. Their chapter reflects on the commodification of hospitality, problematizing notions of sincerity and trust through an exploration of the aesthetic and emotional labor of those who provide hospitality in various social, private, and commercial domains. They explore the role of food tourism in local economic development, questioning the dominant economic paradigm of hospitality research as taught in business schools and highlighting the increasing emphasis placed on a variety of social science perspectives.

While the chapters in Part Two do not in themselves accomplish a complete transcendence of the rift between separate studies of production and consumption as noted in the introduction, they represent a series of constructive moves in that direction, as well as providing a range of significant conceptual and methodological insights into the way recent food research is addressing the associated issues.

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Contemporary Food Systems: Managing the Capitalist Conundrum of Food Security and Sustainability

TERRY MARSDEN

INTRODUCTION: FOOD SECURITY AND SUSTAINABILITY AS SPATIAL FIXES: THE ORIGINS

Food production and consumption embody essential natural and metabolic processes that cannot be completely controlled by capital or for capital (see Kitchen and Marsden 2011; Mann and Dickenson 1978; Morgan, Marsden, and Murdoch 2006). Partly for this reason, food systems hold particular spatial configurative features in capitalist economies. And once these spatial configurations take hold they tend to last and influence the pathways of any new dynamics. The story of food systems over the past two centuries can be seen as part of this paradox. No matter how globalized and inherently footloose it may become, the food system—and its consumption and production dynamics—inherently interacts with and shapes spaces and places. In turn these spaces and places act to reconfigure the food system. This chapter starts to chart this paradox.

It is therefore not surprising that, in advanced economies, food security and sustainability (both essentially natural features) have been key food governance concerns for over 200 years. Indeed, as industrial capitalism developed, rapid urbanization led to more intensive enclosure of agricultural land and an ever-increasing use of fertilizers to enhance production for the growing and increasingly concentrated population. In his letters to Engels, Marx, among others in the nineteenth century, demonstrated his clear understanding of the necessity of linking food security and sustainability[1] by showing an appreciation for the then rapidly growing field of soil science (led by Liebig).[2] This

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provided an important scientific means to sustain larger urban settlements through the intensification of agricultural production. At that time, food security and sustainability began to find a long-lasting "spatial fix,"[3] or what some Marxists called the "metabolic rift" (see Foster 1999), which, along with various public health measures (like clean drinking water and milk pasteurization, see Atkins 2010), provided a platform to sustain continued urbanization throughout the twentieth century.

As industrial and urban-based capitalism developed, it was necessary to solve the twin problems of security and sustainability, first through intensification and fertilization of the land, and second by unleashing mechanization of production. In the late nineteenth and early twentieth centuries, these forms of agri-industrialism struggled in resolving Kautsky's formulation of the agrarian question: that is, how to continue to intensify production and appropriate some farming functions in processing and agri-industry while at the same time maintaining some sort of ecological or natural equilibrium in the agricultural transformation process (Goodman and Watts 1997; Kautsky 1988). Unlike other forms of industry, the food system would not abide by the same principles of concentration and centralization, partly because of its reliance upon the soil and dispersed family farms or peasants that were essential for sustaining production for the increasing urban masses. However much industrial and then corporate capital attempted to appropriate these awkward agrarian processes—as witnessed throughout the twentieth century with the arrival of the intensive food regime (see Friedmann and McMichael 1989)—a dominant feature of capitalist penetration in the food systems has been the maintenance of family-based production units and the resilience of dispersed, land-based farming systems. The way around these obstacles was to create an ever-concentrated and value-abstracting agri-industrial complex around the land and predominantly family-based farming sector. Simultaneously, this subjected producers to a continuous cost-price squeeze and the dynamics of the "technological treadmill" that forced them to adopt intensifying technologies of production if they were to survive. It is perhaps remarkable that these attempted processes of subsumption of agrarian nature have been so long lasting, despite the different cycles of technological and regulatory change experienced in food systems over the past two centuries. As we shall see, these processes encompass both capital and the state; it is in both of their interests to continually attempt to solve the problems of food security and sustainability in an advanced world context of rapid urbanization and population growth.

Productivism and the Intensive Regime

Following the imperial food regime that gained ground in the United Kingdom and a host of settler countries[4] during the nineteenth century, based upon imperial free trade and extensive settler agriculture, the more intensive food regime that dominated the twentieth century (see Friedmann and McMichael 1989) provided not just a major Fordist solution for the growth of cities and towns but also a clearer allocation of functions for the countryside (see Cronin 1991).[5] For instance, by the 1930s, and especially

after the war, in the United Kingdom the countryside was strictly demarcated to guarantee the stimulation of food production while at the same time rigid restrictions were placed upon unplanned ribbon development around the expanding cities. In 1947, at the nadir of the British postwar financial debt crisis, and with severe food and energy shortages amidst one of the worst winters of the century, this process culminated with the passing of the Agriculture Act and the Town and Country Planning Act: the former introduced direct state subsidies for intensifying national food production, while the latter defined the rigid functionality of the town and country as clear regulatory spatial fixes (see Marsden et al. 1993; Murdoch et al. 2003).

This system, which developed to varying degrees in other advanced countries (e.g., the Netherlands), allowed for a continuous compromise to be made between food and nutritional security and the alleged sustainability of a productivist agriculture. It also favored a particular spatial shaping of cities, towns, and villages around functional hierarchies and varying types of spatial planning mechanisms—a dynamic often bypassed in the literature. The relative success of this spatially regulated system meant that human health concerns regarding food could be relatively marginalized into concerns about food adulteration and minimum safety and nutritional standards (see Lang, Barling, and Caraher 2009).

As the twentieth century unfolded, the need for a stronger and interventionary state to support agri-food productivism became clear. Some commentators have talked of the establishment from the 1930s of an international food order under U.S. hegemony, which brought about a remarkable period of security and stability to world agricultural markets by the 1950s and 1960s (Goodman and Redclift 1986). The United States was preeminent among a number of settler societies in creating innovation and technologies for the period. These became integrated into an export-oriented global system. By the 1940s, the U.S. administration was expounding a model of technological innovation and market innovation in agriculture to be disseminated internationally. This was, of course, to be matched by a Soviet race for modernization that encompassed state ownership of land and farms. In the West, intervention, by and large, left the property rights in the hands of farmers while state mechanisms like the New Deal provided massive programs of protection, price stabilization, farm-income support, and investment incentives, as well as research and development support through the network of University Land Grant Colleges.[6]

In the United Kingdom, as in much of Europe, these comprehensive systems of state intervention built around a productivist ideology provided a package of security and sustainability systems. It secured land rights and land uses (between town and country), provided financial and political security for its producers and their representative bodies, and through to the 1980s provided ideological security in protecting the national and international priority for technologically induced productivism. These productivist systems became the subject of a renaissance of critical scholarly work in the 1980s, both in the United Kingdom and in North America. This involved theoretical work on understanding the evolution of food regimes (see Le Heron, Chapter 2, this volume),

to more empirical studies tracing the complexity and regulation of commodity chains (see Pritchard, Chapter 9, this volume) in the increasingly globalized food systems (see Buttel and Newby 1980b; Friedland, Barton, and Thomas 1981). In summary, theoretical and empirical work concentrated on four areas. These concerned, first, the ways in which capitalism sought to penetrate agriculture and the reasons why it was not always successful; second, the nature of agrarian class structures and the role of rent in providing a theoretical underpinning for a comparative political economy of agrarian class structures; third, the transformation and social patterns of resistance associated with family farming; and finally a concentration upon the relations between agriculture and the state (see Bonanno et al. 1994; Buttel 1982; Goodman and Watts 1997).

As the intensive regime of productivism continued, super concentration of the nonfarm parts of the food chain seemed never ending. By the 1990s, Hendrickson and Heffernan (2002) conceived of the agri-industrial system as an increasingly globalized "hour glass" whereby thousands of farmers feed millions of consumers through an increasingly corporately controlled system that involves webs of interconnected input suppliers, food processors, and retailers. Much of the American literature has focused on these corporate strategies and concentration patterns, but their effects have been and still are felt worldwide. By the end of the twentieth century, five major companies dominated seed production, and in the United States eighty-one percent of beef was processed by four firms. In addition, four firms controlled the majority of broiler and pig production, with eighty-one percent of corn exports undertaken by three firms.

While it is important not to assume that this period of productivist regulation of food systems came to an abrupt ending in the latter parts of the twentieth century, it certainly faced a new set of challenges. These were again associated with the established synergies between security and sustainability coming under intense pressure. This became increasingly depicted in the scholarly literature, from the middle of the 1980s, when attention started to shift from critiques of productivism to wider understandings of environmentalization and consumerism.

Unraveling the Productivist Spatial Fix: The Postproductivist Compromise

Since the middle of the 1980s, this stable and productivist regulatory and state-private-public sector compromise has been progressively dismantled—and, with it, the spatial fixes that previously existed between the city and the countryside (Marsden 2012b). We have witnessed since then the emergence of a more volatile and contingent period of variable spatial relationships, functional uncertainties, and crises of legitimacy with regard to food security and wider questions of sustainability. Amidst the current crisis of the dominant carbon-intensive food system, the city, or more precisely the city-region, is increasingly becoming the fulcrum for innovative forms of (alternative) food production and consumption.

The origins of these changes can be traced to the period between the 1980s and 2008, when deepening public health concerns associated with crises like BSE, coupled

with the recognition of a host of severe environmental externalities created by the intensive food regime (see Lowe, Marsden, and Whatmore 1990; OECD 1986), led to a revised regime of postproductivism (see Marsden 2012b; Murdoch et al. 2003). To solve these problems, faith was put in the burgeoning corporate retail sector (Marsden et al. 2010; Spaargaren, Oosterveer, and Loeber 2012) as well as in a range of usually voluntary agri-environmental schemes, without, however, challenging the fundamental separation between *rural* intensive production systems (see Buttel 2006; Van der Ploeg and Marsden 2008) and *urban* consumption spaces. During this period, a myriad of new private and public food quality standards and conventions (Busch 2007) served the function of conveniently separating, and in some cases fragmenting, the growing environmental problems (e.g., sustainability) from increasing public health concerns (e.g., food and nutrition security).

This was, with hindsight, a period, in Europe in particular, of the postproductivist compromise. As such, it brought together a new set of state and spatial fixes. First, growing environmental and public safety concerns meant that the state had to shed some of its productivist zeal. It did this by attempting to "ring fence" intensive systems of production and consumption, rather than dismantling them. A host of agri-environmental schemes was matched by increasing European food safely regulation to constrain the producer and the food processor. Second, as it was now deemed in a context of overproduction, more European land could be set aside for environmental schemes of various sorts. Third, with reductions in transport costs and the rise in retailer-led, just-in-time logistics and lean supply chain management, a greater volume and diversity of food products could be shipped and flown into the European zone from developing countries. This allowed productivism to be relocated, while postproductivism could be created at home. Hence the period of postproductivism created its own set of new spatial fixes in which it disguised productivism through new regulatory and spatial designs.

While the early and indeed dominant conceptualizations of postproductivism concentrated upon agricultural policy regime change, which was undoubtedly occurring in Europe from the late 1980s (Lowe et al. 1993; Ward et al. 2008; Wilson 2007), these underplay the wider parallel shift toward reflexive consumerism and the rise in regulatory power of the corporate retailers occurring at the same time. These forces acted to further shift economic as well as political power away from producers and postwar productivist corporatism. With the rise of neoliberal applications in other economic spheres, agri-food corporatism became translated into a form of "private-interest government" (Grant 1993). It is important to recognize, therefore, that the arrival of a somewhat peculiar form of European postproductivism created simultaneous conditions for the rise of retailer corporatism and postmodern reflexive consumer practices. This was partly made possible in Europe by the drive for the "European project," especially the integrated single European market (ESM), and the expansion of the European area to include former Eastern Bloc countries. This created the conditions for the unleashing of new forms of collective and reflexive consumption almost as a celebration over the defeat of the (increasingly food insecure) Eastern Bloc and the attractions of

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an expanding array of globalized imports as well as subsidized domestic products. New, neoliberal, and retailer-led systems of globalized food supply were thus a powerful political and postcommunist tool in late twentieth-century Europe.

As such, although postproductivism increasingly represented a regulatory shift in the sets of relationships between the state, producers, and consumers, it did so by adding to the roles and responsibilities of these agents and interests rather than necessarily eradicating or negating productivism in all its forms. Postproductivism thus *emerged as a compromise,* in regulatory terms, to attempt to solve the newly recognized EU problems of food surpluses and environmental externalities unleashed by the intensive productivist model. It did so not by eradicating intensive productivism completely. Rather, it spatially contained its externalities at home (i.e., in the expanding EU, and through a host of agri-environmental and food safety regulation measures), while stimulating and reproducing its less regulated conditions in other more distant parts of the world. Through unleashing highly sophisticated and retail-led forms of supply chain regulation it provided the conduit for a new globalized spatial fix. Geopolitically, this allowed Europe to emerge as a more sophisticated, advanced, and consumer-discerning food region, now more distinct from North American food hegemony on one hand, and clearly more successful in feeding its population with an ever-growing variety of fresh products than the eastern former Soviet states. Again then, as with the productivist period, we see the problems of food security and sustainability partially solved over time and space.

From the mid-1980s to 2008, and despite a series of food scares and crises, the postproductivist compromise took a stronghold, especially in Europe. This is represented by a considerable literature on the subject, especially with regard to postproductivist agricultural policy change (Ward et al. 2008; Wilson 2001, 2007). However, as with the continuance of the earlier intensive productivist model, it acted as a way of *assuaging rather than completely eradicating* the twin food regulatory problems of security and sustainability. Neither did it eradicate the intensive regime. Rather it manipulated it into a new set of spatial fixes on a global and regional scale. Postproductivism in Europe was thus to come with some cost. It was a cost, not least in terms of vastly extending food miles, but also in cleverly distanciating and exporting ecological risk and damage to other parts of the globe. Indeed,with some hindsight we can now see this period as significantly contributing to the global food security and wider environmental crises.

The New Arena: Neoproductivism, Food (In)Security and the Sustainability Crisis

During the 2000s, however, two major changes in the global context began to redefine the meaning of sustainability and security in the food system. First, there was the recognized arrival of *peak food* as part and parcel of wider resource depletion and climate change dynamics. Second, the rapid growth of obesity and malnutrition in developed and developing countries shifted the main health concerns from a series of spasmodic crises associated with food safety as part of "risk society" (Beck 1992) to one of human

and animal bio-security and well-being (Rayner and Lang 2012). Indeed, the shift from a prevailing perception of a world of food surplus to one of food deficit has been quite rapid and has gained pace since the spikes in fuel, food, and energy prices that took place in 2007–2008. To further complicate this scenario, the last five years have also witnessed financial speculative binges, a global financial crisis, and the recognized depletion of global food stocks (see McMichael 2012b) as vast productive areas have been utilized to produce biofuels rather than foods (see Mol 2007); and countries like China have become engaged in land-grabbing activities in Africa and Latin America in an effort to solve their internal energy, water, and food security crises (see several issues of *Journal of Agrarian Change,* 2010/11 on the food security and land-grabbing themes).

Notwithstanding the considerable resilience of prevailing productivist and post-productivist regimes to absorb or accommodate these growing tensions, since 2007 it has been possible to observe the ending of a twenty-year uninterrupted trend in falling food prices and the emergence of significant volatility in global food markets. What marked out 2007–2008 was not only the problem of endogenous risks prevailing in the food system, but also the new exogenous and interconnected nature of energy/resource concerns. These cannot be so easily spatially fixed, nor can they be contained in existing efficiency-led supply chain systems. As such they represent major perturbations to existing productivist and postproductivist food systems. The literature is only just emerging on coping with the intensity and depth of these processes, with a reliance on headline and chart-based trends and predictive scenarios (see Chatham House 2009). Overall, it would seem that this is by no means a short-term hiccup prior to the restoration of business as usual, given that available evidence suggests food production systems are hitting up against real resource limits. These are linked clearly to the price volatilities in oil and gas, representing a "canary in the mine" problem for world agricultural systems.

Under these new recombinant resource pressures, whereby food systems become increasingly folded into wider energy/resource speculative races, it can be argued that the interests and focus of governments, whether at the global, EU, or national levels, will have to shift for reasons more globally profound than those in earlier phases of postwar productivist or postproductivist food regulation. If earlier phases have proved effective and palliative whereby private and public interests, however contested, have reached some form of regulatory compromise in managing security and sustainability concerns, it is clear that now the real and potentially irreversible social, economic, and ecological externalities are being exposed. As with the nineteenth-century realization of the consequences of the "metabolic rift," we now face at least a parallel evolutionary moment in food systems and spatial systems' instability and fluidity. In this context, moreover, it is less easy to compartmentalize food as a separate regulatory or system of provision, given its increasing interconnectedness to other sectors. As perhaps before industrialization and recent modernization, we have to relearn these interconnections, linking food systems to broader aspects of "third nature" thinking (see Marsden 2012a).

The anatomy of the current food security crisis is being extensively examined (see special issue of *Journal of Rural Studies,* 2013 in press; Almås and Campbell 2012;

Lawrence et al. 2010; Lee and Stokes 2009; Spaargaren, Oosterveer, and Loeber 2012). Much less attention has been devoted to the emerging landscape associated with the new variable spatial, social, and economic relations and fixes that local and regional responses to this new metabolic crisis are creating. The next section outlines some of these key spatial dimensions and contingencies, which call into question the new role of cities and their regions as food policy actors.

THIRD NATURES: FROM SECTORS TO SPACES: RECONNECTING CITIES WITH THEIR COUNTRYSIDES

Clearly we are left, as the second decade of the twenty-first century unfolds, with a food system landscape that clings to the architecture and infrastructures of the productivist and postproductivist agri-food regimes. We are dealing with their sunk costs, inertias, and continued spatial fixes. In this sense, to employ a transitions perspective (see Geels 2002; Spaagaren, Oosterveer, and Loeber 2012), we are still dealing with dominant regimes or worlds of food (Morgan, Marsden, and Murdoch 2006) that are attempting to diffuse the new and combined landscape pressures now witnessed in different regions of the world. One major question thus becomes how will these transitions play themselves out?

One of the most significant trends in agri-food systems research over the past decade has been to trace the proliferation of alternative agri-food networks (AFNs) (see Goodman et al. 2012 for a comprehensive synthesis of the phenomenon in North America and Europe). A major question now occurs given the growing crisis of food security and sustainability. Can alternative food movements, as a variegated assemblage of what Morgan, Marsden, and Murdoch (2006) call the new "moral economy" of food (Sayer 2000), begin to scale up and out in ways that absorb more systemic and more dominant characteristics? In short, are they destined to remain an amalgam of niches or can they converge into a new "third nature" regime? As Spaargaren, Oosterveer, and Loeber argue after completing one of the most comprehensive collections considering food system transitions:

> The foodscape of the future will be less homogenous and well-structured when compared with the post-war period. In particular, the dichotomy between alternative and mainstream food sectors and dynamics seems to have lost most of its significance. The alternative sector—be it in its primarily "local" forms of organic agriculture or in its "global" form of fair-trade food—is rapidly becoming more "mainstream" both in its outlook, its major relations and dynamics and also its market shares. At the same time, the dominant, mainstream sector of global processing and retail has started to confront the (niche) challenges put forward by bottom-up, alternative food innovations in non-trivial ways, resulting in a reformulation of the dominant mainstream regime in several respects . . . One does not have to be a post-modernist to recognise

> the fact that a sustainable, global food regime will be multi-dimensional and in some respects heterogeneous in character (2012: 333).

For another key commentator, such a critical juxtaposition is changing the nature and function of the former dominant corporate regime: the so-called corporate food regime is a "vehicle of a contradictory conjuncture, embodying a basic tension between a trajectory of 'world agriculture' represented by agro-industrialisation (food from nowhere), and a place-based form of agro-ecology (food from somewhere), including cultural survival, and expressed in food sovereignty politics—a politics of modernity in a global moral economy. That is, the food sovereignty movement is a reflex neo-liberal project seeking to reverse its catastrophic social and ecological impacts, and in so doing to develop an alternative political ontology constructed around values that are the antithesis of capital accumulation (the self valorisation of capital at whatever cost)" (McMichael 2012b: 117).

These two insights sum up nicely the variations of debate concerning the transitional and, at the same time oppositional, regulatory context global food systems now represent. The crisis is clearly giving vibrancy for more opposition and more heterogeneity of response that traditional regulatory governments find hard to cope with. At the same time, bio-economic advances in plant and animal genome technologies are now geared to at least a weak form of ecological modernization, as they attempt to demonstrate how plants and animals can be intensively produced under lower carbon and chemical conditions (see Kitchen and Marsden 2011). This is at the same time giving more oppositional power to deeper eco-economic solutions built around agri-ecology and ethical and fair trade principles (see Horlings and Marsden 2013).

What is clear among this fluidity and contestation is that there is less regulatory or political coherence associated with this new foodscape. Indeed, given this fluidity, foodscape becomes an improved analytical tool over food system or regime. These new foodscapes have no similar or equivalent spatial fix. They are highly spatially variable, and as such are indeed undermining the logics of the earlier food regimes described previously. For instance, the productivist regime can no longer legitimate itself without accommodating at least some ecological modernizing principles; similarly, postproductivist compromises and their spatial fixes are undermined by the depth and intensity of the ecological crisis their policies are now seen to have created. This is creating great challenges for state authorities (as we have seen in the Middle East, and increasingly in China, for example) to create new legitimating frameworks that can reintegrate food security with sustainability around the needs of a *neoproductivist* priority (see Burton and Wilson 2012). The effects of new economic growth and the nutrition transition in newly developing countries will necessarily lead to innovations around neoproductivism; but this will need new spatial as well as political compromises associated with creating synergies between ecology and economy, using different business models and sustainability approaches.

A relatively new driver for these shifts now arises from growing health and welfare concerns as part of a wider moral economy. The "new food equation" (Morgan and Sonnino 2010) outlined earlier is having major repercussions on public health in both the North and the South of the world. Recent data show that there are currently 925 million undernourished people—all but two percent of them in developing countries (FAO 2010)—one billion overweight people, and 475 million people suffering from obesity. In the EU, obesity and overweight together include sixty percent of adults and twenty percent of children, but the phenomenon is widespread in the global South as well (Sonnino et al. forthcoming). Indeed, many low- and middle-income countries are experiencing rising rates of obesity and overweight and face the "double burden" of obesity and hunger: Mexico's proportion of overweight individuals has reached seventy percent; Brazil's, fifty percent; and China's, nearly thirty percent (Cecchini et al. 2010: 1775).

National and sectoral policies and their related spatial fixes are becoming less relevant in dealing with these problems—which, to a significant extent, have been caused by global policies that have placed too much emphasis on the production of (rather than access to) food, as explained previously (see also Sonnino 2009). In this context, a growing number of cities around the world are devising their own place-based solutions to the current security and sustainability crisis, largely (although not exclusively) through urban food strategies that aim to forge new alliances between food consumers and producers, the growing health agenda, urban centers, and their surrounding rural hinterlands. This is creating a new counter-paradigm of (urban and rural) place-based eco-economic strategies that are becoming a significant counterforce to the global intensive food agenda (see Horlings and Marsden 2013).

Human health and well-being are central to the narratives of many of these policy documents, especially among pioneering North American cities that have long been experiencing the negative effects of the twin food security and sustainability crises on the urban environment. Toronto is a case in point. The Canadian city, where the first food policy council was established, envisions in its recent urban food strategy a "health-focused food system" that makes safe and nutritious food available to all urban residents, thereby nourishing the environment, protecting against climate change, promoting social justice, creating local and diverse economic development, and building community (Toronto Public Health Department and Food Strategy Steering Group 2010: 6). In a similar fashion, the city of Los Angeles utilizes the notion of "good food" to emphasize the centrality of citizens' health—also in relation to other sustainability objectives. Indeed, the American city's food strategy defines as a "good food" system one that "prioritizes the health and well being of our residents; makes healthy, high quality food affordable; contributes to a thriving economy . . .; protects and strengthens our biodiversity and natural resources throughout the region" (Los Angeles Food Policy Task Force 2010: 11).

As even the FAO has recently recognized, we are now witnessing the emergence of "a new paradigm for ecosystem-based, territorial food system planning, based on a more localized approach to food" (2011: 6), which holds the potential to create new forms of

connectivity across urban and rural landscapes, bringing the concept of sustainability into new and more profound significance—that is, as an integrative policy tool that links human and environmental health.

CONCLUSIONS: TOWARD NEW SPATIAL AND SUSTAINABILITY FIXES?

It is, of course, not clear how successful or otherwise the proliferation of city-region food strategies across the world are going to be in really reshaping established food systems (Blay-Palmer 2011). However, it is clear that new questions are being addressed and visions created about the development of more sustainable and secure city-countryside linkages, at the same time as larger groups of consumer interests are acting to revalue consumption and production links in terms of a more integrated set of security and sustainability criteria. These movements, from Porte Allegre in Brazil, to Brighton and Plymouth in the United Kingdom, raise important questions for the role of the multilevel state and the sustainability research and development base in stimulating, scaling up, and scaling out such initiatives and niches. The role of public procurement and its potential to link with the preservation of small farmers and set challenging standards for institutional and household food provision (e.g., in schools and hospitals) is one key area of variable innovation (in some Brazilian cities, for example).

Of equal importance are the ways such city initiatives are contributing to the wider realization that current food and farming systems are not fit for purpose, and that a new approach is needed from the global level to the local level. Mirroring the IAASTD report (2008), the main EU scientific committee on agriculture, the Standing Committee on Agricultural Research, has called for radically new farming systems and research to meet these challenges, suggesting "approaches that promise building blocks towards low-input high-output systems, integrate historical knowledge and agro-ecological principles that use nature's capacity."

What is clear is that under the new global food crisis conditions, when deficits and surpluses create new food equations and disrupt established spatial fixes, both between the city and the countryside on one hand, and the relationships between the advanced and developing worlds on the other, these new city-based initiatives provide a vibrant and potentially radical approach to creating new platforms for food security and sustainability. To become more mainstream they will require far more innovative institutional and governance support, especially at local and city regional levels. As we know from the past, sustainable transitions in the food sector do not just occur on the head of a pin; they are spatially created, maintained, and then reinforced; hence the relationships between sustainable place making and food transitions deserve to be a critical area for further sustainability science research. This will require a critical examination of bio-economic and neoproductivist notions of "sustainable intensification," on one hand (see Foresight 2012), and a much more normative and engaging approach to real sustainability and security designs on the other (see Alkon and Agyeman 2011).

A hopefully consistent theme running through this chapter has been the necessity in modern agri-food systems to attempt to solve the twin conundrums associated with food security and sustainability. This was a problem in early industrialization and urbanization as it is today. It is important conceptually to trace these continuities given the distinctive nature of food in capitalist development. What is striking, but sometimes omitted from debate, are the ways in which the regulation of food—its partial but nevertheless successful security and sustainability over time and space—has significantly conditioned the spatial structures and relations embedded in and between our societies and economies. Under the productivist and postproductivist regimes we tended to quietly ignore or at least hide these natural and physical geographies. But amid the more radical crisis conditions we currently face we cannot afford that luxury. In short, we need to spatially as well as socially plan and design for our more heterogeneous sustainable foodscapes in ways that engage with producers and consumers in new alliances and relationships as part of sustainable place making. This means dealing conceptually and empirically with questions of food security and sustainability *together.*

The current food crisis, while often articulated at a global and aggregated level of discourse, will only be overcome by developing far more spatially connected as well as ecologically grounded solutions in building the adaptive capacities needed. This does not espouse a defensive localism (see Winter 2003) or fall into the trap of seeing local as good and global as bad. Rather it needs the innovative energy to shape global-local relations in ways that revalorize and reconnect social ecologies.

Nevertheless, while the problematic continuities depicted here clearly exist today as they did two centuries ago, after significant bouts of state and private-led productionism and postproductivism in the twentieth century and beyond, one feels that the problems of solving the age-old conundrums of food security and sustainability have become just that more insurmountable.

They will, I argue, require new deals for agri-food in the context of a wider sustainability paradigm. They will need civil, government, and private sector support to overcome the necessary complexities in making sustainable transitions in food and health planning. They will need new engaging alliances between interdisciplinary sustainability science and the public and consumers to create more effective and place-based adaptive capacities. Above all, they will need new forms of effective spatial and sustainable management that harness the innovative potentials of a new equation between our growing cities and much needed but vulnerable countrysides. We need to recreate many Liebigs and foster a more sustainable paradigm of neoproductivism that dovetails with the growing moral and health concerns of reflexive consumers.

NOTES

1. Here I use the term *food security* to denote not only the appropriate quantity of food available to a given population, but also its effective quality in sustaining human health and well-being. *Sustainability,* in turn, denotes the ability of productive and consumptive systems to remain ecologically, socially, and economically resilient over time and space.

2. Liebig (1803–1873) was probably the most influential soil scientist during the period of rapid industrialization and urbanization in the second half of the nineteenth century. During this period the pressure was on to find the scientific and technological means by which to sustain the growing urban and landless working classes with the food they needed without them being directly involved in its production (a key feature of the "metabolic rift"). Liebig, as Marx and Engels observed, provided this scientific means through his innovations, among others in the artificial fertilization of soils. A complementary urban synergy was to provide effective sewerage treatment so as to diminish its use on rural hinterlands.
3. The concept of the spatial fix is borrowed and applied here from David Harvey's (2003) critiques of capitalist accumulation whereby he explores how processes of uneven development become fixed in space, thus allowing intensive forms of accumulation to occur in some places and dispossession in others. This concept is highly relevant for food sustainability and security debates, especially as food systems have become more globalized, such that the environmental and social costs of both intensive production and consumption can be externalized or distanciated. The more general point here is that, as capitalist food systems have developed over time, they have found it essential to spatially fix production and consumption relations at the local and regional levels (say between town and country) or at the international level (between underdeveloped and developed countries).
4. By *settler countries* I mean here principally the British imperial farmer settler colonization of the United States, Canada, Australia, and New Zealand.
5. *Fordism* is used here to denote the intensive regulatory regime associated with agri-food during the twentieth century. This continued its dominance through the 1990s as factory and standardized food processing gained a stronghold in globalized food chains. This is depicted exceptionally well in Bonnano and colleagues', *From Columbus to ConAgra* (1994), and in Goodman and Watts' collection *Globalising Food* (1997).
6. These were an innovative and publicly funded recognition of the need to develop both pure and applied research across the United States and to link this to an extensive farm extension system.

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8

Economics, Food Demand, and Nutrition

RICHARD TIFFIN AND MATTHEW JUDE SALOIS

How does the head of an agrarian household in Nigeria choose to allocate the limited food he has produced among each of the individuals in his household and decide whether to sell some of this produce at the market? How do food consumers choose among the vast array of foods available to them, recognizing that their demand for food derives from not only its nutrient attributes but also from the role food plays in a social and lifestyle context? How do we meet the food needs of the world's peoples when the resources that are available to produce food are finite? How can we explain the way populations have continued to grow in spite of the fact that the resources available to support these populations are apparently finite? Each of these is an economic question: they deal with a situation in which a scarce resource must be allocated among the competing needs of human beings. Each of the questions has considerable complexity to it, but a very simple principle lies at the heart of the economic solution to these problems.

The basis of the neoclassical solution to an economic problem is the assumption that there is an agent who seeks to maximize some measure of well-being while satisfying the constraint that leads to scarcity. While this might seem to attribute a greater degree of sagacity to the agent than is realistic, the recognition that a set of marginal conditions characterizes the solution leads to a simplification. The principle of marginality is usually attributed to Alfred Marshall (1920) and says that the limited resource available to an economic agent is allocated among the alternative ends for which it can be used so that the value of an additional unit of the resource allocated to each end is equal. Thus the Nigerian food producer considers whether selling an additional unit of the good can be used to give a greater benefit to one or more of the members of the household than would result from feeding them directly. The health-conscious lifestyle consumer compares the health benefits that can be derived from consuming an additional portion

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of fruit and vegetables a day with those that could be obtained by making a decision to exercise instead. The policy maker charged with ensuring that food is available must balance the competing needs of ensuring that ecosystem function is not compromised in increasing food production.

This economic view of the way decisions are taken is not without its critics. It is clearly unrealistic to think of decision makers as calculating machines capable of simultaneously weighing the marginal costs and benefits of the array of choices open to them at a point in time. In fact, this highlights one of the attractions of the principle of marginality in simplifying the assumption that rational agents simultaneously make multiple decisions in pursuit of a single goal. Although the basic underlying principle that the agent makes all of his or her choices to achieve the best outcome in terms of a single goal remains, marginality recognizes that decisions can be made one by one to achieve this outcome. We are presumed to have iterated our way to a position we view as being best. As circumstances change and new possibilities arise, the agent can make each decision according to a criterion: Does it make me happier or not? The underlying principle that agents have a consistent view of what makes them happier is more controversial, however. This has led to a growing interest in the subdiscipline of behavioral economics, which seeks to incorporate more realistic assumptions about the psychology of choice.

In spite of its critics, the neoclassical economic model forms the basis for much of our empirical understanding of aggregate economic behavior. For example, it leads to the propositions that income, price, and preferences are the determinants of the quantities purchased of a good. These propositions lead to empirical investigations (see, for example, Banks, Blundell, and Lewbel [1997] and Lewbel and Pendakur [2008]) of the Engel curve, which explores the relation between income and quantity demanded and the demand curve, which explores the relationship between price and the quantity demanded. We return to this question later, but prior to this we consider the contribution economics makes to understanding the processes underlying the planet's ability to feed an ever-growing population.

THE ECONOMICS OF POPULATION

The global population passed seven billion in 2012 and is forecast to exceed nine billion in 2050. This unprecedented growth naturally makes us wonder whether the planet can cope. Thomas Malthus is well known as the original dismal scientist because of his arguments that effectively condemned the world to an income trap in which we could only ever expect to earn what Malthus termed a *subsistence wage.* Malthus' argument rested on three propositions (Blaug 1996):

1. The biology of reproduction means that population grows at a greater rate than the capacity to produce food.[1]
2. Preventive or positive checks always hold back the tendency for population to grow.

3. The limitations to food production provide the ultimate limit to population growth. The argument proposed by Malthus is simple: small populations have the ability to produce more than enough food to meet the per capita needs of the population. As populations grow, additional food is produced as a result of the availability of additional labor, but at a decreasing rate. The latter phenomenon has become familiar as the law of diminishing marginal returns. Eventually, the additional food produced is no longer capable of maintaining overall production at a level sufficient to meet the nutritional needs of the population. If we ever find ourselves in such a position, Malthus argued, misery prevails and population growth is checked. Alternatively, the fear of misery applies a check in the form of reduced rates of reproduction.[2] The empirical predictions of the theory are that populations should remain relatively static in the absence of developments that increase labor productivity and that regardless of such increases, levels of income could be expected to remain constant at subsistence levels.

Given the world he lived in, the appeal of Malthus' theory is evident. Population growth in Europe between the years 500 and 1500 is estimated to be 0.1 percent, while over the same period per capita income growth is estimated to be zero (Galor and Weil 2000). The period after Malthus developed his theory is less compliant, however. Between 1700 and 1820, both output per capita and population grew, at rates of 0.2 percent and 0.4 percent, respectively, and in the postindustrial world even more rapid rates of income growth have been seen to accompany population growth. Malthus responded to this uncomfortable empirical truth by arguing that voluntary restraint on reproduction could be effective in raising living standards more rapidly than population. As Blaug points out, however, this renders the theory without empirical content in the sense that it can be consistent with several versions of the world: rising populations and falling living standards support the view that limitations on food supply check population growth through the onset of misery while living standards that rise more rapidly than population suggest that voluntary restraint on reproduction is effective.

Recent attempts to develop a comprehensive economic theory of population growth (e.g., Galor and Weil 2000) recognize the factors governing population growth are more complex than the dynamics of human interaction with a fixed natural resource that lie at the heart of Malthusian theory. Instead there is a complex interplay between human decisions regarding things such as fertility, investment, and technological progress. Modern approaches generally characterize population growth as a demographic transition between three regimes. The first Malthusian regime as described earlier has population growth proportionately matched by income growth to give static standards of living. In the second, post-Malthusian, phase per capita income increases accompany continued population growth, and in the third, modern, phase population growth slows while per capita incomes continue to rise. Galor and Weil argue that the historical evidence suggests that the transition between Malthusian and post-Malthusian regimes

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arises because of an increase in the rate of technological progress while the shift to the modern regime is a result of demographic change. They provide a unified approach to this transition that entails an interaction between decisions regarding technology, fertility, and education. The increased rate of technological progress that permits an escape from the Malthusian trap increases the rate of return to human capital. As a result parents switch from investing in the quantity of children to investment in quality through education. Increased productivity means that per capita incomes increase and mortality rates decline. Populations continue to increase, therefore, but this increase is now accompanied by rising standards of living. A virtuous cycle develops in which technology improves, raising the returns to education and an educated population increases the rate of technological progress further. According to Galor and Weil, the transition between post-Malthusian and modern regimes is governed by the relationship balance between two aspects of the parenting decision. The first is that technological progress reduces the resource constraint on families, thereby allowing them to raise more children, while the second is that of the increased incentive to invest in the quality of a given child. In the post-Malthusian phase the former dominates while in the modern phase it is the latter.

INCOME AND FOOD DEMAND

The relationship between income and consumption of different market goods has been studied at great length by economists since the early eighteenth century and the work of Adam Smith (1723–1790). The pioneering work by Prussian economist Ernst Engel (1821–1896) sparked a rich literature focusing on the share of income dedicated to food consumption and purchases (Engel 1857, 1895). Using household data on budgetary allocations, specifically the percentage of total expenditures on food in Belgian families, Engel drew an important empirical generalization about food purchase behavior that has become known as Engel's Law. Engel's Law states that the proportion of total expenditure dedicated to food purchases tends to fall as income rises. More generally, the relationship between consumption and income can be described by the Engel curve, which shows the relationship between the quantity demanded for an individual good and income. The Engel curve holds the price of the good constant so as to isolate the impact of income on consumption. Chai and Moneta (2010) give a historical perspective on the development of Engel curves.

One of the most researched topics in economics is the relationship between income and food demand. Engel's Law has been confirmed in hundreds of studies across different geographies, both within and between countries, and different levels of economic development. Key studies in this literature include Engel (1895); Working (1943); Aitchison and Brown (1954); Brown (1954); Lesser (1963); Hymans and Shapiro (1976); Banks, Blundell, and Lewbel (1997); and Lewbel and Pendakur (2008). Much of the empirical work focuses on household-level studies within a particular country with the goal of assessing differences in the level and pattern of consumption across households of varying income levels. The income-consumption relationship is often estimated using regression

analysis with data on household income and household expenditures for different categories of goods (e.g., food, clothing, housing, transportation, services, etc.). The intention of the regression is to estimate the relationship of food consumption to the level of household income to determine how consumption patterns of food vary between rich and poor households.

An examination of the empirical literature on household-level studies reveals several common findings. Importantly, and in support of Engel's Law, low-income households tend to spend a larger share of their income on food. James and colleagues (1997) use data from the 1995–1996 UK Family Expenditure Survey and compare the percentage of household expenditure on food with household income decile (adjusting for housing costs). The authors find that households in the richest income decile spend about eighteen percent of their income on food while households in the poorest income decile spend close to thirty percent of their income on food. The authors also note that per capita expenditures on food increase along the distribution of income. Households in the lowest income decile spend on average seventeen pounds a week on food per person while households in the highest income decile spend about twenty-nine pounds a week per person on food (James et al. 1997). Hence, although per capita expenditures on food increase with income, food expenditures represent a declining share of household budgets as income increases.

The phenomenon identified as Engel's Law is explained by the income elasticity of demand, which measures the proportionate effect of income on food demand. There is agreement across empirical analyses that the income elasticity of food is less than one, which means that food demand increases proportionately less than income across households. Food is therefore described as income inelastic. Another common finding is that low-income households tend to exhibit a larger income elasticity of demand for food than higher-income households. In other words, poorer households are more responsive to changes in income than richer households in regards to changes in food consumption. This suggests that the same percentage increase in income would lead to a greater increase in food consumption in low-income households than in high-income households. This finding has important implications in an economic development context in which a major goal is to improve the economic well-being of the poorest segments within a population. If economic development policies lead to economic growth and improved household incomes, then one outcome would be improved food intakes for the poorest households, who often suffer from inadequate food supplies.

CROSS-COUNTRY COMPARISON

Cross-country comparisons across different levels of economic development confirm household-level findings: individuals in low-income developing countries tend to devote a greater share of income toward food than individuals in high-income developed countries. Table 8.1 shows the average share of household budgets dedicated to food by

TABLE 8.1 Budget shares by income status for food, beverages, and tobacco

	1996	2005
Low-income	0.526	0.485
Middle-income	0.347	0.311
High-income	0.170	0.204

Source: 1996 and 2005 ICP data, World Bank.

country income status using International Consumption Pattern (ICP) data from the World Bank. This statistic is commonly referred to as the *Engel coefficient.*

The 144 countries covered by the 2005 ICP are divided into low-, middle-, and high-income countries, based on their income relative to that of the United States. Low-income countries represent those with real per capita income less than fifteen percent of the U.S. level, middle-income countries are those with real per capita income between fifteen and forty-five percent of the U.S. level, and high-income countries are those with real per capita income equal to or greater than forty-five percent of the U.S. level.

As seen by the figures reported in Table 8.1, the share of the budget dedicated to food declines over increasing income levels. Individuals in low-income developing countries spend nearly half of their budgets on food items. Moving across the distribution of income toward middle-income countries, the share spent on food falls to just over one-third of total income. Individuals living in high-income countries spend only one-fifth of total income on food. A common application of the Engel coefficient is as a description of the general standard of living in a country. A smaller value of the Engel coefficient necessarily implies that the country is richer, thus indicating a higher standard of living. Note that the 2005 Engel coefficients are similar to the 1996 values, suggesting that over comparatively short periods of time the budget shares do not vary radically.

Average budget shares for food reported in Table 8.1 can be broken down into individual countries. Table 8.2 displays for different countries the total food expenditures as a percent of total expenditures using 1996 ICP data. Countries are differentiated by income status. The general pattern that emerges from Table 8.2 is that food composes less of the budget in countries at higher income levels than those in lower income levels. For example, over seventy percent of the average budget in Tanzania is dedicated toward food while food is apportioned less than ten percent of the average budget in the United States. This pattern is consistent with Engel's Law, in a similar way to that seen in Table 8.1. However, another interesting finding that emerges from Table 8.2 is that there is heterogeneity in the value of the Engel coefficient within income levels. For example, for the countries listed in Table 8.2, the low-income Engel coefficient ranges from a low of 27.27 for Paraguay and a high of 73.51 for Azerbaijan; the middle-income Engel coefficient ranges between 22.71 for Brazil and 51.82 for Kazakhstan; the high-income Engel coefficient ranges between 9.73 for the United States and 35.73 for the Bahamas.

Clearly, there is quite a bit of overlap between the Engel coefficients across the different levels of income. Mauritius, considered a high-income country, has an Engel

TABLE 8.2 Percent of total expenditure on food by income status, 1996

Low-income		Middle-income		High-income	
Paraguay	27.27	Brazil	22.71	United States	9.73
Ecuador	29.09	Chile	22.96	Hong Kong	10.28
Jordan	37.67	Mexico	26.63	Barbados	11.10
Bolivia	42.52	Swaziland	27.48	Canada	11.68
Moldova	43.45	Bahrain	28.55	Singapore	13.04
Cameroon	43.80	Thailand	28.56	Germany	13.09
Cote d'Ivoire	44.32	Venezuela	29.47	Sweden	13.26
Kenya	45.82	Peru	30.31	Netherlands	13.29
Congo	46.92	Poland	30.65	Austria	13.53
Pakistan	46.99	Bulgaria	30.70	Denmark	14.02
Kyrgyzstan	47.15	Belize	31.17	Bermuda	14.23
Uzbekistan	48.33	Iran	32.55	Belgium	14.36
Indonesia	50.62	Turkey	32.60	Switzerland	14.57
Mali	53.27	Botswana	32.80	Finland	14.67
Malawi	53.35	Estonia	33.45	Japan	14.88
Senegal	53.35	Russia	34.35	Australia	15.07
Benin	55.40	Macedonia	34.73	New Zealand	15.19
Bangladesh	56.05	Fiji	36.28	France	15.34
Nepal	57.88	Dominica	38.27	Norway	15.98
Mongolia	58.74	Lebanon	39.33	United Kingdom	16.37
Zambia	60.81	Lithuania	40.42	Ireland	16.59
Yemen	61.13	Grenada	40.99	Italy	16.59
Sierra Leone	62.09	Latvia	41.76	Luxembourg	17.08
Sri Lanka	63.55	Ukraine	45.03	Spain	17.52
Vietnam	64.75	Romania	45.26	Israel	17.70
Madagascar	65.88	Morocco	45.61	Iceland	18.90
Tajikistan	68.94	St. Lucia	46.62	Greece	21.17
Albania	69.26	Gabon	47.94	Portugal	23.23
Armenia	69.66	Egypt	48.08	Czech Republic	25.00
Nigeria	72.97	Philippines	48.35	Mauritius	28.12
Tanzania	73.24	Belarus	50.45	South Korea	31.64
Azerbaijan	73.51	Kazakhstan	51.82	Bahamas	35.73

Source: Seale et al. (2003).

coefficient that is about the same as for Ecuador and Paraguay, both considered low-income countries. This suggests that income is not the only determinant of the food budget share as other economic factors, such as prices or income inequality, are also very important. For example, since 2003, prices of a number of food commodities including corn, wheat, and soybeans have risen sharply. Prices for staple foods, for example, were

seventeen percent higher in 2008 than they were just two years earlier (FAO 2008a,b). A dramatic rise in the price of food is a particularly acute problem for poor households in many developing countries who not only depend on food production for their livelihood but also spend a large portion of their household budgets on food (Headley and Fan 2008).

Table 8.3 provides estimates of the income elasticity of demand for food by income status at the international level. The income elasticity estimates at the cross-country level largely confirm findings from individual or household-level studies. First, the income elasticity is less than one across income levels, implying that food is a necessity in all countries. That is, the demand for food rises less than in proportion to the rise in income. Second, lower-income countries are more responsive than higher-income countries to changes in food demand resulting from changes in income. The income elasticity for low-income countries in 1996 is more than double that for high-income countries, suggesting an aggregate income increase of 10 percent would raise demand for food by 7.3 percent in low-income countries.

The income elasticities in Table 8.3 can be disaggregated into country-level estimates, given in Table 8.4 for a selection of countries. As seen from Table 8.4, the

TABLE 8.3 **Income elasticity for food, beverages, and tobacco**

	1996	**2005**
Low-income	0.729	0.779
Middle-income	0.602	0.657
High-income	0.335	0.495

Source: Seale et al. (2003) and Muhammad et al. (2011).

TABLE 8.4 **Income elasticity for food, beverage, and tobacco by country, 1996.**

Low-income		**Middle-income**		**High-income**	
Armenia	0.720	Bahrain	0.600	United States	0.346
Moldova	0.731	Estonia	0.626	Luxembourg	0.386
Paraguay	0.738	Lithuania	0.627	Austria	0.450
Azerbaijan	0.747	Poland	0.628	United Kingdom	0.460
Sri Lanka	0.750	Lebanon	0.642	Switzerland	0.462
Indonesia	0.756	Mexico	0.646	Canada	0.473
Bolivia	0.756	Latvia	0.648	Iceland	0.473
Pakistan	0.762	Iran	0.657	Norway	0.474
Tajikistan	0.769	Bulgaria	0.664	Netherlands	0.477
Yemen	0.781	Russia	0.672	Germany	0.477
Mongolia	0.781	Kazakhstan	0.676	France	0.492
Vietnam	0.781	Chile	0.679	Australia	0.493

(*continued*)

TABLE 8.4 **(continued)**

Low-income		Middle-income		High-income	
Cameroon	0.784	Romania	0.681	Japan	0.494
Kenya	0.790	Belarus	0.683	Ireland	0.495
Senegal	0.790	Turkey	0.691	Hong Kong	0.501
Nigeria	0.791	Macedonia	0.692	Belgium	0.507
Benin	0.795	Brazil	0.703	Italy	0.508
Cote d'Ivoire	0.795	Venezuela	0.704	Sweden	0.513
Bangladesh	0.796	Ukraine	0.708	Denmark	0.516
Nepal	0.801	Peru	0.716	New Zealand	0.525
Congo	0.803	Thailand	0.719	Finland	0.530
Madagascar	0.805	Egypt	0.730	Singapore	0.550
Zambia	0.806	Swaziland	0.732	Portugal	0.561
Sierra Leone	0.810	Fiji	0.735	Israel	0.575
Tanzania	0.812	Gabon	0.746	Czech Republic	0.583
Mali	0.813	Botswana	0.749	South Korea	0.600
Malawi	0.819	Morocco	0.760	Mauritius	0.679

Source: Seale et al. (2003).

income elasticity varies among countries within a given income level, especially within high-income countries. For example, among the high-income countries the United States has the lowest income elasticity of 0.346 while Mauritius has the highest income elasticity of 0.679 (equal to the income elasticity for Chile, a middle-income country). Furthermore, it is not necessarily the case that the income elasticities for individual countries are smaller in higher-income categories. For example, Morocco, a middle-income country, has an income elasticity of 0.760, which is greater than the income elasticity for Armenia, a low-income country.

INCOME AND FOOD DEMAND IN THE UNITED KINGDOM

Household-level income elasticities for the United Kingdom are estimated in Tiffin and Arnoult (2010) using the Expenditure and Food Survey (EFS) data set for 2003–2004. Households that participate in the survey voluntarily record food purchases for consumption at home for a two-week period using a food diary. More specifically, the 2003–2004 data set is based on 7,014 households in 6,72 postcode sectors stratified by Government Office Region in the United Kingdom. Participating households voluntarily record food purchases for consumption at home for a two-week period using a food diary for each individual over seven years of age. The data collected by the food diaries are supplemented with the use of till receipts. Since the data are based on self-reported behavior, figures are prone to measurement reporting errors.

TABLE 8.5 UK expenditure elasticities 2003–2004

Food group	Expenditure share	Expenditure elasticity estimate
Milk and dairy	0.12	0.718
Meat, fish, etc.	0.35	1.163
Fats and sugar	0.15	0.930
Breads, cereals, potatoes	0.21	0.920
Fruits and vegetables	0.17	1.038

Source: Tiffin and Arnoult (2010).

TABLE 8.6 Elasticity estimates by subsample

Subsample	Dairy and Eggs	Fish
England	–0.501	–0.457
Scotland	–0.541	–0.762
N. Ireland	–0.821	–0.584
Households with children	–0.693	–0.612
Low-income households	–0.567	–0.483

To capture seasonal variations, the survey is carried out throughout the year and throughout the United Kingdom. Specifically, the authors obtain income or expenditure elasticity estimates for five key food groups: milk and dairy; meat, fish, and alternatives; bread, cereals, and potatoes; fats and sugar; and fruits and vegetables. The expenditure elasticity estimates are reported in Table 8.5, as well as the expenditure shares, and show the impacts on demand for the individual goods of changes in expenditure on all foods within the whole food system.

These indicate the relative effects of changes in income on the different food groups, although the magnitude of the true income elasticities of demand would be expected to be slightly smaller than these expenditure elasticities. Milk and dairy, fats and sugar, and cereals, bread, and potatoes are expenditure inelastic while meat, fish, etc and fruits and vegetables are expenditure elastic. This implies that households with higher levels of expenditure will consume a relatively higher proportion of meat and of fruit and vegetables.

The elasticity estimates given in Table 8.5 constitute averages for the entire United Kingdom. Estimates can be obtained for specific population subsamples across the whole United Kingdom. For example, according to Tiffin and colleagues (2011), income or expenditure elasticity estimates are computed separately for different subsamples including England, England and Wales (E&W), Scotland, Northern Ireland, UK households with children, and UK households in the lowest income quintile using EFS data for 2009. The expenditure elasticities in Table 8.6 show how demand for two food groups, 1) dairy and eggs, and 2) fish are affected by changes in food expenditure over time.

The expenditure elasticities of the dairy and eggs group range between -0.5 for English households to -0.8 for Northern Irish households. Out of all the subsamples, households with children differ the least in their dairy and egg consumption between otherwise identical high- and low-income households. The expenditure elasticities of the fish group show that demand for fish is relatively expenditure inelastic for all subsamples. This suggests that fish consumption does not differ markedly between otherwise identical high- and low-income households, indicating that low fish consumption is not the direct result of having a low income. This is particularly true for Scottish households who from 2004/5 onward have the lowest expenditure elasticities out of all samples (except for 2007), indicating that the proportion of expenditures they spend on fish tends to be smaller than is the case for the households in the other subsamples. Moreover, households with children have the highest expenditure elasticities for fish, suggesting that if confronted with general food price inflation, and therefore a reduction of their food expenditure, families with children will in particular reduce their consumption of oily fish.

INCOMES AND NUTRIENT DEMAND

A natural extension of an analysis of the relationship between income and food demand is an investigation of the relationship between income and nutrient demand. While much of the focus in food demand analysis is on the relationship between economic variables and the quantity of food purchased, the fact that food purchases are a clear determinant of nutritional status and health has led to interest in the economic determinants of these indicators. In 2009, the number of undernourished people rose to over a billion, the highest in nearly fifty years, as a result of the global economic downturn, higher food prices, and lower household incomes (FAO 2009a,b). Much of the increase in the prevalence of undernourishment has been confined to the developing world, particularly sub-Saharan Africa. Concurrent with the increase in undernourishment worldwide, the international prevalence of obesity has also risen. According to the World Health Organization (WHO) (2006), about 1.6 million adults over the age of fifteen were overweight and 400 million were obese in 2005. While obesity was traditionally considered a problem confined to developed countries, overweight and obesity has more recently become a serious problem for many developing countries as well (Hossain, Kawar, and El Nahas 2007). The role income plays in the demand for food in general, and in the demand for nutrients in particular, has become of keen interest to policy makers and to the economic development community. Many economic development policies have the intended goal of improving nutritional outcomes. One tool of development policy is promoting economic growth and household income because a key determinant of nutritional status is health (conversely, another school of thought presumes that health determines nutritional status). Studies that examine the relationship between income and nutrient intake therefore receive considerable attention.

Often such studies attempt to estimate the income elasticity for calorie intake because knowledge of these elasticities guides the design of policies to improve diets and suggests how important economic growth is to nutritional status. For example, if a large elasticity is estimated, then this suggests that development policies aimed at promoting economic growth would be effective in improving total energy intake. A small elasticity estimate, however, would suggest that economic growth strategies may not be very effective at improving energy intake. Breaking down the income elasticity for calorie intake into macronutrient components can also provide valuable information with regard to how the composition of the diet is affected by income growth. Income elasticity estimates for protein, carbohydrate, and fat intake can inform policy makers as to which macronutrients are most affected by income. Previous research shows that economic development is often associated with a "nutrition transition" where diets high in carbohydrates are usually replaced with diets high in fat (Popkin 1994). Economic growth may, therefore, result in improved energy intake, hence reducing undernourishment, but may also result in elevated fat intake, which can aggravate problems associated with overweight and obesity over time. While this relationship has been identified at a broad cross-country level, its empirical foundations, particularly those derived from an economic standpoint, are not well understood. An exploration of the patterns among the income elasticities of the components of the diet that contribute to chronic diet-related diseases is required to address this deficiency.

A large body of empirical literature has accumulated over the past half century aimed at estimating the income elasticity for calorie intake (and for macronutrients at a lesser extent) using an Engel curve approach. Results have varied substantially among studies, resulting in a serious debate regarding the actual relationship between income and nutrient intake. Historically, the notion that deficient energy intake can be moderated through income growth was the conventional wisdom of the World Bank and other development institutions (World Bank 1980, 1981). The emphasis on income began to be questioned in the 1980s, however, as a series of articles appeared that cast doubt on the ability of income to improve nutrient intakes (Behrman and Deolalikar 1987; Behrman and Wolfe 1984; Wolfe and Behrman 1983). For example, while some studies find either small or insignificant income elasticities, other studies find a positive and statistically significant relationship between nutrient intake and income. In addition, some studies find that the income-calorie relationship is nonlinear, which implies that the impact of income on calorie intake is affected by the actual level of calorie intake (Gibson and Rozelle 2002; Skoufias 2003). For example, individuals with low calorie intakes may be more affected by a change in income than individuals with high calorie intakes. In other words, individuals with low calorie intakes will have a greater income elasticity than individuals with high calorie intakes.

Bouis and Haddad (1992) provide a review of previous studies and find elasticity estimates in the range of 0.01 to 1.18, though not all estimates are statistically significant. Reutlinger and Selowsky (1976), in one of the earliest studies, found a statistically significant but small income elasticity of around 0.17. The relatively small magnitude

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TABLE 8.7 Recent calorie-income elasticity estimates

Author	Year	Data Level	Data Type	Calorie Variable	Income Variable	Sample time	Sample country	Elasticity estimate
Bhargava	1991	Individual	Panel	Twenty-five-hour recall food diary	Household income	1976–1977	India	0.13
Grimard	1996	Household	Cross-sectional	Food expenditure	Total expenditure	1984–1985	Pakistan	0.40–0.50
Subramanian and Deaton	1996	Household	Cross-sectional	Food expenditure	Total expenditure	1983	India	0.40–0.55
Dawson	1997	Aggregate	Cross-sectional	Food balance sheets	Per capita GNP	1992	Forty-one-country sample	0.07
Dawson and Tiffin	1998	Aggregate	Time series	Food balance sheets	Real per capita GDP	1961–1992	India	0.34
Roy	2001	Individual	Panel	Food diary	Household income	1976–1978	India	0.08–0.15
Dawson	2002	Aggregate	Time series	Food balance sheets	Real per capita GDP	1961–1998	Pakistan	0.19
Gibson and Rozelle	2002	Household	Cross-sectional	Food expenditure	Household income	1985–1987	Papua New Guinea	0.18–0.59
Tiffin and Dawson	2002	Aggregate	Time series	Food balance sheets	Real per capita GDP	1961–1992	Zimbabwe	0.31
Skoufias	2003	Household	Cross-sectional	Seven-day recall food diary	Per capita expenditure	1996, 1999	Indonesia	0.01–0.45
Abdulai and Aubert	2004	Household	Panel	Food expenditure	Total expenditure	1998–1999	Tanzania	0.49
Aromolaran	2004	Household	Cross-sectional	Forty-eight-hour recall food diary	Per capita expenditure	1999–2000	Nigeria	0.19
Skoufias et al.	2009	Household	Cross-sectional	Food expenditure	Per capita expenditure	2003–2004	Mexico	<0.00–0.07
Babatunde et al.	2010	Household	Cross-sectional	Seven-day recall food diary	Household income	2006	Nigeria	0.18

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suggests that undernourishment cannot be alleviated by focusing only on policies aimed at economic growth and income enhancement. This finding is asserted in a number of other studies including Sahn (1988), Ravallion (1990), Bouis and Haddad (1992), and Bouis (1994). More recent studies, however, find large and statistically significant elasticity estimates (Abdulai and Aubert 2004; Dawson and Tiffin 1998; Subramanian and Deaton 1996; Tiffin and Dawson 2002). Table 8.7 provides a summary of the more recent studies that estimate the income-calorie elasticity since the review in Bouis and Haddad (1992).

A review of the elasticity estimates show that while they are of moderate magnitude, between 0.2 and 0.6, they are also statistically significant, with most authors concluding that improving income levels is crucial to alleviating undernourishment. Different approaches partly explain the variation in elasticity estimates and the discrepancy in statistical significance between studies. Some of the key differences outlined in Bouis and Haddad (1992) include choice of country, use of cross-section versus time-series data, model specification, estimation method, variable definitions, level of food aggregation, and diverse population sampling.

One of the key differences among studies involves the type of data used in the empirical analysis. Generally, two types of data are used in the literature. The first approach uses micro-level data obtained from household surveys. Some micro-level studies follow an indirect approach and use food expenditure survey data to estimate a model of food demand and then convert food demand elasticities into nutrient demand elasticities. Other micro-level studies opt for a direct approach and use food diaries based on dietary intake recall data to estimate the calorie-income relationship directly. The second approach uses aggregate data on average per capita dietary energy supply for entire countries. This data are commonly derived from national food balance sheets. Aggregate studies employ either time-series data for a specific country or cross-sectional data on a number of countries in a specific year. Additionally, some studies combine the two types of data to create a panel or longitudinal data set.

tgh 'This data' should read 'These data'

Data based on food balance sheets are made available by the Food and Agriculture Organization of the United Nations (FAO). Food balance sheets define dietary energy consumption per person as the amount of food, in kilocalories per day, for each individual in the total population. The measure is based on food available for human consumption computed as the residual from the total food supply less waste and other uses, such as from industry or agriculture. Limitations with the FAO data have also received attention in the literature (Gabbert and Weikard 2001; Nube 2001; Smith 1998; Svedberg 1999, 2003). Measurement error may be present, specifically in regards to the margin of errors present in agricultural production statistics from developing countries. Obtaining reliable and consistent data on food production can be problematic, especially from countries in sub-Saharan Africa and south Asia. Not only are food production systems complex in these countries, but there is also a heavy reliance on subsistence agriculture, the output of which is often undermeasured (if measured at all). In these cases, the per capita availability of nutrients in the FAO data

may be underestimated (which can potentially result in overestimated parameters and income elasticities).

An important consideration in the estimation of the calorie-income relationship is the potential that exists for nonlinearities. For example, a higher income elasticity of calorie intake might be expected for poor households because their current income levels are insufficient to pay for adequate nutrition and a large response to increased income would be expected. Higher-income households, where achieving adequate nutrition is less of an imperative would be expected to have lower elasticities. Nonparametric regression procedures allow for this and mitigate problems of statistical bias resulting from a mis-specified parametric form. Some studies investigate the potential for nonlinearities and find they are not present (Abdulai and Aubert 2004; Subramanian and Deaton 1996). Other studies using nonparametric methods, however, support the existence of a nonlinear relationship between calorie intake and income (Gibson and Rozelle 2002; Meng, Gong, and Wang 2009; Roy 2001; Skoufias 2003).

Since the effect of income may differ across the distribution of calorie intake, particular segments of the intake distribution are of great interest, especially from a public health and nutrition policy perspective. Concerns regarding obesity and hunger generally focus attention on the tails of the intake distribution, where dietary excess and deficiency occurs, rather than at the means. Studies that do not adequately allow for a nonlinear relationship between income and calorie intake restrict the structure of the relationship at these extremes and may therefore lead to misleading recommendations in the areas of greatest concern. One approach that offers a potential solution to this problem is quantile regression. In this approach, a fully nonlinear relationship is not estimated. Instead, the response of calories to changes in income is allowed to differ across different calorie intake quantiles. Despite the strong appeal of quantile regressions, very few studies employ them. In fact, the few that do use a quantile approach focus on food intake rather than calorie or nutrient intake (Boukouvalas, Shankar, and Traill 2009; Gustavsen and Rickertsen 2006; Variyam, Blaylock, and Smallwood 2002) or focus on the nutrient intake for one country only (Fousekis and Lazaridis 2005; Shankar 2010; Skoufias et al. 2009).

The role of income in nutritional status is still unclear, however, even if the relationship between incomes and calories is (arguably) well understood (Behrman and Deolalikar 1989). Although total calorie or energy intake is a major factor in malnutrition, focusing on calorie intake alone may mask other nutrients that also contribute to malnutrition. Households tend to increase the variety of their diet based on features other than nutrient content, such as taste and quality, as they substitute away from cheaper sources of calories toward more expensive ones. Conversely, studies that uncover a small or zero elasticity do not necessarily imply that a change in income does not affect nutrition: a drop in income may result in unchanged calorie intake, but the consumption of vital nutrients may fall as households substitute cheaper and less nutritious foods. Evidence suggests that as incomes rise household expenditure on food increases because more expensive food is purchased, but the nutrient content of these foods does not increase proportionately (Behrman, Deolalikar, and Wolfe 1988; Pitt 1983). Thus, improvements in

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income may result in increases in food expenditures or total calorie intake, but this may not coincide with a diet more rich in nutrients (Behrman and Deolalikar 1987; Brinkman et al. 2010). Regardless of the size of the estimated income elasticity for calories, there is little room for conclusions regarding the consumption of important nutrients, such as proteins, fats, and carbohydrates (Skoufias et al. 2009).

Evidence from the growing literature on income elasticities for nutrient intake from single-country studies reveals considerable differences (Behrman and Deolalikar 1989; Pitt and Rosenzweig 1985). While most studies tend to focus on a particular country in a single year using household data, Salois, Tiffin, and Balcombe (2012) assess the relationship between income and nutrient intake in an international sample of developing and developed countries and utilize a cross-national sample of 171 developing and developed countries across two different time periods (1990–1992 and 2003–2005). In addition, the analysis in Salois, Tiffin, and Balcombe (2012) disaggregates the relationship between income and average calorie intake into key nutrient components: carbohydrates, proteins, and fats, and the authors employ three different estimators (nonparametric, parametric, and quantile) for a robust interpretation of the income-nutrient relationship.

The results in Salois, Tiffin, and Balcombe (2012) based on the nonparametric regressions suggest that the income-nutrient relationship is consistent with being linear in logs. More simply put, the fitted curves using the logged data for each of the income-nutrient pairs appear to be linear. That is, once the data are transformed by taking the natural logarithm, a linear relationship is uncovered, implying that the elasticity estimates are constant with respect to the level of nutrient intake. The linear relationship between income and nutrient consumption is apparent in the nonparametric regression results presented in Figure 8.1. There is some evidence of a slightly lower slope at very low levels of per capital income for total calories, fats, and proteins.

That is, in the more leftward sections of the horizontal axis, which indicate the level of income, the slopes of the curves relating income to the different nutrient intakes (panel (A) for calories, panel (B) for carbohydrates, panel (C) for fats, and panel (D) for proteins) are much flatter or have a lower slope compared to the more rightward sections. Surprising, however, the increase in consumption of these quantities toward the upper end of the income range does not appear to level off. This implies that as per capita incomes rise, a percentage increase in per capita incomes continues to give the same percentage increase in calories, along with increases in fats, proteins, and carbohydrates. That is, as incomes go up, calorie intakes (and intakes of fats, proteins, and carbohydrates) go up in proportion. The fact that there is no leveling off indicates that calorie and nutrient intakes are on an increasing trajectory with income increases. This has repercussions related to issues surrounding obesity discussed in more detail later.

Elasticity estimates from the parametric panel model in Salois, Tiffin, and Balcombe (2012) are presented in Table 8.8 using a linear in logs approach. The model is estimated for two different time periods, one running from 1990–1992 and the other from 2003–2005. The results show that the differences between elasticity estimates in the

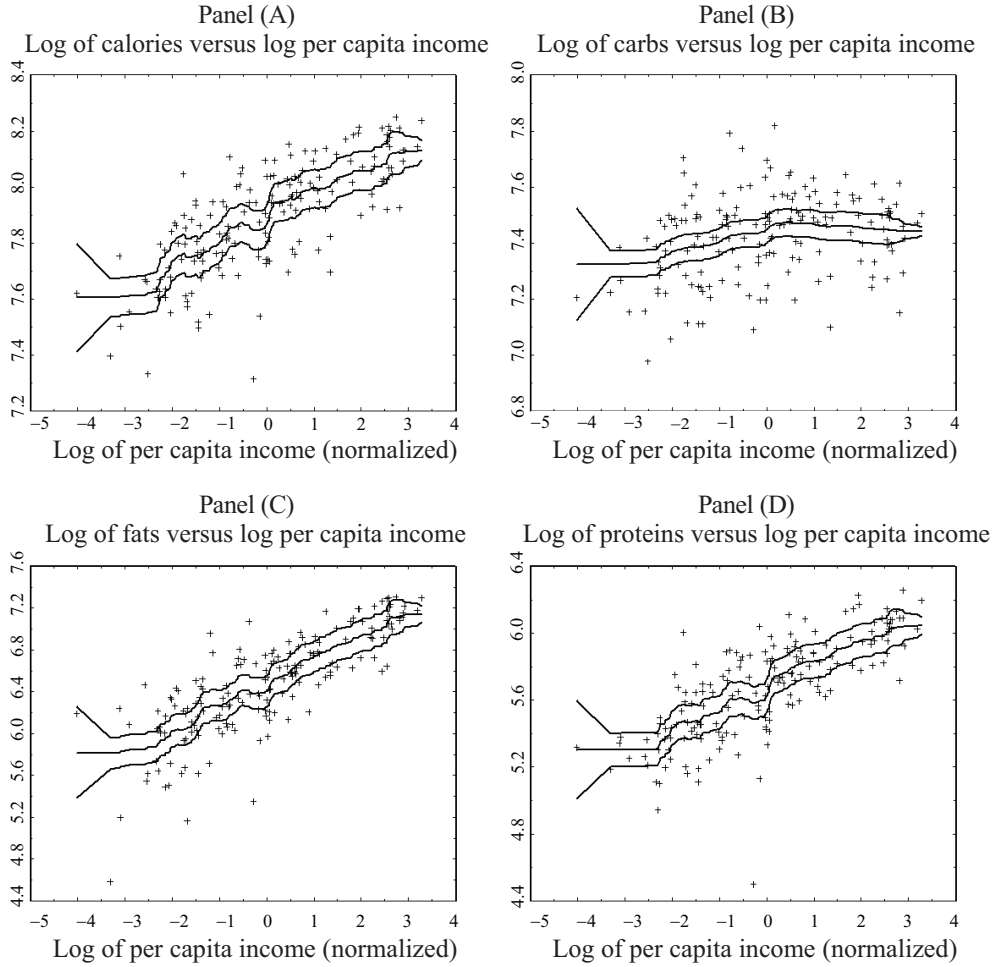


FIGURE 8.1 Log nutrient consumption versus per capita income (Source: Salois, Tiffin, and Balcombe 2012)

TABLE 8.8 Elasticity estimates from linear panel regression

	Calories		Carbohydrates		Proteins		Fats	
	Mean	**Stdv**	**Mean**	**Stdv**	**Mean**	**Stdv**	**Mean**	**Stdv**
2003–2005	0.086	0.006	0.020	0.007	0.140	0.009	0.230	0.014
1990–1992	0.092	0.006	0.025	0.007	0.148	0.009	0.241	0.014

Source: Salois, Tiffin, and Balcombe (2012).

two different time periods are very small. The income elasticities for both protein and fat intake, at about 0.14–0.15 and 0.23–0.24, respectively, are substantially larger than the income elasticity for calorie intake, which is only around 0.09. The income elasticity for carbohydrate intake, however, is also much smaller at around 0.02–0.025. Overall, results suggest that a 10 percent increase in per capita incomes will lead to around a 1 percent rise in calorie and a negligible increase in carbohydrate consumption, but with

TABLE 8.9 Quantile elasticity estimates

2003–2005	Calories	Carbohydrates	Proteins	Fats
Calorie Consumption	Income Elasticity	Income Elasticity	Income Elasticity	Income Elasticity
Relatively High	0.083	0.016	0.130	0.197
Relatively Low	0.089	0.026	0.152	0.257
1990–1992				
Relatively High	0.093	0.019	0.137	0.217
Relatively Low	0.094	0.028	0.156	0.274

Source: Salois, Tiffin, and Balcombe (2012).

larger increases in protein and fat of 1.5 percent and 2.3 percent, respectively. These results suggest that an important component of the nutrition transition that accompanies increases in income is the increased proportion of energy in the diet that comes from fats, referred to earlier.

Table 8.9 reports the results of a quantile regression to show how high- and low-calorie-intake consumers of the four nutrients in question relative to other consumers of comparable income respond to changes in income. Like the panel regressions discussed previously, quantile regressions are run separately for each time period using the entire sample of 171 countries. The results show that in all cases the responsiveness of relatively low consumers is higher than that of the relatively high consumers. The implication of this for development policy is clearly positive: consumers who are nutrient challenged can be expected to increase their consumption more quickly than those whose intakes are more adequate.

The results in Salois, Tiffin, and Balcombe (2012) have two important implications. First, results suggest that in terms of calorie consumption, a ten percent rise in national income is required for a one percent rise in calorie consumption. Therefore, to improve the nutrition status of poorer countries, rather large increases in income are needed. In other words, while economic growth does have the potential to assuage hunger and malnutrition in the developing world, the impacts are likely to be small and not as substantial as some studies have concluded (Meng, Gong, and Wang 2009; Subramanian and Deaton 1996). Second, as incomes increase, not only are calorie intakes on an increasing trajectory, but diets become increasingly composed of fats rather than proteins or carbohydrates. Therefore, the structure of diets and the composition of nutrient intakes is affected by economic growth. These results echo the nutrition transition hypothesis of Popkin (2004), in that while economic growth contributes to the alleviation of malnutrition, it also contributes to worsening rates of obesity and obesity-related diseases as diets become composed more of fats. Indeed, such has been the case in parts of Asia, like China, in which substantial economic growth has been met with decreases in hunger and malnutrition coupled with marked increases in rates of obesity (Guo et al. 2000).

CONCLUSIONS

Understanding the relationship between calorie intake and income is crucial to designing economic strategies toward combating chronic diseases associated with nutrient deficiency and nutrient excess. Given the nature of the dual burden of hunger and obesity, analysis must pay special attention to the tails of the nutrient intake distribution. Given the historical difficulty in coordinating effective international action against hunger and undernutrition, in addition to the escalating global obesity epidemic, there is a continued need for research on effective policy instruments to combat these dual burdens (Morris, Cogill, and Uauy 2008).

Hunger and undernutrition are primarily responsible for millions of deaths in children every year and prevent millions more from living a healthy life (Victoria et al. 2008). Around 178 million children suffer from chronic undernutrition, which causes both physical and mental growth stunting, and over two million children die each year as a result of insufficient dietary intake (Black et al. 2010; de Pee et al. 2010). At the other end of the spectrum, developed and developing countries alike face problems with obesity and high levels of consumption of nutrients such as saturated fat, which have been shown to lead to a higher incidence of problems such as hypertension, heart disease, strokes, diabetes, cancer, and obesity. For example, the UK National Audit Office statistics suggest that most adults in England are overweight, and one in five is obese. Obesity is estimated to have caused thirty thousand premature deaths in 1998 and the NHS spends at least five hundred million pounds a year on treating obesity, and more generally obesity is estimated to cost two billion pounds a year.

Development strategies aimed at improving economic growth may prove insufficient at alleviating hunger and may at worst exacerbate problems of poor diet and obesity in both developing and developed countries. Even in the absence of targeted food policies, the global economic crisis will likely worsen the quality of diets internationally. In response to falling incomes, households are likely to turn to fatty and calorie-dense, but nutrient-poor, inexpensive processed foods. As the composition of diets changes toward more fatty foods, countries across the globe will experience deteriorating nutrient status and health (Brinkman et al. 2010; Ruel et al. 2010). Global efforts to improve diets require the coordinated design and implementation of policies that can address the dual public health problems of nutrient excess and deficiency.

NOTES

1. Malthus argued biology implies that population grows geometrically and, with less foundation, food production grows arithmetically.
2. Malthus argued that reduced reproduction rates would result from delayed marriage; he refused to countenance the idea of birth control.

9

Food Chains

BILL PRITCHARD

INTRODUCTION

All food undergoes some kind of transformation before reaching the mouths of consumers. Sometimes this is minimal, such as a raw carrot harvested and scrubbed prior to eating. Sometimes it is complex; a tiramisu, for example, is composed of a multitude of ingredients that themselves have undergone various processes of transformation. The field of food chains research uses the transformations of food—"from field to fork, and thence to body"—as a framework to understand the social, economic, and political relations of food production and consumption. Because of the wide empirical contexts attached to doing food chain studies (which often involve multisite research strategies straddling farm, processing, retailing, and consumption sectors), it is frequently the case that food chain research lends itself to book-length expositions of commodity systems. The research literature in this field is replete with extended studies of a wide variety of food chains.

Moreover, food chain research is a sprawling area of social science originating from a range of different perspectives. Key subfields include the analysis of these issues within business studies and agricultural economics, the value chains tradition inspired by political economy research, and poststructuralist traditions that focus on food networks and circuits. However, it needs to be said that these approaches are sometimes overlapping. As Jackson, Ward, and Russell suggested several years ago, in a quotation that still rings true today: "The recent rate of scholarly output [in this field] can make it difficult to give shape to the emerging debates and conceptual fault-lines" (2006: 130). This chapter first assesses these three traditions of food chain research (to lay out conceptual frameworks) and then reviews a core concern in recent food chain evolution: the harmonization of global food standards and the linked rise of supermarkets. The chapter concludes with an overview of future directions for food chain research.

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FOOD CHAINS RESEARCH IN AGRICULTURAL ECONOMICS AND AGRIBUSINESS

The simplest, and perhaps most pervasive, use of the food chains concept exists in the applied research worlds associated with business studies, agribusiness, and agricultural economics. These fields of inquiry use the notion of food chains in its most elemental dimension—the technical questions of how a set of agri-food objects is transformed from one stage to another to create a finished (consumable) product. Reflective of the frame of reference generally attached to these fields, the interest in food chains tends to be restricted to a set of issues linked to problems attached to efficiency and profitability (Jackson, Ward, and Russell 2006: 131–132).

In broad terms, this field exists in parallel strands to the social science traditions of food chains research with which this *Handbook* chapter mainly concerns itself. Illustrative of the area, there are strong connections between professional associations and academia. The field is also replete with numerous business-style conferences in which keynote speakers are characteristically promoted as having the answers to how chains are being restructured. The field is also evidenced in a large number of online forums in which corporate professionals and consultants exchange views.

The evolution of food chain thinking in these fields marks an interesting path. The discipline of agricultural economics historically has been guided by a particular set of assumptions about the ways markets operate. Dominant models used in much of the agricultural economics literature have tended to assume open competition (many buyers and sellers), homogeneous characteristics (wheat, say, from one farmer is assumed to be the same as wheat from another), and information transparency (prices and market trends are known and accessible to all). These assumptions offered a reasonable description of reality in developed countries through the early and middle decades of the twentieth century, but became increasingly problematic over time. In their entry to the *Handbook of Agricultural Economics,* Reardon and Timmer (2007) argue that a shift from homogenous commodities (for example, standard coffee) to more specialized products (such as organic, shade-grown coffee) has been the defining characteristic of agricultural market change within developed countries during the past fifty years. In accordance with these transformations, the conceptual tools and models employed by agricultural economists needed to be updated and amended.

Reardon and Timmer trace the pioneering efforts in these fields to a series of studies by agricultural economists in the developing world, including Cummings (1967) and Lele (1971) (India), Geoffrey Shepherd (1967) and Gregory Scott (1985) (Peru), William Jones (1968) (Nigeria), and Timmer (1974) (Indonesia). The common characteristic of these studies was to assess markets in terms of vertical networks involving power and information asymmetry. These (and other) empirical studies were then complemented by high-profile theoretical contributions that emphasized market failure and imperfect competition (Stiglitz 1989), industrial organization (Farina 2002), and trust and social capital. Looking forward, these shifts are summarized by Reardon and Timmer thus:

> Techniques (such as the work on the relative power of price formation between supermarkets and processors) that explore price formation in an oligopsonistic/political context will rise in importance at the expense of work on price formation/market integration in atomistic competition settings. (2007: 2848)

The strongly real-world character of these investigations dovetailed with training and research agendas emanating from the fields of business/agribusiness studies. However, these latter contributions were motivated less by academic aspirations to understand market processes, and more by the training and informational requirements of private actors (i.e., corporations). The 1990s and 2000s witnessed a flourishing of MBA-type training programs, conferences, and research programs that made heavy use of the concepts of vertical networks, imperfect competition, and market failure propounded by agricultural economists. Disciplinary lines were blurred increasingly between these fields.

Hence, to summarize, food chains research from the disciplinary origins of agricultural economics and agribusiness/business studies speaks to a broad collection of professional research communities but with an abiding interest in questions of efficiency, production, and profit. In the main, these research traditions focus on a relatively narrow range of problem-solving metrics. More expansive consideration of food chains and society tends to exist outside their range. To these broader issues, we now turn.

UNDERSTANDING SOCIETY THROUGH FOOD CHAINS: GLOBAL POLITICAL ECONOMY TRADITIONS

The notion that insights into a particular commodity system could shed light of a more general kind into global political economy took carriage in the 1980s. This occurred through two distinct intellectual movements that developed quite independently from one another.

The first of these was commodity systems analysis (CSA), a framework originating in California attached to the research of Bill Friedland at the University of California Santa Cruz (Friedland, Barton, and Thomas 1981). At its core, Friedland's work had an objective to radicalize rural sociology by emphasizing the class-based and industrial nature of the agricultural sector. It is not surprising that this tradition originated in California—where agriculture is at its most globally industrialized and that has a long tradition of leftist political complaint about working conditions in agriculture, notably including the United Farm Workers' movement founded by Cesar Chavez and Dolores Huerta. Friedland's work on Californian lettuce and tomato industries exposed the regimented and hierarchical regimes that connected growers with downstream shippers and retailers. For Friedland, agricultural production could not be examined outside of the chains in which it was embedded.

Friedland's work shaped rural sociological research through the 1980s and into the 1990s, however its significance did not substantially reach beyond that field. Viewed with the benefit of hindsight, the more significant genesis for food chains perspectives

came from the seminal work of Hopkins and Wallerstein (1986). These authors argued that commodity chains provided a basis for describing the exchange structures that underpinned product trade for key global commodities such as wheat, sugar, cotton, and so forth (Bair 2005; Gibbon and Ponte 2005). Hopkins and Wallerstein famously described commodity chains as the "warp and woof of the commodity system" (1994: 17). By this, they meant that in expansionary phases "chains are expanded and become more vertically integrated . . . in phases of contraction the reverse is the case" (Raikes, Jensen, and Ponte 2000: 392).

Gary Gereffi and colleagues then took up these concepts in a highly influential 1992 workshop held under the auspices of the Political Economy of the World System (PEWS) section of the American Sociological Association. A selection of papers from that workshop was published in the edited book *Commodity Chains and Global Capitalism* (Gereffi and Korzeniewicz 1994). Gereffi was highly influenced by Hopkins and Wallerstein's insights; however, he argued that whereas these earlier authors used the commodity systems approach to examine historical phases of capitalism, this approach could equally be used to examine contemporary patterns of change (Gereffi, personal communication).

The essential insight of this approach was how it was able to transcend the nation-state as the basic unit for economic analysis. Characteristically, international political economy before this time examined industry and trade categories *within* national units. Gereffi and his colleagues' approach implied that it was possible to probe "above and below the level of the nation-state to better analyse structure and change in the world-economy" (1994: 2). This innovation shed new light on the possibility for frames of reference in food chain analysis.

The conceptual contributions of Gereffi and colleagues were complemented by a clear methodological guide. This latter contribution was pivotal to the relatively quick uptake of the approach. Gereffi specified a clear framework that asserted that chains have three analytical dimensions: 1) an input-output structure; 2) territoriality; and 3) a governance structure. Then, the following year, he added the category of "institutional framework"—"how local, national, and international conditions and policies shape the globalization process at each stage of the chain" (1995: 113). Within this four-fold analytical framework, "input-output structure" and "territoriality" reflect relatively straightforward, descriptive categories. Inclusion of the governance and institutional dimensions, however, provided critical new insights to animate the broad approach. They were the mechanisms allowing product systems to be assessed in terms of the processes of global coordination that mark the modern world economy.

The governance concept is the fulcrum for political economy-informed approaches to chains. *Governance* can be defined as the parameters that precondition the terms under which actors elsewhere in the chain must operate. It is the way power is specified and expressed in the production of a good or service. In Gereffi's original formulations of global commodity chains (GCCs), he made a crucial distinction between chains governed by downstream actors (buyer-driven chains) and those governed by upstream

actors (producer-driven chains). This dichotomy proved greatly attractive as an organizing concept for research through the 1990s, because it captured a powerful idea about globalization. Globalizing industries, Gereffi observed, tended to be associated with shifts from producer-driven to buyer-driven forms of governance.

Gereffi's dichotomous framework was applied to great effect in the textiles, clothing, and footwear sectors, where it appeared to speak relevantly to the rise of branded retailers such as The Gap, Nike, Tommy Hilfiger, and others (Bair and Gereffi 2001, 2002, 2003). In these cases, firms developed competitive advantage through outsourcing upstream production to low-wage environments while focusing investment on more profitable, downstream (near-consumer) segments. It was not long before these same logics were applied to agri-food industries. A key impetus for this came with a series of studies by researchers attached to the Institute of Development Studies (IDS) at the University of Sussex (for illustrative examples of this work, see Dolan and Humphrey 2000, 2004). The basic objective from these studies was to examine the ways commercial agricultural in developing countries was being reconstituted by nascent scope and demands from downstream buyers, notably supermarkets. Consolidation and international expansion in the supermarket sectors of developed countries during the 1990s and 2000s produced supermarket companies (such as Wal-Mart, Tesco, and Carrefour) with unprecedented global buying power.

As the empirical record of these issues grew, so the conceptual frameworks used by researchers became more sophisticated. First, there was a change in nomenclature leading to the replacement of the term *global commodity chains* with *global value chains* (GVCs). Then, Gereffi's seminal dichotomy of buyer-driven and producer-driven chains was augmented by the identification of an intermediate category of modular governance (Sturgeon 2002) and the elaboration of this notion into a fivefold categorization of governance: markets, modular systems, relational governance, captive value chains, and hierarchies (Gereffi, Humphrey, and Sturgeon 2005). Third, attention focused also on the means by which value chain participants could improve their positions, leading to research on upgrading. Gereffi originally articulated this concept as early as 1999, in the context of research in East Asian industrialization (Gereffi 1999), however, contributions from John Humphrey and Hubert Schmitz (Humphrey and Schmitz 2002; Schmitz 2004) specified this notion most clearly. The Humphrey and Schmitz framework identified four forms of upgrading: *process upgrading* (transforming inputs into outputs more efficiently by reorganizing the production system or introducing superior technology); *product upgrading* (moving into more sophisticated product lines); *functional upgrading* (acquiring new functions in the chain [or abandoning existing functions] to increase the overall skill content of activities); and *intersectoral upgrading* (using the knowledge acquired in particular chain functions to move into different sectors). Finally, attention to the two concepts of governance and upgrading led to theorization of how and why they intersect in particular ways, which brought the question of geography and place into heightened perspective. Evidently, the question of why some value chain participants were able to improve their position in chains (while some remained

constrained) engendered an imperative to better understand the reasons value actors were embedded in territorial, sociocultural, and networked relations (Hess 2004).

These threads led to the so-called Manchester school of studies, which proposed the more geographically oriented global production networks (GPN) framework as an alternative (indeed, successor) to GVC analysis (Henderson et al. 2002). The key difference between the GPN and GVC modes of analysis lay in the former's conceptualization of space. In the Gereffi tradition of GVC studies, the main focus was on the ways new governance arrangements, as an independent variable, affect social actors (as a dependent variable). Thus, attention was focused squarely on governance as the pivotal analytical category. In the GPN tradition, by contrast, governance is understood as deriving *from* social actors.

The distinctions between GVC and GPN perspectives have been debated extensively (see Neilson and Pritchard 2009 for a summary), and it is not the function of this chapter to pick over the fine details. In overview, however, the key message is that over a period of two decades since the GCC concept was seminally floated, it has developed in complexity and nuance. Researchers engaging with these issues from this broad perspective are now obliged to consider a wider range of theoretical concerns when structuring their analyses. Yet, notwithstanding this dense conceptual terrain, the core premises of the approach remain. That is, the basic purpose of examining chains is to establish a lens on broader politico-economic arrangements in society.

FROM CHAINS TO NETWORKS AND CIRCUITS: POSTSTRUCTURAL APPROACHES

The third approach to the study of food chains derives from the field of cultural studies, under the broad influence of poststructural theories. These approaches emanate from the notion of exploring the cultural basis of "the traffic in things," echoing Peter Jackson (1999) and earlier work by Apparadurai (1986). A crucial element of these frameworks has been to reframe the terms of analysis from the linear notion of a chain to that of a circuit or network—in brief, a process that is multidirectional and involves numerous feedback loops.

These applications of commodity networks flowed from the poststructural turn of the 1980s. As applied in actor-network theory (ANT), activities are understood as operating always in and through real places at specific times. The approach focuses on the contingent circumstances that bring things together at particular moments and thus forge an extension of actor networks across space (Arce and Marsden 1993; Busch and Juska 1997; Latour 1987; Law 1987).

This way of examining food elevated cultural spaces as a thematic touchstone (Cook and Crang 1996; Cook, Crang, and Thorpe 2004; Crang 1996). It is premised on an ontological framework in which events and processes are mutually constituted—things do not begin by being produced and end when they are consumed, but operate through recursive circuits in which the dynamics of consumption stand equal to the dynamics of

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production in determining the shape of product/commodity systems. The approach sees things as having lived worlds that traverse (and construct) space. This gives meaning to the local contexts and *dis*connections that enable/disenable global exchange. Such focus provides detailed consideration of specificity and nuance. Cloke and colleagues argue that the approach has a rather vague fixation to:

> latch on to specific people, things, metaphors, plots/stories/allegories, lives/biographies, and/or conflicts; and follow them, see what "sticks" to them, gets wrapped up in them, unravels them and [to see] where that takes a researcher who is (un)able to follow myriad possible leads and to make myriad possible connections (2004: 190).

Several points need to be made about these approaches. First, poststructural ontology lends itself to indeterminacy when it comes to attributing cause and effect, and indeed, when it comes to according analytical priorities. Thus, these approaches represent a way of seeing more than a template for research that provides answers. Second, and related to the point just raised, these approaches are inconsistent with a politically framed problematic. This is unlike the agricultural economics/agribusiness approach (which searches for answers to political questions about efficiency and profits) or the GVC/GPN approach (which seeks to understand the holding and deployment of power). Third, this is a distinct approach from the earlier two discussed in this chapter, but nevertheless, there exist crossovers (of people and ideas) with the political economy (GVC/GPN) approach. Later applications of these approaches (especially associated with the Manchester school) contain elements of poststructural theory. This observation reiterates the point, made at the outset of this chapter, that these three approaches occasionally overlap. Now, with these three approaches sketched out, attention turns to a core thematic concern in recent scholarship regarding food chains; the changing institutional arrangements in which chains are constructed, and the interlinked issue of changing governance systems within chains, with particular reference to the rise of supermarkets.

HARMONIZATION OF STANDARDS, PRIVATE REGULATION, AND POWER IN THE GLOBAL FOOD SYSTEM

A defining characteristic of the global food system is the thorough and complex disembedding and reembedding of foods across space. Food chains represent the exchange of food across geographical and national sovereign spaces to satisfy the increasingly hybridized food norms, cultures, and dietary practices associated with the modern world. Yet this exchange is predicated on institutional arrangements that allow for the export and import of food. Over the past two decades, these institutional arrangements have been in flux in the context of globalization.

The context for these changes has been the breaking down and recomposing of food production systems. The global food trade today is not only larger in volumetric terms

than ever before, it involves a much broader diversity of products. And this latter issue relates not only to the diversity of final products (everything from anchovies to zucchinis) but an increasing array of intermediate products. This intraindustry trade is an issue of great significance in the global food economy. It involves products, for instance, such as high fructose corn syrup, dairy powder, semiprocessed grains, starches, and so forth. Even a product apparently as simple as a tea bag is shaped by the prevalence of intraindustry trade. It is not uncommon for branded tea companies to manufacture their tea bags using a geographically diverse blend of teas to attain a specific flavor. Thus, one large branded tea company imports tea from Vietnam, Sri Lanka, and Kenya to blend with Indian tea at a factory in the southern Indian city of Cochin, for ultimate reexport to major markets in Western Europe.

This growing size, diversity, and complexity has inspired changes to the institutional arrangements of global food trade. Transnational food companies and retailers have sought to expedite this complexity (and thus take advantage of global sourcing potentials) by harmonizing and privatizing large components of the institutional platforms for trade. Harmonization of food trade rules has occurred through the aegis of relevant international bodies. This is a complex process rooted in international trade and consumer law (Barling and Lang 2005). Since the mid-1990s, entwined within the rise of the WTO and the privileging of trade within international agreement setting, there has been an overall tendency toward international food standard harmonization as a means to reduce what (in WTO parlance) is referred to as "Technical Barriers to Trade". This overall process has been handled under the wings of Codex Alimentarius, a committee constituted jointly through the World Health Organization and the Food and Agriculture Organization of the United Nations. In a nutshell, these agendas have sought to ensure that countries of the world set their food import regulations (as far as possible) in accordance with consistent and mutually adopted standards.

The harmonization of public food standards, however, is just one aspect of this emergent institutional architecture. Perhaps of greater significance is the shift to nonstate forms of regulation (Neilson et al. 2009). The area of nonstate trade entertains a diverse range of agents and protocols. It feeds from common industry benchmarks, codification systems, and standards that suppliers are required to meet/participate in if they are to engage in trade. A good example is the International Standards Organization (ISO). Of crucial note, in this regard, is ISO 9001, a family of systems associated with quality management. Intrafactory trade of intermediate food items within chains is often predicated on ISO 9001 accreditation. Likewise, systems such as Global G.A.P. (see Campbell, Chapter 10, this volume), a certification and standards regime promulgated by a consortium of EU supermarkets, now plays a leading role in shaping global food trade. The incursion of these private standards in the international food trade is now such that some national governments (Thailand is an example) reference Global G.A.P. within official regulations. This "audit culture" (Campbell and Le Heron 2007) circumscribes new power relations between lead firms, auditors, and the recipients of audits.

Yet above and beyond the technicalities of food product harmonization and non-state (or private) regulation is a global process of consumptive standardization. One of the most compelling signifiers of a globalizing world is the premise that food increasingly should be expected to taste the same across geographies. This logic has been taken to its greatest extreme by McDonald's, with the term *McDonaldization* (Ritzer 1993) entering the lexicon as a reference to sameness in product and process, notwithstanding differences in the ways the McDonald's complex is culturally embedded in different national arenas (Watson 1997). For the purposes of this discussion, what seems important about McDonaldization is not only that it emphasizes technical uniformity in food ingredients and preparation, but that this sameness is rewarded in the form of a global brand.

These issues cannot be divorced (either conceptually or empirically) from the linked process of governance shifts within food chains. Growth in size and market power of supermarkets has been discussed already in this chapter. A key factor in the rise of supermarkets has been the shifting nature of global procurement systems that have evolved in tandem with their growth. Supermarkets not only have become larger and more important buyers of food produce, but the way they have gone about these purchasing practices has fundamentally altered key aspects of the global food system. These processes have been documented to best effect by Vorley, Fearne, and Ray (2007), who identify a series of transitional stages associated with supermarket entry. This includes the creation of new intermediaries, a consolidation of suppliers, and the embedding of new (usually more sophisticated) regimes for measuring and authenticating product quality. Global G.A.P. and related certification regimes act to buttress these agendas.

The concept of traceability is a core factor shaping these relations. The incentives for traceability are many. They include legal obligations by downstream lead firms to ensure product safety standards; point-of-sale competitive marketing by individual supermarkets; and defensive brand management to ensure protection against claims by NGOs that particular products may be associated with environmental or human rights practices. Thus, institutions such as the United Kingdom's Ethical Tea Partnership use traceability to provide their members (leading branded tea manufacturers) with assurances that their teas were grown in ways consistent with specified labor and environmental standards.

At a conceptual level, the global expansion of supermarkets can be conceived as executing a new set of conventions within food chains. The concept of *conventions* was introduced into this research field by Danish-based development economists Stefano Ponte, Peter Gibbon, and their colleagues (Ponte and Gibbon 2005). The concept of a convention is equivalence, defined as "communal agreement on the quality or character" (Biggart and Beamish 2003: 456) of a product or activity. Institutions like Global G.A.P. established conventions to which suppliers needed to adhere. It explains the role of entry barriers that define participation in chains and the processes by which forms of codified knowledge come into being and arbitrate quality.

WHERE TO NOW FOR FOOD CHAINS RESEARCH?

The field of food chains research is fundamentally dynamic, on account of the fact that chains themselves are in continual processes of reorganization and restructuring. The past two decades have been dominated by the establishment of conceptual frameworks and their application to the real-world issues of institutional change and shifts to economic power associated with supermarkets and globalization. These processes will likely continue; however, they will be augmented by new sets of concerns. Possible future directions for research include:

1. The effects of global-scale shifts in economic power and their implications for food chains. The rise of Asia in conjunction with rolling economic crises in Western Europe and the United States suggest landmark shifts in the global distribution of wealth. Existing global patterns of food trade, ensconced within chain relationships, will need to be restructured as a result. This will result in new players, new geographies of trade, and new institutional contexts.
2. Technological change and food chain reorganization. Over the past two decades, the immersion of information technologies within food chains has had revolutionizing impacts on firm structure and behavior. Exchange of data within business-to-business portals has facilitated collaboration along a range of fronts. There is little doubt that these general processes will be further embedded within food chains. What impacts they have on the distribution of power between actors is an open question.
3. Climate change and resource frontiers. The past few years have witnessed global food price inflation. One of the starkest and direct ramifications from this has been to increase the strategic importance of arable land, leading to what has been labeled a land grab, particularly in Africa. These developments potentially usher in dramatic shifts to the structural character of food chains. The threat of climate change heightens these issues because of future uncertainty about agricultural production.
4. More with less. One of the most pressing practical issues relating to contemporary food chains pertains to waste and energy use. Whether through increased localism (reducing food miles) or smarter packaging (reducing waste), there seems little doubt that the world's future food chains need to be less ecologically profligate than current ones.

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10

Food and the Audit Society

HUGH CAMPBELL

INTRODUCTION

The study of new methods of food auditing provides an interesting avenue into a range of issues in food studies. While comprising a relatively new focus for food research, the study of what—in this chapter—will be collectively described as *food audit* is not only interesting at an empirical level: it also provides a useful lens to examine key theoretical and methodological issues in the study of food. While the term *audit* has a set of quite specific meanings in a U.S. context, international scholars have begun to use the term as a catch-all for collectively identifying technologies of risk mitigation, quality control, grades, standards, measures, certification systems, third-party inspection, traceability, and product differentiation. While most of these have individually been features of economic life for a considerable time, scholars claiming the arrival of a new audit culture argue that they have become an increasingly central, and mutually reinforcing, cluster at the heart of late twentieth- and early twenty-first-century economic life.

This chapter introduces the study of food audit by tracing its origins in the wider identification of audit culture and audit society in the late 1990s and early 2000s. Three specific pathways into the theoretical examination of the significance of audit for food studies are examined through:

1. the emerging interest in the study of food governance under neoliberalism in agri-food systems—through the lens of the agri-food approach that arose from the collapse of classical political economy approaches to agricultural change

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2. the deployment of actor-network theory through the poststructural political economy approach in which food audit becomes an interesting nonhuman actant in food networks
3. an examination of why food has been so important in the creation of the audit society.

Seen within the context of these multiple theoretical lineages, audit has become an important new focus of food and agriculture research that links together older theories of political economy, neoliberalism, power, and control in food systems with the parallel analysis of risk management, authenticity, and legitimacy.[1] It has also become a key concept for elaborating methodological tensions between ANT-inspired approaches and more orthodox studies of power within both mainstream and alternative food systems.

THE EMERGENCE OF THE AUDIT SOCIETY

The emergence of audit as a new topic worthy of social scientific research is most generally credited to the work of Power (1997) and the collection by Strathern (2000). In these two books, the claim is made that global economic activity has increasingly become characterized by new forms of audit. That is, the seemingly innocuous and even uninteresting technologies of risk mitigation, quality measures, grades, standards, and traceability, all of which have been a feature of economic life for a very long time, have now emerged in a collective and mutually reinforcing way that raises audit to something greater than the sum of its parts. They collectively comprise what Power (1997) terms the "audit society" and Strathern (2000) labels "audit culture." Both these authors argue that, while many of these technologies are not new in themselves, they have emerged with a combined energy and significance to the point where they now collectively characterize a new phase of economic life. They are not the phenomenal forms of some other transition, rather they have become central to the way late twentieth-century (and by implication, early twenty-first-century) economic life is being reorganized.

One central claim in much of the recent audit scholarship argues that a strong relationship exists between audit culture and what Shore and Wright (1999) describe as the broader transition toward new forms of governance/governmentality under neoliberalism. Two dynamics are embedded in this claim: the transition of public regulation to private sector accountability and the shifting of mechanisms of formal government from regulation to requirement for accountability via audit.[2] Peck and Tickell (2002) provided one oft-cited schema for the first of these two dynamics with their model of "roll back" and "roll out" neoliberalism. During the period of neoliberally inspired restructuring and reform of developed world economies, governments "rolled back" their power to regulate through formal policy and statute in favor of a newly liberalized private sector. Once this transition proved problematic, a period of "roll out" neoliberalism emerged

in which the private sector (and various hybrid governance formations) began to create substitutes for reduced mechanisms of formal state regulation. Within this model of neoliberal reform, audit culture becomes central to the regulation and governance of economic activity in the absence of formal state regulation. Shore and Wright (1999) describe the second dynamic as the process by which formal governmental regulation is increasingly replaced by new technologies of governance (by both government and private sector) designed to increase accountability and manage risk in the context of the shift toward neoliberal governance.[3]

There is some contention as to the exact degree to which the emergence of audit culture is associated with the purported neoliberal moment in government. *Neoliberalism* as an all-encompassing explanatory term is contested (Campbell 2011). In the case of audit, Campbell, Murcott, and Mackenzie (2010) argue that particular technologies of food auditing have been present for several centuries—particularly in religious commerce of goods labeled as kosher—and that particular styles of audit relationship have emerged (or, in the case of Halal, at least in certain circumstances, not emerged) through the dynamic interplay of local-scale economic institutions and actors. While in the light of these historical examples it is hard to argue that audit culture is solely the child of roll out neoliberalism or the broad transition to private sector governance, both Power (1997) and Strathern (2000) make compelling arguments that the size, scope, density, and reach of audit culture has increased dramatically in the last decade of the twentieth century.

THE AUDIT SOCIETY AND FOOD

Since the arrival of the wider study of audit culture or audit society, particular technologies of food governance and accountability—such as certification, traceability, food safety requirements, and quality claims—previously examined independently of each other are now being increasingly aligned with each other as potential components of a wider food audit culture. In retrospect, research into these technologies and dynamics forms an important starting point from which we can assemble something of a new agenda for the study of food and audit.

This work can be clustered around a series of previously disconnected insights and issues (see Campbell and Le Heron 2007):

> *Food audits have history:* Food audit systems, technologies, and processes are identifiable both in terms of recent history (Kindleberger 1983) and over a much deeper historical time frame in the context of religious audit (Campbell, Murcott, and Mackenzie 2010). Many of these technologies have been present in economic life—for example, third-party audit, certification seals, quality marks, and professionalized audit processes—without previously participating in the reordering of economic activity as now claimed by the broader theories of the audit society.

Auditing sustainable foods: New audit arrangements have become one of the defining characteristics of commercial trading in foods claiming sustainable qualities. This became readily apparent in the evolution of certification systems for organic agriculture (Campbell and Stuart 2005; Campbell et al. 2012; Guthman 1998, 2000, 2004a,b). Indeed, deploying technologies of audit has become the preferred solution to one of the key challenges in establishing authenticity and legitimacy for products claiming less tangible qualities like sustainability. At the same time, social movements such as those involved in the origins of organic agriculture have sought protection from commercial exploitation of labels and product claims by supporting the deployment of audit processes—processes they have then attempted to control (Campbell and Liepins 2001).

Who is developing food audits?: These arrangements around sustainable products demonstrate the influence of social movements and retailers. Organic agriculture demonstrates one kind of transition: from production within parameters defined loosely by a social movement-controlled process into audit-controlled commerce and discipline (similar transitions can be seen for other social movement-derived labels such as Fair Trade). Another powerful pathway has emerged from coordinated alliances of retailers, as demonstrated by the HACCP-based EurepGAP/GLOBALG.A.P. audit in Europe (Campbell 2005; Campbell, Lawrence, and Smith 2006; Rosin, Campbell, and Hunt 2007), which have collectively resourced and negotiated new audit arrangements in their supply chains to underwrite sustainability claims in their products. At the same time, the use of HACCP as the basic audit process has helped lock in HACCP as the dominant mode of auditing food products.[4]

Devolution to private sector governance: Food audit arrangements are strongly associated with transitions in government regulation concerning food safety, in particular the shifting of responsibility for food safety to food retailers—particularly in the United Kingdom and Europe (Reardon et al. 2003). At the same time, many food retailers (for example UK and Japanese supermarkets) have also used audit technologies—particularly QA systems—to support the development of high-value brands and product assurance systems to target higher-value market niches (Caswell, Bredahl, and Hooker 1998; Mainville et al. 2005).

Global auditing of food: While much of the early elaboration of food audit systems and requirements took place at a local level (Campbell and Stuart 2005), these have rapidly become integrated and harmonized to the point where we are now primarily researching the scope and operation of global standards for food products (Fulponi 2006; Krislov 1997; Le Heron 2005).

Impacts of audits on developing world producers: Scholars in development studies have increasingly engaged with the way audit technologies have become integral to the rearrangement of global trading linkages—such that exporting countries and regions linked into high-value and quality markets for consumers in places like Europe, North America, and Japan are progressively subject to the discipline of audit to guarantee key qualities. The effects of these new styles of global trading relations

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on food producers are now being studied in both the developing world (including Eastern Europe, Latin America, and Africa) and ex-colonies such as New Zealand (Berdegué et al. 2005; Farina and Reardon 2000; Gibbon and Ponte 2005; Henson, Masakure, and Boseloe 2005; Mutersbaugh 2008; Reardon et al. 2001, 2003; Reardon and Swinnen 2004).

Professionalizing food audit: The prior framework of government-to-government negotiation and regulation is now being gradually replaced by professionalized auditors providing third-party inspection and certification services for private standards and protocols (Codron, Giraud-Heraud, and Soler 2005; Giovannucci and Ponte 2005; Hatanaka, Bain, and Busch 2005; Mutersbaugh 2005). These professional audit organizations—like GLOBALG.A.P. in Europe—have become powerful actors in the organization of claims around the authenticity and safety of food products for high-value markets (Busch and Bain 2004; Campbell 2005).

The combined evidence of these recent studies aligns with Power (1997) and Strathern's (2000) wider claims that we have entered a period when much of economic life can be characterized as part of the audit society. What is clear is that increasingly elaborated and dense systems of audit (and the organizations that operationalize them) have become embedded in the global and local trade in food, changing the relationships between countries, governments, industry sectors, and consumers.

The challenge I want to take up in this chapter, however, is to move from broad empirical and theoretical claims about a new audit culture or audit society and start to examine more carefully how food itself influences these kinds of arguments. In this chapter, I argue that we cannot simply accept that food has been swept up into new forms of economic life governed by audit—although the various studies cited earlier do seem to provide evidence to support some of these broader claims—without examining how food itself, recent transitions in agriculture, agri-food systems, and food retailing have had their own influence on the evolution of the audit society. Put simply, rather than conceptualizing new food governance as just one derivative outcome of the audit society, I argue that food itself has actually played its part in creating that audit society.

The remainder of this chapter attempts to demonstrate the way food has helped create the audit society, primarily by outlining the different theoretical lineages and approaches that have informed the emerging study of audit with specific regard to food. Rather than stemming from one particular theoretical development in the study of food, audit has emerged as a common theme across a number of emerging areas of theoretical (and methodological) inquiry. It represents—as the following narrative details—a common destination reached by several quite different theoretical pathways, each, in its own way, attempting to move away from the kinds of orthodox political economy approaches to food and agriculture that characterized the new rural sociology (and new rural geography) in the 1980s, 1990s, and early 2000s, and that provided the initial framework for the agri-food approach.

FROM THE POLITICAL ECONOMY OF FOOD TO AGRI-FOOD STUDIES

The first pathway concerns the emergence of a field called *agri-food studies,* with a direct lineage from the period of revived Marxist and neo-Marxist political economy that became known as the *new rural sociology* (see Murcott and Campbell 2004). The original insights of the new rural sociology tended to cluster around production and labor relations in agriculture under capitalism (see Buttel and Newby 1980b; Buttel, Larsen, and Gillespie 1990). Powerful new debates began to reenergize the somewhat moribund field of rural sociology and concerned issues like the survival of farm households under late capitalism; relations with off-farm capital or agribusiness; contract and other exploitative labor relations; and the inevitable slide toward industrial forms of organization in agriculture. Central from this venture was the understanding that food and agriculture were somehow different from other areas of economic life. Contrary to the expectations of classical Marxist theory, family farming was proving stubbornly durable in the face of a wider transition to industrial organization of economies—not least because of the uncertain, risky qualities of the biophysical and ecological dynamics of food and farming itself. By the end of the 1980s, some of the core proponents of the new rural sociology were starting to speak of a new theoretical transition, particularly after scholars like Marsden referred to the field as suffering from a "hangover from an overdose of classical agrarian theory" (1989: 313). The new rural sociology had repositioned global agricultural relations at the center of the narrative of late capitalism and brought food back into focus for much radical and critical scholarship. Its scholarly participants, however, increasingly began to seek theoretical alternatives to the structurally deterministic and linear narratives of classical political economy—which provided the opportunity for food to become even more critical to theoretical narratives of agrarian change.

One new alternative was the commodity systems approach (CSA), which sought to move beyond an exclusive focus on the point of production by linking insights about capitalist power relations at multiple sites in food chains (Friedland 1984 and see Pritchard, Chapter 9, this volume). Implicit in this approach was the understanding that power was determined by what would be recognized as traditional agents of capitalism and involved exploitative capture of value, labor, and the imposition of capitalist control in food production and distribution systems. By the 1990s, however, the CSA was being used in subtly different ways: namely, following the *food commodity* as the central item of interest and allowing for more historically contingent and contested power relations at different points in the food chain.[5]

This revised approach began to be termed the *agri-food approach* (see McMichael 1994) and proved a useful successor framework to what was then perceived as the excessive structural determinism of the new rural sociology. The agri-food approach subsequently began to elaborate on the CSA, specifically by looking for phenomena that linked production and consumption areas of food chains (Murcott and Campbell 2004). By specifically focusing on food, the agri-food approach drew attention to previously

unobserved linkages between food consumption dynamics, retailer strategies, and distribution dynamics, together with the impacts of these on farm and orchard life. Food was (still) not predominantly produced in Marx's "factories in the fields": it was potentially perishable, risky, virtuously nutritious, and phytosanitarily unsafe (see Atkins, Chapter 5, this volume). After traversing production ecosystems, transport chains, and cool stores, it entered the world of retail—bringing challenges of authenticity and branding and bearing the potential for a range of strategies specific to the trade in food. Put simply, the global beef complex and global car industry have some similarities, but only one requires management of a perishable, phytosanitarily uncertain product that may even have BSE.

AGRI-FOOD STUDIES, NEOLIBERALISM, AND FOOD GOVERNANCE

As the agri-food approach began to loosen its attachment to older Marxist political economy, issues of governance began to arise. Invoking the idea of neoliberalism provided one device for enabling critical scholars to retain some of the spirit of the older political economy approach without adhering to its more structurally deterministic features (Campbell 2011). By examining neoliberalism as a particular political project (shared by governments in a range of the countries of interest to former adherents of the new rural sociology), Campbell (2011) argues that this concept provided the opportunity to observe the kinds of dynamics characteristic of late capitalism—including exploitation, liberalized actions by large corporations, and an abandonment of social responsibility by the state—without recourse to older ideas of more determinist Marxist theory. It allowed scholars to abandon some of the features of classical Marxist political economy—such as class, labor, and production as the fundamental determinants of social change—while still allowing them to mobilize a critique of capitalist society. Where once Buttel and Newby (1980b) had provided a means to illuminate the struggle between "Family Farms" and "Off-Farm Capital," now Peck and Tickell (2002) provided notions of "roll out" and "roll back" neoliberalism that agri-food scholars could mobilize to understand the changing balance of power between actors in the agriculture and food sector. Discussion of governance—and, most specifically in the parlance of those who had operated comfortably in the political economy approach, neoliberal governance—became central to this shift away from determinism. Accordingly, the nature and unfolding of neoliberal governance became one of the central interests of the agri-food approach (Campbell and Lawrence 2003) as it underwent a transition away from traditional political economy approaches. These new approaches also increasingly began to examine another powerful new set of actors in these arrangements—retailers.[6]

Le Heron (2003) captured this new interest in neoliberalized agri-food governance in his widely cited analysis of the emergence of hybrid forms of nongovernment arrangements (see also Marsden 2000). Demonstrating this emerging trend via a series of

case studies, Le Heron (2003) identified three cases that exhibit the kinds of negotiations and new arrangements taking shape in New Zealand's agri-food sector following a radical neoliberalization of the New Zealand economy in the 1980s. He argued that there is something peculiar about New Zealand as a geopolitical production space and about the kinds of food (and science) dynamics emerging in New Zealand (at that time) that demonstrate the contingent alliances and arrangements taking shape in food governance. His three case studies were:

1. professionalizing certification systems in organic agriculture;
2. attempts to create new contractual arrangements between meat companies and farmers to establish a marketable set of qualities for exporting; and
3. attempts by the New Zealand government to find a workable compromise to manage the risk posed by new science developments around genetically modified organisms and market risks to New Zealand's premium food export trade.

Le Heron (2003) suggested each of these cases demonstrates that the peculiar demands of food and farming require curious and experimental new forms of neoliberalized governance and that different systems of audit provide some form of governance solution for these challenges. While not entirely abandoning the role of the state, examples such as the emergence of new certification systems in organic agriculture (with an attendant ensemble of inspectors, certifiers, and consumers); new contractual relations between meat export companies, UK supermarkets, and farmers; and new risk management protocols negotiated (in effect) between agricultural scientists and agri-food exporters signify a shift in some of the central dynamics of agri-food systems.

In summary, Le Heron (2003) established the grounds for asking a central question about governance in agri-food chains: what and who is governing/being governed? In earlier incarnations of more Marxist-inspired rural sociology in the 1980s, researchers identified farms, farmers, labor, agribusiness, banks, commodities, and the state as the central foci for analysis. By the 2000s, this ensemble had been transformed to shift the focus to chain dynamics, linking farmers to processors, transporters, wholesalers, retailers, and science institutions, as well as certifiers, inspectors, and professional standards-setting agencies. In this somewhat revised ensemble of agri-food actors, governance becomes important as part of what (in the absence of capitalism) organizes actions across the chain.[7] It is also increasingly explicit in these new approaches that food, its ecology and biophysical qualities, and scientific riskiness have become an increasingly central challenge for neoliberal governance.

From this perspective, the new array of food auditors—from certified organic and Fair Trade to GLOBALG.A.P.—do not constitute so much a consequence of wider shifts in agri-food systems, but become the actual parties helping to organize and structure agri-food relations at a global scale. Evidence from countries like New Zealand shows that under conditions of neoliberal governance, food is not simply swept up in a wider shift toward an audit society; rather, as Le Heron (2003) argues, food and food relations

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are at the center of shaping new audit forms under neoliberalism—as evidenced by the challenges of solidifying the claims of the organic sector to operate more effectively; of establishing a particular production and quality regime in meat production; or in balancing the political interests of agricultural scientists and export organizations potentially exposed to a consumer backlash against GMOs.

ANT, POSTSTRUCTURAL POLITICAL ECONOMY, AND AUDIT

In 1997, Goodman and Watts produced an influential edited collection that caused a significant rupture within the agri-food approach, namely by introducing more Foucauldian-inspired approaches to power as well as the alternative paradigm of actor-network theory (ANT). From this point on, agri-food approaches began to take one of several potential pathways out from the influence of classic agrarian political economy; either following a relatively consistent path into a reframed agri-food approach via notions such as neoliberalism (as described in the previous two sections) or, alternatively, breaking toward the radical new methodologies described within ANT.[8]

Within the vigorous debates that followed Goodman and Watts' (1997) publication, the role and status of actor-network theory as a new paradigm for understanding food relations was supported by at least two important groups of scholars. The most high-profile advocate of an ANT-inspired approach to food studies has been Larry Busch, together with his group of collaborators. Busch broke strongly with the hitherto mainstream direction of agri-food studies by arguing that (following Latour and Law) the role of nonhuman actants had been undervalued in understanding the formation and reconfiguration of agriculture and food relations.

The first key case study from this school involved canola (Busch and Tanaka 1996), examining the materiality of the product as well as the political creation of the grades and standards that made the canola complex possible. In this analysis, canola as an actant and the grades and standards that created it as a commodity became the central foci of study.

The kinds of grades and standards that enabled the existence and operation of this commodity initially involved research into the scientists and other experts who created such qualities and measures, and the processes that then rendered these material in agri-food relationships (see also Busch 2000). Swiftly, this led to the research group developing an interest in the wider politics and institutional actions of the new audit culture within which such grades and standards played a part. Hatanaka, Bain, and Busch (2005) examined the dynamics of third-party certification in configuring global food relations, while Busch and Bain (2004) examined the way these clusters of new actors/actants and relationships were reordering food relationships at a global scale.

A hybrid version of a Foucauldian-inspired approach to governance and the ANT-inspired interest in such materialities and networks can be found in the work of the poststructural political economy (PSPE) group of economic geographers. Most commonly associated with the work of Wendy Larner and Richard Le Heron, the PSPE

approach has sought to escape from the strictures of traditional political economy approaches by concentrating on the dynamics and processes that reconfigure global-scale economic relations, rather than the institutions and actors (including concepts such as neoliberalism) central to earlier approaches (Larner 2003; Larner and Le Heron 2002; Larner, Le Heron, and Lewis 2007). Larner and Le Heron (2004) identified "global benchmarking" as one such organizing dynamic.

In both the PSPE and ANT approaches, new grades, standards, measures, benchmarking, and other "metrologies"[9] are positioned as central to the material organization of global food relations. The focus of such approaches, to date, tends to be on these metrics of food and food qualities and, as such, the audit organizations that enact these metrics are seen as central to the operation of global food relations.

In summary, all theoretical pathways discussed thus far have attempted different solutions to the same problem. While the fields of rural sociology and rural geography had been highly stimulated by the rediscovery of classical Marxist and neo-Marxist approaches in the 1970s and '80s, each of the theoretical approaches summarized here has attempted to find a particular pathway out of the structural constriction and determinism of these classical political economy approaches. While the agri-food approach remained closest to the original intent of Marxist political economy, it found that in the elaboration of different elements of agri-food chains a number of new contingencies and entities emerged. One of these was the now visible ensemble of actors and institutions in the new audit culture that comprise—and help construct—the new contours of neoliberal governance. In contrast, the ANT-inspired Busch group, alongside the PSPE group, deliberately undertook a radical decentering of the traditional objects of analysis of Marxist political economy. In doing so, both groups sought out the kinds of new processes and dynamics—such as audit culture—that create coherence and materiality to food relations at a global scale. Thus, while all the pathways sought to find different alternatives to classical political economy, each in its own way found its way to studying the new audit culture and its relationship to the peculiar qualities of food.

HOW FOOD HAS CREATED AUDIT

The previous sections have demonstrated the way agri-food scholars from several theoretical traditions have increasingly situated food audit at the center of the organization of global food relations. In this final section, I suggest that, in these agri-food accounts, food audit operates as something of a technological fix.[10] It fixes in two senses: it has the capacity to repair a problematic gap in the regulation of food under neoliberal governance (and, thus, the whole project of establishing and maintaining legitimacy for this kind of governance), and it fixes in an adhesive sense through its ability to solidify and organize global-scale food relations. In this final section, I return to the key question posed in the opening parts of this chapter: if audit culture now sits at the center of global economic relations, then is food merely a participant, or has it helped constitute the new world of audit through some aspect of its material or social qualities? To answer this

question, I want to readdress the issue of food audit as a technological fix by asking what it is, exactly, that the technology is trying to fix. Further, once food audit is deployed, does the technological fix take on a life of its own or are its consequences necessarily the ones intended? To demonstrate these dynamics, I use the example of the evolution of audit technologies in the area of sustainable agriculture.

The complex problems audit technologies are trying to fix (and their consequences) can be demonstrated in the evolution of certified organic production. Campbell and Stuart (2005) detail the way that the organic agriculture social movement existed for decades in countries like the United Kingdom and New Zealand without requiring any recourse to audit-based certification. Relations between local-scale organic food producers and food consumers operated under what Murdoch and Miele (2004) describe as domestic conventions—a set of conventions that made possible food trading between two parties also linked in a variety of other social and cultural ways. Historically, two things would change that demonstrate the impetus for new audit technologies and one particular quality of food as an audited product. The first of these is the elaboration of distanciated market relationships. Guthman (1998, 2004b) describes the challenges and crises of Californian organic producers who found themselves in a rapidly commercializing marketplace for organic food. Similarly, Campbell and Stuart (2005) describe the situation of organic producers in New Zealand when faced with larger-scale demand for organic produce in the 1980s. In both cases—and they were by no means completely disconnected—the local organic social movement produced protocols and standards for certification of organic produce and established a third-party inspectorate to inspect according to these protocols. Audit thus became a technological fix designed with two intentions in mind: first, to build and expand confidence in consumers to increase the scope of a commercial organic market; and second, to provide security that larger firms could not simply invade the market space and replace authentic organic produce with some kind of debased substitute that did not meet any recognized understanding of organic production. The establishment of organic standards and certification was, therefore, meant to provide protection against market predation by ensuring that everyone adhered to the same standards, although, as Campbell and Stuart (2005) went on to observe, the fix had the opposite effect in New Zealand and actually secured a pathway for larger firms to enter organic production. Nevertheless, by using this technological fix, domestic conventions transitioned to audit protocols.

In this example, the quality of food that drove the development of audit technologies is that food participates in both dense cultural/social worlds as well as in more commercial transactions. A major motivation behind creating the fix was that organic products entering the commercial realm would lose meaning if they were disembedded from their social context. The organic social movement intended that organic food products were not meant to be commoditized, abstracted, or fungible—all key qualities of trade in many cheap food commodities. While Campbell and Stuart (2005) observe that the technological fix of certification did indeed have unintended consequences, it by no

means suggests that organic has been conventionalized (see Campbell and Rosin 2011; Rosin and Campbell 2009). Rather, certified organic has developed particular sets of qualities that make it distinct from comparable standard food commodities. The audit enables meanings and qualities to become material even if these were not the original meanings intended. It was exactly this kind of given quality to certified organic products that positioned them to respond to emerging crises of cultural legitimacy and safety that emerged around GMOs in the late 1990s and into the early 2000s.

As Reed (2010) argues, these nonindustrial, audited, and demarcated qualities of organic food (making all sorts of claims to sustainability, safety, and naturalness) made organic the safe haven for food purchasers concerned about the unknowable and culturally invisible threat of GMOs. While the cultural/economic project of creating organic as against conventional food was a core intent of creating organic certification, the same dynamics can be observed by other social movements (like the Fair Trade movement) trying to demarcate food products, as well as high-end market retailers like UK supermarkets trying to demarcate their products from mainstream food produce by accentuating (and guaranteeing) cultural qualities, localities of production, or other sometimes nebulous qualities of food safety. In this they were ably assisted by food producers keen to demarcate their own produce from the mass market by creating and invoking concepts such as *terroir* and geographical indicators (see West, Chapter 12, this volume). These multiple ways in which food in high-value agri-food chains is often produced and sold as both market good+cultural claim have effectively made audit technologies attractive as a mechanism for providing assurance of the qualities of some food products.

The second quality of food requiring a technological fix demonstrated in this example is that organic certification was supposed to work across what Foster (1999) terms Marx's *metabolic rift*—that is, the capitalist rupture of ecological sites of food production from the location of consumption—by actually reconnecting commercially traded food items into their ecological context of production. Whereas global safety standards in products as diverse as cars and door fittings all carried a guarantee of product integrity under normal conditions of use, organic food carries a second level of claims in the content of its audit—ecological sustainability at the point of origin (or something operating in proxy for this claim). While some consumers are conscious of the fuel efficiency of cars, they seem less interested in the sustainable conditions of mining of iron ore to provide the steel for the door. The same is not true of organic food (and, by implication, many food products). New, commercially traded items such as organic food set the template for what would become a more widespread set of audit metrics—that new audit technologies could (to use Beck's term) ecologically modernize high-value commercial trading by creating "metrics" of sustainable production. From this point, the logic of audit of food sustainability, pioneered in certified organic food, was then taken up by rapidly evolving retailer-driven audit schemes like the HACCP-based Eurep-GAP/GLOBALG.A.P. audit system developed by European supermarkets, now used to provide quality assurance in food chains around the world. In this context, the ecological

embeddedness of food production has made food the perfect product for driving the elaboration of audit culture. Audit of sustainable foods, therefore, was not only trying to fix in place certain qualities never demanded of most basic food commodities, but also aiming to demonstrate that food—ahead of many other categories of product—constitutes one of the first kinds of broadly traded items implicated by a new politics of risk. If Beck (1992) argued for the emergence of a new, reflexive risk society, then food was at the vanguard of products subject to the new management of that risk. Rachel Carson's *Silent Spring* in 1962 was a precursor to a series of food scares now emblematic of the emergence of the risk society. Food was, therefore, creating the problem of diminishing consumer trust and providing the venue for the (audited) solution.[11]

The final quality of food that has driven audit elaboration is not new. It is, simply, the sheer biophysical riskiness of food. Drawing on a theoretical heritage from the earliest debates in new rural sociology about the difficulty in industrializing family farming due to the hazardous and uncertain nature of farming, through to the ANT-inspired work of the Busch group of researchers, food differs from other products because of its intrinsic biophysical qualities. Once started down the audit pathway in the 1980s, the organic agriculture movement (and subsequent audits like GLOBALG.A.P.) found itself part of a rapidly evolving and ever more complex system of rules, measures, and standards, predominantly because of the inevitable variability and hazard of trading in food products.[12]

CONCLUSION

The arrival of a cluster of important publications in the late 1990s and early 2000s signified an important academic moment in the study of audit. The works of Power (1997) and Strathern (2000) argued that previously disparate technologies of audit were starting to coalesce into an interrelated set of techniques of accountability, measurability, and scrutiny that, taken together, form the basis for an audit society or audit culture. Debate around the emergence of audit society/culture tended to be organized around the claim that the new power of audit in economic life is associated with broader shifts toward neoliberal governance in many developed world economies.

From this point, scholars in the agri-food tradition not only began to look for evidence of technologies of audit as something that actively shape agri-food chain dynamics, but also to draw together existing research on a range of individual aspects of food systems and chains that collectively indicated that audit culture was an important dynamic in food systems. Both tasks suggested that audit should be given due attention as an impetus driving change—shaping and ordering food relations at a global scale. Clearly, as a scholarly project, interest in audit by agri-food scholars has been highly productive in generating something of a new agenda for the study of audit and food. This new agenda has drawn together work on: the devolution of audit functions from the state to private organizations; the rise of professional certification; and the role of audit as a mechanism deployed by social movements, producer groups, and retailers to demarcate products in the marketplace. Scholars have also commented critically on the

increasingly global scale of such arrangements and their potential negative impacts on developing world producers. By drawing together these kinds of previously disparate strands, through commencing research into the specific dynamics of audit culture in areas such as the commercial trading of food products claiming sustainable qualities, scholars in the agri-food tradition have elevated the prominence of audit in the study of food. This process has taken place across several theoretical traditions, with food audit being drawn into debates about the significance of neoliberal governance in the global economy as well as being used as evidence of the relevance of ANT-inspired approaches to understanding food networks and dynamics.

This chapter has taken a summation of the current state of food and audit one important step further by claiming that not only is food audit of relevance to understanding the kinds of food systems dynamics of interest to agri-food scholars, but that food is, in itself, important to wider debates about audit because of its role as a vanguard product in helping create wider audit culture. Three qualities of food—its social/cultural embeddedness, its ecological conditions of production, and its biophysicality/riskiness—have shaped the relationship between food and audit. These qualities not only ensured that food products constituted early participants in audit governance, but also meant that food has been pivotal in creating such modes of governance. With a lineage stretching from kosher (several centuries ago), to early organic certification (in the 1980s), to the EurepGAP/GLOBALG.A.P. venture (in the 1990s), the auditing of cultural and environmental qualities in food has arguably led the way in creating and elaborating an audit society.

NOTES

1. One important disclaimer: this chapter is attempting to summarize the emergence of audit in *only* these theoretical lineages. An emergent and parallel body of work (including work that has remained relatively unrecognized—like Gastwirt's [1974] study of the politics of kosher labeling) around the historical or empirical elaboration of food audit is worthy of its own chapter.
2. This is not to suggest that all regulation disappears, rather that a dramatic shift has occurred in the relative balance between formal regulation in support of the public good toward mechanisms by which risk and accountability are managed through auditing of processes and outcomes.
3. While these developments have become compelling within the broader European economy (and its global supply chains), Power (2003) did pause to reconsider whether the United States had become somewhat economically atypical because of an apparent imbalance between liberalization rhetoric (implying transition to private sector accountability) and actual maintenance of what, by international comparison, is an unusually high level of formal regulation in the U.S. economy.
4. HACCP is the acronym for Hazards Analysis and Critical Control Points and outlines a process for measuring outcomes in product processes where risks need to be managed within the production process (rather than the usual quality assurance process that grades

out inferior product at the end of the production process). It provides an alternative to International Standards Organization (ISO) processes (much in the same way that Apple OS and Microsoft Windows provide alternative software platforms that organize much of the subsequent development of software) and has become the global standard for food and pharmaceutical manufacturing—now required under the global harmonization requirements of the Codex Alimentarius Commission (Sperber and Stier 2009).

5. The alternative to the orthodox approach of the new rural sociology took shape through the food regimes approach (Friedmann and McMichael 1989).
6. One of the key claims in agri-food theory in the last eight years by scholars such as Burch and Lawrence (2005) is that power is shifting from the production to the consumption end of agri-food chains. They argue that powerful supermarket chains—best exemplified by the UK supermarket chains—have become increasingly influential in the operation of agri-food systems (as well as in relation to consumption dynamics).
7. This shift in focus toward a new array of actors and institutions in the agri-food system was also influenced by a parallel set of debates in economic geography about economies of qualities. Just as the commodity systems approach loosened the focus on a traditional set of capitalist actors in favor of the commodity itself, Harvey and colleagues (2004) argued that the key feature of much recent economic activity was the establishment and reproduction of "economies of qualities" (see also Marsden and Arce 1993). Agri-food analyses in this tradition included Murdoch and Miele (1999, 2004) and Murdoch, Marsden, and Banks (2000), who drew on conventions theory to ask questions of how new qualities, conventions, and justifications emerged to solidify and stabilize the operation of new, high-value food chains. Again, the process of certification, standardization, and audit emerged as a key part of these dynamics.
8. Actor-network theory (ANT) is a radical new methodology that emerged from the field of science and technology studies (particularly the work of Bruno Latour, Michel Callon, and John Law). ANT argues that social life is made up of dense networks of simultaneously semiotic and material relations. While the semiotic aspect of ANT has been uncontroversial, the approach is most noted for its introduction of nonhuman agency (agency of actants not actors) as a means of radically decentering the agency of humans in understanding the ordering of social life.
9. The idea of metrologies (politically and socially constructed measures) as constitutive of economic worlds came to the PSPE group from Bruno Latour (1987) and Timothy Mitchell (2002).
10. And therefore takes its place in a long tradition of what Belasco (2004) has described as technological fixes in food, often linked with utopian aspirations for future foods and technology and often highly unstable or transitory (or outright illusionary).
11. Guthman (2007b) takes this one step further by arguing that organic certification (and its kin) not only attempts to fix particular qualities to food commodities, it actually enacts a form of Polanyian market enclosure—simultaneously creating new market spaces as well as new food qualities through the creation of professional market spaces through the administration and development of the audit/labels themselves.
12. While beyond the scope of this chapter, it would be worth considering the role of the riskiness of food in embedding HACCP rather than ISO processes as the platform for many evolving audit systems.

11

Environmental Issues in Agriculture: Farming Systems and Ecosystem Services

MICHAEL WINTER

INTRODUCTION

In an influential essay establishing environmental history as a central perspective within contemporary historiography Donald Worster sets out three levels of analytical inquiry in environmental history. These are equally applicable to contemporary social science analysis of environmental issues in agriculture. First, he suggests there is a need to understand nature itself, "consequently, the environmental historian must turn for help to a wide array of the natural sciences and must rely on their methodologies, sources, and evidence" (1990: 1090). The second level focuses on "productive technology as it interacts with the environment . . . understanding how technology has restructured human ecological relations, that is, with analysing the various ways people have tried to make nature over into a system that produces resources for their consumption" (1990: 1090). In Worster's formulation this is not technological determinism. He uses the Marxist language of modes of production and talks of the restructuring of social relations within technology-ecology interactions. Finally, his third level is "that more intangible, purely mental type of encounter in which perceptions, ideologies, ethics, laws, and myths have become part of an individual's or group's dialogue with nature. People are continually constructing cognitive maps of the world around them, defining what a resource is, determining which sorts of behaviour may be environmentally degrading and ought to be prohibited, and generally choosing the ends to which nature is put" (1990: 1091).

While this formulation may lack some of the intellectual sophistication of the more recent posthumanist reaction to the bifurcation of social and natural science (see introduction to Braun and Whatmore 2010), predating as it does the language of nonhuman

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agency and actor-network theory, it nonetheless provides a durable and rigorous framework for the analysis of agriculture-environment interactions. It has been used to provide a structure for this chapter, with the three main sections that immediately follow this introduction covering in turn, agriculture as agro-ecology, agriculture as production, and agriculture as culture.

Of course, caveats are needed. The separation into three categories is an analytic device. In reality, ecology, production, and culture intersect and interact and it is the complexity of these intersections and interactions that, ultimately, has the greatest significance for developing a better understanding of environmental issues in agriculture. Moreover, these three characterizations are potentially enormously wide ranging and the discussion here has been limited to two main objectives. The first objective is to examine the direct and immediate impacts of agricultural production on the environments/ecosystems in which agriculture takes place. In other words, the discussion does not focus on the food system as a whole nor does it deal with some of the wider more diffuse environmental impacts of agriculture, such as its contribution to climate change through greenhouse emissions and use of fossil fuels (but see Wollenberg et al. 2012 for a range of relevant papers). In short, *the environment* in this chapter translates as agro-ecology. The second objective is to identify some of the main strands of social science thinking relevant to the three characterizations we are exploring. To conclude the chapter, we turn to a recent manifestation of the attempt to conceptualize and understand human-environment relations through the ecosystem services approach.

AGRICULTURE AS AGRO-ECOLOGY: MIMICKING AND TRANSFORMING NATURE

Worster's suggestion that environmental historians, and we would add here environmental social scientists, need to understand nature in part through the lens of natural science has been slowly adopted within social science. It is impossible here to do justice to the complexities of the history of ideas and of disciplines. There are strands within many social science disciplines where the insights of natural science have been recognized and, indeed, where there have been genuine attempts to integrate the human and the nonhuman. Fields of inquiry such as geography, agricultural economics, and anthropology have all provided homes for individuals who have played a part in this endeavor, but it is fair to say that for long periods these have been minority concerns. Moreover, some of the pioneers of broad and integrative accounts of agriculture and the environment, such as prolific geographer L. Dudley Stamp, active in the 1930s, '40s, and '50s (see Matless 1998; Rycroft and Cosgrove 1995), were discarded in the various antipositivist theoretical turns of the 1970s, 1980s, and 1990s. Weberian sociology, variants of political economy and Marxism, the cultural turn, and social psychology have all proved fertile ground for social scientists interested in recent and contemporary agri-environmental issues, an eclectic genre characterized here as the *new rural sociology.* But despite the almost bewildering diversity of approaches within rural sociology, in large

part, they have been at one in their human orientation and their neglect of natural science. There are several reasons for this neglect, most notably the overriding impetus in the 1970s and 1980s to reconceptualize agricultural production within the newly emerging theoretical frameworks characterizing the rapid expansion of the social sciences at this time, particularly Marxist political economy and Weberian sociology.

Many of the objects of the wider social science gaze were new to sustained academic inquiry, but in the case of agriculture, the new rural sociology hit up against the established academic discipline of agriculture with its human subdisciplines of farm management, agricultural economics, agricultural extension, farming systems, and, indeed, a particular form of rural sociology. At different times and in various contexts, these subdisciplines were chided for being atheoretical and for being subordinate to a technocratic and positivist agrarian paradigm (Newby 1980b, 1983b). Thus the new rural sociology emerged in sharp disagreement with traditional agricultural studies and with a strong desire to engage with mainstream social science. This was a global phenomenon, with studies of the sociology of advanced capitalist agriculture and of peasant agriculture in developing countries of equal importance to the new rural sociology (Newby 1978). Indeed, some of the key scholars worked across the developed/developing boundary (Friedmann 1980; Goodman and Redclift 1981). The new rural sociology revivified agriculture as a topic for serious social science investigation; it contributed to huge advances in our understanding of global agro-systems, but, in retrospect, while some works offered serious insights into the social construction of ecology and nature (e.g., Goodman and Redclift 1981), few, if any, exponents of the new rural sociology sought to integrate ecological or environmental science with sociology. Outside sociology there were a few attempts to integrate and interrogate social and natural sciences. These include the groundbreaking work of Simmons (1993) within geography and, more significant perhaps, a number of works in environmental history (see various overviews in Sörlin and Warde 2009). But for many, ecology has been at best a backdrop, with ecological evidence merely part of the context in which human behavior is played out, or at worst pejoratively characterized as human ecology or sociobiology.

Agriculture, more than any other economic activity, is dependent on its intimate relationship with natural processes. As a human activity it can only be properly conceptualized in terms of human interactions with natural processes. Farming originated, perhaps as recently as ten thousand years ago, from adaptations to the patterns of gathering and predation developed by hunter-gathering. Seemingly simple steps taken to contain, nurture, and protect existing natural food species gave rise, over time, to complex systems of interaction between ecology and economics. Agriculture, however sophisticated it has become in its successive manifestations, continues to depend on ecosystem functions. It has transformed natural ecosystems into cultivated ecosystems (Mazoyer and Roudart 2006), but ecosystems and the services flowing from them are not supplanted. Even the most technologically advanced farming systems, such as hydroponics, still depend on the utilization of the biological processes of photosynthesis, transpiration, and so forth. Away from such controlled environments, most farming systems continue to be deeply

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embedded in wider ecological processes. Cultivated ecosystems are rarely solely agricultural, in the sense that even in the most intensive arable agriculture other nonfood species will be present. Some, such as insects (and their food sources) that farming depends on for pollination, may be encouraged within agro-ecological systems; others, such as competitive weed species within cultivated crops, may be discouraged.

It follows that environmental issues in agriculture are deeply complex. Even if our concern were solely to maximize food production in a manner that allowed for the sustainability of particular agro-ecosystems, our species would face formidable challenges, not only of ecological management but of economic and social organization too. For example, in the case of pollination, we are only slowly coming to understand the complex ecological processes and behaviors involved and their biological significance to agriculture (Winfree, Gross, and Kremen 2011), and there are equally complex social and economic issues related to pollination, concerned with the contrasting requirements of different farming systems and the problem of common-pool resources and free riding. However, our human environmental concerns and interests are much wider than this. In some parts of the world, such as Europe, much of what has come to assume natural environmental value in human culture are the features and characteristics intrinsic to particular farming systems. Rich ecological studies have been published of habitat features, such as hedges, that are entirely a product of farming (e.g., Pollard, Hooper, and Moore 1974); or species such as the skylark that have been praised in poetry and music (Donald 2004), which would be rare indeed without large tracts of open *cultivated* land.

However, in North America, cultural value has tended to be attached to nonagricultural environments, to wilderness standing in marked social and economic contrast to the managed landscapes of Europe, although the social construction of wilderness has also involved a denial of the historic occupation of land by indigenous peoples (Adams 2009). Michael Pollan laments the influence of Thoreau on a tradition of American writing about nature that "turned its back on the domestic landscape" (2008: xiii) of farming and gardening. These cultural differences, as much as substantive differences in land use and farming systems, lie at the heart of the contrasting ways environmental concerns have been articulated in North America and Europe. Thus in Britain, for example, there is a long history of environmental concerns focused on farmed and managed landscapes. There has been an accretion of concern, layer upon layer, as new issues have been superimposed upon old, the focus shifting as new concerns are highlighted. Raymond Williams (1973) has chronicled how these concerns have a universal quality in the sense that writers in each epoch have lamented environmental and social change, a perpetual cycle of retrospect over centuries.

By contrast, in the United States, the environmental focus on agriculture and food is more recent, but now also deeply embedded in American culture. Pollan lauds Wendell Berry for helping him to solve his "Thoreau problem." Berry "relocated wilderness from the woods 'out there' (beyond the fence) to a handful of garden soil or the shoot of a germinating pea . . . he marked out a path that led us back into nature, no longer as spectators but as full-fledged participants" (Pollan 2008: xiii). The contrast thus drawn

between different nature-culture relations is, of course, selective and simplistic. Within both the United States and Britain there is variety, and the diversity of culture-nature relations multiplies still further if other geographical areas are included. Moreover, it would be simplistic to claim that all differences in perception of nature are culturally and socially contingent. Ecological factors come into play too. James McWilliams (2011) points to the slow pace of agricultural change in Europe allowing agro-ecological species and habitats to evolve gradually. But agricultural development was condensed and accelerated in the English colonies with rapid land use change precipitating unprecedented ecological change in the New World landscape.

Thus environmental issues in agriculture concern, on the one hand, the negative impacts of farming activity where either its own sustainability is threatened, or its impacts are felt within other ecosystems, as in aquatic habitats adversely affected by nutrient-rich run-off from agricultural land. But equally profound, on the other hand, are the positive values we place on habitats and features associated with particular farming systems. In long-inhabited parts of the world, such as Europe, it is hard to conceive of rural environments that are not agricultural (or silvicultural). The very language we use testifies to the empirical and conceptual interaction of farming and the environment. We design *agri-environment* schemes, we talk of *agro-ecology,* we celebrate *farmland* birds and hedges. We place trust in organizations with such names as LEAF (Linking Environment and Farming) and FWAG (Farming and Wildlife Advisory Group) in Britain (Cox, Lowe, and Winter 1990) and Landcare in Australia (Lockie 2004). All this renders agri-environmental politics deeply confusing to the uninitiated, with farmers, at one and the same time, pilloried for environmental desecration and lauded as custodians of the countryside. These are not necessarily contradictory currents. In the language of economics, agriculture is an industry beset with externalities, both positive and negative. The recognition of both the positive and negative aspects of agri-environmental processes and management lies at the heart of any understanding of farmers' role in economy and society. It is an understanding rooted in ecological science but it is mediated culturally and politically.

The emphasis on positives and negatives shifts temporally and spatially, and these shifts are not simply evidence-based responses. Our emphasis on the importance of ecological science in this section should not in any way detract from the importance of cultural, social, economic, and political shifts of sensibility and priority. Thus in the case of much of Europe, policies for agriculture and the countryside were forged in the immediate aftermath of wartime food shortages and of war-torn, ravaged landscapes. It is hardly surprising that agriculture was either the only explicit focus of rural policy or was conflated with environmental and landscape protection in policies adopting an almost universally positive estimation of agriculture's role, not only in supplying food, but also in providing societal cohesion (Brassley, Segers, and Van Molle 2012). In England and Wales, for example, the patchwork of national parks and areas of outstanding natural beauty that emerged alongside a rigorous town and country planning system were built on the premise that farmers and farming were the natural custodians of the countryside (Winter 1996).

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Agriculture's environmental record came under increasing scrutiny from the 1960s onward, as the record of agriculture's environmental ills mounted. This was true for both Europe and what Crosby (1986) calls the neo-Europes, lands such as Australia and New Zealand, North America, and large parts of Latin America. The concern that first commanded global attention was the impact of agricultural pesticides and its seemingly global reach in food chains. Rachel Carson's *Silent Spring,* published in 1962, helped to galvanize an embryonic environmental protest movement in the United States and elsewhere in the world, although the origins of the concern over pesticides in the United States can be traced back even earlier (Gunter and Harris 1998). The generalized concern over pesticides translated into specific concerns in particular places. This in Britain crystallized around iconic species such as otters and birds of prey, as well as game birds (Sheail 1985). But pesticides were the product of science and of industry. In this particular context, farming could be characterized as a victim as much as a perpetrator. The political campaigning that arose in response to use of pesticides was largely directed at better science and the stricter regulation and licensing of agro-chemical products. The tone for this was set by the decision by the Kennedy administration to instruct the president's Science Advisory Committee, rather than the U.S. Department of Agriculture, to investigate the issue and propose solutions (Wang 1997).

But over time concerns directed at the agricultural industry itself accelerated and garnered wider public attention, especially in northern Europe, around a more generalized concern about the loss of landscape features, such as hedgerows and ponds, and cherished habitats such as moorlands and chalk downland. These were changes, seemingly, that could be laid at the door of farmers, albeit aided and abetted by policy. European agricultural policies of the 1950s and 1960s, designed to encourage more cost-efficient and capital-intensive farming, had left their mark. Indeed principles of investment and intensification, not to mention policies of agricultural support, were now deeply engrained in the farming industry and consequently unparalleled changes were taking place. The changes ranged from farm amalgamation—within England and Wales, for example, the average size of holdings sharply increased from the mid-1960s, having been static for a century (Hine and Houston 1973)—to enterprise specialization at the expense of traditional mixed farming (Bowler 1979). In the United Kingdom, strident voices chided farmers for the "theft of the countryside," charting the loss of hedgerows and the plowing up of flower-rich meadows, and all at taxpayers' expense as the cost of the Common Agricultural Policy escalated (Shoard 1980). The critique crystallized around a number of celebrated cases—the conversion of wetlands to arable agriculture in Halvergate and the Somerset Levels, the plowing up for improved pasture of moorland on Exmoor (Lowe et al. 1986).

But the early and mid-1980s marked the high point of this negative critique, certainly within northern Europe. From the late 1980s, the pendulum swung back toward giving more emphasis to positive externalities. It is important to provide some caveats to this rather sweeping statement. It would be entirely wrong to suggest that there was a wholesale reversion to the dominant profarming thinking of the immediate postwar years.

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The negative discourse certainly did not disappear entirely. Some of the lines of attack changed. More significant, empirical evidence continued to accumulate that revealed the extent of negative externalities associated with agriculture (Pretty et al. 2000), from the sustained loss of farmland birds (Siriwardena et al. 1998) to the growing recognition of the extent to which waterways were becoming contaminated by dissolved organic carbon, nitrate, phosphate, and sediment run-off (Haygarth and Jarvis 2002; Kay, Edwards, and Foulger 2009). Indeed the characterization of the "environmental problem" in agriculture has shifted during the past twenty years and the range of concerns is now greater, encompassing, for instance, biodiversity, food quality and safety, and water quality. For example, Pretty and colleagues' (2000) estimates of the cost of treating drinking water to remove or reduce pesticides, nitrates, phosphorus (and related sediment), and organic carbon (and related sediment) come to a total for the United Kingdom of £297 million.

Given the extent of this empirical evidence, some might argue that the positive turn after the 1990s was largely rhetorical. And it is true that part of the story revolves around the agricultural industry seeking to take the political initiative. Rather than mounting a case-by-case defense, often finding itself politically on the back foot, as happened in the 1970s and 1980s, the British farming lobby, for instance, sought to assemble and present more benign evidence. For example, it encouraged work that would demonstrate the cost of providing positive externalities. So in the same year that Pretty and colleagues (2000) published their negative externality calculations, another team of British researchers showed how much it cost farmers to manage and maintain the countryside, itemizing the cost to farmers of looking after cherished hedgerows and other nonproductive features of the farmed landscape (McInerney et al. 2000a,b). However, the explanation for the shift in focus had less to do with explicit campaigning by the farming lobby than with policy developments associated with the reform of the Common Agricultural Policy. Both environmentalists and agriculturalists came to see reform of the much beleaguered and hugely costly CAP as an opportunity for a reappraisal of policy priorities and a reassessment of how agriculture might be refocused to maximize its positive externalities.

AGRICULTURE AS PRODUCTION: POSITIVE AND NEGATIVE EXTERNALITIES IN AGRICULTURE-ENVIRONMENT INTERACTIONS

The oscillation between positive and negative evaluations of agriculture-environment interactions outlined in the previous section clearly has political and cultural dimensions. But there is more to this than competing discourses. Worster's notion of productive technology interacting with the environment and restructuring human ecological relations underlies the language of externalities, the tension between positive and negative interpretations of agriculture-environment interactions. Of course to use the word *externality* is to imply a certain kind of analysis, rooted in welfare economics (Buchanan and Stubblebine 1962), to delineate farming's environmental record. Other traditions within social science have approached the issue instead through the lenses of impact or

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assessment or life cycle analysis (Van der Werf and Petit 2002). In the 1990s, multifunctionality emerged as a powerful idea in both academic and policy discourses about agriculture in which positive externalities within the production process were emphasized (Wilson 2007). Within social science, the contours of the debate had their roots in the new rural sociology, which in the 1970s and 1980s sought to understand the changing world of farming. By focusing on agribusiness, capitalism, and simple commodity production within commercially productive farming systems, writers (Friedmann 1978; Newby et al. 1978) sought to distance themselves from the focus on remoter, more traditional upland or peripheral farming communities that had excited the interest of an earlier generation of rural sociologists (see overview in Bell and Newby 1972). But the advent of multifunctionality as a policy driver within Europe turned the spotlight back onto some of the social and cultural values associated with less commercially focused agriculture. In particular, postproductivism emerged as a powerful descriptor for an agriculture more attuned with changing sensitivities within a society where concerns for landscape, nature conservation, and food quality, it was argued, were pushing farmers, in the developed world at last, down a route of ecological modernization (Buttel 2000). The extent to which the conception of postproductivism was, in reality, any more than a shift in policy emphasis or rhetoric as a result of surpluses of European agricultural commodities has been strongly contested (Evans, Morris, and Winter 2002).

Rhetorical or otherwise, the policy debates on agriculture and the environment were reframed in the 1990s. For example, in Europe, the European Commission's Reflections paper tied the "preservation of the natural environment" and "traditional landscapes" to "a model of agriculture based on the family farm" (CEC 1991). Indeed, it became entangled in international wrangling over agricultural support policies. For some, such as Del Mar Delgado and colleagues (2003), it was decried as a cynical means of offering back door protection to agriculture in the context of the liberalization of agricultural policy. Commentators from the United States and the Cairns Group (e.g., Bohman et al. 1999) lambasted multifunctionality as "trade-distorting protectionism in disguise" (Peterson, Boisvert, and De Gorter 2002). However, it was not in Europe alone that the language of multifunctionality emerged. For example, the Rio Convention of 1992 (Agenda 21, Article 14) referred to the need for agricultural policies to take into account the "multifunctional character of agriculture" (quoted in Durand and Van Huylenbroeck 2003). Thus it would seem that the concept of multifunctionality was pressed into service in support of European agriculture and, globally, of environmental or ecological agriculture. Potter and Tilzey (2005) demonstrate the extent to which the model was pitted against the alternative and more conventional market-orientated model, the neo mercantilism of the WTO. They talk of a policy struggle to accommodate opposing narratives, in which neoliberal policies stand alongside continuing support for social and environmental programs based around a multifunctional rhetoric.

Potter and Burney contend that "it is not the existence of multifunctionality as such which is controversial but rather the implications for the design of domestic subsidies and the extent to which these are deemed to be trade distorting" (2002: 46). This may

well be so, but it is the emphasis on policy design that immediately throws us back on issues of how to understand and conceptualize multifunctionality. For example, are policies for multifunctionality seeking to create something new or alternatively seeking to mimic past market conditions that gave rise to a particular combination of market and nonmarket goods? Sad to say, rather too many papers ignore this debate entirely and use the term loosely to refer to any nonagricultural activity in rural space with or without any connection with agriculture (e.g., Smailes 2002). Potter and Tilzey (2005) talk of a narrow, heavily agrarian interpretation of multifunctionality in which food production and environmental protection are combined and policy design "is premised on agricultural systems having co-evolved with the environment over substantial periods of time to the extent that there is often a close relationship between the valued characteristics of the environment and certain attributes of agricultural systems" (Hodge 2000: 260). However, Hodge, far from being narrow and agrarian, sets out a coherent notion of multifunctionality implying a single productive function that has multiple outputs or "joint production" that lies at the heart of the environmental issue in agriculture.

Joint production emerges from two aspects of production: the physical production process itself and the land/capital context in which production takes place. The ubiquitous nature of joint production in the physical production process—several outputs necessarily emerging from a single production activity—may be linked to the first and second laws of thermodynamics and consequently has been proclaimed as a fundamental economic notion by Baumgartner and colleagues (2001). Every physical production process is a transformation of energy and matter, which can neither be created nor destroyed (first law of thermodynamics) and must generate a positive amount of entropy (second law of thermodynamics). Classically this leads to low entropy desired goods and high entropy waste products (Baumgartner et al. 2001). To that extent, agriculture is similar to many productive industries, with the negative externality issue at the heart of jointness within the production process itself. It is hard to apply the joint production principle to economic activity not confined to production processes encompassed by thermodynamics. Thus analysis of this nature makes little sense within a service sector activity, such as tourism provision within a farm business.

However, the transformation of energy and matter also takes place in space (land) and with particular fixtures that aid the production process within that space (capital items such as buildings and field boundaries). It is with regard to the land/capital context that a special case may be claimed for agriculture in terms of joint production. Land is not only a site, but also a medium, for production and the special case of land in agricultural production has long engaged the attention of economists (Currie 1981; Denman and Prodano 1972; Massey and Catalano 1978). Consequently large areas of land are required for production, and this extensive use of land, which also acts as an environmental, amenity, and recreation resource for many people, gives jointness a special significance in agriculture. While this may not be unique to agriculture—buildings occupied by businesses, for example, may be part of an important amenity resource in a city center—it is important in a way hard to imagine for many other branches of economic activity. It is an

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empirical question as to whether or not these joint outputs are positive externalities or internalized into markets in some way, although the core of the multifunctionality debate lies in the treatment of externalities (Losch 2004). Economic externalities, in the sense of nonmarket goods, may or may not arise from jointness of production.

Multifunctionality and joint production may be logical concepts enjoying some political support, but they required more tangible expression if the terms of the agriculture-environment debate were to shift significantly. This occurred as a result of a growing body of work that recognized the intricate and intimate relationships between the everyday detail of farming practice and environmental outcomes. Farmland ecologists, in particular, were keenly aware that the sharp downturn in the numbers of various species associated with farmland could not necessarily be causally related to intensification of agro-chemical or fertilizer use. Moreover, there was a growing recognition that many emblematic species had flourished quite recently within agricultural ecosystems. There was dawning acknowledgment that the changes that could account for species decline might be quite complicated and subtle.

Research on farmland birds in particular is well developed in the United Kingdom—perhaps a result of twin national obsessions in the United Kingdom for gazing at birds and shooting them—and much research on birds was conducted and/or funded either through the voluntary bird conservation groups, mainly the RSPB and the British Trust for Ornithology, or the Game Conservancy Trust. Much of this work has been associated with agricultural habitats (Parish, Lakhani, and Sparks 1994). Thus we have research on the agricultural conditions associated with, inter alia, the populations of blackbird (Hatchwell, Chamberlain, and Perrins 1996), corn bunting (Donald 1997), grouse (Hudson 1995), lapwing (Hudson, Tucker, and Fuller 1994), partridge (Potts 1997), song thrush (Peach et al. 2004), and skylark (Wilson et al. 1997). The challenges and difficulties of analyzing the precise relations between agricultural conditions and the status of bird populations has been well demonstrated by Chamberlain and colleagues (2000) in work examining time series data (1962–1995) for bird populations against a series of thirty-one separate agricultural variables representing crop areas, livestock numbers, fertilizer application, grass production, and pesticide use.

Together these changes amount to a significant agricultural intensification from 1971. There appears to have been a lagged effect with bird populations not declining until 1976. The pattern of decline appears similar across a number of species, for example song thrush, blackbird, and skylark (Siriwardena et al. 1998). As Chamberlain and colleagues explain, this may be "due to these species being affected by the same factors. However, given their differing ecological requirements, this seems doubtful. Such coincidences in population trend are more likely to indicate that a large number of components of agricultural intensification changed at the same time, but the actual individual factors affecting population change differed from species to species" (2000: 786). Although chary of attributing precise causal links between specific agricultural practices and farmland bird decline, Chamberlain and colleagues usefully explain some of the key variables uncovered in their research. For example, they cite the

importance of preemergent and grass herbicides in facilitating the widespread adoption of autumn cereal sowing. This reduces the availability of food for some species of bird. A decline in rough grazing, hay production, and root crops is also likely to have the same effect. What is important about this is the growing realization that changes in the abundance of wildlife may not be affected only by obvious highly visible changes—such as the removal of hedgerows—that had focused earlier campaigners but also by more subtle changes such as the timing of cultivations or harvest.

This has served to reemphasize the jointness of production, and while the examples given so far have largely been negative, the focus on *farming systems* as the core territory in which to study agriculture-environment interactions has led to a strong move to highlight the environmentally positive attributes of certain farming systems. Thus the identification of high nature value (HNV) farming systems in Europe is evident in work emerging in the 1990s (Baldock, Beaufoy, and Clark 1994; Bignal and McCracken 1996). There has been a concerted effort by a number of environmental organizations, such as the Institute of European Environmental Policy and the European Forum for Nature Conservation and Pastoralism, to develop the concept and to give it a strong policy profile. Thus, for example, the Scottish government (2011) has developed indicators of HNV built around three characteristics of HNV. The first characteristic is the *presence of seminatural vegetation,* such as unimproved grazing land, traditional hay meadows, seminatural farmland features such as mature trees, shrubs, uncultivated patches, ponds, and rocky outcrops, or linear habitats such as streams, banks, field margins, and hedges. The second is the *diversity of land cover,* in particular the need for a mosaic of land cover and use, such as cropland, fallow land, seminatural vegetation, and farmland features. The third characteristic is *low-intensity farming characteristics.*

This new agro-ecology, with its emphasis on farming systems as a whole, gives meaning to the differentiation of agricultural space and lies at the heart of notions of multifunctional agriculture, whereby agricultural commodities may be imbued with a range of symbolic meanings associated with ecology and landscape. Whereas thirty years ago there was a sharp differentiation between the agricultural science associated with production and ecology or environmental science associated with either the externalities of production or with the margins of production, agro-ecology takes both positive and negative externalities to the heart of the farming system.

A problem with much of the agro-ecological research hitherto is that it cannot easily disentangle specific farming system effects, as opposed to more generic farming practices. To do that, it is necessary to establish more precise relationships and causal mechanisms within joint production. This work is now beginning to happen. For example, as we have noted, it is recognized that the retention of stubbles over winter (as against their immediate cultivation in the early autumn after harvest of the previous crop) is beneficial for farmland birds, providing much-needed foraging habitats. Recent research has focused on how to maximize the value of stubbles for farmland birds, when they are retained, through increasing the structural heterogeneity of stubble through varying stubble heights (Butler, Bradbury, and Whittingham 2005). A number of scientists

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are beginning to develop these and other research findings to investigate how ecological value through joint production can be maximized on farms. Thus Oppermann (2003) has sought to develop a "nature balance scheme" for farms and Smeding and de Snoo (2003) develop the concept of a food-web structure to research the ecological and biodiversity benefits and linkages of organic arable systems. More recently, a similar scientific and policy discourse has led to concerns for water quality manifest in catchment sensitive farming schemes to encourage water-friendly farm management practices requiring management change in the farming business in nutrient and fertilizer management (Winter et al. 2010).

AGRICULTURE AS CULTURE

Worster's third analytic level concerns the "perceptions, ideologies, ethics, laws, and myths [that] have become part of an individual's or group's dialogue with nature." The shift of environmental concern to the heart of agricultural practice is reflected in a growing concern for food quality defined by its environmental provenance (Morris and Kirwan 2010). Terms like *eating the view* and *eating biodiversity* have been coined to capture the relationship between the choices consumers make about food and environmental outcomes on the farm. Retailers have developed quality assurance schemes as part of the regulatory framework responding to consumer concerns and demands (Morris and Young 2000), and branding and identity have been developed increasingly by farmers seeking to reconnect with consumers (Morris and Buller 2003). Reconnection is to do with making the links between particular foods and particular natures, a reterritorialization or respatialization of food production that begins to reverse the aspatialities that are, or were, an intrinsic part of a globalized food order. It is to do with market segmentation and with consumer reaction. It is also to do with a growing realization that the properties of food are natural properties and that heterogeneity of edaphic conditions gives rise to varied natures represented in varied foods. Given the interplay of the physical and social in the origins and production of foods and, indeed, implicit in the notion of agriculture, this provides a rich territory for social scientific endeavor around hybridity and materialities (Anderson and Tolia-Kelly 2004; Kirsch and Mitchell 2004; Whatmore 2002).

There are many strands to this cultural work, but, given the applied focus of this chapter, the emphasis here is on those that have sought to consider the implications or reconnection for measuring and improving environmental performance. Buller and Morris, for example, blur the traditional boundaries between market and policy approaches to agriculture by exploring how markets are increasingly implicated in attempts "to reconcile agricultural production and environmental protection as new forms of commodification permit a shift in the values attributed to the various 'products' of agricultural enterprise" (2004: 1067). Of particular value in this work is the attempt to relate market-orientated initiatives in the agri-food sector back to other key debates in agri-food studies in a manner not undertaken in earlier approaches to the

quality turn. One is the refusal to subscribe to an either/or approach to market and policy approaches, insisting with Bourdieu that "the economic field is inhabited by the state which contributes, at each and every moment, to its existence and its durability" (2000: 25). Another is their consideration of the way the marketing of products from sustainable food production systems may help to internalize some of the negative externalities that lie at the heart of the agri-environmental problem, thereby leading to a reassessment of Ricardian rent theory, based on productive capacity and distance and the notion of "territorial quality rent" (Mollard, Pecqueur, and Lacroix 2001). If Buller and Morris' assessment of new markets and the internalization of externalities is seen in broadly positive terms, Guthman is less sanguine in the context of agribusiness penetration of the organic sector in California and the conventionalization that appears to be taking place. Moreover, "for the moment, these innovative modes of provisioning represent socially exclusive niches rather than the future of European rural economy and society" (D. Goodman 2004: 13; see also response by Van der Ploeg and Renting 2004).

SEEKING VALUE AND INTEGRATING THE ECOLOGICAL AND THE CULTURAL: THE ECOSYSTEMS SEDRVCES APPROACH SERVICES

In this final section of the chapter, we take into account the latest twist in conceptualizing the issues raised here by considering the ecosystems services approach as a new paradigm for understanding the dependency of humankind on planetary life support systems. The 2011 National Ecosystem Assessment seeks to make explicit human dependence on ecosystems for the goods and services that contribute to human well-being (UK NEA 2011). Those who advocate an ecosystems approach seek to develop better mechanisms for the valuing of the whole range of ecosystem services, including those outside conventional economic markets, and suggesting ways such values might be incorporated in policy and market mechanisms.

The approach set out in the Millenium Ecosystem Assessment, as adopted in the national assessment, is shown in Figure 11.1. The assessment involved in-depth scientific reviews of the broad habitats found in the United Kingdom (mountains, moorlands, and heath; seminatural grasslands; enclosed farmland; woodlands; freshwaters—open waters, wetlands, and floodplains; urban; coastal margins; and marine). For each of these habitats an attempt was made to assess and value their contribution to provisioning, cultural, and regulating services.

In the case of agriculture, food, as a provisioning service, has a direct market price, but other regulating services that may flow from agriculture systems, such as flood protection or carbon sequestration, are not so easily valued, hence the need for new or proxy markets drawing on a range of techniques championed by environmental economists (Pearce 2006). There is a strand within the ecosystem services approach, therefore, and arguably it is the dominant one, that places great emphasis on economic calculations. There would be obvious and important implications for decision making and the

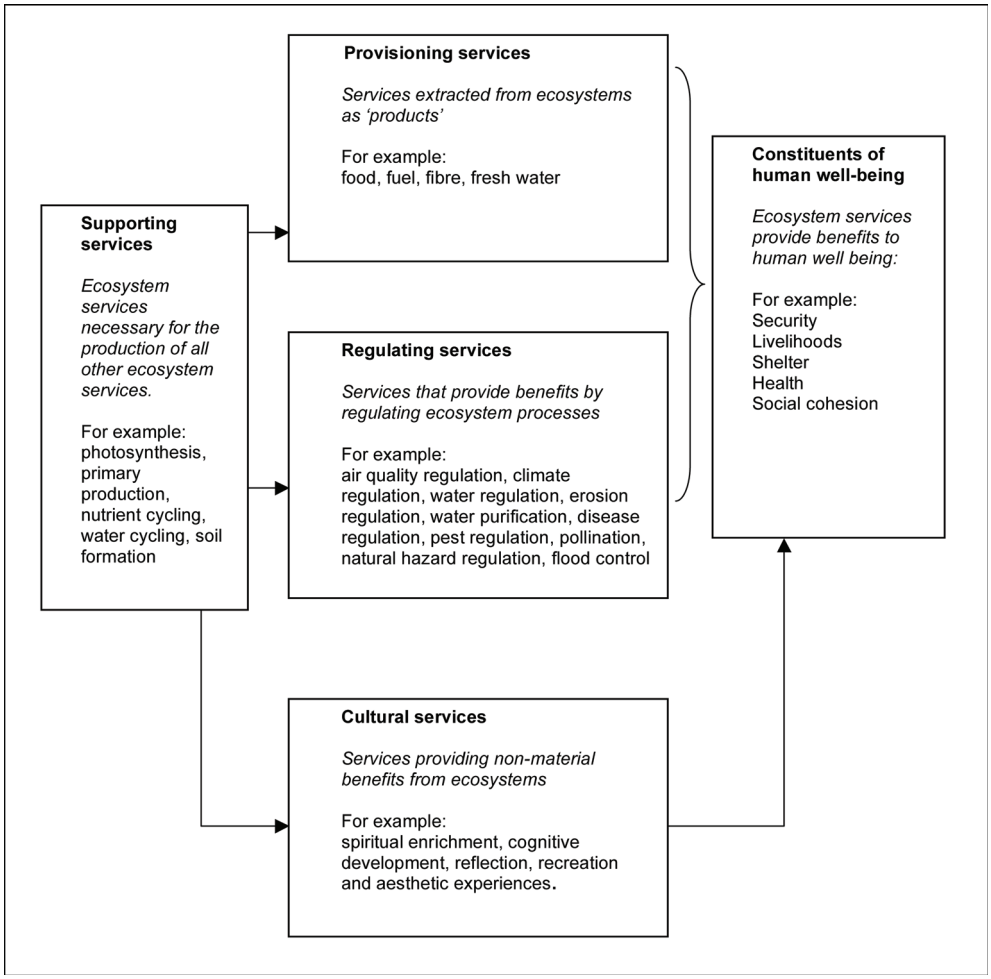


FIGURE 11.1 Ecosystem services: general framework (after Millennium Assessment, 2005)

allocation of resources if such an approach were embedded in the political and economic structures of modern society. Land management decisions based solely on the market value of commodities produced from the land (food, timber, etc.) are likely to be different from those based additionally on existing and potential nonmarket services (biodiversity, carbon sequestration, public enjoyment, etc.).

By properly valuing all ecosystem services, it is argued, human well-being is likely to be best served. Indeed the relationship between the value of services and the sum total of human well-being is interlinked within economic thinking. Much as the ecosystem service approach has sought to rescue the natural environment from the side lines of economy and society and place it center stage, so too the new well-being approach seeks to move the goals of policy away from economics—gross national product or value added—to more broadly conceived notions of human happiness and fulfillment (Bok 2010).

Of course, this approach to potentially incorporating the environment in wider decision making and resource allocation is not without its critics. There are three lines of attack that may be broadly categorized as philosophical, political, and scientific, although there is some overlap between the arguments (as set out in Winter 2012, on which this section of the chapter draws). The philosophical critique is based on those who argue that there are inherent limits to seeking to place economic value on all things. As Kant argued more than two centuries ago:

> [E]verything has a *price* or a *dignity.* If it has a price, something else can be put in its place as an equivalent; if it is exalted above all price and so admits of no equivalent, and then it has dignity. What is relative to universal human inclinations and needs has a *market price*…; but that which constitutes the sole condition under which anything can be an end in itself has not merely a relative value—that is, a price—but has an intrinsic value—that is, *dignity* (Kant 1785; emphasis in the original. Quoted in O'Neill 2007: 6).

Kant clearly had slavery in mind, but there are possibilities here for extending dignity beyond the human agent, and certainly Kant was embarking on a course of demanding limits to market logic, which finds echoes in contemporary misgivings over the economistic language that characterizes the ES approach. O'Neill, writing before ecosystem services had attained such common currency, but when one of its precursors—the language of natural capital—was in its ascendancy, puts it thus:

> We do not live in capital or stocks or bundles of assets. We live in places that are significant in a variety of different ways for different communities and individuals. And the natural world in which humans have entered and will one day leave is that, a natural world with its own history: it is not "capital."…Environments, plural, are not merely bundles of resources. They are where human lives go on, places to which humans have a lived relation of work, struggle, wonder and dwelling (2007: 108).

Talking specifically about ecosystem services, Norgaard uses even more robust language, claiming that what started as a humble economic metaphor has become integral to how we address the future of humanity:

> The metaphor of nature as a stock that provides a flow of services is insufficient for the difficulties we are in or the task ahead. Indeed, combined with the mistaken presumption that we can analyse a global problem within a partial equilibrium economic framework and reach a new economy project-by-project without major institutional change, the simplicity of the stock-flow framework blinds us to the complexity of the human predicament. The ecosystem services approach can be a part of a larger solution, but its dominance in our characterization of our situation and the solution is blinding us to the ecological, economic, and political complexities of the challenges we actually face (2010: 1219).

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To sum up the philosophical critique, there are logical errors in using economic metaphors to approach what are essentially noneconomic problems, and these difficulties ultimately limit the analytic utility of the ES concept.

The political critique centers on the consequences of the policy roll-out of the ES approach, which, some have argued, may have perverse, even negative, consequences. Thus McAfee and Shapiro (2010) have shown that the development of markets in biodiversity, carbon, and hydrological management through payments for ecosystem services in Mexico has clashed with antipoverty and local development goals. So too Kosoy and Corbera (2010) argue that the process of production, exchange, and consumption of ecosystem services may be characterized by power asymmetries as likely to reproduce rather than address inequalities in access to natural resources and services. Indeed, the emergence of new property rights for newly marketized ecosystem services may lead to increasing inequality.

The scientific critique emerges from disputes within ecology about the functioning of ecosystems. Some claim that most services are provided not by a particular whole ecosystem, but by any group of species that fulfills certain basic functional criteria and that is therefore capable of flourishing on a site (Ridder 2008). Biodiversity has come to play a pivotal role in the ecosystem services approach as part of an equilibrium biology in which everything is held to play a part and any perturbation is inherently risky to the whole. Ridder's counterargument is that of nonequilibrium ecology, which holds that ecosystem functioning is largely the result of opportunistic interactions between fluctuating and unstable species populations. In short, nature's stability may be overplayed by advocates of the ecosystem approach as ecosystem change is ubiquitous:

> Conservationists have been almost unanimous in their failure to acknowledge this distinction between resilient and sensitive ecosystem services. Not only does this threaten the credibility of conservation science, but also increases the likelihood that natural area management becomes hijacked by the demand that ecosystem service provision be made the dominant management criteria (Ridder 2008: 781).

CONCLUSIONS

In a chapter that has ranged widely from sociology to geography to economics to ecology, and finished with a quintessentially multidisciplinary applied approach—ecosystem services—it might be expected that the conclusion will reiterate the implicit plea throughout this chapter for interdisciplinarity in studies exploring the interface of farming and the environment. However, I will take this as axiomatic and my concluding plea is rather different. It concerns the issue of geographical scale within interdisciplinary endeavor. Environmental science, to grossly but generously generalize, is rather good at recognizing the importance of analysis at different scales. The ecosystems approach is constantly seeking to scale up and scale down. It is true that from time to time certain levels of scalar analysis will dominate and a preferred scale of analysis may emerge that

owes more to a particular disciplinary focus than to wider interdisciplinarity. For example, elsewhere, I have sought to counter the orthodoxy of catchment analysis within hydrology, as a means to approach water quality issues, by emphasizing the importance of the socioeconomic farm units, the territories of which do not necessarily neatly map on to catchments (Winter et al. 2010). Much of the offer of social science to the agri-environmental research endeavor, therefore, revolves around countering, challenging, and disturbing the scalar norms of environmental sciences. This may be about farm units that have spatial characteristics determined as much by economic and social forces as by physical ones. It may also be about the aspatiality of certain cultural forces or the fluidity of networks of interest that cut across space.

So one plea in this conclusion is that space and scale should be problematized as key analytic categories within interdisciplinary research. Another, to turn directly to social science, is to urge a rediscovery of local study as the underpinning of an interdisciplinary understanding of global agri-environmental issues. In recent years, there has been a neglect of local sociologies of agriculture with remarkably few local studies of agrarian sociology following in the path of Howard Newby's seminal work of the 1970s. There is a need for studies that will give due weight to local social formations and local politics, to farmers' worldviews within that local context, to the interactions between farmers' behavior and their occupancy and use of land, and to the ecosystem services that flow from our use of the land. While social surveys of farmers abound, sustained scholarship within a specific geographical milieu is very rare and needs to be revived as we seek to understand local natures, local production systems, and local cultures in their global contexts.

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Appellations and Indications of Origin, *Terroir*, and the Social Construction and Contestation of Place-named Foods

HARRY G. WEST

The use of place names to identify foodstuffs has a long history. The ancient Egyptians, for example, reportedly indicated the origin of grapes on vessels of wine destined for the Pharaoh (Allaire, Casabianca, and Thévenod-Mottet 2011: 2). The recognition of distinct qualities associated with a product from a particular place (as compared with the qualities of similar products from other places) arguably makes identification of a foodstuff's place of origin a matter of special interest (Allaire, Casabianca, and Thévenod-Mottet 2011: 2). But even prehistoric gatherers, hunters, and fishermen likely referred in some contexts to the foods they depended upon by describing, categorizing, or otherwise naming the places where they could be found—or named these places for the foods found in them—regardless of whether or not this information also denoted differing attributes.

Formal regimes governing the use of "appellations of origin"—that is, place names—for alimentary products can be traced at least as far back as ancient Greece, where references to place of origin in the wine trade were officially regulated (Allaire, Casabianca, and Thévenod-Mottet 2011: 2). In 1411, King Charles VI of France famously decreed that only cheeses aged in the caves of Roquefort-sur-Soulzon could be sold by the name Roquefort; more than 500 years later, in 1925, Roquefort cheese was granted the first ever French *Appellation d'Origine Contrôlée* (AOC). The French AOC regime, established by laws passed in 1905 and 1919 and by the formation of the Comité National des Appellations d'Origine in 1935, not only limited the use of place names for registered products, but also provided mechanisms through which producers could delimit

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the geographical region in which these products were legitimately made as well as identify and regulate their defining characteristics and the methods by which they were produced.

Today, appellations of origin (including but not limited to those for foodstuffs) and other geographical indications are regulated through a growing array of national laws and international treaties that sometimes reinforce and sometimes contradict one another, as we shall see. With the formation of the European Union (EU) in 1992 came legislation ensuring protection in all EU member states of Protected Designations of Origin (PDOs)[1] and Protected Geographical Indications (PGIs)[2] registered in any one of those states. As of June 14, 2012, some 1,098 products had been registered, including but not limited to fruits, vegetables, fish, seafood, fresh meats, cured meats, cheeses, other animal products, fats, oils, cereals, breads, pastas, pastries, cakes, beers, mineral waters, and beverages made from plant extracts.[3] Since 1995, the World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) has also provided for the mutual protection of what it calls "geographical indications"[4] within its member states, although, as we shall see, only for wines and spirits is this protection as robust as that afforded by the EU because of resistance to more rigorous protection by nations including the United States.

As I argue in this chapter, the idea that a product may be definitively linked to its place of origin is not only a social construct—shaped by varying cultural, political, and economic dynamics—but also, frequently, the object of considerable contestation. Much of the academic literature on appellations of origin and other geographical indications (hereafter referred to in this chapter separately as AOs and as GIs or collectively as "appellations and indications of origin," or AIOs[5]) has reported—even articulated—the perspectives of interested parties. Economists have outlined cases for and against greater protection, while legal scholars have proposed better—clearer, fairer, or more inclusive—regimes of protection. More recently, historians, anthropologists, sociologists, political scientists, and geographers have taken interest in AIOs. Their contributions have brought to the fore the perspectives of previously silenced parties, including small-scale farmers and food makers, other stakeholders in local economies and ecosystems, and consumers, as well as introducing greater nuance—or ambivalence—into these debates.

This chapter presents and discusses a series of interconnected themes emerging from the literature on AIOs, identifying along the way key contributors and the debates to which they have been party. The chapter also suggests directions for future research in this fast-growing and vibrant field of study.

FRAUD, AUTHENTICITY, AND THE IDEA OF *TERROIR*

Fundamental ironies have long been manifest in the use of appellations and indications of origin. According to some commentators, the practice of naming a product for its place of origin becomes most meaningful precisely when the product is traded beyond

that place (for example, when *Tomme de Savoie* comes to be sold outside of the domain of Savoy, prior to which it may simply have been called *tomme* [6]) (Allaire, Casabianca, and Thévenod-Mottet 2011: 1–3). Following on this, others have suggested that, not only does expansion of trade render producers vulnerable to competition from imitators in the very places into which trade expands, but the naming of goods for their place of origin is both a means of defense against and an essential precondition for the occurrence of the fraudulent use of a place name to capture the value of more reputable products from that place (Bérard and Marchenay 2006: 110).

The French AOC regime was indeed born of concerns about fraud. After vineyards in the most prestigious winemaking regions of France were decimated by phylloxera in the 1860s and 1870s, merchants began falsely labeling (as, for example, Bordeaux or Burgundy) wines produced in other, less prestigious regions. As elite producers struggled to reestablish their vineyards in the following decades, they were deeply concerned that others were capturing their markets while damaging their reputations through the sale of inferior products bearing their names (Moran 1993: 704; Thévenod-Mottet and Marie-Vivien 2011: 14). AOCs were intended to put such fraudulent practices to an end through the certification and defense of authentic products from named places.

Implicit in such concerns about fraud—and in the practices and regulatory regimes to authenticate origin that arise historically from these concerns—is the idea that place of production matters significantly to particular products, including many foodstuffs. The idea is often—and perhaps most succinctly, even poetically—conveyed through use of the French term *terroir.* In the words of legal scholar Justin Hughes: "Appellation laws are traditionally justified by the idea of terroir: that a particular land is a key input for a particular product. There is no direct English translation of 'terroir,' but the idea is that the product's qualities 'come with the territory' " (2006: 301).

The terroir concept suggests, for example, that in winemaking the composition of the soil, seasonal patterns of rainfall and sunshine, the slope and orientation toward the sun of vineyard land, and the variety of grapes chosen for cultivation within this environment all profoundly shape a wine, and further, that each region combines these elements in distinctive ways, giving rise to distinctive wines (Wilson 1998).[7] With reference to cheese making, for example, the same might be said of the differentiating significance of the elevation of grazing land, its levels and patterns of precipitation, the palate of grasses and flowers growing on it, the breed of animal selected for grazing on it, the molds and fungi growing within its caves (where cheese is aged), and so on (West 2013).

While the terroir idea has focused attention on the significance of varying natural environments to the products derived from them, many of those deploying the concept have also included within it varied forms of patterned, or cultured, human interaction with such environments.[8] The human dimensions of terroir are often described as forms of local or indigenous knowledge, and are said to animate the productive traditions through which local inhabitants coax the best possible products from the places in which they live. In development sociologist Elizabeth Barham's words: "It is said in French, for

example, that certain customs or idioms are rooted in their terroir, … [and that] terroir products … [result] from long occupation of the same area and [represent] the interplay of human ingenuity and curiosity with the natural givens of place" (2003: 131).

The terroir concept has, however, been the focus of considerable debate. Some conceive of terroir—which anthropologist Amy Trubek has defined as "the taste of place"—as an *essential* expression of a distinctive natural environment. Trubek reports (and often celebrates) what she calls a "fundamentalist" conception of terroir in France—one that "begins with a defined place" and considers the connection between people and their land to be "essential, as timeless as the earth itself" (2008: 18). The words of French historical geographer Roger Dion are representative of this view: "[T]o write the history of wine is to write the history of the French people, a history grounded in an ancient past and a timeless terroir, which serves as a repository for the accumulated historical memory of France" (translated in Guy 2003: 2–3). Accordingly, for Dion, the Champagne region was "'predestined' for fine wine production" (Guy 2003: 2–3). British wine writer Hugh Johnson echoes this perspective when he tells his readers: "[T]he land itself chooses the crop that suits it best." Otherwise, he says, "Why have all French growers not settled for the same grapes, the same techniques, the same ideal of what a good wine should be?" (quoted in Wilson 1998: 55). Roger Bohmrich—a United States-based wine distributor and wine writer—reports along similar lines that "[S]ome vignerons… staunchly maintain that they are merely the stewards of nature and 'let the wine make itself'" (1996: 40).

Others have challenged the veracity of "terroirist" claims to an inherent connection between a place, its inhabitants, and their products. For example, geographer Daniel Gade writes: "Geographers have diverged in their assessment of the significance of terroir" (2004: 865). He builds upon the work of geographer Warren Moran, who argues that linkages between physical environment and wine quality are generally unsupported scientifically (see also Bohmrich 1996), and that the historically recent production of quality wines with prestigious appellation grape varieties in areas of France formerly considered suitable only for bulk wine production—not to mention in vineyards in California, Australia, New Zealand, South Africa, Chile, and Argentina—"[has] challenged the environmental myths about the prestigious winemaking areas being unique" (Moran 1993: 715). Addressing the human dimensions of terroir claims, Gade adds, "If judged solely in an organoleptic way, new wine regions often come out better than those in France" precisely because their producers are *not* bound by tradition (2004: 862). He concludes: "[U]ntil a methodology is found that reveals the hitherto elusive connection, the assertions made for terroir are negotiable" (2004: 865).

An alternative conclusion might be that ongoing debates between those who subscribe to the idea of terroir and those who consider it a myth offer a point of departure for natural scientists and social scientists to examine empirically the influences of a vast range of environmental variables on the characteristics and qualities of the foods produced in any particular place—a project that will require innovative methods as well as more interdisciplinary forms of inquiry.

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THE SOCIAL CONSTRUCTION OF TERROIR, APPELLATIONS AND INDICATIONS OF ORIGIN, AND CONCEPTIONS OF AUTHENTICITY

Closer historical examination of the terroir concept and of the creation of appellations and indications of origin moves us beyond debates over the empirical truth or fallacy of terroir, revealing instead how terroir and AIOs are socially constructed—that is, shaped by various cultural, political, and economic perspectives and interests.

Notwithstanding her enthusiasm for the terroir idea, Amy Trubek's work reveals that terroir and the French AOC are very much invented traditions. Along with Kolleen Guy and Sarah Bowen, she writes that "authentication regimes—such as the AOC system—arose in the same period as nations, such as France, were inventing their own traditions . . . and always served to certify and protect the collective patrimony, believed to be rooted in soil and history, connected with place and transcending time, offering a genuine experience of France" (Trubek, Guy, and Bowen 2010: 140, 142). Regardless of whether terroir claims are true or false, they assert: "[T]he foundation of [the French AOC] system has always been the collective *belief* in *terroir*" (Trubek, Guy, and Bowen 2010: 146).

While Trubek claims that "an emphasis on practice, place, and taste was [historically] embraced at all levels of French society, from the individual peasant to the highest-ranking official in the French Ministry of Agriculture" (2008: 93), her work also reveals that, from the early twentieth century, "French *tastemakers*—journalists, cookbook writers, chefs—and *taste producers*—cheese makers, winemakers, bakers, cooks—effectively shaped how people tasted wine and food,. . . interven[ing] into an everyday occurrence, eating and drinking, and guid[ing] the French toward a certain relationship between taste and place" (2008: 21). These tastemakers, of course, reaped benefits from the celebration of diverse and distinctive French foods in the idiom of terroir. Included among such tastemakers was the Michelin tire company, for example, whose published guides were intended to lure people onto French roadways and into the French countryside (Trubek 2008: 37), and whose investment in the construction of terroir paid handsome dividends in tire sales.

Detailed examination of the inception and development of particular AIOs sheds light on how they too are socially constructed and contested, even in the very moments and places of their creation. Historian Kolleen Guy provides a rich account of how the Champagne appellation—generally considered the first *legally recognized* appellation of origin (albeit, when established, predating *control* by the AOC regime)—emerged not from harmonious cooperation between all parties invested in the production and sale of Champagne but, instead, from a context of bitter struggles between peasant vine growers (*vigernons*) and the merchant-manufacturers (*négociants*) whose *syndicat* had long allowed them to set prices, to their advantage, all along the Champagne commodity chain. In fact, by strengthening the market position of *négociants,* the 1908 appellation contributed to a violent revolt of *vigernons* in 1911 (Guy 2003).

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Sociologist/anthropologist Marion Demossier, who has studied the history of Burgundy wine, similarly argues: "[T]erroir has been a powerful tool in the hands of local elites as they have sought to protect their social and economic position." However, in the Burgundy case, she argues, the creation of an AOC worked to the detriment of merchants. She tells us that at the time of the establishment of the Burgundy AOC in 1935, the wealthiest landowners used terroir discourse to secure *their* claims to the value of Burgundy wines vis-à-vis wine merchants by "strict[ly] defin[ing]… the past through '*usages locaux, loyaux, et constants*'" within the AOC framework, and excluding therein any mention of the role played by merchants (2011: 689–690).

The official constitution and recognition of AIOs has also, in many instances, pitted producers of a product against one another or exacerbated tensions between them. Anthropologist Robert Ulin tells the story of how, in the seventeenth and eighteenth centuries, bourgeois vintners with invented ties to an aristocratic past created a value hierarchy within the Bordeaux region that was consolidated in AOCs classifying their *grands crus* as superior wines. Building upon the good reputation of Bordeaux wine in England dating to the English occupation of the Aquitaine from the twelfth century to the fifteenth, and *not* necessarily upon superior climate and soil, Bordeaux *grands crus* producers subordinated not only poorer winemakers in their own region, but also winemakers in adjacent interior regions of the country (Ulin 1996).

By contrast, the producers of Cassis wine, studied by Gade, never elaborated a quality hierarchy within their AOC (also created in 1936). According to Gade, this AOC's inclusion of all of the commune's wine-producing residents was no less socially constructed, even if—or, precisely because—it was formed on a vastly different cultural, political, and economic landscape. The Cassis AOC's inclusiveness in fact reflected concerted attempts to avoid factionalism in a place historically defined by a relative absence of social differentiation, and to forestall the emergence therein of a winemaking elite.

Economists Hélène Ilbert and Michel Petit have asserted: "GIs are instruments that can be used by all genuine economic agents in a specific geographical area, who respect the terms of reference guaranteeing conformity with tradition" (2009: 504). But in practice, as we have seen, the creation, use, and regulation of such instruments are always the objects of some form(s) of cultural, political, and economic negotiation or contestation. Insofar as they effectively serve the interests of some, they inevitably undermine the interests—whether real or (as in the case of Cassis) potential—of others. Insofar as they include and protect some, they unavoidably exclude and/or render vulnerable others (Barham 2003: 136; Belletti and Marescotti 2011: 85).

What is more, AIOs—which not only delimit legitimate areas of production, but also define permissible productive techniques—similarly include and exclude productive traditions or elements thereof. In some cases, conservative perspectives and practices may prevail over more modern ones, such as, for example, in the case of the French cheese Tradition Salers—a sub-appellation of the Salers cheese AOC—which requires that the cheese be made from the raw milk of Salers-breed cows grazed on high mountain pastures between the dates of April 15 and November 15, and that it be made

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without a starter culture in a wooden vat called a *gerle,* as transhumant herdsmen in this region have done for centuries. In other cases, an AIO may actually require modern or progressive practices, as the Stilton cheese PDO does by requiring producers to make their cheese from pasteurized milk (forbidding use of the Stilton name to anyone making cheese, as their forebears did, from raw milk).

Through their very definitions of productive traditions, then, AIOs unavoidably construct the authenticity of the products they purport to defend while, through the inclusion and exclusion of particular producers, they transform and shape the membership and the identities of the social groups they purport to represent. While the works cited earlier give historical evidence of such dynamics, the continuing study of AIOs—including analysis of the creation of new AIOs in an array of differing contexts—would do well to draw upon the examples they afford to better recognize the cultural, political, and economic dynamics animating AIOs from place to place and over time.

APPELLATIONS AND INDICATIONS OF ORIGIN AND THE CREATION AND CAPTURE OF VALUE

Nearly a century after the creation of the French AOC system, tastemakers (to use Trubek's term) in an array of geographical and social contexts are still inventing the terroir concept and still constructing appellations and indications of origin along with regimes to govern them. This is presumably because there is much to be gained by linking products to particular places and by limiting the use of such place names to particular people. Demossier writes: "Terroir is about asserting and justifying differences at local and even micro levels and ultimately about acquiring social, economic, and political benefits from such claims" (2011: 689). Economic and social scientist Sophie Réviron and agricultural engineer Jean-Marc Chappuis make this point more simply and directly: "A main reason for joining GI collective organizations is their ability to negotiate a price premium… This 'premium' is paid by consumers who acknowledge the superior quality of the product offered…" (2011: 48).

In fact, contributors to the literature debate whether or not AIOs add value to the products to which they are attached. Research on consumer attitudes toward AIOs has been limited and has yielded contradictory conclusions, with some questioning consumer recognition of and response to them, and some asserting that consumers do recognize them as marks of quality to the benefit of certified producers (Arfini, Albisu, and Giacomini 2011: 30; Tregear and Giraud 2011: 64). Further research on this question will need to be attentive to the great variability of consumer responses to AIO certification while at the same time identifying broader patterns and trends.

A wide range of *producer* attitudes toward formal certification of AIOs—similarly underresearched to date—raises further questions regarding their value. Many producers of foods associated historically with particular places decline to join, opt out of, or show no interest in establishing certified AIOs. In some instances, the costs of certification may be greater than real, anticipated, or perceived benefits. Membership fees may be too high to

pay, or the investments required to satisfy AIO standards—or to satisfy the more stringent health and safety regulations often accompanying certification—may be too costly to afford (Arfini, Albisu, and Giacomini 2011: 32; Belletti and Marescotti 2011: 84).

Certification costs may be more easily recovered by larger-scale manufacturers than by smaller-scale producers. Indeed, certification may be most attractive to those seeking access to—and able to meet the demands of—larger or more distant markets such as international/gourmet food networks or supermarket chains for which AIO certification is often considered a mark of quality. But certification may be a double-edged sword in such contexts. Marketing researcher Angela Tregear and economic and management scientist Georges Giraud have suggested that AIOs may create a sense of intimacy, despite geographical distance, between producers and consumers, and that they may actually work best over such distances, allowing consumers to connect with exotic objects of desire (Tregear and Giraud 2011: 70). They argue, however, that consumers with greater knowledge of the place in which a product is produced may consider certification unnecessary (and not worth paying for), opting instead to buy from uncertified producers of similar goods while "certifying" quality and authenticity themselves. They even suggest that knowledgeable consumers may view certification as a sign of a producer's orientation toward larger or more distant markets, and therefore as a mark of *lower* quality and *diminished* authenticity (Tregear and Giraud 2011: 70; see also West and Domingos 2012: 138).

Where certification of an AIO does create value, just who captures this value may vary greatly depending upon the cultural, political, and economic dynamics animating the establishment and administration of the AIO. Sociologist Sarah Bowen's examination of the French Comté cheese AOC (created in 1958) examines this issue on the basis of rich ethnographic data. Bowen argues that, because of its cooperative structure (which fosters democratic engagement), its profit-sharing arrangements, its strict productive protocol, and its members' understanding of and cultural commitment to the terroir concept, the Comté AOC has prevented the consolidation of value in the hands of a select few, facilitating the distribution of benefits to a wide range of stakeholders while preserving the quality of Comté cheese. She cautions, however, that the success of this AOC has not only led to growth of the Comté industry, but it has also attracted new entrants who are less committed to the region and to the defining characteristics/qualities of the product (2011).

Bowen's work indexes broader phenomena that, in future, merit comparative study in other geographical and social contexts, as well as at other scales. As economist and legal scholar Dwijen Rangnekar has suggested, competition to capture the value of an AIO may occur between those "at identical stages of the supply chain (e.g., one cheese ripener versus another) and [between those] at contiguous stages of the supply chain (e.g., a dairy firm versus a cheese ripener)" (2004: 4–5), but it may also occur between actors at vastly different scales, ranging from peasant or family farmers to supermarket chains and global food distributors. Agronomist Gilles Allaire and colleagues write: "Considering the trend towards globalization, as well as towards market segmentation,

agro-food and retail firms have an interest in developing variety of supply and therefore in absorbing the markets for GIs, including the small ones. In this situation, the success of a GI production system, including the maintenance of a quality reputation and of innovation, depends on both the governance of the entire chain and the distribution of GI rent along that chain, including raw material producers" (Allaire, Casabianca, and Thévenod-Mottet 2011: 7; see also Arfini, Albisu, and Giacomini 2011: 42).

In many instances, however, what Allaire considers necessary may prove elusive. Réviron and Chappuis outline a common and troubling scenario: success of an AIO leads to increased demand for a product, as well as to existing producers scaling up—or well-capitalized outsiders joining in—production to increase output; as larger operators join in or emerge, they tend to influence collective decision making, imposing their own values (often more profit driven than those of smaller-scale and/or longer-standing members); finally, feeling that the AIO no longer reflects their values, smaller-scale and/or longer-standing producers abandon it to newcomers (2011: 59). In another scenario, described by economists Giovanni Belletti and Andrea Marescotti, larger newcomers not only capture most of an AIO's value, but also depress prices through increased production, making it difficult (if not impossible) for smaller-scale producers to survive (2011: 84–85). Such scenarios highlight the importance, in future, of better empirical analysis of the actual economic value of an AIO, as well as of who actually captures whatever value it generates and who, by contrast, loses out.

APPELLATIONS AND INDICATIONS OF ORIGIN AS PUBLIC GOODS

Increasingly, enthusiasm for appellations and indications of origin has come not only from producers—if from them at all, in some cases—but from enterprises, organizations, and institutions espousing them as valuable public—even universal—goods. Anthropologist and legal scholar Rosemary Coombe and her colleague Nicole Aylwin assess such perspectives in their work on what they call "marks indicating conditions of origin." While recognizing that such marks do not "merely reflect the world of traditions that pre-exist them" but also "reify, objectify, and socially construct cultural differences" that may then be traded as commodities, they also assert that "focus[ing] merely upon the invention of tradition in these scenarios unduly discounts the social, economic, and political impact of these activities and the hope they hold out for those who imagine distinctive futures." In their view, such "marks of distinction… have become means to express identities and desires so as to protect alternative assertions of value in commodity circuits that traverse sites of production and consumption" (2011: 2027, 2029, 2032).

A simple example of this is provided by agricultural economist Ramona Teuber in her account of local consumers of Hessian apple wine who are willing to pay more for this certified product, not because they consider it of better quality, or more authentic, but because they believe that buying it supports their local economy (2011). Through tourism, or by purchasing AIO products from a distance, extra-local actors may also "express identities," fulfill "desires," and "imagine distinctive futures" (to use Coombe and

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Aylwin's words) as they consume—even participate in the construction and reproduction of—their cultural others and these others' localities.

Underscoring such possibilities, rural development sociologist Christopher Ray has argued that AIO products may serve as valuable elements in a "cultural economy approach to rural development" (1998) in which, in Coombe and Aylwin's words, "a territory, its cultural system, and a network of actors construct a set of resources to market local culture to others willing to pay a premium for distinctive goods" (2011: 2028). Along these lines, Belletti and Marescotti state that certification of an AIO product may lead to employment opportunities within product supply chains and beyond them, giving rise to a diversified "territorial basket of goods" and serving as an engine for local development planning (2011: 79–80). In other words, AIO certification and recognition may lead not only to more producers—or to more jobs working for existing producers—but also to business for local restaurants and hotels, markets and festivals, museums and other tourist attractions, and so forth (Barham 2003: 136; Tregear et al. 2007). Indeed, many towns and/or regions today survive—even thrive—on the economic activities generated by linking a product with a place through an AIO.

The potential value of AIOs to local or regional development has prompted governments, tourist boards, chambers of commerce, business associations, and other public and private entities in various places to actively encourage producers (to pull them, even when they are not pushing) to create and defend AIOs (Arfini, Albisu, and Giacomini 2011: 36)—a phenomenon warranting focused study in the future. The most visible efforts in this regard include the creation of official inventories of traditional foodstuffs and subsequent certification of these, as well as petitioning the United Nations Educational, Scientific and Cultural Organization (UNESCO) for recognition of a local, regional, or national cuisine on *The Representative List of the Intangible Cultural Heritage of Humanity,* as has occurred with "The Gastronomic Meal of the French," "The Mediterranean Diet," and "Traditional Mexican Cuisine" (Parasecoli and Tasaki 2011: 113).[9]

Advocates of the use of AIOs for local or regional development argue that they are potentially valuable tools precisely because, by definition, they are intrinsically tied to a place (Belletti and Marescotti 2011: 75–76). According to Barham (who draws on the work of mid-twentieth-century Hungarian political economist Karl Polanyi), AIOs, and the terroir concept underlying them, have often been conceived of by those who use them as means of "reembedding" food and foodways in the social and ecological spheres from which the contemporary global food system has "disembedded" them (2003: 129–130). For many advocates, the importance of terroir—that is, of natural environmental context—to AIOs means that they inevitably serve to protect local ecologies and to promote biodiversity. Coombe and Aylwin report a trend in certification toward even more explicitly and profoundly "interlink[ing] the protection and promotion of cultural and biological diversity" (2011: 2032). Tregear and Giraud suggest that this trend resonates with contemporary consumers, who may choose AIO products not only as "a way of showing [their] aesthetic good taste and distinction from others," but also "to address

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their concerns about the social and environmental world around them in a reflexive way" (2011: 65; see also Barjolle, Sylvander, and Thévenod-Mottet 2011: 101).

The use of AIOs for development purposes is not without its problems and its detractors, however. According to Trubek, residents of the Dordogne in France "feel that the traditional foods of the region—foie gras, truffles, cabécous—have been swallowed up by the tourism industry, victims of the development of a regional theme park" (2008: 236). Sociologist Jacinthe Bessière reminds us that such uses of food to "preserve heritage" (she refers here to cultural heritage, but this might also be said in reference to natural/biological heritage) inevitably transform it in the moment of its reproduction and/or recreation (1998). Barham speaks of concerns "that the countryside and the customs defined as consonant with it will undergo a process of 'Disneyfication,' becoming living museums for visitors from the city, a kind of 'rurality under glass' for the consumption of privileged consumers" (2003: 132).

Bowen, whose work also serves as a model for much-needed critical examination of the actual consequences of AIOs for biodiversity, warns against a tendency in the literature to romanticize AIOs as means of (re)embedding foods in their social and ecological spheres—a tendency to conflate spatial dimensions of (re)embedding with social dimensions and to ignore how power relations, which vary greatly from case to case, determine the concrete effects of particular AIOs. Observing that the idea of embeddedness may itself be appropriated and used by extra-local actors, she reminds us of the need to ask in what ways, to what ends, and to whose benefit AIOs *actually* (re)embed foods (2010b).

DISPLACEMENT AND NEW WORLD RESISTANCE TO APPELLATIONS AND INDICATIONS OF ORIGIN

Not all parties agree even with the proposition that foods and foodways should remain embedded (or be reembedded) in specific, singular localities—that they should belong to any one place and its inhabitants. If a product's terroir includes not only the natural ecology in which it is made but also its human ecology—that is, the traditional or indigenous knowledge of its producers—then the geographical displacement of people inevitably tests the terroir equation of people, place, and productive traditions, as well as the appellations and indications of origin based upon it.

As Allaire points out, it has often been tenants or laborers, rather than the owners of the land on which products are made, who have historically sustained knowledge of how to produce them (Allaire, Casabianca, and Thévenod-Mottet 2011: 7). When the bearers of such traditional knowledge are separated from the land on which a product has long been made—as happened, for example, with the decline of the *latifundia* in the Portuguese Alentejo in the 1960s and the partial relocation of cheese making to shops on the ground floor of small-town homes owned by those formerly employed to make cheese on large estates—terroir may be fractured, and proliferating claims to authenticity may profoundly conflict (West and Domingos 2012).

Migration over greater distances, including international migration, presents even more vexing questions for the terroir concept, and has historically given rise to some of the

most visible forms of contestation over AIOs. Over centuries, European migrants to the New World (including North and South America and Australasia), not only carried their foodways with them—setting up businesses to produce and sell what they considered *their* foods—but also frequently continued to refer to these foods by the names they knew—often place names (Barham 2003: 128–129). Especially when migrants moved to places with similar natural ecologies, reproducing Old World foods was not difficult (Sylvander and Barham 2011: xv). Having reproduced, to the best of their abilities, the Old World within the New—often even naming their new villages, towns, or regions after places from which they had come—these migrants generally considered themselves rightful owners of the traditions and the names to which they gave continuity.

At the same time, while producers from Europe have looked upon the use by New World manufacturers of names such as Parma (for ham), Parmesan or Feta (for cheese), or Chablis (for wine) as acts of usurpation, these manufacturers have often argued that, in the New World, the names they use have become generic designations for a type of product, unconnected in the minds of consumers with particular places of production (Sylvander and Barham 2011: xiv–xv). To give a famous example, whereas Czech-based brewers conceive of themselves, exclusively, as the rightful users of the name Budweiser Budvar—derived from the name of the Bohemian town of České Budějovice where beer by that name has been brewed since the late eighteenth century—Anheuser-Busch lays claim to the name based upon more than a century of hard work and financial investment in what has become the number-one-selling brand of beer worldwide (Barham 2003: 128–129; Josling 2006: 354).

As suggested earlier, the movement of goods made in one place to markets in another renders AIOs both possible and necessary. Allaire argues that, as markets have expanded historically, and as commodity chains have lengthened, it has indeed become necessary to protect AIOs through regimes of greater geographical dimensions in order for protection to remain meaningful (Allaire, Casabianca, and Thévenod-Mottet 2011: 1–2). However, along with the geographical expansion and internationalization of AIOs has come greater contestation and fragmentation of protection. Building upon the 1883 Paris Convention for the Protection of Industrial Property,[10] and the 1891 Madrid Agreement Concerning the International Registration of Marks,[11] the 1958 Lisbon Agreement for the Protection of Appellations of Origin and their International Registration precisely defined appellations of origin and provided specific measures for their protection (Thévenod-Mottet and Marie-Vivien 2011: 18). However, while signatories to the Lisbon Agreement committed to affording other members' registered products the same protection as their own (Josling 2006: 350), only twenty countries initially joined, and as of February 2012, only twenty-seven were members. Conspicuous in their absence from membership of the Lisbon Agreement have been New World countries such as Australia, New Zealand, Argentina, Brazil, Canada, and the United States.

Where New World producers using Old World names have developed successful brands that generate profits, employment, and tax revenue, their governments have

tended to support them, spurning attempts to expand protection for AIOs globally. For example, the United States—whose food traditions are mostly transplanted from elsewhere and therefore have shallower roots in their existing localities than in Europe—has generally considered AIOs to be nothing more than "collective monopolies, enabling producers of goods to capture differential rents from a locality and its reputation and thus to capitalize upon comparative advantage" (Coombe and Aylwin 2011: 2027).

"Terroir is about protection," Demossier has argued, "but it is also a tool to engage constructively with a global market and its literary, economic, and legal manifestations" (2011: 688). Over time, many commentators have suggested, European investment in the idea that Europe's traditional foods are of higher quality, and that their greater value should be recognized and protected in global markets through AIOs, has been motivated by a growing European need to define and defend a niche in global agricultural markets in the face of stiff competition from productivist industrial agriculture in North America and Australasia (Barham 2003: 127; Trubek, Guy, and Bowen 2010: 142). But this "constructive engagement" (to adapt Demossier's term) has given rise to what Bohmrich calls an "ideological confrontation:" "On the one side are 'terroirists' with a vested interest who wield the concept as a weapon on the world market to assert that European classics are infinitely superior and will always remain so. On the other side, modernists reject what they perceive as bogus scientific arguments which serve to perpetuate a marketing advantage" (1996: 44).

To date, debates over this issue have been dominated by legal scholars and economists. Agricultural economist Tim Josling has argued, for example, that the legitimacy of AIOs hinges upon whether or not the information they provide consumers through linking a product to a place truthfully represents genuine and distinctive attributes of the product: "So long as that information relates in a reasonable way to a consumer attribute (real or perceived) then it can be presumed to be of benefit. . . On the other hand, if the link between quality and location is not so reliable then the information may deflect choice and instead provide marketing advantage to one group of producers by restricting competition" (2006: 338). However, because there may be far more at stake in an AIO than the distribution of rents—because an array of interrelated economic, political, and cultural dynamics may shape the social construction of any AIO—future contributions to the study of divergent views of terroir and AIOs by scholars in other disciplines, such as history, sociology, anthropology, geography, and political science, will be essential. What little work has already been done suggests that differing conceptions of terroir and of AIOs have deep historical roots.

One might argue, even, that the terroir concept expresses itself differently from place to place depending upon a range of relevant sociohistorical factors—that there exists, if you will, a terroir of terroir. The French conception of terroir, for example, was significantly shaped in the late nineteenth and early twentieth centuries by writers such as Paul Vidal de la Blache, a geographer who called attention to historically persistent territorial identities by mapping diverse ways of life in relation to the nation's variable natural landscape (Trubek 2008: 23). The French notion of terroir was further inflected in these

years by the currency of corporatist ideology—that is, the idea that individual participation in a greater social body was mediated by membership of component groups (e.g., tradesmen, peasants, etc.) that, to a significant extent, regulated and disciplined themselves in exchange for privileges awarded by the state. From the early twentieth century, corporatism provided fertile ground for the formation of producer groups that might petition the French state for the recognition of AIOs and, by tightening the relationship between the country's citizenry and local government (particularly in rural areas) (Gade 2004: 862–863), corporatism also encouraged the investment of local government in its citizens' collective property through, for example, AIOs (Barham 2003: 129).

By contrast, in the United States—a country formed by mass immigration as well as by mass transmigration in recent centuries—identities and relationships with places of residence have been more unstable and/or fragmented historically. Rather than corporatism, an egalitarian ideology—defined in this setting by the celebration of individualism and free enterprise—has shaped the American social sphere. Accordingly, local government has served far less as a vehicle for brokering and expressing social identities or for protecting tangible or intangible forms of collective property. In light of this, it is not surprising that the U.S. government has not only been averse to providing robust protection for other nations' AIOs, but has also shown little enthusiasm for protecting its own. Barham sums this up well: "On a deeper level, geographical indications as a form of intellectual property challenge the law, culture and economic logic of American business, oriented as it is towards liberal economic theory based on individual ownership" (2003: 129).

While the United States does not recognize AIOs as a distinct class of intellectual property (except in the case of wine and spirits), it does, however, protect these to some extent (Josling 2006: 347–349). As Barham explains, "The United States is familiar and comfortable with trademarks as a way of protecting the intellectual property associated with a business name… [and] has taken the position that the current system of international trademarks can be used to protect origin labelled products" (2003: 129). There are, of course, substantial differences in the protection afforded by U.S. trademark law and that afforded by legal frameworks intended specifically for the protection of AIOs. Not only does the United States deny protection to names it considers generic, as discussed previously, but the protection of AIOs through trademark law "makes the intellectual right a collective property" rather than "a right protecting a community heritage" (Allaire and Sylvander 2011: 113). Such trademarks are exclusive property—whether owned by firms, governments, or in the case of collective marks, by cooperatives or associations—that may be bought and sold, but *not* used by *anyone* (even if working in the same *place*) except their owners. Furthermore, U.S. trademark law places the onus on the owners of such marks to identify and bring suit against those infringing upon their property rights and to bear any associated costs thereof, as compared with systems like the French AOC through which the state enforces observance of rights, mostly at public cost. Josling summarizes the differences as follows: "Trademarks are essentially a private sector tool, with public sector help to enforce them, whereas the European-style GI is much more an instrument of public policy" (2006: 349). Future scholarship might

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usefully focus on the real or potential consequences of such differences for various parties involved in, considering, or concerned about the establishment of an AIO.

Although trademarks have long been used even in Europe to protect AIOs (Thévenod-Mottet and Marie-Vivien 2011: 14), *sui generis* systems have ultimately been far more important in the protection of AIOs there, as we have seen, not only at the level of individual nations but also within the EU framework. Following on failed attempts in the 1970s by the World Intellectual Property Organization to attract new signatories to the Lisbon Agreement (for which it had taken on administrative responsibility) and to expand its registry of products internationally (Thévenod-Mottet and Marie-Vivien 2011: 19), the protection of geographical indications was included in the WTO-TRIPS agreement, as mentioned earlier.[12] However, while TRIPS provides vigorous protection for wine and spirit AIOs, the protection it affords other foodstuffs is far less robust.[13] While this made TRIPS acceptable to the United States—which already afforded more robust protection for wine and spirits—as well as to other countries including Canada, Australia, Argentina, Chile, Colombia, and Taiwan, it has not fully satisfied the EU and a growing number of allied countries that continue to press for more robust levels of protection for other foodstuffs as well (Josling 2006: 352; Thévenod-Mottet and Marie-Vivien 2011: 22).

APPELLATIONS AND INDICATIONS OF ORIGIN IN NEW PLACES

Although disparate views have produced stalemate over appellations and indications of origin within the WTO context in recent years, AIOs have in fact proliferated worldwide. Much of this has occurred in unexpected places. Rangnekar reminds us that, despite the long-standing resistance of the Global South to most intellectual property agreements, it was a group of these countries who in fact put AIOs on the agenda for the WTO's Seattle Ministerial in 1999, surprisingly "as *demandeur[s]* for stronger protection" (2010: 77). In recent years, Brazil, Peru, Colombia, Chile, South Korea, and India, among others, have all passed legislation to protect AIOs in their own countries (Bowen 2010a: 232). The number of products registered in these countries has, in some cases, been high,[14] with newly registered products contributing substantially to the growing diversity of AIO products globally.

Arguments in favor of the recognition and protection of AIOs in the Global South echo those made previously in northern countries, namely that they mitigate risk of fraud for products of established reputation (Sautier, Biénabe, and Cerdan 2011: 139), that they allow producers better to capture the value of their goods in an expanding global market (Bowen and Valenzuela Zapata 2009: 109), and that they foster rural development (Rangnekar 2010: 77).

Perhaps even more germane to the Global South have been the connections proponents have increasingly asserted between the protection of AIOs and the conservation of biodiversity and indigenous knowledge (Coombe and Aylwin 2011: 2032; Parasecoli and Tasaki 2011: 113–114). In fact, the embrace of AIOs in countries such as Brazil,

Ethiopia, Indonesia, Jamaica, and India has been triggered in part by concerns over biopiracy and other forms of infringement of indigenous intellectual property rights (Sautier, Biénabe, and Cerdan 2011: 143). The establishment of Indian law protecting AIOs famously followed that nation's efforts to secure revocation of a patent granted in 1997 by the U.S. Patents and Trademarks Office to the Texas-based company RiceTec for lines of Basmati Rice developed by crossing Indian and Pakistani farmer-bred lines—a patent that gave RiceTec exclusive North America rights to these lines (bearing the Basmati name) as well as monopoly control over the sale of seeds (preventing farmers even from planting seeds from their own harvest) (Parasecoli and Tasaki 2011: 112).

The increasing use of AIOs to preserve and protect biodiversity and indigenous knowledge calls for future studies focusing on the economic, political, and cultural dimensions of such forms of natural and human resource management. Despite assertions made by agrarian systems researcher Denis Sautier and colleagues that AIOs may serve in the Global South as "low-technology," "low-cost" means of protecting ecosystems while respecting "traditions of common property within indigenous and local communities," (Sautier, Biénabe, and Cerdan 2011: 141–142), experiences with AIOs in the Global South thus far yield a more complex picture. Economist Kasturi Das reminds us that successful AIOs require effective state adjudication of conflicting claims to authenticity, which has proven difficult in the Basmati case (and been complicated by claims on each side of the India-Pakistan border). They also necessitate enforcement to eliminate free riders, as well as significant investment in marketing and promotion, the lack of which have hampered Indian AIOs such as Darjeeling Tea (Das 2010).

As in the North, the certification of an AIO in the Global South may also be insufficient to ensure the distribution of benefits along the product's commodity chain—something that has also generally failed to happen, for example, in the Indian case (Das 2010). Coombe and Aylwin caution that even strong states like China may fail to protect weaker stakeholders (2011: 2033). Food studies scholar Fabio Parasecoli and Japanese activist Aya Tasaki point out that the bureaucratic processes required to secure and maintain certification of an AIO potentially favor, at all levels, people of greater socioeconomic status, whether literate traders over illiterate peasant farmers, or countries with more developed human capital over less-developed nations (2011: 115). To these concerns about class dynamics, Parasecoli adds concerns related to gender, reminding us that, while women are often the primary producers of foodstuffs, they generally have more limited access to the processes whereby AIOs are defined and secured, meaning not only that the products they produce may not be considered for certification, but also that certification may involve defining products or specifying productive methods in ways that fail to reflect women's knowledge and/or interests (Parasecoli 2010). For these reasons, future work on certification in Global South countries must ask probing questions about who is actually benefiting, and who is not, from certification processes and from the registration of particular products.

Bowen and Valenzuela Zapata's study of tequila—the first ever non-European AIO, established in Mexico in 1974—raises further concerns, namely about the ways AIOs in

the Global South may be even more easily co-opted by large-scale, often foreign-based, actors than in the North. In this case, they tell us, increased foreign investment in and influence over the industry gave rise to a destructive quest for greater profitability and to the attenuation within the industry of a commitment to terroir. Larger producers consolidated their grasp on the local *agave* market by driving prices down, squeezing smaller producers, and expanding their own *agave* production through mono-cropping single varieties, using greater amounts of pesticides, and expanding onto marginal lands. All of this, they tell us, had disastrous consequences for traditional methods of production, product quality, family farmer livelihoods, and the conservation of natural resources—including the genetic diversity of *agave*—upon which tequila production has historically depended (Bowen and Valenzuela Zapata 2009).

Notwithstanding such experiences, proponents of AIOs continue to seek new allies, and often find them in the Global South. According to Allaire and economist/sociologist Bertil Sylvander, "The EU, which has set up a technical instrument for the cooperation and promotion of GIs, regularly organizes seminars around the world. The ministers of agriculture and trade of the various countries monitor changes in non-EU governments closely with a view to forming allies for future WTO meetings, future disputes or future ministerial meetings. Thus, around the world, networks of alliances form, crossing various quality fora" (Allaire and Sylvander 2011: 119; see also Bowen 2010a: 232; Parasecoli and Tasaki 2011: 110). But new alliances, and talk of assistance to, or shared interests with, partners in the Global South, must not obscure more instrumental motives. While it is true that the EU began in 2006 to accept third-country (i.e., non-EU) requests for registration of PDOs and PGIs—the first one being granted for Colombian coffee in 2007 (Allaire and Sylvander 2011: 117; Sautier, Biénabe, and Cerdan 2011: 150)—it must be remembered that this new policy came only after a WTO panel ruling supporting claims made by the United States and Australia that the EU's exclusion of third-country GIs violated TRIPS' most-favored-nation obligations (Bowen 2010a: 231). Recent attempts by the EU to bring onside producers and nation-states in the Global South must not cause researchers to forget that northern economic powers have long extracted as much profit as possible from the global trade of foodstuffs—whether in the context of colonialism, or of post–World War II neoliberalism—and that AIOs have largely served, until now, as means for Western European nations to protect and derive maximum economic benefit from the continuing production and marketing of their own traditional, up-market foodstuffs. To the present day, the vast majority of AIOs protect EU country producers, and if the EU seeks allies in the protection of AIO products, and in the future expansion of AIO regimes, it does so largely in pursuit of its own interests.

THE GLOBAL FUTURE OF APPELLATIONS AND INDICATIONS OF ORIGIN

The TRIPS stalemate between Old World and New World nations belies increasing interest and investment, globally, in AIOs. In the short term, prospects for increasing

the number of registered and protected products, and for extending the protection afforded to these products, would seem to lie primarily in the passage of new legislation in individual countries (such as the countries of the Global South) and in the signing of bilateral treaties between nations standing to gain from the mutual recognition of one another's AIOs or, at least, a limited subset thereof. This is already happening, as for example in treaties between the EU and Australia, the EU and South Africa, and the EU and Chile.

More substantial developments may be in the offing, however, and these may originate in even more surprising places than the countries of the Global South. A growing number of (particularly small-scale) food producers in the United States, for example, are reportedly embracing the idea of terroir, albeit in decidedly American ways (Trubek 2008). Anthropologist Heather Paxson observes that "claims to terroir taste in the United States tend to scale down to the privately owned farm, rather than up to encompass an entire region—less a matter of patrimony than intellectual property" (2010: 447).[15] Paxson speaks of American producers as "reverse engineering terroir" by seeking to present their individually crafted food products in the language of terroir (2010). Nonetheless, she observes that, for American cheese makers, terroir adds value to products, not only in a monetary sense, but also in a normative sense by invoking in the minds of consumers "independent family farms, un-confined animals, and working landscapes" (2010: 445) (see also Trubek 2008: 94). Those studying small-scale producers of other foods, in other places, in coming years should be attuned to the normative dimensions of alternative conceptions of terroir that Paxson identifies.

While producers embracing terroir in the United States are generally too small, too few, or too individualistic for an AIO to make sense, Trubek and Bowen suggest that the recent growth in the United States of farmers' markets, community-supported agriculture, farm-restaurant linkages, and the locavore movement provides evidence that the United States is fertile ground for AIOs in the future (2008: 28), a goal toward which Trubek's work is in fact dedicated. Indeed, a small number of AIOs already exist in the United States. Although the federal government has no policy to support or promote AIOs—nor, as we have seen, a distinct legal category to recognize them—it does allow state governments to do so. Many states have developed lists of state-grown products, and (with federal assistance) have helped promote these. A few states have even established AIOs, such as California for Napa Valley wines,[16] Idaho for Idaho® Potatoes, and Georgia for Vidalia® Onions (Barham, Bingen, and Hinrichs 2011: 124, 132).

What is more, in recent years, the United States has itself entered into international agreements to protect AIOs such as these. Josling informs us that "every regional and bilateral trade pact since the North American Free Trade Agreement (NAFTA) has included some provisions for mutual protection of particular US GIs, such as Tennessee Whiskey and Kentucky Bourbon, and the corresponding national favourites from the other country" (2006: 346, 349).

In the longer term, commentators suggest, tectonic shifts may in fact occur, dramatically reconfiguring the global landscape of AIOs. According to some, more rigorous

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global protection of geographical indications[17] may be the bargaining chip necessary to persuade the EU to substantially reduce, or to completely eliminate, its contentious farm subsidies (Hughes 2006: 302–303; Josling 2006: 359–360; Parasecoli and Tasaki 2011: 109). In the view of many observers, this may be a deal the United States and other developed New World nations are eventually willing—even keen—to make, as nations such as China and Brazil become increasingly competitive in the industrialized production of cheap foodstuffs, forcing the United States, Canada, Australia, and others up market toward the production (like Old World nations today) of value-added, quality foods, and making it in their interests to invest in a more robust global regime to secure maximum value from investment in this market niche (Trubek, Guy, and Bowen 2010).

Whatever the future holds for GIs, one thing is clear. They will not only serve as means of differentiating foods made in named places, and purportedly reflecting these geographical origins in distinct and desirable qualities, from more industrialized commodities. They will also facilitate the marketing—indeed, the commoditization—of these foods in expanding and ever more integrated global markets. In doing so, they will continue to be the objects of ongoing social construction, and contestation, both in their places of origin, and elsewhere on an expanding scale and with ever greater complexity. Their study will therefore present both new opportunities and new challenges for future researchers of food.

NOTES

1. These pertain to "products for which the quality or characteristics are essentially or exclusively due to geographical conditions."
2. These pertain to "products for which a given quality, reputation or other characteristic may be attributed to its origin."
3. See: http://ec.europa.eu/agriculture/quality/schemes/index_en.htm.
4. Article 22.1 of the TRIPS Agreement defines geographical indications as "indications which identify a good as originating in the territory of a [WTO] Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin."
5. Definitions of appellations of origin and of geographical indications vary depending upon juridical context, sometimes overlapping substantially and sometimes differentiated from one another. Only when differentiation between these terms is significant, or when authors using one or the other are directly quoted, will these terms or their respective abbreviations—AOs and GIs—be used in this chapter.
6. *Tomme* (*toma* in Italian) is the descriptive term used in the Alpine region for a lightly pressed cheese made from skimmed milk.
7. Some argue that terroir differs significantly between even tiny adjacent parcels of land, such as has been asserted regarding the 690 micro-terroirs of Burgundy wine (Allaire, Casabianca, and Thévenod-Mottet 2011: 6).
8. Marion Demossier has suggested that a trend may be observed in recent years in the use of the terroir concept toward greater emphasis on its cultural dimensions (2011: 686).

9. Since 1992, the use of AIO products to bolster regional rural economies is in fact an explicit EU policy strategy (Belletti and Marescotti 2011: 83).
10. This convention provided general and limited protection of goods against unfair indications of source, but no remedies against infringement.
11. This agreement provided rules for the repression of false and deceptive indications of source, but allowed national governments to determine when such rules would be applied in accordance with their interests.
12. TRIPS was negotiated in the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) that gave rise, upon completion in 1995, to the World Trade Organization (WTO).
13. Following on the 1883 Paris Convention referred to earlier, TRIPS Article 22 requires all WTO member states to provide protection against the use of place names intended to deceive consumers into mistaking products' origins. However, it permits member nations' juridical systems to decide if a name deceives, meaning that, in places like the United States, where consumers may associate a name not with place of origin but instead with a type or style, names may be considered generic and, as such, not protected. Additionally, like U.S. law, Article 22 places the burden of identification and proof of infringement upon those whose rights are being infringed (Thévenod-Mottet and Marie-Vivien 2011: 21). Article 23 of TRIPS provides greater protection against any inaccurate use of place names—including expressions like kind or type, but only for wines and spirits (Josling 2006: 350–352; Thévenod-Mottet and Marie-Vivien 2011: 21–22).
14. For example, by 2010, more than 100 products had been registered in India following the passage of legislation there in September 2003 (Das 2010).
15. In the view of California winemaker Randall Grahm, because the precedent of tradition is less weighty in the United States than, for example, in Europe, American winemakers are often more interested in making a personal statement with their products than in upholding traditions that predate and transcend them (cited in Trubek 2008: 115, 121), leading Trubek to remark that, whereas "[i]n France, the goût de terroir uses tradition as a guide; in California, we use printed guides to inform consumers of the taste of place" (2008: 128).
16. In this case, the name is protected without specifying techniques of production or quality parameters (Moran 1993: 706).
17. This would likely entail the extension of TRIPS Article 23 levels of protection to all registered GIs.

13

A Critical Turn in Hospitality and Tourism Research?

RICHARD MITCHELL AND DAVID SCOTT

INTRODUCTION

Research into food in the hospitality and tourism industries emerged from hotel and restaurant research in North America that was (and still is) largely focused on operational aspects of the production of food in this tertiary sector. Over the last decade, however, research in this area has begun to include a more reflective and critical approach to understanding the production and consumption of food and food experiences in commercial hospitality (and tourism) by a number of those within the tourism and hospitality academy.

Far from being a mature field of study, research into understanding food in the hospitality and tourism industries is struggling to find a legitimate place in the social sciences. An outgrowth of this has been the publication of edited texts (Lashley and Morrison 2000a; Lashley, Lynch, and Morrison 2006) that seek to present a critical examination of commercial hospitality alongside key articles in top-ranking tourism journals and the subsequent development of new journals[1] dedicated to expanding our theoretical understanding of this phenomenon. Together with this emergent critical interest surrounding products and services by those in the tourism and hospitality academy has been the significant growth in public interest in the products, services, and experiences of hospitality and food tourism as part of popular culture. The advent of the celebrity chef, restaurant-related reality shows, and food-related travel shows has seen a renewed fascination and involvement with food and drink at multiple levels. As a result, we see ever more mediated images from growing and sourcing the food and beverage product to mediatized gazing upon the exotic (and often Orientialized) images of others' food and foodways that exist in the wider hospitality system. These trends make research into commercial hospitality a rich area of study for food researchers across the disciplines. Our objective

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in this chapter is to explore how current trends in the consumption of commercial hospitality services and products, in particular that of food, have influenced the research agenda surrounding food in the context of commercial hospitality. In particular, we examine how alternative methodological strategies and attempts to understand food highlight the tensions between research and knowledge construction in the hospitality and tourism management academic research community and those working and researching in the same industry context from a disciplinary and multidisciplinary perspective. We go on to argue that these contested spaces have resulted in what might be considered a new wave of research (and indeed methodologies and methods) related to the production, consumption, and, importantly, destination visitation and associated performances associated with food, and as such challenge the current hospitality ontology.

THE CONTEXT OF HOSPITALITY AND TOURISM RESEARCH

The consumption of food and beverage products outside the home for pleasure rather than necessity has become commonplace in the Western world (Cetron, Demicco, and Davies 2006). While eating away from home has long had a commercial imperative, there is also the relatively recent and sustained growth in consumer demand driven by, among other things, increased levels of education and changes in types of employment (Warde et al. 2007) alongside increased mobilities, for example, physical, that is, working away from home and the need to eat, increased access to travel, and instant access through contemporary technologies to media that not only allow the individual access to the virtual consumption of exotic foodstuffs from faraway lands but also access to the authentic and exciting backstage spaces of some of the world's hottest chefs. This has had the concomitant effect of a proliferation in the number and style of outlets emerging to satisfy our hunger for such products, services, and experiences (Jones 2006). While there are suggestions that the incidence of eating out in the United Kingdom, for example, has not changed substantially since Victorian times (Burnett 2004), time use analysis supports the assertion that changing motivations to dine away from home (from that of necessity to pleasure) has shown an increase of over 130 percent in time per day spent eating outside of the home between 1975 and 2000 (Warde et al. 2007). While the hospitality sector has not been immune to fluctuations in the economic climate, much of the sector remains resilient and restaurants, bars, cafes, bistros, and fast-food outlets have continued to develop. The choice of the privileged, it seems, has never been so varied, nor so politically laden.

Given the increased accessibility of eating outside the home and its perception as a leisure pursuit now available to the masses, its performance as a consumer (leisure) activity can be regarded as normalized and, as a consequence, routinized (Ritzer 2000; Scott 2006). Dining out,[2] as conceived by Finkelstein (1989) and Jacobs and Scholliers (2003a), in a leisure context was once undertaken primarily for special or celebratory occasions, often as the preserve of the elites (Burnett 2004; Jacobs and Scholliers 2003b; Spang 2000). However, because of changing lifestyles (as well as access to various forms

of capital, including social and cultural), the contemporary consumer can and does eat away from home on an almost daily basis: breakfast *en route* to work; lunch at a cafe; a coffee break at a workplace cafeteria; then dinner at the neighborhood restaurant. Eating away from home, it is suggested, has become a part of late modern quotidian life (Boniface 2003; Scott 2006; Warde and Martens 2000).

Historically, the tangible food and beverage product was a necessary focus that dominated the hospitality consumer's experience and dictated the hospitality researcher's attention. However, given the scope and scale of eating out as part of the social fabric of many cultures, there have been numerous studies of the commercial provision of food and eating away from home within the wider social sciences. To us (as authors working within the tourism and hospitality academy), notable examples include: Laurier and Philo (2005), who engage with geographies of eating out, looking to a spatial analysis that delves into the performances in and performative possibilities of the coffee shop; the social construction of eating out in England is discussed in some detail by Warde and Martens (2000); contrastingly, and from a historical perspective, of interest is Lewicka's (2005) suggestion that because of the transgression of public space into private space, there was no requirement for the existence of commercial hospitality in medieval Cairo; and finally Spang's (2000) work, which outlines the development of the restaurant in eighteenth-century Paris and its positioning as a space of multiple forms of consumption. However, and important in the context of this chapter, within the business academy (the location of many hospitality and tourism researchers), only relatively recently has the space(s) and place(s) for the service, consumption, and indeed performance of food been considered a characteristic of the consumption process that offers opportunities for enhanced experience for the consumer and competitive advantage for the commercial organization operating within the experience economy (Pine and Gilmore 1999).

At this point it is necessary for us to locate our understanding of hospitality. The commercial provision of food and beverage (and accommodation) exists within the hospitality industry, and this has been systematically recognized through the development of particular economic measurements including, for example, its recognition and use as an economic indicator, being assigned a standard industrial classification such as in New Zealand and Australia (OECD 2001). Likewise, we have seen an increased use of the term *hospitality* within the business vernacular, which may have happened through the codification of the concept occurring through the increase in academic teaching texts used by tertiary institutions in the education of future managers and employees (and consumers). This is a relatively recent change in nomenclature to the hospitality industry, from that of the hotel and catering industry, which was prevalent to the 1970s (although there are exceptions to this—see Dahl [1929] and White [1970]) in both academia and the industry itself (Brotherton 2005). This change in name might be considered contemporaneous with the rise in eating away from home. Most of us have at some stage provided or been the recipient of hospitality, whether within the commercial or private context. It is from these social encounters that we have constructed

our understanding of the present-day meaning(s) of hospitality. Here we would draw attention to the ongoing debate occurring within the field of tourism and hospitality research that has, as a result, divided the study of hospitality into that of a management and marketing focus (see, for example, Slattery's [2003] assertion that thinking about hospitality as a phenomenon degrades both the performance and image of the hospitality industry) or, conversely, those who seek to engage with a critical research agenda.

What might be seen as central to this debate is an attention (or lack of) to defining hospitality. This, it is suggested, is in part due to previous attempts to reify hospitality and the attempted appropriation of its inherent values in an effort to commodify the idea of hospitality as an industry. Whatever the nomenclature, this "[f]ailure to adequately define or understand hospitality as a commercial phenomenon has created a fragmented academic environment" (Hemmington 2007). While acknowledging the wider (social science) discourse and indeed multiple and often conflicting narratives surrounding the phenomenological and philosophical understandings of hospitality (see, for instance, Derrida 2000), we are of course limited by available space and the scope of this chapter. Therefore, in this chapter we engage with Brotherton's (1999) definition of hospitality, which attempts to synthesize the multiple understandings (and realities) of hospitality and thus suggests hospitality as existing within three domains: the social, the private, and the commercial (Lashley 2000). This exists as "[a] contemporaneous human exchange, which is voluntarily entered into, and designed to enhance the mutual well-being of the parties concerned through the provision of accommodation, and/or food, and/or drink" (Brotherton 1999). Thus to us a key component of the provision of hospitality is the production and consumption of food and beverage products and services and (co)construction of experiences within commercial spaces. As such, when we use the term *hospitality* within this chapter, we are implying that food and beverage, and the experiences that surround them, are central to our understanding of the term.

The growth in eating away from home has resulted in an increase in the economic impact of the hospitality industry on local and national economies and a concomitant rise in the number of studies of this nature. Restaurant sales in the United States were expected to top $604 billion in 2011 (up from $42.8 billion in 1970—in 2011-equivalent dollars) and to account for forty-nine percent of the food dollar (National Restaurant Association 2011). The United States industry employs some 12.8 million individuals, and half of all adults state that they have worked in a restaurant at some time in their adult life (National Restaurant Association 2011). In the United Kingdom, the economic impact of the hospitality industry is similar where the British Hospitality Association (BHA) (which also includes hotels and other forms of accommodation) estimates that it is the fifth largest employer, employing some 2.4 million people in 2010 (British Hospitality Association 2010). The importance of the hospitality sector to the tourism industry to the UK economy and wider society is indicated in a government strategy document, *Tomorrow's Tourism Today,* developed in conjunction with key industry stakeholders. In it, Secretary of State for Culture, Media and Sport Tessa Jowell stated among her key objectives "sustained and sustainable growth . . . [a]nd—most of all . . . the customer at the very heart of all we do" (United Kingdom Government 2004: 2). The report specifically

recognizes the "accommodation and hospitality providers" as part of the tourism industry while restaurants are considered part "of the attractiveness" of Britain to domestic and international tourists. However the industry, within the United Kingdom and globally, faces a number of issues (United Kingdom Government 2004: 9).

Perhaps the most significant of these issues is that increased demand from consumers has resulted in a shortage of skilled staff in many parts of the world. This is a result of increased demand and limited (and in many cases decreasing) local labor supply (Choi, Woods, and Murrmann 2000). Somewhat acerbating this problem is the upward mobility of workers, thus further impacting on the labor supply. For example, the Hotel Association of New Zealand (HANZ) suggests the most significant issue facing the hospitality industry in New Zealand is "finding, training and retaining appropriate staff" (Hospitality Association of New Zealand 2005). Similarly, in the United Kingdom, issues relating to product and service quality in the hospitality sector are considered a result of low skill levels, high staff turnover, and staff shortages (Cotton 2002). Subsequently, then, the sector is turning to and relying upon increasing mobilities of some within the developing Global South—and the subsequent challenges and opportunities afforded by immigrant workers (Duncan, Scott, and Baum 2009).

Increasing tourist numbers combined with burgeoning domestic markets are positive signals for the economic success of the hospitality industry, albeit with slowed growth since the turmoil of the 2008 financial crisis. However, it is suggested, those organizations will develop a workforce that is not only skilled and knowledgeable about the industry, but, more important, understands the nature of hospitality as a phenomenon that will meet the objectives of sustainability and guest focus (United Kingdom Government 2004). Conversely, it is not only the complex mobilities that have led to the increased demand for sites of eating out we need to understand; we also need to move past merely looking at the working practices in hospitality and to understand the (im)mobile lives and the tensions that have arisen between work, leisure, and lifestyle of hospitality workers (Duncan, Scott, and Baum 2009).

AN INDUSTRIAL RESEARCH PERSPECTIVE

The Commercial Imperative and Hospitality Research

The economic imperative of, and productionist focus in, commercial hospitality has also been evident in and driven by the hospitality research agenda. There has tended to be a dichotomous research focus on the minutiae of individual business processes and the extensiveness of the industry environment. This has come at the expense of a focus on the conceptual and theoretical foundations of hospitality, its archaic roots, and the drivers of the behavior of hosts and guests. Indeed, Botterill (2000) suggests that the dominance of the industry prerogative has been to the detriment of a deeper understanding of the actual social and cultural performance of hospitality.

As such, the commercialization and attempted reification of hospitality appeals to many hospitality researchers. New technologies allow a Fordist approach to the supply

of hospitality products and services, leading to the potential for a subsequent rationalization of hospitality (Ritzer 2000). This then encourages researchers and practitioners to view commercial hospitality through a reductionist lens, with the focus on the process of the production and consumption of tangibles that can be mass produced (Scott 2006; Slattery 2002). Slattery (2002) further suggests that, in this conception of hospitality, the consumer is not conceived as a guest but rather as a buyer, and the resultant transaction is purely economic. As such it has encouraged the use of commercially focused, increasingly Fordist manufacturing processes[3] (and indeed research practices) and systems that aim to maximize economic benefit, however simultaneously challenging the philosophical roots of hospitality, including the power dynamics of the host-guest relationship. This way of thinking and working within much of commercial hospitality is given credence and academic legitimacy through the adoption of practices observed in other mass manufacturing industries (Scott 2006).

Under this paradigm the food itself is rarely the focus of research. Rather, as has been suggested, it is the business processes, for example, the effectiveness of systems and processes including that of service delivery, with the objective of improving efficiency and thus maximizing commercial returns of hospitality, that dominate. Table 13.1 provides an analysis of the top 100 articles (as identified by a search for *food* and sorted by relevance) from each of three leading hospitality journals. Almost half of the articles analyzed focus on business operations or human resources practices, in the main looking

TABLE 13.1 **Article Topics of Three Leading Hospitality Journals**

Article Topic	IJHM	IJCHM	Cornell	Total
Number of articles found in search for *food*	(1025)	(1144)	(1939)	(4108)
Business operations (including industry analysis)	21	28	51	100
Human Resources/Education/Training	15	17	11	43
Purchase/Consumption/Consumers	20	15	3	38
Food Safety	8	15	8	31
Food Production/Innovation	7	3	15	25
Service	6	7	1	14
Tourism	6	4	1	11
Menus	0	7	1	8
Marketing	0	4	1	5
Other (mainly book reviews)	17	0	8	25

Note: Three highest-ranked journals with a primary focus on hospitality (i.e., no explicit reference to tourism) and not a specialized area of hospitality (e.g., education, human resources, or finance) according to the Australian Business Deans Council (ABDC) Journal Ratings List. IJHM: *International Journal of Hospitality Management* (ranked A); IJCHM: *International Journal of Contemporary Hospitality Management* (ranked B); Cornell: *Cornell Hospitality Quarterly* (ranked B).

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to efficiencies rather than addressing the issues as alluded to earlier (the latter including some education, but always related back to the business imperatives for such education). By contrast, food production and menu design account for just eleven percent of the 300 articles published.

Research monographs and course texts have also tended to follow this doctrine. Most explore issues of operations management informed by positivist studies on, for example, business survival rates and key success factors; hospitality entrepreneurship; labor markets; yield management; return on investment and profitability; marketing; and strategic planning that approach understanding and the construction of knowledge from a functionalist stance. Very few texts have critiqued hospitality and given research firm philosophical and theoretical foundations, but as we illustrate later in the chapter, this has begun to change.

An American Perspective (?)

It is suggested that this particular perspective is driven by researchers in hospitality (and business) schools within the United States (Barrows and Bosselman 1999; Scott 2006). However, this viewpoint is not exclusively the domain of the United States academy, as much of the early hospitality research from across the globe was dominated by this commercial imperative and it still tends to be the focus for many hospitality academics globally. However, in contrast, a recent critical turn in hospitality research has been dominated by work from the United Kingdom, and this is discussed later in the chapter.

This particular commercial focus and its domination by North American researchers is highlighted in Table 13.2. Here we can see that just seven of the twenty-five Australian Business Deans Council[4]-ranked hospitality journals have chief editors from outside of the United States. These editors, while espousing academic freedom, undoubtedly act as gatekeepers and drive the research agenda of these journals (see, e.g., Hall and Williams and Lew 2004). Indeed, even a cursory analysis of the editorial boards for these journals reveals an even greater dominance of North American academics. It is also evident that this dominance has only recently begun to be eroded, with half of the journals established since 2000 having editors from outside of the United States.

There is a further concentration of editorship in hospitality research, and moreover tertiary education texts, with clusters of editors in particular and dominant hospitality schools/departments within the United States, including Florida, Massachusetts, and Ithaca (Cornell). Similarly, a number of the journals presented in Table 13.2 are published by these academic institutions and associations based in the United States.[5]

Food Tourism, Economic Development, and Consumption

Research focused on the relationships between tourism and food has tended to follow a similar pathway. Like in the field of hospitality, the primary academic research focus has

TABLE 13.2 **Establishment Date and Location of Ranked Hospitality Journals**

Journal title	Year established	Editor location	Publisher location
Cornell Hospitality Quarterly	1960	USA	USA
Journal of Hospitality and Tourism Research	1976	USA	USA
*Journal of Food Service***	1980	UK	USA
International Journal of Hospitality Management	1982	USA	Netherlands
FIU Hospitality Review	1983	USA	USA
International Journal of Contemporary Hospitality Management	1988	USA	UK
The Consortium Journal of Hospitality and Tourism: Journal HBCU	1988	USA	USA
Journal of Hospitality Financial Management	1991	USA	USA
Journal of Hospitality Marketing and Management	1992	USA	USA
Journal of Hospitality and Tourism Education	1992	USA/UK/ Hong Kong	USA
Journal of Foodservice Business Research	1993	USA	UK
Journal of Hospitality and Tourism Management	1993	Australia	Australia
Journal of Culinary Science and Technology	1994	USA	UK
International Journal of Hospitality and Tourism Administration	1997	USA	UK
Journal of Tourism and Hospitality Administration	1997	USA	UK
ASEAN Journal on Hospitality and Tourism	2000	Indonesia	Indonesia
Journal of Quality Assurance in Tourism & Hospitality	2000	USA	UK
Tourism and Hospitality Research	2000	UK	UK
Scandinavian Journal of Hospitality and Tourism	2001	Scandinavia	UK
Journal of Hospitality, Leisure, Sports & Tourism Education	2002	UK	UK

(*continued*)

TABLE 13.2 **(continued)**

Journal title	Year established	Editor location	Publisher location
Journal of Human Resources in Hospitality and Tourism	2002	USA	UK
Journal of Foodservice Systems	2005	USA	USA
Journal of Hospitality Application and Research	2006	India	India
International Journal of Culture, Tourism and Hospitality Research	2007	USA	UK
Worldwide Hospitality and Tourism Themes	2009	USA	UK

* Ranked A, B or C in the 2010 Australian Business Deans Council (ABDC) assessment.
** Last available issue 2009.

been on the economic imperatives for the marriage between food and tourism.[6] In particular, research has explored the regional economic benefits of food tourism (e.g., Hall 2003; Hall et al. 2003a), networking between the food and tourism industries (Telfer 2000a), and the nature of food tourists and their consumption patterns (e.g., Ignatov and Smith 2006; Mitchell and Hall 2003). Other research into hospitality within the tourism literature has investigated the social impacts of tourism, (e.g., Smith and Brent 2001; Tucker 2003), intercultural behavior (e.g., Reisinger and Turner 2002), or hospitality as the support and services constituent of the tourism experience (e.g., Jones 2006). Some have focused on food and beverage as objects for use as a tourism product in their own right (Boniface 2003; Hall et al. 2003b), resulting in the potential for economic benefits, particularly in disadvantaged rural areas.

Under this industrial/commercial paradigm, the study of the intersection between food, hospitality, and tourism is often secondary to the study of other touristic phenomena. Thus the provision of a meal as part of the tourism experience is often regarded as a support activity rather than a primary or core tourism experience (Quan and Wang 2004). This may be due, at least in part, to hospitality being perceived as everyday, routinized, and banal behavior (Scott 2006), while tourism has often been presented as an extraordinary, nonroutinized experience that removes its participants from the banalities of their everyday lives. However, it must be noted, this idea of tourism as outside or removed from the everyday is increasingly challenged, often paradoxically through gaining a deeper understanding of these quotidian performances and customs associated with food practices (Cetron, Demicco, and Davies 2006; Haldrup and Larsen 2009). While the hospitality and tourism academy studies the consumption and production of food and beverage products and services by consumers in consumer spaces, the understanding of the individual as tourist and, moreover, the implications of the wider

tourism system on food and beverage (and food and beverage on the wider system) have been marginalized by that same academy.

Even as there is a relatively recent growth in multidisciplinary literature looking at understanding how tourists perform hospitality consumption practices (Coleman and Crang 2002; Lynch 2005a, 2005b; Tucker and Keen 2005; Tucker and Lynch 2005), there remains an opposition to the suitability of the host-guest paradigm being appropriated to replace the consumer-producer identities valorized in the commercial context (Aramberri 2001; Scott 2006). Here the myth(s) of consumer sovereignty (Korczynski and Ott 2004) work to appropriate the notion of the caring producer, who, rather than overtly performing power, seeks to mediate the commercial consumption of food by and through the appropriation of the mantle of host. As with wider hospitality research, this approach assumes a largely transactional relationship between service provider and consumer and fails to take into account the multiple and often contested interpretations of hospitality put forward across the social sciences. Indeed, more often than not, these understandings of hospitality suggest that the economic imperative acts to challenge the basis of true hospitality, for example, the ideals of reciprocity (see, for instance, Lévinas and Poller's 2003 argument against reciprocity) and necessary power of the host (Derrida 2000) that, among others, prohibits the performance of true embodied hospitality in the commercial domain where economic exchange dominates (Hall and Mitchell 2008; Scott 2006).

A CRITICAL TURN IN HOSPITALITY RESEARCH

"In Search of Hospitality": Questioning the Dominant Paradigm

sub head needs to be centred

While it is difficult (perhaps even a little naïve) to isolate one source for the recent critique of the dominant economic paradigm in hospitality research, many would credit the publication of *In Search of Hospitality* (Lashley and Morrison 2000a) as being a catalyst for much of the questioning that has begun to emerge. This text grew out of a 1997 meeting between a number of the United Kingdom's leading hospitality researchers and writers that set out to explore a common ground and stimulate debate on the future of hospitality studies (Lashley and Morrison 2000b). According to Lashley and Morrison, the text's editors, the "authors write from different philosophical and epistemological perspectives, and the book deliberately aims to reflect a plurality of views in which some individuals do not agree with others" (2000b: xvi). This is a departure from a paradigm based on a series of truths (Lugosi, Lynch, and Morrison 2009) that had, to this point, remained largely undisputed. While Lugosi, Lynch, and Morrison (2009) acknowledge the emergence of an increasingly complex array of hospitality research methods, concepts, and theories, they and others suggest that this complexity is based on disparate and often incompatible norms. *In Search of Hospitality* was the first attempt to overcome these disparities—bringing together traditional hospitality research with other social science perspectives that may have been published in other disciplines—and to advance a

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more philosophical and reflexive approach to thinking about hospitality. Key to this was recognizing that hospitality is more than commercial and is a "social phenomenon involving relationships between people" (Lashley and Morrison 2000b: xvi).

This (re)focusing of attention came out of a series of hospitality educator conferences, led by a group of primarily British academics and researchers wishing to engage with a more social sciences-based methodology in the pursuit of new knowledge (Morrison and O'Mahony 2002). This was, in part, resistance or response to the status quo, which in the mid- to late twentieth century treated the research and teaching of hospitality as an applied subject of study with clear business imperatives—largely as a result of the subject's academic location (and nomenclature), which had been, until relatively recently (in the United Kingdom, Australia, and New Zealand), based in polytechnics and labeled as "hotel and catering management," rather than the currently used "hospitality management." In addition to the change in name was an increase in the numbers of doctoral students undertaking study of this so-called hospitality industry and their subsequent movement into research and teaching positions.

Although there has been attention given to hospitality from various disciplinary perspectives, many of these fail to problematize the commercialization of hospitality. Dean MacCannell (1999), for example, focuses strongly on the narrative of authenticity—however somewhat unproblematically engages with the notion of power implicit in the host-guest relationship. While germane for its time, and not to negate the remaining importance of thinking about authenticity, subsequent debates have criticized and made problematic the value (certainly in late modernity) of authenticity as a useful tool to understand the tourist encounter. However in saying this, MacCannell as well as John Urry have had a substantial impact on the study of tourism, if only recently adopted by those within hospitality studies, in exploring hospitality. Both authors are regarded as being at the forefront of the development of a distinct area of inquiry, encouraging others to argue for tourism *studies* (as opposed to tourism *management*) as a legitimate field of study in the social sciences (Botterill 2001; Holden 2005; Wilson, Harris, and Small 2005). Urry's initial contributions, and subsequent seminal work *The Tourist Gaze* (Urry 1990, 2002), was based on the (re)deployment of Foucault's medical gaze in an early attempt to understand tourist behavior. Latterly, his work has included, along with Mimi Sheller and Kevin Hannam's, the development of the so called mobilities paradigm (Hannam, Sheller, and Urry 2006). It is interesting to note that his current work in mobilities is beginning to reflect a Goffmanesque influence, something in common with MacCannell. Here the influence of Dean MacCannell's work is still recognized as a core theoretical position from which tourist behavior might be understood. Indeed the concepts of front stage and back stage in constructing meaningful, authentic tourism experiences remains heavily debated. As such the concept of authenticity maintains significant traction as well as contention in the study of tourism (Rickly-Boyd 2012). Urry's move to invoking performance within the study of mobilities has been influenced, in some part by Jonas Larsen, his coauthor in *The Tourist Gaze 3.0* (Urry and Larsen 2011), the current incarnation of the tourist gaze. Here a key conversation is developing around

encounters between social actors and the subsequent involvement in meaning-making by the tourist. Like tourism studies, these ideas are gaining increasing traction with researchers (and educators) within hospitality studies. It might be suggested that this is in part due to the renewed interest in food within contemporary society, increasingly seen as a particular motivation to travel (Everett 2012)—in many cases in a search for the authenticity or authentic experience posited earlier by MacCannell (see, for example, MacCannell 1973, 1976, 1992). One can see this in the (re)development of destinations as sites (and sights) for the performance of so-called gastronomic tourism.

Exploring the philosophical foundations of hospitality, Telfer (2000b), reminds us that hospitality is commonly associated with being welcomed into the homes of friends and relatives, acknowledged as a moral virtue, and juxtaposed with inhospitableness/hostility.[7] Traditionally, these have been viewed as the antipathy of the commercial imperative and therefore have seldom been the subject of interrogation. Scott (2006) reinforces this by suggesting there are tensions implicit in this dichotomy between a private, noncommercial understanding of hospitality and its public, commercial antithesis. Private interactions among/between friends and a fundamental belief in hospitality as a moral and ethical way of being in the world, and its (performative) role in the socialization of the stranger into the community or culture(s) of place are not easily reconciled with the motivation of economic benefits gained through added value suggested as intrinsic to the provision of commercial hospitality. Despite this, Scott suggests "that hospitality as [an] act may offer an opportunity of re-enchanting increasingly rationalised performances of economic consumption" (2006: 43).

Lugosi, Lynch, and Morrison (2009) point out that this critical turn is not limited to hospitality, with many of the social sciences and management disciplines (including tourism) undergoing a similar refocusing in recent decades. In particular they highlight the similarities to critical management studies, which questions the assumptions and premises of management knowledge production. They suggest that this is because "emerging subject areas and disciplines evolve through disagreements about the appropriateness and limitations of existing methods and methodologies, which provoke the development of alternative ones" (2009: 1466). They contend that other factors have also been influential in precipitating change in hospitality research, including the increasing diversity of backgrounds of hospitality researchers (especially those from the social sciences);[8] a willingness to think critically about hospitality research going back three decades; and an ongoing demand for more depth of understanding in hospitality education.

The result has been a fundamental shift from viewing hospitality as a purely practical, commercial activity (i.e., the provision of food, drink, or accommodation to strangers) to "symbolic performances, marked by affective and expressive acts" (Bugge 2005: 5); (see also Kirshenblatt-Gimblett 1998). Hospitality, then, provides for the human needs of the stranger (food, water, shelter, and even companionship), but also recognizes their common humanity (Scott 2006). It can be suggested, therefore, that hospitality, while consisting of sets of belief, also comprises ritualized performance. However, the

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performances inherent within the rituals of hospitality are dynamic (Rappaport 1999) and respond to sociocultural change (Bell 1997).

Scott (2006) suggests that understanding and making problematic the mythologizing of hospitality is key to developing a deeper understanding of its archaic foundations and modern praxis. To this end, Heal advocates we understand the ideal of "[hospitality's] open generosity" (1990: 403), which might then become an antidote to the imperatives of the commercial marketplace. This is evident, for example, in the mythology embodied in the performance of the interaction between the family owner (host) of a taverna in rural Greece and his/her guests versus the (disembodied) scripted performances of a Greek-themed restaurant at a resort in Majorca. Both have a commercial imperative, but one derives value from a set of hospitable values, while the other extracts value from the provision of (Greek-themed) food. Scott (2006) therefore argues that myths such as this play a central role in the past, present, and future of commercial hospitality.

One such myth is that of the need to socialize (Pitt-Rivers 1963) the stranger into the community as a way of maintaining social and cultural integrity (Scott 2006).[9] This understanding of hospitality is critical to further research in the field as it is built on the premise that there is an interaction between the known (us) and the unknown (them/strangers/the other). This has its roots in Homeric hospitality where the status of strangers to your home (whether ultimately friend or foe) was unknown and therefore they were treated with the utmost of respect (Reece 1993). However this respect was tempered with the acknowledgment of the power of the host—some might suggest at odds with the supposed sovereignty of the consumer-as-guest role within commercial hospitality.

This renewed interest in, and greater understanding of, hospitality's archaic roots has led to the emergence of new strands of inquiry within hospitality and tourism research, drawing upon a more multidisciplinary knowledge that situates hospitality as both phenomenon and industry. One area of research that has come to the fore is exploration of the social and cultural performance(s) of hospitality as a social rather than merely economic act in commercial environments (e.g., Bell 2007; Lashley, Lynch, and Morrison 2006; Scott 2006). A related body of work is that which explores how cross-cultural acts of hospitality (often in the tourism context) are played out in a postcolonial world (e.g., Hall and Tucker 2004; Rosello 2001; Turgeon and Pastinelli 2002). Meanwhile, there has been renewed interest in the nature of the relationship between hosts and guests (e.g., Di Domenico and Lynch 2007; Sherlock 2001; Smith and Brent 2001; Tucker and Lynch 2005) and consequent move away from a purely transactional view of this relationship where the customer is king and the provider/producer is at their (subservient) beck and call (Scott 2006). This includes the introduction of concepts such as aesthetic and emotional labor that attempt to expand our understanding of how the embodied, affective characteristics operate in the delivery of commercial hospitality (Nickson and Warhurst 2006; Warhurst and Nickson 2007a; Witz, Warhurst, and Nickson 2003). Spaces and places of hospitality have also begun to be explored

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using new understandings garnered from critical approaches to hospitality and emergent epistemologies in human/cultural geography (e.g., Bell 2007; Countryman and Jang 2006; Dikeç 2002; Friese 2004; Lugosi 2003; McNeill 2008; Pritchard 2006). This spatial view has included a deconstruction of differences in the provision of hospitality (including meals) at home and away from home (e.g., Dikeç 2002; Lashley, Lynch, and Morrison 2006; Lynch 2005a; Scott 2007) and an exploration of the blurring of the boundaries between binaries such as home and away in commercial hospitality businesses such as home hosting and bed and breakfasts (e.g., Di Domenico and Lynch 2006, 2007; Harris, Mcintosh, and Lewis 2007; Lashley, Lynch, and Morrison 2006; Lynch 2005a, 2005b; Lynch, Mcintosh, and Tucker 2009).

In seeking knowledge outside of the dominant economic discourse that mediates our understanding and performing of commercial hospitality, we begin to challenge normative behaviors within organizations and, moreover, as consumers. Here, for example, we begin to understand the role of care, emotion, and power and how a phenomenological understanding of hospitality might impact upon the taken-for-grantedness of our identities as buyers and sellers, hosts and guests, producers and consumers.

A UNITED KINGDOM PERSPECTIVE: CHALLENGING THE STATUS QUO

Whereas the industrial or management-focused perspective of hospitality research emanates, at least in part, from the United States, a more critical approach in hospitality research within hospitality and tourism management departments is almost entirely rooted in the work of researchers from the United Kingdom. In particular, a network of academics has produced many of the influential works from this perspective. As already indicated, *In Search of Hospitality* has been particularly influential, and several of the authors published in this edited work continue to be prominent. The editors of *In Search of Hospitality,* Conrad Lashley and Alison Morrison, have been particularly significant in publishing works with other authors on the theoretical roots of hospitality and the nature of hospitality studies (e.g., Morrison 2002; Morrison and O'Gorman 2008; Morrison and O'Mahony 2002; Lashley 2000, 2007; Lynch et al. 2011), hospitality as a social phenomenon (e.g., Di Domenico and Morrison 2003; Lashley, Lynch, and Morrison 2006), and the nature of the hospitality experience for hosts and guests (e.g., Gillespie and Morrison 2001a, 2001b; Lashley 1999, 2002; Lashley, Morrison, and Randall 2005). Indeed, some have called the critical perspective of hospitality research the Lashley School. However, this debate has been furthered by the emergence of several other United Kingdom researchers regarded as highly influential, here in particular: Paul Lynch's work on the commercial home and theorizing hospitality (e.g., Causevic and Lynch 2009; Di Domenico and Lynch 2006, 2007; Lashley, Lynch, and Morrison 2006; Lynch 2005a, 2005b; Lynch et al. 2011; Lynch, Mcintosh, and Tucker 2009; Sweeney and Lynch 2007; Tucker and Lynch 2005); Peter Lugosi's ethnographic hospitality research, especially that surrounding gender issues (e.g., Lugosi

2003, 2006a, 2006b, 2007a, 2007b, 2009); and Dennis Nickson and Chris Warhurst's work on aesthetic labor (Nickson 2007; Nickson and Warhurst 2006; Warhurst and Nickson 2007a, 2007b; Witz, Warhurst, and Nickson 2003).

Recently Lugosi, Lynch, and Morrison (2009) have begun to explore a common ground between the hospitality management (industrial) paradigm and (critical) hospitality studies research: critical hospitality management research (CHMR). They propose a model that marries the economic and business imperatives with a more critical view of hospitality's role in society. This, they argue, follows a wider movement in management research toward a critique of current practice, known as critical management studies (CMS).[10] Table 13.3 highlights the contrasts between these two paradigms and Lugosi, Lynch, and Morrison propose that there is a "conceptual meeting ground" concerned with:

> [T]heory-informed practice, dual advocacy of management and social-scientific orientations. Researchers may draw upon a mix of qualitative and quantitative techniques and are willing to embrace pluralistic and experimental research methods. In relation to their object of study, researchers are ethically aware and reflexive in terms of their influence on the process of creating knowledge. Reflecting their positioning in the academic community, critical researchers draw upon wide collegiate networks that include but extend beyond those involved in the existing hospitality management research community (2009: 1469).

This embraces the traditions of both, "emanating from the tensions between . . . a desire to challenge some of the orthodoxies and normative assumptions of hospitality management research and . . . a concern with enhancing hospitality management research by employing the strengths of social-scientific approaches" (Lugosi, Lynch, and Morrison

TABLE 13.3 Hospitality Management Research versus Hospitality Studies Research

	Hospitality management research	**Hospitality studies research**
Advocacy	Business	Multiple
Focus	Practice	Theory
Issues	Narrow/Specific/Industry	Broad/Social/Cultural
Dominant methodology	Positivist/Realist	Phenomenological/ Constructivist
Methods	Empirical (statistical)	Experimental, ethical, and reflective
Worldview	Conservative	Liberal
Collegiate networks	Management oriented	Eclectic

Source: Adapted from Lugosi, Lynch, and Morrison (2009).

2009: 1469). In short, there is now a move, in the United Kingdom at least, to bring together the practical and theoretical in one research approach.

An outgrowth of the critical hospitality studies approach and CHMR has been the recent emergence of a new journal that specializes in such research. *Hospitality & Society* launched in 2011 with the aim of being

> an international multidisciplinary social sciences journal focusing upon academic perspectives on hospitality and hospitableness, however broadly conceived, including their connections with wider social processes and social structures. Our intention is to balance theory and applications; however, it is ultimately concerned with developing theoretical perspectives on hospitality and hospitableness (Lynch et al. 2011: 16).

While not all of the editorial board of this journal are researchers from the United Kingdom, the vast majority are. Indeed, most of the key figures mentioned in this section have a role to play.

A key organization in critical hospitality research is the Council for Hospitality Management Education (CHME) established in 1991. Many of the aforementioned researchers have been and still are a part of this organization, and the networks that CHME has facilitated have allowed this critical approach to flourish. Likewise, CHME's research philosophy has tended to adapt to the critical turn of its constituents. For example, CHME's stated research themes suggest:

> In the early days [of] the conference, tracks tended to be around [*sic*] the different management discipline areas but as it has progressed there has been the development of three main thematic streams which reflect the more contemporary nature of hospitality research. These are Cultural and Critical Studies in Hospitality, Developments in Applied Hospitality Management Research and Research and Practice in Teaching, Learning and Assessment. In the 2009 conference a fourth thematic stream was Culinary Arts and Technology and in 2010 this will be Food and Consumer Studies (Council for Hospitality Management Education 2010).

CHME has been a leader in commissioning research into the current focus of academic research and education in hospitality in the United Kingdom and recently released a report that explored the future of hospitality research within the academy. This report suggested that "Hospitality research is at a crucial stage where key decisions need to be made to ensure its credibility and its presence within the broader research community" (Ineson, Miller, and Mitchell 2011). This comes at a time when United Kingdom academic institutions, like many institutions globally, are under increasing pressure to deliver quality assured research outputs in journals with high impact factors. The result has seen hospitality researchers forced to publish in journals from other fields where citations are potentially higher. This has a negative impact on hospitality journals, especially those promoting the move to critical hospitality studies, which have always struggled for

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recognition under traditional measures of impact, even though they may often be at the cutting edge of research in the field. Therefore, as Ineson, Miller, and Mitchell (2011) suggest, CHME has a vital role to play in ensuring that hospitality research is not subsumed into a wider body of business research.

A CRITICAL TURN IN FOOD TOURISM RESEARCH

Food tourism research has also tended to take a critical turn in the last decade, albeit in a more low-key manner. Alongside a move to more critical analyses of tourism (and hospitality) more broadly, researchers of food tourism have begun to question many of the assumptions of previous research into food-related tourism. In this discussion we want to focus on and question those assumptions that link tourism and food, such as those surrounding the role of food in the tourism experience, for example, in areas such as risk to both destinations and individuals when situating food as primarily a support activity (Cohen and Avieli 2004; Quan and Wang 2004). Here, one thinks of the risk to the individual of the unknown (see, for example, Fischler 1988). Put this against the possibilities offered by place regeneration through the potential economic impact presented by tourists motivated by new and supposedly authentic experiences consumed in situ.

It is also important to recognize the existence of sustained disciplinary and multidisciplinary research that seeks to understand the role of food in tourism, but undertaken by those outside of the tourism and hospitality community. Among these is the exploration of the concept of culinary tourism from perspectives as diverse as Lucy Long's folklorist view of the otherness of food in the tourism experience (2004), arguing the role of the realities of food in the construction of imaginaries, thus in turn challenging the very idea of tourism as primarily about physical mobility for one to experience the exotic. Sarah Gibson (2007) goes on to argue the role that food might play in the construction of multiple mobilities, not only that of the imagination, but also of the body, virtual environments, and various technologies, and Jennie Germann Molz's (herself a coeditor of *Hospitality & Society*) work on cosmopolitanism and mobility in culinary tourism (Germann Molz 2007). Others not relating specifically to tourism include Heldke (2003), whose writing on adventuring through food relates to much of the extant literature on risk taking in tourism as well as to tourism and postcolonialism.

Meanwhile, those interrogating the relationship between specific elements of the relationship between food and tourism have also begun to be more freethinking in their views. Mitchell and Scott (2008), for example, explore farmers' markets as a complex intertwining of the everyday and the exotic with potential for enchanting the tourist. Carina (2011), in exploring tourists' engagement with food, in this case cheese, shows how human realities of a tourism destination can be shaped and molded, thus arguing the agency of nonhuman objects; while Scott (2006) suggests that tourism can act as a spatial agent in the delivery of a culturally meaningful hospitality experience through understanding the wider implications (and performances) of encounters

and interactions between the known and unknown individual (including the provision of food).

THE PLACE OF CULINARY ARTS RESEARCH

In the academy research in culinary arts (as per the definition provided by Gustafsson 2004),[11] has been dominated by the science and technology associated with food production. All journals explicitly targeted at culinary arts research have the explicit aim of disseminating research to improve food production techniques. This follows an educational paradigm that has traditionally focused on the acquisition of technical skills in a master-apprentice model of education that dates back to the time of Escoffier.

Globally a relatively small but increasing number of culinary arts institutions are beginning to develop more inquiry-led educational programs that not only explore how to use culinary skills and techniques, but why they are used and how they are influenced by society and how society influences them (e.g., Dublin Institute of Technology (Ireland), Otago Polytechnic (New Zealand), University of Gastronomic Sciences (Italy), and in the United States, New York University's food studies program along with the gastronomy program at Boston University). These institutions embed research skills at the core of the curriculum and encourage students to explore food from a production, science, and social science point of view, treating traditional culinary arts and food studies as equally important. Indeed, the University of Gastronomy was established by the Slow Food organization as a reaction to the rationalization and industrialization of food production, while the Otago Polytechnic has set up its program to recognize a growing demand from students for more creative outlets and from employers for students that can adapt to the fast pace of change in hospitality. Moreover it might be suggested that the trend for commercial, hands-on-based cooking schools is resulting in an interest in turning these leisure programs into academic programs, although it might be suggested that in some cases this is to seek some form of legitimacy. The very nature of the culinary arts, as an applied science and a creative endeavor, means that it would seem to be a field of study receptive to research and the inquiry necessary for a creative design process. However, until recently, it has focused almost entirely on the science of improving existing techniques, rather than embracing a broader view of research inquiry. Recent moves in culinary arts education are likely to see a growing demand for research in this field and this is likely to be further driven by a popularization of culinary arts, especially the creative, innovative, and avant garde.

CULINARY ARTS RESEARCH AND THE POPULAR ROMANTICIZING OF COMMERCIAL HOSPITALITY

A growing number of chefs (the most high profile of whom are television celebrity chefs such as Ferran Adria [elBulli], Heston Blumenthal [Fat Duck], and David Chang

[Momofuku]) are popularizing research in the culinary arts. Their work is pushing the boundaries of culinary knowledge using experimentation and a deeper scientific understanding of cooking processes to create avant garde cuisine. They make use of classical literature alongside scientific knowledge to (re)invent cuisine often inspired by the respective chefs' immersion in academic research into social movements, historical events, or cuisines or aspects of the environment that surrounds them. For example, in his television series, *Heston's Feasts,* Heston Blumenthal took inspiration from classic stories (such as *Alice in Wonderland*) or historical events (such as the last meal on the *Titanic*) and classic dishes and conducted lengthy experiments to produce new food products, new techniques, and new performances of food. Likewise, Blumenthal actively (and publicly through the media) collaborates with leading science academics at numerous UK universities, including Oxford and Bristol. To Blumenthal, Adria, and Chang (and their professional and amateur acolytes), culinary art is now seen as science, performance, entertainment, high art, and social commentary, and this has reinvigorated and romanticized the culinary arts. This has had the result of increasing the awareness of hospitality as a socially and culturally valid career choice in many Western countries, but, in turn, of further commodifying the cultural and social imperatives embedded within the phenomenon of hospitality—including the glamorization of individuals and particular occupations over others, as well as challenging social performance through, for example, the guests' behavior toward their hosts' food in shows such as *Come Dine with Me.*

Universities are beginning to discover synergies with these noninstitutional researchers, especially as they are the darlings of the media and this is a hook to attract prospective students and other constituents to their research and educational programs. In short, this romanticization of the culinary arts allows once again for a popularization of science, especially chemistry. An example of this is the Harvard School of Engineering and Applied Science, *Science and Cooking* public lecture series available on YouTube (some of which have as many as sixty-five thousand views). According to the dean of the school, this change in the way the culinary arts are perceived has allowed her school to use food as an everyday object "as a cornerstone for discovery" (Hammonds 2010).

CONCLUSION

Hospitality, tourism, and culinary arts research has its roots firmly in the practice of the industries that it serves. As such, until recently, research has produced outputs to serve an industry hungry for information to support its business endeavors. This is particularly true of hospitality research emanating from the United States, and this continues to be the case. However, a recent critical turn from hospitality academics in the United Kingdom has seen the emergence of research that questions this industry-focused paradigm. There are now two clear schools of thought in hospitality research (hospitality management research and critical hospitality studies) and a fledgling movement to unite the two under the umbrella of critical hospitality management research. The marriage of research to the philosophical underpinnings of hospitality to research

with a business imperative should be a rich basis for inquiry in this relatively youthful field of study.

While certainly there has been an interest in food and drink within a commercial context, much of the research has been carried out from within particular disciplinary frameworks, where multidisciplinary research has seemed to have bypassed much, until recently, of the tourism and hospitality research community. That being said, there is a nascent movement within those interested in the study of food and drink in the context of commercial hospitality, as well as in the education of future tourism and hospitality employees, that seeks to move beyond the need to legitimize hospitality as a field of inquiry through the adoption of a particular economic ideological research agenda. Rather, these researchers seek to engage with their colleagues from outside of the academy—to actively seek new ways of knowing the phenomenon of hospitality as an embodied experience.

NOTES

1. Such as *Hospitality & Society,* first published in 2011.
2. Here we consider *eating out* to be through necessity, during work, for example. *Dining out* we consider to have been historically a choice (see, for example, Finkelstein 1989 and Jacobs and Scholliers 2003b). One can argue that, given our current mobile lifestyles, the concepts of eating out and dining out are becoming increasingly entangled.
3. While manufacturing systems have been utilized historically in the hospitality sector, only relatively recently have technological advances permitted the use of mass (mechanized) production that has been a symptom of Fordist economies. This can be seen, for example, in the successful reintroduction and use of *sous vide* as a production method, thus allowing for centralized production of food for neighborhood restaurants through to Michelin-starred restaurants.
4. This list is used by a number of countries to determine quality of academic research outputs, subsequent research funding, and moreover, academic career progression.
5. Indeed, two journals are published by the International Council for Hotel, Restaurant and Institutional Education (iCHRIE): *Journal of Hospitality & Tourism Research* and *Journal of Hospitality & Tourism Education.* iCHRIE was founded in the United States in 1946 and currently has fifteen hundred members in more than fifty countries. iCHRIE is highly influential in this field of research, and its annual conference, along with those of its European (EuroCHRIE) and Asia Pacific chapters, are recognized as leading global hospitality research conferences.
6. There is a growing discourse surrounding the nomenclature of food and tourism that includes gastronomic tourism, food tourism, and culinary tourism—along with these are products used to define a particular tourist motivation; for example, wine tourism, whiskey tourism, or tea tourism.
7. This can be seen in the BBC comedy series *Fawlty Towers.* Here the owner of the hotel is portrayed as the antithesis of the hospitable host. Likewise, deviant displays of power are performed by numerous television chefs.

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8. In fact, this is illustrated with this chapter's authors, one of whom has moved from human geography, the other from an industry background, now completing a cultural studies-focused PhD.
9. Here we engage with Simmel's idea of the secret society and situate hospitality as the (border) space in which passwords are given and secrets subsequently shared. Thus hospitality, or more precisely the acknowledgment of the "laws of hospitality" (see Pitt-Rivers 1963) and the roles played by the host and the guest mediate proximity and distance of the body, but as importantly, values and mores of the interacting individuals (or cultures).
10. It might be suggested that this is a result of the structure of many tourism and hospitality schools—where business courses are taught within the school, as opposed to tourism and hospitality programs with business courses run by faculty from within specific disciplines with students from multiple business degree programs mixing.
11. The term *culinary arts* is itself a contested concept; in this chapter we follow Gustafsson (2004) in locating culinary arts as a multidisciplinary area comprising an intersection of food science, artistic endeavor and practical skills. We would also add the importance of wider social and cultural understandings of food and its production.

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PART THREE

Buying and Eating

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Editorial Introduction

The third part of the *Handbook* focuses on the everyday practices of buying and eating food, approached from a variety of disciplinary perspectives and combining historical and contemporary accounts. It covers food marketing and retailing, traces the emergence of consumer science, and considers psychobiological approaches to appetite and satiety and the sociology of food consumption, encompassing food and drink, eating in and out and exploring the complex relationships between food and identity.

If, as previous chapters suggest, distance has been a defining theme of the global, industrialized food system, it has been the job of marketers to build sufficient trust and loyalty to overcome consumers' distrust of unseen suppliers (see Kjærnes' chapter in Part Four). As the opening chapter by Marianne Elisabeth Lien and Eivind Jacobsen argues, marketers have worked hard to understand and shape the buying practices of urban shoppers, acknowledging how their diverse, segmented, and unruly behavior has changed over time. Lien and Jacobsen talk about the ubiquity of food marketing both as an applied field of knowledge (a subdiscipline of economics) and as a culturally specific form of knowledge production. They show how marketing emerged as a distinct profession with its own techniques, approaches, and vocabulary (such as consumer segmentation and brand development) as a result of the growing distance between buyers and sellers in an increasingly urban marketplace. They talk about the acknowledged failures as well as the successes of marketing as a commercial enterprise and they discuss the recent extension of business methods to the public sphere through the process of social marketing. Lien and Jacobsen's acknowledgment of the increasingly transnational nature of the food industry also raises questions about possible consumer resistance to the forces of homogenization and rationalization. Noting these issues, Lien and Jacobsen caution against attributing too much power to marketing, urging scholars to explore the

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fault lines, contradictions, and uncertainties faced by those who attempt to build trust in an inherently opaque food system.

The following chapter on retail distribution moves further from production toward consumption. Alan G. Hallsworth surveys the rise of self-service chains in the early twentieth century, then supermarkets in the 1930s through to the 1950s, ending with the more recent emergence of hypermarkets and "big-box" stores such as Wal-Mart and their increasing market share and corporate power. Comparing U.S. and European experiences, he argues that retailers in Europe were slower to develop large-scale suburban stores mainly because land use planners had more power in their efforts to rebuild and retain smaller central city stores accessible by foot and public transport, whereas in America public land use policy favored car-based decentralization. Hallsworth's chapter also illustrates how corporate food retailers act as if they are real estate speculators fixated as much (some would argue more) on location as on food quality. Noting that much of Europe has caught up with the American model of retailing, with its emphasis on convenience foods, credit cards, private (own) labels, Sunday trading, one-stop shopping, and corporate consolidation, Hallsworth ponders the future of a mature market that faces uncertainties such as European Union (EU) regulation, consumer nostalgia for smaller, independent stores, and possible competition from Internet-based shopping. Like Lien and Jacobsen, Hallsworth observes that, while the mainstream food industry may appear hegemonic, it still faces resistance, especially from those concerned about sustainability and equitable distribution.

In her chapter on consumer science, Helene Brembeck shifts the focus away from research on how to sell food and how it is sold to the study of consumers themselves. While much of today's consumer research is done to inform the food industry (including its food processing, distribution, and marketing divisions), its roots date back to the progressive women's movement in the mid-nineteenth century. Originally called domestic science, then scientific housekeeping and home economics, some claim this effort aimed to empower women by making them more efficient housewives and cooks. By saving time and reducing labor, domestic science sought to liberate women from kitchen drudgery for the sake of a higher calling to be better wives, mothers, domestic servants, and citizens. Others take a more cynical view, arguing that domestic science served men's interests and those of upper- and middle-class women able to liberate themselves through the use of domestic servants. Comparing the field's evolution in the United States and Sweden, Brembeck shows how the research into household chores associated with this movement caught the interest of manufacturers of labor-saving convenience foods and appliances. Almost inevitably, by the 1920s, home economists were routinely recruited by food marketers dedicated to transforming the "primitive kitchen slave" into a modern can-opening, button-pushing "Mrs. Consumer." While interwar consumer science retained some reformist goals in seeking to help women conserve resources, resist deceptive marketing, and feed their families better in times of economic stress, after World War II the field's focus shifted in a decidedly corporate direction, serving as a laboratory-based form of product testing that aimed to improve the food

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industry's economic competitiveness. To be sure, in amassing vast amounts of information about consumer behavior and desires, market researchers created valuable data archives sometimes available to academic researchers. Brembeck concludes by reviewing current consumer science initiatives that seek to develop more sustainable lifestyles, to de-gender food work, and to integrate the study of food consumption more holistically with other approaches to the food system.

If one of consumer science's goals was to smooth the transit of food from field to factory and then to table by engineering the ideal "Mrs. Consumer," hoping to save labor by buying highly processed, value-added, cleverly branded convenience products, it may have succeeded all too well, for, as several chapters suggest, much of the world now faces an "obesity epidemic" associated with too much energy-dense industrialized food. As a contrast to the disciplinary approaches represented by other chapters in Part Three, John Blundell, Michelle Dalton, and Graham Finlayson offer a psychobiological perspective on appetite and satiety. They argue that appetite is shaped by a complex interaction between biology (nature) and culture (nurture), focusing mainly on the physiological determinants of taste preferences, hunger, and fullness. This chapter takes the discussion even closer to the consumption end of the food chain after food leaves the fork and travels from the mouth to the stomach by concentrating on the psychophysiology involved.

The following chapter by Lotte Holm also deals with food consumption but concentrates on recent developments deriving from the sociology of consumption. Here the focus is on socially created sets of practices—following the seminal work of the late Pierre Bourdieu—together with an interest in their social and cultural meanings. Holm rehearses the contrasts between the underlying individualism of economics and psychology on one hand, and the collective focus of sociology on the other, which turns attention to shared meanings and that which is culturally inherited. This provides her with a basis for reviewing a range of studies of changing meal patterns, which in turn reveal changes in work schedules, family structure, and community organization. For a much-needed evidence-based perspective on popular assumptions regarding the purported decline of the family meal, Holm also welcomes more comparative studies on eating patterns in different industrial societies together with ethnographic studies of food practices. In the process, she highlights the differentiation of such practices according to gender, age, ethnicity, and class. Holm concludes with the observation that recent work in the sociology of food consumption has tended to be unduly narrow, calling for future studies to encompass wider societal dynamics.

Several of the issues raised by Holm are developed in the following chapter by Alice P. Julier that focuses on eating in and eating out. Julier begins by observing that it is a myth that people have always, everywhere structured their eating according to three meals a day. The organization of eating is far more malleable and, incorporated into the fabric of social life, is subject to historical change. Echoing a question as to what counts as food posed elsewhere in the book (e.g., Atkins' chapter in Part One), Julier considers Mary Douglas' question as to what counts as a meal, showing that it can be thought of as a cultural container whereby meaning is communicated. But Julier also records

the paradox pointed out by Georg Simmel a century ago, that eating is both individual (if food is eaten by one person it is by definition unavailable to be eaten by another) and collective (everyone shares the need to eat), forming the basis of commensality and wider forms of sociality. Thereafter Julier proceeds to discuss the division and relation between eating in the domestic sphere and in public. She shows how meals offer occasions for reinforcing relations between people, their obligations to one another, and the emotional ties that bind.

The next chapter by Tom Brennan illustrates the importance of including drink within the wider ambit of food research. As Brennan demonstrates, the distinction between food and drink is not always clear-cut. Many milk products, for example, take a solid form and, in many parts of the world and throughout much of human history, beer has been a staple part of human diets. So, too, with the incorporation of sugar in tea and coffee, the distinction between food and drink quickly dissolves. Brennan charts regional variations in the consumption of alcoholic and nonalcoholic drinks, noting the disproportionate scholarly attention paid to the former compared to the latter. Indeed, Brennan argues, the literature is torn between those who emphasize the deleterious consequences of (alcoholic) drink, epitomized in Hogarth's images of "Gin Lane" in eighteenth-century London that display the debauched and dire consequences of consuming large quantities of the drink, and those who emphasize its constitutive role in the creation of socially approved masculine identities, the promotion of professional cohesion, and the advancement of neighborliness and sociability. Drinks of all kinds have played a powerful symbolic role in society, though Brennan argues there has been more academic work on production than consumption, including a strong emphasis on the study of historical origins and geographical spread. Scholars have also celebrated, somewhat uncritically Brennan suggests, the role of coffeehouses as places for the development of civil society and the emergence of the public sphere.

In the concluding chapter to Part Three, Krishnendu Ray foregrounds food's meaning and symbolic significance in the construction of social identities. To bring order and clarity to what he describes as "a vast, rambling field containing national and religious claims, class and ethnic preferences, racial and gender distinctiveness, and individual personality formation over life-cycle choices," Ray divides the identity literature into three "collectivities"—territory, region, and ethnicity. Associated with claims of national or provincial distinctiveness, the territorial category may well be the dominant Western frame, as it is so often employed to assert, if not explain, the culinary hegemony of particular nations, particularly France. Ray observes that research on the production (or invention) of national cuisines tends to divide between those who see it as developed from the top down (via highly influential critics and chefs) and those who think cuisine evolves from below, that is, as a reflection of everyday practices within a particular area. While territorial or national food identity is closely associated with the rise of nation-states, regional identity is defined by the cities at its center, particularly by heritage-making business interests, both culinary and touristic, that seek to promote local products, services, and sites. While hegemonic French culinary identity was linked

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to the centralized political interests of Paris, Ray argues that "Italian" and "Chinese" culinary identities are defined by a diversity of "regional idioms." Consolidated Italian and Chinese cuisines appeared only via emigration. This leads to Ray's third category, ethnicity, which he defines as "territory in motion." After reviewing classic studies of how "ethnic food" is a product of immigration, Ray concludes with a call for more studies of recent Asian and African immigrants, whose experiences may not fit the models established in relation to previous European waves. He also suggests that current electronic mediation, as well as ubiquitous air travel, may require a more subtle and complex approach to understanding identity formation.

As these introductory comments suggest, the chapters in Part Three provide a critical research-based account of the social practices of buying and eating food. Collectively, they demonstrate the value of a comparative and historical perspective, using empirical evidence and conceptual innovation to challenge pervasive myths about contemporary food and culinary cultures. As such, they form a necessary prelude to the essays on policy and practice that form the focus of the chapters in Part Four.

14

Food Marketing

MARIANNE ELISABETH LIEN AND EIVIND JACOBSEN

"In the future, plates of food will have names and titles."
(Talking Heads 1984; album cover *Stop Making Sense*)

Food marketing is everywhere. As a relatively recent practice in the human history of food, this modern custom demands an explanation. For there is a paradox that runs as follows: in a world of food scarcity, food marketing would appear superfluous; no push or persuasion would be necessary. In a world of food plenty, one would expect food marketing to be ineffective too, as the efficiency of food marketing is limited by the fact that the human body can only digest a certain amount at any given time. Yet, in spite of this, food marketing is all around us. Marketing is increasingly important in shaping the ways food is produced, distributed, purchased, eaten, and digested worldwide. Marketing expenditures account for a significant part of the price we pay for the food we buy. Why is this so? What does it do to producers, consumers, the environment, and to food itself? And how can we achieve a better understanding of this peculiar phenomenon?

Marketing is a key component of most systems of food provision[1] that bring food from farm to fork in the world today. As such it merits a study in its own right. What does marketing do? How is it done and to what effects? These are some of the questions asked in this chapter. While similar questions are asked in marketing textbooks, our analysis is framed by a broader research agenda. Rather than describing what marketing does in terms of economic efficiency, we ask what it does within the context of food provisioning. Rather than asking what marketing *achieves* in mediating from farm to fork, we explore how it informs and enacts entire food systems, including the way we produce, the way we eat, and the way we think about the way we eat. In this chapter, we discuss some of the insights derived when food marketing is approached as a lens to

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socio-material processes of broader interest to food research. Finally, we suggest topics of further research and point to questions that are poorly understood. While this chapter delineates food marketing as a distinct component of food provisioning, we also point to how marketing is deeply entangled with other aspects of food provisioning, such as agriculture, retail, commodity chains, and the emergence of the consumer (see Brembeck, Chapter 16, this volume).

FOOD MARKETING RESEARCH: INSIDERS AND OUTSIDERS

So what is food marketing? In *The Oxford Encyclopedia of Food and Drink in America,* we learn that "food marketing brings together the producer and the consumer."[2] It is defined as "the chain of activities that brings food from 'farm gate to plate.'" The attention is then brought to the complexity of food marketing, as illustrated by the example that "fifty-six companies are involved in making one can of chicken soup."

This definition of food marketing echoes a dominant approach in marketing research. Let us first take a look at how marketing is *done* in definitions such as this: note that we do not want to make a definite statement at this stage about what food marketing *is,* but ask instead how the phenomenon is enacted by its practitioners, from the inside, so to speak.[3] Two features are worth noting: first, the definition is broad. Complexity is highlighted, and the statement that "fifty-six companies are involved in making a single can of chicken soup" alerts us to how there is practically no end to the different activities, groups, or sites that actually take part in the activities encompassed by the term *food marketing.* Food marketing, in other words, is enacted as complex and all-encompassing; it is potentially everything to do with food until it is digested. Second, we learn that food marketing acts to bring things *together.* Not only does it bring together the producer and the consumer, it also "brings food from 'farm gate to plate.'" Our attention is directed to the activities involved and to what marketing *achieves.* Food marketing is made co-responsible for the enormous task of feeding the human population. Through this definition, food marketing is enacted as an indispensable chain in the machinery of food provisioning. How could we ever do without it?

We are not arguing here that this definition is necessarily wrong. But it most certainly does not tell the whole story. We are tempted to say that it is both too broad and too narrow. Narrow, because if marketing is a "chain of activities," these activities are designed not only to "bring together producer and consumer," but also to make a profit at every step. Food marketing is always paid for, and thus necessarily driven by particular economic interests, which in turn affect the way marketing is done. Specifying those interests and taking them into account is a crucial element of an analysis of food marketing. But it is rarely exposed in marketing research.[4]

This brings us straight to the fundamental distinction that structures much of the literature in and about marketing research: that between marketing as an

applied field of knowledge (a subdiscipline of economics) and that of marketing as a culturally specific form of knowledge and material production that merits attention in its own right. We will refer these two fields of knowledge production as *research on the inside* and *research from the outside,* and we see this chapter as a contribution to the latter.

Marketing research on the inside is both ambitiously academic and intensely applied. It draws on a broad spectrum of social science disciplines, including psychology, behavioral economics, sociology, and anthropology, and "operates at the interface between economic theory and economic practice" (Lien 2004b: 48). Key questions are framed by a general concern to increase the efficiency of various marketing efforts and to achieve a better understanding of what works and why (Kotler and Keller 2012). Information about markets and consumers is produced accordingly, often in the form of consumer surveys or consumer focus groups, in addition to sales statistics. The question "what does marketing do" leads to a focus on various types of marketing strategies and how successful they are in bringing producer and consumer together within the overall aim of making profit.[5] And because profit is not only about selling food, but also motivates the production of knowledge (consumer surveys, consultancy, or advertising slogans), enacting marketing as an indispensable tool in the system of food provisioning is, in itself, an integrated feature of marketing discourse. This is why we argue that definitions such as the one we cited earlier are not only too narrow, but also too broad: food marketing is clearly involved in bringing some of our food from "farm gate to plate," but it certainly does not do the job alone.

Research from the outside is rarely guided by the economic motives mentioned previously. Instead, it is inscribed in research agendas with their own questions, theories, and models, usually quite different from those of marketing textbooks. As a cultural and material phenomenon, marketing attracts attention from many different disciplines, such as anthropology, sociology, history, and science and technology studies (STS). Hence, the question "what does marketing do" tends to be framed broadly and concerns how marketing theory and marketing practices shape food production and consumption, and/or how marketing can yield insight into social and cultural processes. Typically, research from the outside explores the ways food marketing (as a practice and a field of knowledge) is nestled within the broader framework of food provision and how it contributes in shaping this framework. It may also involve a focus on how it is justified and how it constructs products through carefully managing information, such as what is highlighted and what is left unsaid. We return to such issues later in this chapter. While the outsider's view is often appreciated by inside practitioners[6] and vice versa, the debates tend to be different and to take place in different arenas. Why is this so? To understand this division we need to step back for a moment and consider the historical emergence of consumption as a separate domain.

end of larger point size

THE EMERGENCE OF MARKETING: DISTANCE AND ABSTRACTION

For something to be brought together, it needs first to be pulled apart. In his book *Gifts and Commodities,* anthropologist James Carrier depicts an image of life in English villages before the nineteenth century, when most people there were peasant farmers. Localism and self-sufficiency were embodied in "regulations that sought to secure local produce for local people" and "trade took place between people who were known to each other" (1995: 64, 63). This was a time when "material transaction and social relation were not separated conceptually," and middlemen were treated with suspicion (1995: 66). Compared to contemporary systems of provision, food production and consumption were never far apart, neither geographically[7] nor socially (for better or for worse).

So what happened? Carrier describes a process beginning at the turn of the nineteenth century that involves the emergence of middlemen, credit, shops, and of products and trade relations that became increasingly impersonal during the century that followed (1995). The transition features the institutionalization of the trade, and the roles of salesman and customer, and thereby also a certain separation of material transactions from one's position in a local structure of social relations. By the end of the nineteenth century, salesmen and customers were key characters in urban European landscapes, but another player was about to emerge: that of the urban shopper. Along with the opening of shopping arcades such as London's Burlington Arcade in 1819 and Paris' rue Vivienne in 1823, a new leisure practice emerged, that of inspecting consumer products through glass windows. The nineteenth century urban shopper strolling along the mosaic walkway beneath the glass ceilings of rue Vivienne may serve to illustrate the idealized image of the modern consumer in an embryonic form: anonymous, independent, pursuing shopping as pleasure, and executing a certain kind of freedom of choice in her selection. While this ideal shopper hardly depicts historical reality, and even though day-to-day shopping today is far more trivial and socially embedded than this image portrays (see, e.g., D. Miller 2001), the image of the consumer as a sovereign, independent figure is still with us and informs much discourse in marketing (Lien 1997).

The separation of material transactions from social ties is also mirrored by a similar disembedding of sales from processes of food production: The *chocolatier* may have assembled the product in a room nearby, but the product is sold on its own merit. The *fromagerie* may offer a variety of cheeses for which place of origin may be important, but the individual producer is not there. But not only that: along with the nineteenth century disembedding of the urban shopper, we can trace the increasing industrialization of the food supply in Western Europe and North America as well as in the colonies. Jack Goody has described this process as the "rise of the industrial cuisine," made possible by major improvements in methods of preservation, mechanization, retailing (and wholesaling), and transport (1982: 154). In the words of Theodor Bestor, this process is one in which "the entire character of a society's sustenance . . . is adapted to, and shaped by industrial, capital intensive production" (2004: 150–151). With these shifts, new forms

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of distance emerged, socially, materially, conceptually, and geographically, that worked together to pave the way for a new kind of middleman in the system of food provisioning: the marketing professional.

Tracing the historical development of marketing thought, Shaw and Jones (2005) point out how mobility gave an impetus to improvements in marketing distribution. By the turn of the twentieth century, the Industrial Revolution was well established in Western Europe and in the United States, colonial trade had introduced goods from faraway places, a growing urban population had become accustomed to urban markets, and traders were an institutionalized component of food provisioning.[8] This was the time when pioneers of marketing theory carved out a distinct subject matter for an emerging academic discipline, asking questions such as "what is the work of marketing?" Their replies typically named the various functions marketing institutions might perform and how they relate to each other and to other institutions of distribution and exchange. This approach to marketing was followed by what Shaw and Jones describe as two paradigm shifts. The first took place around the mid-twentieth century and involved the development of a broad range of marketing techniques to enhance sales. A surplus of supply spurred a need for business corporations to generate consumer demand.[9] Production driven, and characterized by a managerial approach, this postwar situation marked the establishment of marketing as an essential feature of business education. The most influential scholar of this era is Philip Kotler, whose bestselling textbook *Marketing Management* (first published in 1967) is still on the curriculum of many MBAs.[10] Kotler's sales response model stated that a firm's sales and market share respond directly to changes in the efficiency of its marketing mix. This relies on the right combination of the so-called four Ps, (Product, Place, Promotion,[11] and Price; see Wansink 2004), and the model is supported by short, snappy, and convenient definitions of marketing such as: Marketing is the right product, in the right place, at the right time, at the right price.[12] *Marketing* became shorthand for *marketing management techniques* and a social institution that helped producers market their products.

Philip Kotler and associates were immensely influential in making marketing a distinct field of study, and in doing so, contributed to bridging the gap between the discipline of economics and the world of business practitioners (see Lien 2004a). With this approach, marketing became an applied field of economics, demonstrably useful to business where traditional economic theory failed. Frank Cochoy has pointed to how the establishment of marketing was an achievement of mediation between economic theory and economic practice, based on the tedious collecting, ordering, and standardization of information from the business sphere, recast at a different level of abstraction (1998). Consequently, society was increasingly represented as an aggregate of consumers seeking to satisfy their various needs and interests through the channel of the market.

This paved the way for what Shaw and Jones identify as the second paradigm shift, in the last quarter of the twentieth century, when the conventional focus on business activities expanded and came to embrace a broader approach to human activity. This

involved an enhanced focus on differentiation, both of products and of their future consumers. The most obvious expression of this is the strategy referred to as *consumer segmentation,* through which the market is differentiated as subcategories of consumers, featuring different preferences, lifestyles, tastes, and disposable income. This shift called for a broader understanding of consumer practices and thus the incorporation of insights from a wide range of social science disciplines, from anthropology to psychology, as resources to improve marketing strategies. Consumer segmentation is an essential feature of food marketing today and highly influential in shaping the product, packaging, promotion, and price.

BIRTH OF THE CONSUMER—DEATH OF THE SALESMAN?

This historical outline reminds us that even though humans have always exchanged food with one another (with and without markets and traders), the notion of the *food consumer* is a modern invention. According to Raymond Williams, the word *consumer* was first used in the nineteenth century as part of the terminology in political economy. However, it was not commonly used until the 1950s, when it gradually came to replace the term *customer.* This transition from *customer* to *consumer* reflects a shift in the relations between seller and buyer. Williams writes: "customer had always implied some degree of regular and continuing relationship to a supplier, whereas consumer indicates the more abstract figure in a more abstract market" (1983: 79).

The term *consumer* is, then, a relational effect of a gradual shift in the relations of provisioning toward increased abstraction in the marketplace. Similarly, the *market* is no longer supportive of a particular place, neither literally nor metaphorically.[13] Instead it tends to be decoupled from any notion of place or community whatsoever, and denotes "the set of all actual and potential buyers of a product" (Kotler and Armstrong 1987: 204; see also Lien 1997).

So what happened to the salesman? With the emergence of marketing as a full-fledged discipline, and the birth of the consumer as an abstract figure, the role of the salesman has gradually become less visible. Increasingly automated, or delegated to the impersonal transaction at cashpoint, what was once encapsulated through the figure of a salesman appears today as the sum total of a range of interdependent practices and transactions. From seeding, through harvest, export, corporate retailer agreements, advertising, media, and through the final purchase, sales is distributed across continents and corporations, through myriads of minor transactions, most of which are in the end invisible to the end consumer (Dickinson, Chapter 26, this volume).

In this way, the notion of a food consumer may be seen as an enactment of particular systems of food provision that are, in some ways, held together and sustained by the models and practices of marketing.[14] This also means that food marketing produces or performs the markets in which food marketing takes part (Araujo, Finch, and Fjellberg 2010; Callon 1998; see also MacKenzie, Muniesa, and Siu 2007). The metaphors of the market shape the world in which marketing practitioners operate (see also Jacobsen

2001; Lien 1997, 2004b). Hereby marketing also contributes to the configuration of the consumer (Woolgar 2007), in the sense of what it is to be a food consumer, the skills and knowledge it involves, the kind of tasks performed, and the kinds of responsibilities and entitlements assigned.[15]

A number of questions follow, such as: How does this food-marketing assemblage actually hold together, and what kinds of food does it produce? How are consumers shaped and what kind of agency do they execute through their roles as consumers? How does information travel (or not travel) along these networks? How do people performing various roles in the system of food provisioning see themselves and their respective worlds? What are the implications of this system of food provisioning for our abilities to secure fair and sufficient food for all? In this chapter, we can only deal with some of these questions. First we discuss branding, the quintessential form food marketing tends to take.

BRANDING AND CONSUMER SEGMENTATION

Food is not only "good to think," as Claude Lévi-Strauss so famously expressed it. It is also a medium, a material vehicle, of relations that we think of as social. At the same time, it literally makes us, as bodies, healthy or weak, fat or thin. No wonder that it is already saturated with a broad range of meaningful material distinctions that together perform a variety of orderings relating to hierarchy, gender, taste, nutrition, belonging, season, ritual, love, age, and much more. This provides a fertile ground for marketing, as it lays out a complex material semiotic suppliers may apply to ensure that their product performs the difference that makes a difference in terms of sales. Because whatever marketing achieves, it does so by making a difference. Marketing works through the purposeful production or application of difference with a view to making a profit. The difference that emerges through these processes (ultimately measured through, for example, sales response) is achieved through processes of differentiation that make specific products stand out as different and more desirable to potential buyers than others. Much of this work is captured under the term *branding*.

Since the 1980s, brands have become increasingly important in organizing the relation between producers and consumers (Galli 2008; Lien 1997; Lury 2004). Celia Lury describes brands as devices for calibrating the market and mediating—or matching—supply and demand (2004: 4–5). Carefully adapted to specific target groups, a brand product is not only differentiated from competing products, it also mimics an imagined category of consumers. In this way, the difference between a mere product (commodity) and a brand product may be seen as an effect of a process of translation, through which the brand product is located one step closer to the imagined consumer (Lien 1997: 108–109). The goal then, is to signal, as well as to create, the values or qualities that make products desirable to consumers,[16] and, according to the inside practitioners, to establish lasting affective relationships between consumers and specific products, and sometimes also to the corporate supplier.[17] The tools to achieve such affective relationships are

found in consumer segmentation, that is, in the detailed knowledge produced through marketing research about how consumers differ in terms of taste preferences, eating habits, and so on.

Ironically, Pierre Bourdieu's classic analysis *Distinction: A Social Critique of the Judgment of Taste,* a study of taste, lifestyle, and class in France (1986), has been an important source of inspiration for the marketing profession, as well as for those who take a more critical view. Bourdieu's argument is based on sophisticated statistical surveys, ordered by correspondence analyses, a technique that is also a common tool in consumer segmentation[18] and that enabled him "to isolate, through successive divisions, different coherent sets of preferences stemming from distinct and distinctive systems of dispositions, defined as much by their interrelationship as by the relationship between each of them and its social conditions of production" (Bourdieu 1986: 261). Framed by a considerable theoretical development, which is encapsulated by the concept of *habitus* as both a structured and structuring disposition, Bourdieu's influential work provides an important analytical tool for untangling the self-evidence with which what appears as good taste is systematically associated with particular forms of symbolic, cultural, or economic capital. According to Bourdieu, taste is "the propensity and capacity to appropriate (materially and symbolically) a given class of classified, classifying objects or practices" and "the generative formula of life-style" (1986: 173).[19] It follows, then, that a marketing consultant anywhere near able to portray this "generative formula of life-style" in an accessible manner holds the key to a lucrative business. In this way, marketing is not only about the design and promotion of products, but also about the design and promotion of information (Lien 1997; Moeran 1996). In fact, in a market saturated by branding strategies and consumer segmentation, one may argue that there is no clear boundary between the material product and the message it conveys; the product *is* the message, just as much as the message resides in the material substance of the product.

So what are the implications in the realm of food? That goods, such as food, convey meaning is of course nothing new (Barthes 1997; Douglas 1984; Goody 1982; Mintz 1985). Branding and consumer segmentation bring to this dynamic semiotic puzzle a profound shift in the relations between production and promotion, through which the material substance of food is, in fact, subordinate to the message the product is designed to convey. The effect is not only organizational repositioning through which marketing departments and advertising agents and consultants tend to be given a leading role at the expense of the more technically inclined product developers (Lien 1997; Moeran 1996). It also involves a reconfiguration of the material components and properties of products at its very core that operates at a molecular level, as well as at the level of production and culinary composition (Lien 1997, 2000). The raw material(s) appear then as a bundle of opportunities as well as an unforeseen bundle of material restraints upon which a carefully designed food product can be crafted. But unlike a culinary chef who strives to achieve an optimal combination of flavor and texture, contemporary product developers work within a specific set of constraints, defined by the ways the product is to be positioned vis-à-vis other products in the marketplace. Thus, the topping on a

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ready-made pizza is not primarily (or sometimes not at all) about how flavors combine to create a particular sensory experience. Instead, it is about creating products that are, for example, sufficiently distinct from competing brands to stand out as different, and yet familiar and attractive enough to the targeted segment of consumers that they will embrace it and identify with that brand as distinctly theirs (Lien 2000). It is in this careful weaving back and forth between the detailed material/molecular crafting of the product, and the anticipated lifestyle and preferences of consumers, that brand food products find their form.[20]

Along with this crafting of the edible component of food products comes a careful crafting of the nonedible product components; namely the packaging, the logo, the place or channel of distribution (often involving the choice of and negotiation with a retail chain), and the accompanying promotional material. For, as Brian Moeran notes, the role of much (but not all) advertising is to transform mere products into brands, and branding is practically impossible without advertising (1996: 281). Advertising, in turn, is hardly possible without the careful assembling of specific combinations of visual and textual elements. Hence, we find that TalkingHeads' proclamation from 1984, cited in the beginning of this chapter, is perhaps more visionary than they anticipated: Indeed it turned out to be true that "in the future, plates of food will have names and titles."

space between Talking and Heads

Food marketing serves, then, to supply foods with names and titles, and thus with legible and sometimes novel instructions about what a food product is, what it means, how it should be consumed and conceived, and what its merits are compared with other things we might eat. This is done, not only by configuring the product's edible properties, but also through working on the surface, through packaging, labeling, and the visual and textual forms of communication made available through contemporary advertising techniques (film, billboards, adverts, pop-ups, logos, etc.). As Moeran (1996) reminds us, these textual-visual messages are not static references, but highly dynamic claims that will soon be replaced by others. Just as the famous guru of advertising David Ogilvy once claimed, "you aren't advertising to a standing army; you are advertising to a moving parade"[21] a successful brand product is but a temporary assemblage of molecules and meaning subject to the internal dynamics of a market. This market is both shaping and shaped by preferences and tastes. In this way, marketing serves to configure not only the food products, but also its consumers. Thus, even an iconic brand such as Coca-Cola maintains its position by constantly renewing itself and its imagined consumers.

MARKETING AS A LENS ON SOCIETY AND POLITICS: SEMIOTICS, STANDARDIZATION, AND POLITICAL RESISTANCE

In light of the above, it is hardly surprising that promotional material, advertising, and all that goes with it provides fertile ground for cultural analysis. In the field of food, we find that studies of food advertising can yield important insight into contemporary eating habits and contemporary concerns, as well as symbolic meaning and value. Often inspired by semiotics (Saussure, Barthes), such studies appear inside

of marketing research[22] as well as research from the outside. Using adverts as a lens to understanding food culture is done in sociology (Warde 1993), anthropology (Lien 1993), and in consumer research, where it provides an empirical platform for analyses of, for example, food habits (Warde 1997), eating disorders (Levitt 1997), gender (Burridge and Barker 2009; Parkin 2006), and national identity (e.g., Belasco and Scranton 2002).

Another way marketing has provided food for thought in sociology is through discussions of standardization (Busch 2000) and through the concept of McDonaldization. Coined by sociologist George Ritzer (1993), the term *McDonaldization* denotes processes that first characterized the fast-food industry, but that are about to transform an increasing domain of the social world. According to Ritzer, the Weberian processes of rationalization have taken a new turn in the franchise-based fast-food industry. Its characterizing features are calculability, efficiency, predictability, substitution of nonhuman for human technology, and his ultimate reason for alarm: the irrationality of rationality (see, e.g., Ritzer 1995: 134). Ritzer's claim is that systems built on these premises deny the basic humanity of the people who work within or are served by them.

McDonaldization is closely associated with mass marketing (Ritzer 1995: 130). While literature on food standards focuses primarily on the production side, McDonaldization takes standardization a step further. Not only are local products and services produced according to global, franchised scripts, but even the customers are standardized as they take on tasks previously done by employed personnel (like tidying up after themselves in the restaurant). According to Ritzer, standardization necessarily also implies a degradation of products and services. Not only are local variations eliminated, the emphasis on price and predictability also involves substituting good but unpredictable raw materials for cheap and predictable ones. In the food industry, this mostly means cheap fats and sugars and plenty of artificial additives. Ritzer argues that because their products are more or less indistinguishable, the dominant firms seek to achieve preeminence through costly and elaborate advertising campaigns. Hence, the dominant fast-food brands tend to be visually present almost everywhere in public environments in most Western societies.

Ritzer's thesis has been challenged from several positions. Some critics point to the fact that McDonald's is not necessarily the same phenomenon in different places (for accounts of its specific configuration in Moscow, see Shannon [1996]; for an account on McDonald's in Beijing, see Yunxiang [1996]). Others have pointed to significant resistance to these processes, causing political confrontations as well as innovative answers in defense of traditional and local foods, customs, and values (see, e.g., Belasco 2005; Smart 1999). Finally, the McDonaldization thesis may be criticized for downplaying the importance of processes of singularization, which go hand in hand with commodification, but have the opposite effect (see, e.g., Callon, Meadel, and Rabeharisoa 2002; Hébert 2010; Kopytoff 1986; Miele and Murdoch 2002; Wilk 2006a).

Like semiotically oriented analyses, Ritzer uses food marketing as an empirical lens for his theoretically informed analysis of contemporary society. Yet his approach is far

more political and loudly critical. A similar approach is found in a growing body of publications by journalists and activists that challenges the very foundation of a food system that has marketing and profit as key components; for example, Eric Schlosser (2001), Michael Pollan (2006), Tim Lang and Michael Heasman (2004), and nutritionist Marion Nestle (2002) (and see Belasco 2005). These have in common an explicit political agenda: they see major problems with current systems of food provisioning in terms of well-being, nutrition, and health; they identify with the consumer while holding corporate interests responsible; and they base their claims on a range of specific case studies. As a result, and at best, they provide excellent analyses of food marketing as well.[23]

Social Marketing Related to Food and Health

Increasingly, so-called social marketing has been employed by NGOs and government agencies to address issues related to food and health. According to textbook definitions, social marketing applies "commercial marketing techniques to the analysis, planning, execution and evaluation of programs designed to influence the voluntary behavior of target audiences in order to improve their personal welfare and that of society" (Andreasen 1995; see also Kotler and Lee 2008). By focusing on individual and voluntary change in relation to what is defined in social marketing as beneficial to individuals as well as to society, social marketing differs from a range of policy-oriented traditions in the field of public health that emphasize, for example, legal measures, prohibitions, and the like (Stead, Hastings, and McDermott 2007: 189). As such it fits nicely with current advanced liberal notions of governance (Miller and Rose 2008: 18). But, while the term *social marketing* may be relatively new, the phenomenon itself has many continuities with earlier forms of public persuasion. Up until World War II, what was then called *propaganda* was widely regarded as an effective and legitimate means to enhance public welfare by changing perceptual, cognitive, or behavioral states in the population (see Jowett and O'Donnell 2006: 8).

Today, social marketing implies a critical appraisal of commercial marketing to induce lifestyle changes. Various aspects of marketing theory, as well as its state-of-the-art techniques, are applied in developing plans and messages, selecting communication channels, segmenting and targeting specific audiences, implementing communication programs, and evaluating behavioral outcomes. Social marketers also engage in building brands on the basis of health behavior and lifestyles in the same way commercial marketers do with products (Evans 2006: 1209). Examples of social marketing in the field of food and health include campaigns to improve domestic food safety practices, campaigns to promote fruits and vegetables, campaigns to reduce the intake of fats, salt, and sugars, and also, more generally, public campaigns that promote and embrace more physically active lifestyles.

Critics have questioned the effectiveness of such measures. In many cases, lifestyle-directed social marketing stands up against product advertisers with far bigger

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budgets—for instance, of soft drinks, and hence fight uphill battles for attention and behavioral effects. Hence, social marketing runs the risk of drowning in the sea of commercial messages. Moreover, producers of unhealthy products often add to confusion by launching reduced-risk versions of their products, thereby blurring public communication strategies and their messages (Evans 2006: 1208). Furthermore, the longer-term duration of behavioral effects of this kind of campaigning has been questioned. People have been shown to slide back into "bad habits" after some immediate campaign-induced effects (e.g., Redmond and Griffith 2006).

Aside from its effect on food consumption, the rise of social marketing also affects the field of marketing itself. As it is associated with aims generally seen as good, it may serve to (re-)enact marketing as a neutral technique of information dissemination, and in turn reposition marketing in relation to society. More precisely, through the association with publicly acclaimed goals, it may serve to whitewash marketing as a discipline and marketing experts as a profession, and thus to normalize a practice sometimes seen as morally or politically questionable. Second, it may expand the market for the marketing profession into a relatively prosperous and stable niche (the public sector). Third, through such normalization, and its focus on the consumer as the instrument of change, it may serve to draw the attention to market mechanisms as the solution to problems that are otherwise framed as political. In this way, it may shift the attention away from public policy instruments that address structural issues (price, socioeconomic inequality, regulatory and legal measures) to those that rely on persuasion. Finally, social marketing may contribute to the reconfiguring of subjects of public policy from clients or citizens to consumers, but within a clearly authoritative frame. This resembles what Michel Foucault might call "pastoral power," a freedom of choice executed within a fairly narrow frame, in which the right choice is very specifically defined (Ryan 2003: 96; see also Coveney 1998). Moreover, when commerce and government view and direct their subjects through the same lenses and by means of the same media and styles of communication (consumer segmentation and targeting techniques), the propensity of reifying and solidifying their categories increases.

THE LIMITS OF ABSTRACTION: HOW MARKETING FAILS

Much of what we have said so far (and much of what has been written about marketing) could leave the impression that marketing represents a force of unprecedented power capable of endlessly reconfiguring products, consumers, spaces, and meanings. In this political economy of signs and value, food appears infinitely malleable, just as the consumer appears as little more than an abstract figure at the mercy of the manipulative power of corporate business. Whether they are framed by dystopian predictions á la Ritzer, or by the more optimistic self-assurance of the marketing profession, such accounts run the danger of portraying an image of modern marketing that is much too smooth and too coherent. In this section, we draw attention to the ways marketing, especially food marketing, is also unpredictable, incomplete, elusive, and even arbitrary.

We draw attention to tensions and resistance and suggest that even if marketing sometimes works, it also often fails.

How can food marketing fail? Let us start with the material. We have shown how marketing involves reconfiguration of the substance of food at its very core. Elsewhere, we have described how marketing sometimes starts with no more than an idea, such as, for instance, to create a range of poultry products for the Norwegian market (Lien 1997). However, as the project unfolds, it turns out that matter indeed matters: chicken carcasses are tricky, full of bones, and take a long time to separate from the pieces of meat needed in industrial production. Turkey offers resistance too, and turns out, for instance, to be less inclined to hold the injected salt water liquid than what the product manager, working for the marketing department, had initially hoped. Twisting the argument a little, we could say that turkey fails to cooperate, and thus the planned products fail to materialize. Resistance can also be expressed on the human supply side: Karen Hébert, in an analysis of efforts to promote sustainable salmon, shows how rural fishermen in Alaska failed to shift their harvesting and processing practices in compliance with the culinary requirements of an emergent niche market. Consequently, the perfectly sound idea of marketing Alaskan salmon as a sustainable product failed too. In a similar move, Heather Paxson (2010) shows how artisan North American cheese makers' attempts to reconfigure place through environmental stewardship (what she calls reverse engineering) created a number of tensions in relation to food safety, notions of land, and the potential transformation of the notion of *terroir* into a commodity fetish (see West, Chapter 12, this volume).

Consumers are unruly too. Like unpredictable Alaskan fishermen, they don't necessarily comply with the predictions of marketing research. Sometimes their ordinary eating habits display an inertia at odds with the visionary marketing accounts of future trends (e.g., Lien 2004a). Other times, they simply resist the message and its origin, as in the case of Outspan oranges, produced in South Africa during the apartheid regime and marketed in Europe in the 1970s. Mather and Rowcroft describe how, in spite of their deliberate removal of geographical imaginaries, marketers found their campaign message overtaken by the European anti-apartheid movement, which "unveiled the anatomy of this commodity chain" (2004: 170). Thus, rather than controlling the brand and its consumers, the exporters faced considerable "struggle and contestation of representation and meaning" (2004: 171).

Finally, information is always incomplete. Even though the market is often represented as the final battleground where the consumers' verdict defines the product as a failure or a success, remarkably little is known about *why* products succeed and why they ultimately also fail. This is especially the case with food, and partly an effect of the human predicament of having to eat every day and at any cost: faced with an option to eat or not to eat, we rarely have a real choice. Thus, in situations where the selection is limited (or variations only superficial), food will be consumed even if it is not actually preferred, wanted, or perhaps even liked. For this reason, but for other reasons too, the feedback mechanism through which information travels from the consumer

to the producer is never perfect, and resembles the children's whisper game in which the word that is whispered at one end comes out completely different at the other (see Jacobsen 2009).

Such examples remind us that marketing is more than meets the eye. Ethnographic studies indicate that brand building is not only a process of adding value, but also in fact a disorderly process that aims, among other things, to control "the more hidden and hierarchical dimension of already existing social distinctions and divisions" (Galli 2008: 74). In this perspective, the promoted product, or brand, is hardly more than a somewhat contingent, idiosyncratic, and incomplete proposition about particular connections in the world (see also Jackson et al. 2000; Lien 1997; Moeran 1996).

MARKETING, POWER, AND TRANSPARENCY

The salience of marketing in contemporary food provisioning stems not only from what marketing conveys, but also from what it leaves out. It is tempting to suggest that less power resides in the opportunity to speak than in the opportunity to remain silent. Each piece of food on our plate is a product with implications for health and well-being on the planet that are more complex and profound than most of us would even want to consider. But we might like to know a little more sometimes. This gap between what we actually know about the food we eat and what we might have known and acted upon makes transparency a key issue (see Lien 2004b). Thus, the politics of food is also a politics of silence and exposure, a quest for the power to control what will be declared, what will be the focus of public debate, and what will remain unspoken (Lien 2004a; Nestle 2002).

We have argued that marketing rests upon a historical process through which production and consumption were gradually disembedded. In spite of many successful attempts to bring the two together again (farmers' markets, the Slow Food movement), the profound processes of industrialization, upscaling, disembedding, and globalization of food provisioning we have witnessed over the last two centuries are not likely to reverse in the foreseeable future, and neither should they. These processes are integral to the ways billions of people gain access to food. But they are also embedded in a food system that is deeply unjust, rendering millions of people undernourished, and about a billion people overweight (WHO estimate). In this situation, transparency becomes an important political tool.

In this chapter, we have described the emergence of marketing as a distinct field of knowledge and its implications for the system of food provisioning. The marketing literature has taught us that "food marketing brings together producer and consumer." We would like to add that in doing so, food marketing also changes the way we gain access to food, the way we eat, and the way we think about the way we eat.

Paradoxically, while research *within* food marketing is obsessed with effects of marketing on food purchase behavior, the implications of marketing have received limited attention as a field of food research. What is needed is not a study of the effect of marketing

on consumer behavior, but broader analyses of how markets, the marketing profession, and marketing practice, taken together, constitute the contexts, or the playing fields, of food provision. Acknowledging that "marketing makes markets," we need to ask how the market that is thus constituted contributes (or not) to a system of provision that transforms and distributes food resources for our common good. In other words, what is needed is a research program that connects food marketing to broader issues of agriculture, finance, justice, and health. Such studies would involve a closer look at what goes on in the boardrooms, in the marketing departments, and in the offices of advertising agencies. These are arenas where access needs to be negotiated and not taken for granted. Yet this does not mean that it cannot be done, as many of the cited works exemplify.

Transparency has obtained increasing currency in recent years, and is not without tensions. As Garsten and de Montoya (2008) demonstrate, transparency is always contested, always incomplete, and contains its own shadowy hinterlands. Nevertheless, we suggest that a focus on transparency is productive, not only in relation to the politics of food, but also as part of a research agenda in food marketing. Because, as ethnographies of marketing demonstrate: a brand, a product, and a consumer are rarely what they appear to be. In order to avoid fetishized and repetitive representations of marketing as an all-encompassing and predictable force in capitalist society, we need studies that look more closely, and studies that do not take the rhetoric of marketing at face value, but ask again, slowly, and with a view to day-to-day practices and relations, what marketing is really all about. The answers almost always come as a surprise.

NOTES

1. The term *system of provision* was coined by Fine and Leopold and is used in this chapter to draw attention to the way food is distinctly structured by a system of provision that "unites a particular pattern of production with a particular pattern of consumption" (Fine and Leopold 1993: 4).
2. The entry on food marketing in *The Oxford Encyclopedia of Food and Drink in America* is written by Brian Wansink, professor of marketing at Cornell University and head of the Cornell Food and Brand Lab in the Department of Applied Economics and Management (Wansink 2004).
3. Theoretically, we evoke a performative approach, asking how things are done, rather than what they *are* in their very essence. For more details about the theoretical underpinnings of asking questions this way, see, for example, Abram and Lien (2011); Law (2009).
4. A significant part of the knowledge production in marketing research is financed by commercial interests. Often perceived as an asset in the competition for market shares, such research often remains the property of the firm and is only circulated within a firm or commercially through defined networks. In this way, it bypasses standard procedures of academic peer review. When such information is disclosed and peer reviewed, and funding interests are mentioned, it is still the case that it is rarely problematized in relation to the framing of research questions or results.

5. Increasingly, marketing is also applied to enhance the efficiency of promotion from non-profit organizations, for example, governmental bodies and NGOs. Sometimes addressing issues such as nutrition and health, these are also important in shaping the way we eat. Yet the overall impact and volume tends to be very small compared to the investments made in commercial marketing.
6. For example, ethnographic research of a Norwegian food marketing department published by the first author in 1997 (Lien 1997) attracted considerable interest among marketing practitioners in Norway (for a detailed account, see Lien 2004b).
7. The emergence of colonial products, such as tea, sugar, and spices would soon change this (see Mintz 1985), but for the bulk of everyday foods, geographical proximity was the rule.
8. Business was bustling on both sides of the Atlantic; the distribution of newspapers and magazines expanded, and with the gradual completion of railroads, an expanded commercial shipping fleet, and the completion of roadways, new networks were established between producers and consumers, as well as between manufacturers, wholesalers, and retailers (Carrier 1995; Shaw and Jones 2005).
9. The idea that demand is something that should be stimulated was partly a result of the political response to the Great Depression, but is also characteristic of the years immediately after World War II, when the capacity for military production was no longer needed and gradually shifted to supplying consumer goods (Shaw and Jones 2005). Such surplus of supply is also an underlying feature of food marketing today, in what appears to the most important target groups as a world of plenty.
10. *Marketing Management* (fourteenth edition) (Kindle Edition) has recently been published by Kotler and Keller (2012).
11. Promotion represents all of the methods of communication a marketer may use to provide information to different parties about the product. Promotion comprises elements such as: advertising, public relations, personal selling, and sales promotion.
12. The four P's were identified by Jerome McCarthy in 1960 and popularized by Phillip Kotler in numerous textbooks. See also Wansink (2004).
13. This is not entirely true. Place-bound markets still exist, perhaps especially when it comes to fresh perishable food, and Theodore Bestor's account of Tsukjh, Tokyo's bustling fish market, is a rare example of a situation in which "*market* as economic phenomenon and as social framework is situated in a particular location—a market*place*—that is both spatially and legally bounded" (2004: 20; emphasis in original).
14. That consumers do not emerge on their own, but in "dynamic relations with other social actors and agencies" (Trentmann 2006b: 14), becomes apparent through comparative studies of the formation of the consumer as a political and social category as is demonstrated, for instance, in the collection of case studies from which this quotation comes (Trentmann 2006b).
15. The notion of a sovereign consumer voting at the checkout logically entails a notion of consumers' ethical responsibility for the contested practices in food production. Yet, as Jacobsen and Dulsrud (2007) have pointed out, these issues are also deeply political, institutionalized, and specific to the context of purchase. Furthermore the inertia of ordinary consumption and the moral complexities of everyday life seriously restrict the adoption of an active consumerist role (see also Miller 2001).

16. Hence, the aim of brand building is to enhance consumers' sensitivity to the brand, through giving the product unique material and/or symbolic qualities that distinguish it from competitors (Aaker 1991).
17. Over the last decade, corporate branding has been given ever more attention. Focus has shifted from the product to the organization behind the product (e.g., Kotler and Lee 2005).
18. See Lien (1993) for a critical analysis of the use of correspondence analysis in segmentation strategies in relation to food.
19. Bourdieu's influence notwithstanding, his thesis is also contested. One issue of contestation is the degree to which his analytical scheme is applicable outside of France, where it was first applied (see Lamont [1992] on the United States and Moeran [1996] on Japan). See also Galli 2008.
20. Most of the literature on brand building has focused on the processing industry. Lately, more attention has been given to relationships between retailers and the industry, with a special focus on own brands (EMV). Lury notes how successful brands become key assets to manufacturers in their transactions with retailers (2004: 46). Conversely, retailers develop their own brands to strengthen their position vis-à-vis manufacturers—often mimicking their products and brands, playing upon trust and value for money (see Ailawadi and Keller 2004; Richards, Lawrence, and Burch 2011).
21. Ogilvy cited in Moeran 1996: 297.
22. For an insider's overview, see Mick et al. 2004.
23. For an analysis of food and counterculture, see Belasco 2005.

15

Food Retailing

ALAN G. HALLSWORTH

How could anyone possibly object when, in 2012, the wife of the president of the United States of America announced her interest in getting food to poorer people? Yet they did. Michelle Obama had observed that healthy food provision was disproportionately low in low-income neighborhoods. Admirably, she wanted something done. So far, so good. But when specific retailers' names were mentioned, the controversy started. Why? Wal-Mart, Walgreens, and Supervalu's Save-A-Lot were three chains mentioned by name at the event—representative of the type of large, usually nonunionized, organization that has for decades been systematically *avoiding* low-income neighborhoods in the United States. The message is that only such mega-chains now have the market power to take on unprofitable locations that they hitherto ignored.[1]

INTRODUCTION

We can make a few easy generalizations about food retailing—the study of the outlets and organizations that resell food products to the public. First, the amount of academic research effort is low when compared to the numbers employed in the industry and the huge turnover of major retail firms. Second, as this chapter will indicate, food retailing can be approached from many academic perspectives. The methodologies employed by different disciplines also tend to influence the types of research undertaken and, often, food is just a subset of retail: hence issues of store layout, design, ambience, and so forth are better covered in nonfood texts. The third generalization is that the attention paid to food as just a sub-aspect of retailing tends to be influenced by regional or national social, regulatory, or economic factors (Christopherson 1993; Wortmann 2004).

This chapter is divided into eight sections, commencing with a note on the rise of large food store formats. It continues with a historical background to research on food

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retailing and the consumer, covering research trends in the United Kingdom and North America. Having noted the emergence of Wal-Mart, we then look at the backlash against the big-box stores such chains build. Retail restructuring, we then find, derives from financial pressures but also from internationalization. An in-depth case study within the United Kingdom is followed by comments on power before final conclusions are reached.

If there is a common theme running through the chapter it is the rise of the big-box style of retailing. Indeed, research into food retailing tends to rise with watershed changes such as the development of new store formats or the rise of powerful retailers such as Wal-Mart. Larger store formats add the complexity that huge hypermarkets do not only sell food: in the mid-1960s, when Carrefour opened its first hypermarché just south of Paris, cut-price fuel was used to attract car owners. Tony Hernandez and colleagues at the Centre for the Study of Commercial Activity CSCA (Daniel, Aversa, and Hernandez 2010) in Canada observed that drugstores are using food sales to generate footfall—as Marks and Spencer first did in Canada decades ago. Similarly, lessons learned in South Korea by Tesco are being imported into Britain with the arrival of the Homeplus fascia. When food groups such as Tesco also sell pet insurance, any arguments apparently based on definitive food retail data should be treated with extreme caution (Sparks 1996). The systematic degradation of publicly available information and the attendant rise of private, purchasable information has distorted debates in this arena and many others, as we discover when we look at the rise of information about consumers. Similarly, because food stores are part of the taken-for-granted world, no universally accepted set of definitions has emerged. Most people know what a corner store/mom and pop/convenience store is. Since the 1930s, it has also been clear to most what a supermarket is.

There have, however, been differences in descriptors for the newer, larger, stores that have come to dominate Western retailing. The term *big-box* is a catch-all as it readily conveys, to people from most countries, the image of a large, generally ugly, freestanding unit with abundant free parking. The very largest such stores may be referred to as supercenters (the United States) or hypermarkets (much of Europe) or (in Korea) super-supermarkets. A notch down in size—in Britain—comes the superstore. Some have attempted to differentiate between hypermarkets and superstores in terms of their sales floor space, but space efficiency has eroded any possibility of a precise size-based cutoff. What shoppers do not refer to is "larger stores"—the arbitrary cutoff used by the UK Competition Commission in its 2006 inquiry. This meaningless term seems to have been chosen to separate out stores on which the commission had good locational data from those that it did not: unsurprisingly, the former were predominantly owned by the largest retailers. This curious distinction allowed the Competition Commission to treat retailing as an exercise in econometric modeling of hypothetical behaviors: the antithesis of the approach taken here. Indeed, much worthwhile research could flow from analysis of how market regulators formulate the questions they choose to ask and the sources they choose to rely on. We will now begin by looking at the historic development of research into food store retailing—from a predominantly UK perspective—and will stress how research tends to coalesce around landmark developments. Viewed from the

present day, the continued rise of chains operating big-box stores seems inexorable, but much research could usefully focus on modes and forms of resistance to their hegemony.

BACKGROUND TO FOOD RETAILING RESEARCH

Food retailing was largely ignored by UK universities until after World War II. Much of the evolution from peripatetic food markets to fixed-location (small shop) retailing had occurred by then. Indeed, while the dominant perception is that new formats displace old ones, the traditional market still survives in the United Kingdom (DCLG 2010) and positively thrives in cities such as Barcelona. Dominantly, there has been restructuring away from the small shop format (Seth and Randall 1999). Dawson and Kirby (1979) offered definitions and descriptions of small shops and cited 1930s research before showing true independents in the United Kingdom declining at a rate of five thousand per annum in the 1950s alone (see also Coca et al. 2005). Conversely, the percentage of sales passing through the tills of store chains with many outlets (the multiples) has shown a relentless rise. For historical perspectives, see Jeffereys (1954), Davis (1966), and Shaw (1992); for the United States, see Hollander (1986), Savitt (1989), and Belasco and Horowitz (2008). From early in the twentieth century, research demonstrated that the consumer could be trained to accept supermarket-initiated practices such as driving to shop (Longstreth 1999) or being required to push their own purchases around (Grandclement 2008). The history of such practices is long: self-service arrived in the United States in 1912 and in Britain in 1947. The PigglyWiggly chain in Memphis arguably invented the supermarket format in 1916. Similarly, the shopping trolley or cart purportedly first featured in 1937 at the Humpty Dumpty chain in Oklahoma City. Extensions to self-service mean that real personal service has now declined to the point that many food shoppers self-scan products, thereby entirely removing all interaction with sales assistants.

Elsewhere in Europe, much postwar research focused on the role of the state and the application of ideal-typical models for service provision (Baar 2002 offered a summary of some interventions). That said, what might seem to North American eyes to be excessive protection of town centers misses the point that much public and private investment went into orderly rebuilding of war-torn British and European cities. A postwar market-led migration to suburbs was seen by many as undermining past investment and as opportunistic cherry-picking of newly lucrative sites. Of signal importance in many plan-led countries was the work of Christaller (1933; see also Berry 1967), which brought retailing to the attention of land use planners. Inspired by Christaller, the study of retail provision and retail hierarchies is found in the work of many postwar researchers (for good early collections, see IGU 1987 and 1989). Most retail researchers would argue, however, that they rarely research just food topics. As new markets open up, retail structure research continues (Kim and Jin 2001; Wang and Jones 2002). However, not all research—notably that supportive of smaller, less powerful, domestic retailers—reaches a wider audience. Work by Hideo Harada on small retailers in Japan is exclusively available in Japanese (but see Larke 1994).

In the United Kingdom, the spatial planning emphasis remains strong (Guy 1994) although, as notions of a retail hierarchy eroded, attention turned to how waves of out-of-town retailing developed (Schiller 1986). Indeed, it was probably the innovation of the French hypermarket in the mid-1960s that led to an upsurge in interest in food retailing—one driven by the chance to study new retail formats (Whysall 2005). Later, retailing was conflated with urban futures by scholars such as John Dawson (1980), who summarized progress to date and noted gaps in existing knowledge.

Learning to Understand the Consumer

It is not easy to separate trends in food retailing research from the dominant methodologies of the time. In UK geography, the quantitative revolution from the 1970s included quantitative approaches to store location (Bowlby, Breheney, and Foot 1984; Simkin, Doyle, and Saunders 1985), and this was echoed in Europe by the work of researchers such as Timmermans (see chapters by Epstein and Rogers in Davies and Rogers 1984 or by Breheney and Fotheringham in Wrigley 1988). Geographers found themselves at the forefront of a data revolution as food retailers sought to learn which locations would provide them with enhanced profits. The reverse position, avoidance of unprofitable sites, links back to the food deserts debate that engaged Michelle Obama. In Britain, neighborhood typologies had been developed for noncommercial purposes in the 1970s, but food retail applications were enhanced with the rise of product bar coding. This, linked to laser scanning at tills,[2] proved a rich source of data, and an excellent overall summary is provided by Birkin, Clarke, and Clarke (2002).

The foregoing researchers have driven the analysis of how market-dominant retailers can exploit both information that is publicly available and data unique to themselves to understand the consumer; the latter data include that derived from so-called loyalty cards (Worthington and Fear 2010). When a specific in-store transaction is linked to a loyalty card, then the retailer knows who made the purchase and, when correlated with their postcode, with whom they live and much else about their spending habits. When this is cross-correlated with available census information, the wider ramifications become obvious. Further sources of information include long-running consumer panels organized by the major market research organizations such as Nielsen and the customer information cards commonly included with new product registration schemes.

In Britain, the Institute for Grocery Distribution has become a major source of information about the food sector. The wider development of geodemographics and related techniques is outlined by Birkin, Clarke, and Clarke (2002). What is evident is that use of such systems has spread. In 2012, the most familiar British commercial systems would be Mosaic, Acorn, and Cameo; the latter two offer variants available in the Far East. PRIZM is probably the major system in the U.S. market (PRIZM C2in Canada). Some have suggested that the use of tracking cookies in online environments mirrors the type of customer information that can be gathered in store from point-of-sale data. It is

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known that countries vary in their receptiveness to such apparent intrusions and more research on resistance to data-gathering practices is needed.

THE UNITED STATES AND CANADA

The perception of North American approaches—from a UK perspective—is that food retailing research (Marion et al. 1979) has been led by orthodox business school methods and mindsets. For example, the tenth edition of Berman and Evans' *Retail Management* text set out its stall thus: "A perfect example of a dream come true is the story of Sam Walton, the founder of WalMart" (2007: 10). This promarket emphasis should hardly surprise us since spatial land use planning has little or no profile in large parts of the United States, though things are seen somewhat differently in Canada (Jones 1999; Jones, Evans, and Smith 1994; Jones and Simmons 1990). Whereas Christaller's work drove early European research, the United States was already more associated with store location modeling, the key figure being William Applebaum (1968). Other classic business models are the Retail Life-Cycle and the Wheel of Retailing (McNair 1958), while Reilly's "law of retail gravitation" underpinned gravity modeling research on both sides of the Atlantic. The Wheel of Retailing (Brown 1988) came to be a staple of most business school retail texts—including McGoldrick (2002: 20) and Levy and Weitz (1992: 109). Other popular frameworks for study were provided by Michael E. Porter (1980, 1996) as his work on competitive strategies was applied to retail, likewise the Boston Consulting Group's growth-share model (Porter 1980: 361–364). A highly quantified vision of retail research is still dominant in U.S. output—and among researchers from other countries who have studied there.

The Wal-Mart Effect

Wal-Mart research came to prominence through the work of Tom Graff and his collaborators (Graff 1998; Graff and Ashton 1994; Simmons and Graff 1998). Graff and Dub Ashton—researchers in Wal-Mart's native Arkansas—logged the spatial development of Wal-Mart. They found that, rather than expanding down the hierarchy from the largest markets, it grew incrementally from smaller towns. This reverse hierarchical system was linked to Wal-Mart's insistence on control of its logistics (and its suppliers) via regional distribution centers. Such change links to the food miles debate (Garnett 2003), and copying Wal-Mart's logistics has become an industry in itself (Fernie and Sparks 2009). Wal-Mart is used to locating on low-cost land and benefiting from the uplift in land values created. In countries where land is more expensive than in the rural United States, the priority was always to get access to the cheapest land—or find ways of removing regulations that keep land prices high. For example, McKinseys has suggested that UK costs/land prices are too high and might be lower if planning rules were relaxed—making exactly the same point to Dutch policy makers. Clearly, references to high land costs automatically imply criticism of European-style planning policy.

Big-box Backlash

In the opposing corner to Wal-Mart and similar big-box food store operators sit critics such as Stacy Mitchell (2006). Earlier, Constance Beaumont—writing in the spirit of those groups opposed to big-box incursions into New England—cited Donella Meadows (famously a key contributor to the 1977 Club of Rome debates), who observed:

> There are two ways to cut costs. You can reduce waste and inefficiency. That's great. It's what makes the market system go round. But you can also cut costs by putting them off onto someone or something else. You can build cheap, ugly buildings that no one wants to live near or look at. You can muscle down your suppliers' prices, so they have to move production to poor communities and pay wages that won't support a decent life. You can hire part-time workers with no benefits and give them no training. Our taxes or insurance fees will pay for their health care… You can pressure towns for tax breaks and free roads and water lines and sewers. The other taxpayers will pick up the bill. You can pay only a fraction of the real costs of materials and energy. Nature will eat the damage… This kind of cost cutting not only imposes injustices on others, it also undermines the market economy. It distorts prices so consumers cannot make rational decisions. It rewards bigness and power, rather than real efficiency. (Meadows, cited in Beaumont 1994: 8)

Those powerful words (see also the work of Barry Lynn 2006) broadly set the line in the sand between the pro-big business mindset and those taking a more critical, nuanced, or long-term perspective (Zukin 2004). Beaumont uncovered other downsides that are regularly cited wherever big-box stores are proposed. She suggested that small towns within twenty miles suffered loss in sales when regular shoppers diverted to a new Wal-Mart. In the United Kingdom today superstore operators are seeking to locate in ever-smaller towns, using the argument that this will "claw back" past trade losses. They underplay the fact that it is essentially their own earlier stores from which they seek to reclaim trade. The intent is to make fresh profits at their newer stores—not to act as a charity for smaller localities. When development permission is sought, highly technical arguments and claims about job creation are made. A useful research agenda would be to undertake the follow-up research to check such claims.

Certainly, Beaumont was skeptical that there would be a net gain in the local tax base or that real new jobs would be created. Wal-Mart was bound to take local trade, she argued, and vacant shops do not raise local taxes (see also Brennan and Lundsten 2000). Wal-Mart was not the only chain to go on to develop large stores, and U.S. retail researcher Douglas Tigert was invited to contribute to the planning appeal process when warehouse membership club COSTCO came to open its first UK store at Thurrock in Essex in southeast England. Tigert advised, correctly, that this was just big-box retailing by another name—but his advice was not taken (see Sampson and Tigert 1994; Tigert 1992). Wal-Mart itself has been extensively researched (e.g., Arnold 1999; Arnold,

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Handelman, and Tigert 1998; Bloom and Penny 2001; Fernie et al. 2006). Equally, of course, Wal-Mart is inherently newsworthy and, in April 2012, *The New York Times* uncovered allegations that prime sites in Mexico seemed to have been acquired through bribes. It is evident that embedded local practices (Coe and Lee 2006; Granovetter 1985) vary across the globe and demand ongoing research.

Retail Restructuring and Leveraged Buy-outs (LBOs)

As Wal-Mart rose, others declined. The rise of Wal-Mart has been especially noticeable since the neoliberal turn in U.S. federal politics following the Reagan administration. A key policy U-turn was the reduction in prosecutions under antitrust laws initiated in the Great Depression and Roosevelt's New Deal. With repeal of the Glass-Steagall banking regulations (and, arguably, setting the scene for the subprime recession of 2008), neoliberal policies freed footloose capital to chase assets, including retail chains. As a family-controlled business, Wal-Mart was able to sit by and watch rivals such as Safeway become restructured (Wrigley 1998). The long-term benefits of such change remain contested (Bowman et al. 1999; Burt and Limmack 2001). The reduction in prosecutions under antitrust acts such as the 1936 Robinson-Patman Antidiscrimination Act were helpful as Wal-Mart was anxious to secure supplies at the lowest possible prices including, controversially, from China. Arguments about size and efficiency often bring in the topic of productivity—notoriously difficult to apply to retailing (Reynolds, Howard, and Dragun 2004).

The promanufacturer policy of resale price maintenance (RPM) has periodically resurfaced in the United States (Marvel and McCafferty 1984; Shaffer 1991), though RPM was abolished in Britain in 1956. Shaffer, incidentally, compares RPM with slotting allowances—the practice of making suppliers pay for access to shelf space—which links to so-called category management practices. All, broadly, to many eyes, quite anticompetitive. Elsewhere, Ireland—like France—has periodically banned below cost selling. Colla (2006) argued that the ban imposed under France's Loi Galland merely led to retailers raising prices. Another interpretation is that they can, and do, find ways of maintaining profits; if suppliers cannot be made to pay, the customer must. The topic of retail mergers and takeovers, especially which regulatory regimes most facilitate that activity, remains underresearched (see Davies 2010). Regulation and anticompetitive behavior, too, is a vast subject area.

CROSSING BORDERS: RETAIL INTERNATIONALIZATION

A significant element of food retailing research has focused on internationalization. This subarea has evolved markedly since early research on push or pull factors as motivations to internationalize. Modes of internationalization (direct entry/joint ventures/franchising) have been studied (Hallsworth and Clarke 2001) and, later, failure, retrenchment, and exit (Wrigley and Currah 2003). As with the quantitative revolution, numerous

texts appeared (Coe and Wrigley 2009; Kaynak 1988; Sternquist 1998), some with good summary chapters (see Myers and Davies and Fergusson in Akehurst and Alexander 1996). Most such work did not specifically focus on grocery retailing (but see Burt and Sparks 2003b). A particularly interesting area—not least because of currency crises—has been Asia. Tacconelli and Wrigley (2009) have interesting insights on Tesco in China (see also Goldman 2001), while South Korea saw entry by Carrefour, Wal-Mart (Kim 2008), and Tesco; in 2012 only Tesco remained. Woohyoung Kim (personal communication) confirms Tesco's success is linked to the fact that the company sensibly made its Korean market entry—in 1999—jointly with established Korean power Samsung (see also Coe and Lee 2006; Kim 2011).

RETAIL CHANGE: A UK PERSPECTIVE

Longer perspectives give deeper insights (Dawson 2000), and we now reflect on thirty years of retail change—again taking the United Kingdom as exemplar. We base this on a long-term study[3] by De Kervenoael, Hallsworth, and Clarke (2006), who found that, in 2002, power in the UK food retail scene was already highly concentrated into a national "Big Five" (Sainsbury, Tesco, Asda, Safeway, and Gateway), but by 2012 that had fallen to just four, the fourth being Morrisons. Gateway and Safeway are no more, just as the more regionally based U.S. system saw Winn-Dixie, A&P, and Safeway retrench. Note that early postwar U.S. mindsets on market competition saw the dominant A&P broken up despite having less market share than Wal-Mart held in 2012. Could such antimonopolist mindsets return?

Back in the United Kingdom, the cooperative movement restructured operations to concentrate on the convenience store sector. Under the United Kingdom's weak merger laws, before being itself bought up, Gateway had earlier acquired chains such as Lennons, Fine-Fare, International, and MacFisheries. Overall, choice—measured by choice of store names—continues to decline (NEF 2007). That said, Britain now has European hard discounters, Aldi and Lidl (Burt and Sparks 1995). Their UK market share grew in the post-2008 recession, and in 2012 Schwartz (owners of Lidl) overtook Carrefour as Europe's leading food retailer. Lidl will now likely seek to grow in Ireland where land prices have collapsed. The "oligopolistic" UK food retail sector (Burt and Sparks 2003a: 239) operates through larger and fewer outlets and market share goes increasingly to the leader (Dobson and Waterson 1999). While, in 1982, Sainsbury led with just 9.5 percent of the grocery market, by 2008 Tesco led with 26.8 percent; by 2012 Tesco increased its share to over 30 percent. Such trends give economies of scale, improved warehouse/logistic systems, new managerial structures, own brand, and global sourcing possibilities (Cotterill 1997; Fernie and Pierrel 1996). Since superstores both reflect and reproduce changing consumer habits and attitudes (see again Zukin 2004), the study of retail change parallels changes in how we study retail. Broadly, one either takes the view that the consumer drives retail change or that the consumer accepts whatever the retailer puts on the shelves. Clarke and colleagues (2006) and

Jackson and colleagues (2006) reported on-the-ground changes in the retail system around Portsmouth, England. While the former paper used quantitative approaches commonplace in retail research in the 1970s, the latter paper used more in-depth ethnographic techniques that had rarely been used by food retail researchers. Clarke and colleagues (2006) argued that globalization of retailers' supply strategies reinforced their ability to compete in local markets.

Coupled with growing national market concentration, such changes increased the power of retailers relative to consumers and their smaller suppliers. An underresearched topic is the demise of wholesalers as intermediaries and thus counterweights to the power of the mega-chains. The power to exclude products from the shelves (and from the supply chain they control) is a key feature of large modern food retailers. Food superstores have the potential to draw trade over larger catchment areas as a result of national (and increasingly international) operational economies of scale and buying power. Control of what goes onto shelves also gives control over prices. So-called Edgeworth curves explain why much-vaunted constant regular price cutting never leads to free goods; the slow cuts are wiped out by overnight sharp increases in price.

Retailers' own-brand products also increase their power relative to global manufacturers while shoppers loyal to one particular chain can effectively lock themselves in, reducing their field of choice or voluntarily abrogating choice (Figure 15.1).

Comparing surveys from 1980 and 2002, Clarke and colleagues (2006) found that, despite there being more superstores, general consumer behavior had not radically altered. They found slightly increased frequency of shopping, a tendency to shop closer to home, and the increased use of a repertoire of outlets. This relates to convenience

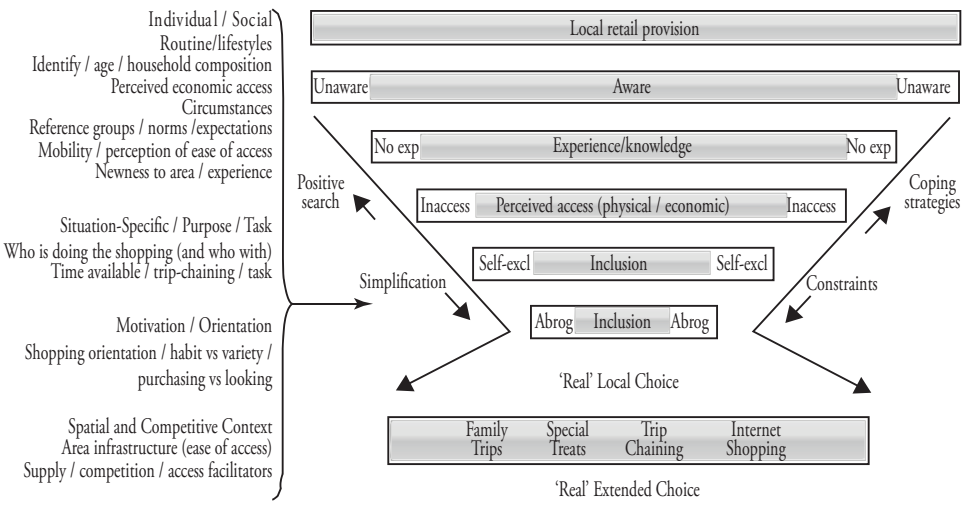


FIGURE 15.1 Choice set determinants and theoretical versus real choice sets (Figure 4 in De Kervenoael, Hallsworth, and Clarke 2006)

(enhanced proximity to more superstores) and to changes—notably perishability—in the goods retailed. Overall, Clarke and colleagues argued that shopping had to fit into consumers' many other commitments; consumers were not exercising free choices unhindered by their time-juggling complex lifestyles. For many, including shop workers, such lifestyles are also poorly paid and insecure (Ehenreich 2001), stressing again the difficulty in separating store development activities from the wider social context. Jackson and colleagues (2006) also showed that ethnographic approaches are needed precisely because British lifestyles are increasingly complex. Accordingly, otherwise admirable rational choice models and economistic approaches to grocery shopping are too restrictive. Sophisticated though they are (for an early example of his extensive work, see Timmermans 1980), such studies cannot fully represent sea changes in modern consumer society. Perfect information, time availability, utility maximization functions, human (ir)rationality, consumer preferences, willingness, and ability to know and compare underpin routinized behavior.

Social, Economic, and Spatial Change

Britain's full-employment economy of the immediate postwar period was linked to one (often male) social wage, with many women not taking paid work. With divorce rates rising, job insecurity, and longer hours worked than in most of Europe, the multiwage household in the United Kingdom soon increased markedly. The British population is aging, conventional marriage is on the decline, and a significant part of the population lives in single-person households. The average number of children per woman of childbearing age fell to 1.64in 2002—at that time the lowest since records began in 1924. The year 2012 has seen a rise in the birth rate, but most of the 1970s–2002 trends are still evident—or increased as in the case of migration from the expanded European Union. Heading into the 2008 subprime recession, over fifty percent of women were employed—linked to retail jobs, to part-time jobs, and to flexible working hours. By 2012, such workers were among the prime casualties of recession, and, locationally, food retailing in central (town) locations was still under stress with vacant units taken not by new food stores (except shops selling Polish food), but by charity shops, betting shops, and payday lenders, all in line with economic trends.[4] A particular crossover effect to mainstream food retailing comes from the burgeoning pound stores (or dollar stores in North America), some of which sell items such as baby food, sandwiches, and fresh milk. These successors to the much earlier penny bazaar or five-and-dime stores have made the price line of one pound sterling synonymous with bargain. Mainstream food superstore retailers are now consciously prepackaging food items that they once sold loose/by weight at one pound. Traditional markets—which also sold food by weight—are increasingly selling by the bowl at the same price, one pound.

A further notable trend is that, as retailers built larger stores and targeted wealthy neighborhoods, some submarkets were defined as underserved (in fact a 2005 Business in the Community study cited Harlem, NY as its inspiration). This can be associated

with rising income disparities, the collapse of the mass market, and the rise of niche markets. As work in Leeds and elsewhere on food deserts showed, the areas most likely to be poorly served were where large groups of lower-income consumers were located (see Wrigley et al. 2004). As noted, in 2012, First Lady Michelle Obama was leading on this topic in the United States, and, as in the United Kingdom, the main quick fix appears not to be prolocal but to request that the big retailers intervene. In determining long-term solutions to the problem, it remains crucial to establish what level of retail provision local incomes can viably support. Mega-chains with huge catchment areas might be viable if they can draw wealthy out-of-district or passing trade. Local stores will always be at the mercy of restricted local spending, a problem demanding ever more research on the prospects for prolocal regeneration initiatives. Transparently, too, the more divided a society, the more likely there will be huge districts with poorer residents.

In studying food retailing we should consider not just where people buy food but also why they buy certain types of food. For example, some argue (De Kervenoael, Hallsworth, and Clarke 2006: 382) that Britain has seen long-term decline in the social or family meal as the centerpiece of family life. Evidence suggests that, even by 2002, seventy-eight percent of all mealtimes had only one or two people present. Accordingly, an interesting contemporary debate revolves around the issue of the family meal since, while many do sense that families eat together less and less frequently, there may be more evidence to suggest that this is a myth of a golden age than there is to support that family meals are in decline (see Jackson 2009; Murcott 1997). Indeed, many postwar factory workers, like contemporary shop workers, worked shifts often incompatible with a family mealtime. It may even be that purchasing ready-to-eat, complete meals may be an attempt to recreate the formal mealtime—but without the time and effort. Conveniently, the superstore chains themselves have driven the creation of food that barely needs to be prepared. Happily for them, the short shelf life of cook-chill foods implies frequent return trips to the superstore. Convenience food links to the possibility of new behaviors such as individualistic eating, deskilling of the population in terms of cooking, and so on (De Kervenoael, Hallsworth, and Clarke 2006: 382). As Figure 15.2 indicates, this is a self-reinforcing circle increasing the reliance and importance of convenience food in UK society.

While the total number of food stores has decreased via small shop closures, the range of product types offered within superstores has increased. Some basic own-label lines are now clearly there to attract those who otherwise may not be able to afford what they find in these palaces of consumption. This is an admission that spatial restrictions on choice are bringing in the lower-spending groups. Elms (2009) has provided ethnographic evidence on the apparent conflicts between users of these one-stop/one-size-must-fit-all stores. Provision at the local level is important when it is clear that store choice and product choice are becoming interdependent. Transparently, ethnic groups will have their cultural preferences for food and, in multicultural Canada, major national supermarkets are increasingly looking to supply ethnic foods. It seems improbable, however, that their ranges will ever cater to the hunter-gatherer traditions of

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Early 1970 to mid 1980s	Late 1980 to today
- Small quantities local corner shop, local food production - Traditional nuclear family - Single income households - Restricted access to transport - Limited number of large supermarkets - - - -	- Shopping alone for a household with different tastes and needs. - Shopping during other activities. - Access to transport, local traffic situation, access to technologies. - Time constraint, flexible employment. - Variable facilities available to cook and store food within the household. - Contrasts in culinary education and place of food within the consumer lifestyle. - Income and wealth. - Personal enjoyment of grocery shopping activities

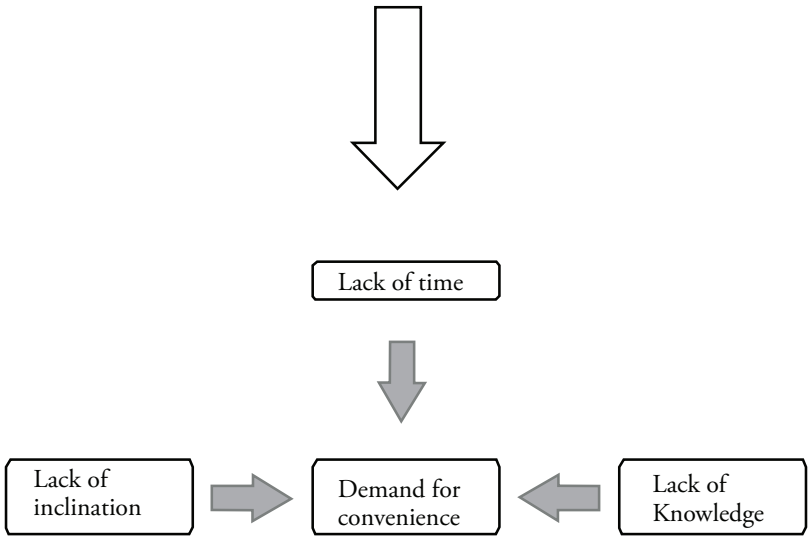


FIGURE 15.2 The consumer economics of food: convenience food

Canada's First Nations (Turner 1995). In Britain, low-priced own label is also a response to the European hard discounters who dominantly offer retailer brands unfamiliar to the British consumer. Own-label success in Britain has been credited to several influences including: (a) perceived excessive price premiums of leading brands; (b) the need to supply basic commodity products to which it is difficult to add value; (c) higher prices no longer seen as synonymous with higher quality; (d) ease of comparison with branded goods (to which they often bear an uncanny resemblance); (e) advertising cost, design, and packaging costs supported by brand leaders. Topic (d) takes some products perilously close to copycatting or "passing off" (Davies 1998).

Examination of a number of market research reports on the approximate percentage of products sold that are own brand indicated that in 2012, the United Kingdom

was top of the list of major European economies with about forty percent own brand (up from twenty-three percent in 1980). Spain, in 2012, sat at thirty-eight percent, Germany thirty-two percent, France twenty-eight percent, and Italy twenty percent. The German percentage closely reflects the product policies of its dominant hard discounters, who, in the United Kingdom, have benefited from the recession. Discounters offer very low prices albeit linked to a narrow range of unfamiliar retailer brands. Their stores also lack the familiar character of the UK superstore, not least, ample free parking. Other one-stop attractions not likely offered by hard discounters include cafeterias, dry cleaning, pharmacy, and banking. Also, most British shoppers expect not to have to pay in cash for goods (Szmigin and Foxall 1998). The further availability of space dedicated to nonfood products has made superstores into edge- or out-of-town shopping destinations. Aldi and Lidl in Germany supply the basics and shoppers buy other products from specialists. In the United Kingdom, car-borne, one-stop shopping is still the dominant shopping mode (Clarke et al. 2006).

As Table 15.1 shows, even a decade ago, superstores and their own brands offered choice of quality and price. De Kervenoael, Hallsworth, and Clarke looked specifically at Asda, which claimed that its "brand plays a vital role in delivering value and it continues to grow in stature as well as volume. We introduced nearly 4,000 new lines last year, many of them unique to us" (2006: 386). In fact, Asda in 2002 had eighty-five hundred own-label food lines and thirty-five hundred nonfood. This represented about half of the sales in its 256 UK stores. Interesting differences already existed within Asda own labels. Asda Smart Price (with about 650 lines) was to compete with the discount retailers. Asda Brand (about seven thousand products) was to compete with national manufacturer brands and with similar products from rival retailers. Asda Extra was a special premium range (about 130 products) aimed at consumers' needs for "authenticity and excitement." The *Good for you!* brand was aimed at consumers sensitive to lower fat/health-related attributes (over 250 lines) and, finally, Asda's organic range (125 own-label lines). By 2012, the fact that Asda and other leading UK food retailers—except Tesco—had repositioned and redesigned their own-brand lines at least once was cited as a reason Tesco sales had faltered. Sliding sales can sometimes be retrieved by eye-catching special offers, probably funded by suppliers. Shoppers may, however, be further annoyed if supplies of such tantalizing offers are not on the shelves when they arrive.

As noted, regional distribution centers (RDCs)—key to Wal-Mart's success in the United States—also underpin UK superstore success. A logistics revolution led by Tesco directly reconfigured the supply chain in Britain. Driven by point-of-sale data and own-label brands, the market leaders developed RDCs during the 1980s and 1990s (De Kervenoael, Hallsworth, and Clarke 2006). The decline of wholesale intermediaries and the reorientation of supply chains to the needs of the larger powerful retailers makes it even less possible for the small operator to compete.

When smaller stores close, local residents are forced to use the larger superstores more. De Kervenoael, Hallsworth, and Clarke cited Steve Baron and colleagues

TABLE 15.1 **Brand development profiles of leading UK retailers**

Early 1970s	Development of the first few hypermarkets, mainly district center shops and canned foods.				
Late 1970s	Development of retail warehouses. Frozen foods.				
Mid-1980s	Development of a large nonfood range in out-of-town stores. Ready meal innovations (below). Cook-chill technology.				
Own brand	1980	1992	1995	2002	*Own Brand Labels in %*
Sainsbury	54	55	47.8	44	Taste the Difference, Be Good to Yourself, Blue Parrot Café, Freedom, Perform + Protect (Household/health and beauty), Jeff & Co (Clothing)
Tesco	21	41	41.8	41	Finest, value, Organics, Healthy Eating, Kids, Florence & Fred (Clothing)
Safeway	28	35	35.5	33	The Best, EatSmart, EatStreet, Savers
ASDA	5	32	34.0	44	Good For You, Extra Special, value, Kids, George At Asda (Clothing)
Late 1980s	Development of EDI, EPOS, and other IT technologies, entry of hard discounters, factory outlets, and warehouse clubs. Emergence of four national players. All under one roof strategy. Sunk costs/property costs spiraling.				
Early 1990s	Development of loyalty cards and e-tailing, EDLP proposition supply chain management improvements, concentration within the industry, changes in opening hours and Sunday trading. Fresh, prepared food. Share of food bought in supermarket reaches sixty percent.				
Late 1990s	Development of multiformats, returns to the high street, planning restrictions in the United Kingdom leading to the globalization of many retailers brands. Increase in credit card usage. Ready meal as meal replacement solution.				

Source: Adapted from Guy 1998. Own brand, assembled from *Marketing,* August 1, 2002, page 15 and Wrigley 1998. The 2002 figures are based on percent of customer spend. The contrasted data sources are not directly comparable.

(2001), who, like other small shop researchers, had detected the continuing decline of truly independent food and grocery retailers. Broadly, chain stores—from the 7–11 convenience format to hypermarkets—serve to undercut the small shop. A major effect has been felt by the high-street, independently owned convenience sector and the rural small shop. In 2012, resistance could be found in the shape of farmers' markets (which really only began operations in 1998), community-run stores, and innovations such as The People's Supermarket. All such innovations remain underresearched. The smaller supermarket format came under increased pressure when some of the multiples returned

to smaller-format stores in areas with young, single, metro livers. It is easy to see the attraction of smaller local stores when so much profit lies in perishable/short-dated foods that need regular replenishment. This return began when Tesco bought 850 convenience stores from T&S in 2004 and Sainsbury bought Jackson's 110 convenience stores. More recently ASDA joined in—buying Netto's UK stores.

While many logistical and other changes are barely noticed by the consumer (except when shelves are empty at prime trading periods), it is clear that some operational changes interface with changed social expectations. In the late 1970s, British shoppers wanted shops to accept checks as well as cash. Today, stores (except the discounters) accept credit and debit cards but check payment has been driven out by the big retailers. Cash is now recycled as "cash back" to decrease the amount of cash leaving the store in security vans. The cards used in store also (for Tesco and Sainsbury) include so-called loyalty cards used to relate specific purchases to named—and located—individuals, the underpinning to which is bar code scanning (see J. Davey 2010; Worthington and Fear 2010). Scanning technology was not even available in Britain in 1979. Responding to the long-working-week culture of modern Britain, two further key operating practices have come in. Sunday trading arrived in 1994 and twenty-four-hour trading later in the 1990s. Together these have further eroded the competitive capacity of the small (especially the family-run, possibly Asian) shop (Barrett, Jones, and McEvoy 1996; Smith and Sparks 2000). The demise of the smaller convenience outlet has been exacerbated by rising property values, which can make reconversion to private residences a more profitable activity. The small shop problem is massively underresearched in comparison with the effort devoted to larger stores.

The Regulatory Arena

For UK retailing, regulation is complicated by a separation of store development (dealt with by the town planning system) from competition (dealt with by soon-to-be-merged central government agencies such as the Office of Fair Trading and the Competition Commission). Recently the latter seems to have been making a bid for total power following its 2006–2008 Grocery Market Inquiry. Its response to local monopolies is to call for yet more large format stores everywhere. As De Kervenoael, Hallsworth, and Clarke (2006: 389–390) claimed, there is no logical basis for this and they cited the work of Raven, Lang, and Dumonteil (1995), who had noted the problems of assessing monopolies on a national basis when different supermarket chains have very different local and regional concentrations (for an update, see Hughes, Hallsworth, and Clarke 2009). A useful way of examining the artificial separation of competition from land-use planning issues within retailing is through studying the contrasting—sometimes institutional—voices that seek to influence opinions. De Kervenoael, Hallsworth, and Clarke (2006) drew on Raven, Lang, and Dumonteil (1995) and Clegg's (1989) "circuits of power" framework (see Hallsworth 1997). The circuits of power approach views a retail organization's ability to influence market regulations as an important dimension

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of its exercise of market power. In the abstract dispositional circuit, retailers achieve this by lobbying nationally and regionally to influence the general form of development control (Pal et al. 2001). At the most concrete circuit of causal power, retailers develop relationships with local planning agencies to encourage development by bringing their vast resources to bear on local decision making. This emphasizes the importance of retail's obligatory passage points—new store development permissions at the local level—which are the key to growth and profits and which also reconstruct the spaces and reorganize the timings of society. Many voices loudly promote market liberalization—notably McKinsey & Co.

Mirroring the worries expressed by Beaumont (1994) in the United States, some British local authorities have tried over the last two decades, generally unsuccessfully, to counter the argument that any large new store will offer not just construction jobs but genuine, sustainable new retail jobs. In recessionary times such claims can be compelling—especially in an area of high unemployment. Aggregate figures show, however, that the major chains are not in fact increasing their total employment; any new jobs are offset by efficiencies such as self-scanning or by job losses elsewhere if rivals close. An audit from the UK Commission for Employment and Skills showed that between 2001 and 2009 jobs for shopkeepers and wholesale and retail dealers fell from 204,638 to 81,122. Ironically, the taxes of the small shopkeeper can go to supplement the part-time wages of the supermarket worker. It should be noted that, while the U.S.-style Chicago school viewpoint would be that (even abusive) practices of large efficient enterprises should be tolerated so long as they result in short-term low price, the United Kingdom has generally remained interventionist. The major policy initiative (The Sequential Test, Baldock 2000) came in 1996—just before the Labour Party under Blair came to power. There was also a 1998 report by the Department of the Environment, Transport and the Regions (DETR) that studied the effects on market towns and district centers of competition from large food stores. This study, too, took a snapshot approach that, in some selected locations, ignored the cumulative effect of long-term change. The DETR report claimed that it was "the most comprehensive assessment of retail and transportation implications of retail development ever undertaken" (1998: 5). It added that "The need to ensure that out-of-town shopping facilities do not damage the vitality and viability of town centres has been recognised since 1986" (1998: 21).

RETAILER POWER

The 2000 Competition Commission report on supermarkets was commissioned not least because of fears that market power was concentrated in too few firms (see Burt and Sparks 2003a). This report seemed to take a snapshot approach, but did at least give rise to a 2002 Supermarket Code of Practice. Eventually, on January 21, 2013, Christine Tacon was appointed the first groceries code adjudicator responsible for enforcing the Code of Practice, which covers supermarkets with an annual turnover of one billion pounds. The regulatory authorities became enmeshed in the problem of further

potential market competition when all its near rivals (and one outsider) began to bid for control of Safeway—with Morrisons the eventual winner. The Competition Commission Inquiry of 2003 that approved the Morrisons acquisition of Safeway was notable in two ways. First, it was completed under the new regime of the 2002 Competition Act. Second, it moved decisively in the direction of using hypothetical econometric modeling rather than real-world evidence. That is, it favored the use of the so-called SSNIP test (small but significant nontransitory increase in prices test, also known as the hypothetical monopolist test). It also called for store divestments to be identified before merger approval. Both such policies are associated with U.S. policies—the latter the so-called fix-it-first approach (Wood 2001) where stores are predivested in areas where a local monopoly would otherwise occur. However, even by the time of the 2006–2008 Groceries Inquiry, the Competition Commission was no nearer to having reliable off-the-shelf retail data with which to work.

FUTURE RESEARCH DIRECTIONS: FILLING IN THE GAPS

Food retailing in Western countries is a mature industry that has been seeking new avenues for profit for some years. Similar, oligopolistic patterns have emerged in the United Kingdom and the United States (and most "Anglo" stock-market-driven countries, Australia has but two dominant food retailers). Wider pressures to neoliberalism and commodification have privileged the large and powerful over the small and weak. One consequence is what the UK think tank New Economics Foundation (2007) has termed *ghost towns* and *clone towns.* Markets are mature and concentrated, and even large corporations are liable to collapse or be taken over. Such a situation drives both internationalization and the moves to diversify. Given their huge cash flow, finance is a logical extension for retail firms. Increasingly, change breeds resistance, often driven by concerns over wider food security or the environment.

A major theme of this chapter has been the rise to dominance of the mega-retailers. Yet, curiously, even the United Kingdom's powerful Competition Commission failed to predict that its big five UK retailers would soon be just four (and would include a totally new name) and that within six years it would reconvene to discuss further important changes. At the widest scale, will the big four soon reduce to three or even two? If so-called Chicago school competition mindsets continue to prevail, then so will the mega-chains, though we cannot reliably guess how many there will be. Note that they have vast property assets, a stranglehold on the supply chain, and growing control of the online market for food. Indeed, though this chapter has largely focused on at-store retailing, much innovation is likely from the e-grocery agenda. Already shoppers in large stores used for store picking of goods ordered on the Internet (with delivery miles implications, Cairns 1996) are finding that corporate bag fillers are crowding their aisles. The astonishing post-iPhone rise in smart phone apps presages mobile grocery ordering, and (surely associated with its Samsung link) Tesco in Seoul has an "e-wall" used for ordering goods. The e-commerce sector will show greatest growth outside recession-mired

Western economies and, as Ronan De Kervenoael is researching in Istanbul, that raises questions of how and when home deliveries can be made (the last mile problem). We can, however, be certain that retail will remain interwoven with wider social and economic changes and that more research will be needed on resistance, refusal, and anticonsumption (Lee, Fernandez, and Hyman 2009).Use of the Freedom of Information Act (Sparks 2008) to find out what is really going on must surely continue, as will opposition from groups concerned about working conditions at home and abroad. Future research might also focus on the (neglected) role of traditional markets; the changing nature of urban (and rural) food deserts; the long-term impact of the recession on traditional town centers and on disadvantaged consumers; the conflict between economic efficiency and real choice and between economic efficiency and the demands of sustainability; the impact of emergent post-iPhone technologies; and local resistance and refusal—possibly driven by a good food/real food/community/self-provisioning agenda. Research is also likely to examine the influence of the EU—not least Directorate General Markt with its integration agenda that some fear will lead to the pan-European clone town.

Apologies, this should read 'Market (DG MARKT)'

NOTES

Figures and tables adapted from De Kervenoael, Hallsworth, and Clarke (2006), "Macro-level change and micro-level effects: A twenty-year perspective on changing grocery shopping behaviour in Britain," *Journal of Retailing and Consumer Services* 13: 381–392; reproduced courtesy of Elsevier.

1. See Institute for Local Self Reliance www.ilsr.org/why-michelle-obama-s-food-initiative-promoting-walmart/?utm_source=feedburner&utm_medium=email&utm_campaign=Feedpercent3A+yahooper cent2FObuA+per cent28MERIper cent29. Accessed April 16, 2012.
2. Laser scanning removed the need to put prices on packets and tins, simultaneously removing a reminder as to what price was paid previously. The ability of the customer to calculate a current fair price for goods is itself a topic worthy of research.
3. The data sets generated—like many others with UK Economic and Social Research Council funding—are stored at and can be accessed from the University of Essex Data Archive.
4. A number of organizations monitor retail-related change through time; see, for example, www.localdatacompany.com, www.tnsglobal.com, and www.planetretail.net.

16

The Twenty-first-century "Food Consumer": The Emergence of Consumer Science

HELENE BREMBECK

Healthy Structuring is an example of a twenty-first-century food consumer science project. It is a large European Commission-funded collaboration between the Swedish Institute for Food and Biotechnology (SIK) and researchers in the United Kingdom, Germany, the Netherlands, and Spain. The overall objective of Healthy Structuring is to formulate validated processing solutions to improve the sensory, nutritional, and structural qualities of ready-to-eat fruit and vegetable products with optimal health benefits while maintaining product safety. As part of the project, eighty-eight healthy adults, with previously low fruit and vegetable consumption, are recruited. The consumer study consists of two test periods of four weeks with a four-week wash-out period in between. The control and test products are distributed in a randomized order and served once per day as lunch or dinner. Blood samples are taken from the subjects four times during the study and analyzed for content of key nutrients. The sensory properties are evaluated through a questionnaire.

From a social scientific perspective, this project seems far-fetched and difficult to grasp.[1] All the same, the roots of consumer science deal with the everyday handling of food in kitchens, issues of obvious concern to many disciplines in the sociocultural food research field. These roots can be found in the domestic science movement in the United States in the nineteenth century. Admittedly, they are not the only roots, as is so often the case in interdisciplinary areas. Scientific housekeeping provided one influence that continued throughout the twentieth century, while after World War II inspiration derived from consumer behavior and economic psychology, mainly in terms of models of consumer choice and decision making. Furthermore, there are held to be additional influences. Indeed, the European Commission, in a recent publication, considers the following disciplines to constitute food consumer science: sensory science,

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psychology, social sciences, behavioral sciences, statistics, human perception, cognition behavior, economics, anthropology, and cognitive science and bioinformatics (European Commission 2007). Thus there are many stories to tell about the emergence of food consumer science. But I will select just one that is most obvious to me as a Swedish ethnologist: the story that starts with the emergence of domestic science in the United States in the nineteenth century, although this will be presented from a decidedly ethnological and Swedish perspective.

Just as it is not obvious what is meant by *consumer science,* the same goes for *consumer* (see Lien and Jacobsen, Chapter 14, this volume). At first the *consumer* in *consumer science* was not referred to as a consumer at all, but as a housewife, and her daily chores were not recognized as consumption activities but as housework. This is, in part, not surprising since the origin of the word *consumer,* as given by the 1971 edition of the *Oxford English Dictionary,* is one who wastes, squanders, or destroys, which is the antithesis of the ideal of the good housewife. To achieve this ideal was not easy, and the consumer/housewife was conceived of as a person in need of guidance to perform her household duties, such as cooking nourishing and filling meals for her family in the most effective and hygienic manner. This view of the consumer is still common in advice from the National Swedish Food Agency (NFA), although the advice is given in a less patronizing manner and the consumers are no longer only women and housewives. As we shall see, somewhere in the development of the discipline the view of consumption was reduced from encompassing the broad range of activities that constitute housework, such as cooking, cleaning, washing, and so forth to the simple act of buying goods in shops. For producers and marketers, the consumer was a confusing and unreliable person standing in front of the supermarket shelves, and the quest for consumer scientists was to read the consumer's mind to analyze the decision-making process in order to predict and to some extent control it. This was not done primarily for the good of the consumer, but for the good of companies and authorities: how to best inform consumers to enable them to become the rational decision-makers producers desired. Obviously, *consumer* is a politically loaded and historically specific term (Gabriel and Lang 1995; Trentmann 2006a).

In this chapter, the history of domestic science and home economics will be reviewed, leading up to the inclusion of consumer science. The successes and failures of the subject as an academic discipline will be noted, as will the present-day formulations of food consumer science at food research institutes and in the European Union (EU) funding schemes. A positive view of the future potential for a rapprochement between social, biological, and natural sciences in the field of food and consumer studies is adopted.

ESTABLISHING THE FIELD OF FAMILY AND CONSUMER SCIENCE IN NORTH AMERICA

The roots of consumer science or, as it often is called, family and consumer science, date back to the domestic science or home economics movement in North America

(Levenstein 2003). Consumer science is linked to the women's movement and to women's attempts to professionalize the domain of housework and make it scientific, and to raise its status in a male-dominated (academic) world. It is also an attempt by educated women to enlighten less privileged women, in a manner that seems somewhat patronizing today. But before criticizing these women from a standpoint informed by present-day debate, it is important to keep in mind that the emergence of domestic science coincided with the understanding of bacteria and, in the 1920s, the discovery of vitamins. These were of great importance to everyday housekeeping, and educating women was also a way of empowering them and giving them tools to cope better with their everyday lives. The subtle balance between empowering and patronizing is a recurrent theme in the scholarly debate about the pros and cons of home economics. For instance, Sarah Stage argues that the discipline was not simply about keeping women in the kitchen (Stage and Vincenti 1997). On the contrary, the pioneers aimed to teach women how they could expand their options to improve the social and economic well-being of themselves and their families. Rather than judging whether home economics helped or hurt women, Stage argues, a more interesting question is why it developed as it did and what can be learned from the history of the discipline (Stage and Vincenti 1997).

One of the domestic science pioneers was Catherine Beecher (1800–1878), a sister of Harriet Beecher Stowe (the American abolitionist author of *Uncle Tom's Cabin*). She advocated women be teachers and mothers, but she herself lived a life in which she rarely taught and never married. She was a contemporary of the early suffragettes, but was herself decidedly anti-suffrage. Coming from a very religious family, she did not want women corrupted by the evils of politics. Her publications, for instance *A Treatise on Domestic Economy* (1841), were important forerunners to the domestic science movement.[2]

The home economics movement, defined as such, started with Ellen Swallow Richards (1842–1911). Through her chemistry research, she became an expert in water quality and later began to focus on applying scientific principles to domestic situations. At the Chicago World's Fair in 1893 she designed the Rumford Kitchen, which was a tiny kitchen that served healthy meals—along with a dose of nutrition education—to thousands of fair goers. Late in the nineteenth century, Richards convened a group of contemporaries to discuss the essence of domestic science and how the elements of this discipline would ultimately improve the quality of life for many individuals and families. They met at Lake Placid (New York) over a period of ten years to elevate the discipline, which was to become home economics, to a legitimate profession. Richards wanted to call this *oekology,* or the science of right living. *Euthenics,* the science of better living, was another name she favored, but *home economics* was finally selected. In 1908, she was chosen as the first president of the newly formed American Home Economics Association (AHEA). She published more than a dozen books and many articles. Among them are: *The Chemistry of Cooking* (1882), *Home Sanitation: A Manual for Housekeepers* (1887), *Laboratory Notes on Industrial Water Analysis* (1908), and *Euthenics:*

The Science of Controllable Environment: A Plea for Better Conditions as a First Step toward Higher Human Efficiency (1910). Some of these went through several editions (C. L. Hunt 1980).

From the very start, these early female pioneers fought to professionalize home economics and develop it into a science of the everyday. Another example is Caroline Hunt, appointed in 1903 as the first professor of home economics at the Madison campus in Wisconsin. She ardently defended home economics as a rigorous scientific education for women. Hunt insisted that students complete at least one year of college chemistry before their admission to the program. The curriculum stressed the nutritional sciences. The requirements for a home economics degree included credits in chemistry, physics, physiology, and bacteriology as the foundational sciences for courses such as "microscopic examination of food products and fibres," "food analysis," and "dietary standards" described as balanced rations; diet as influenced by "age, sex and occupation; construction of dietaries and service meals; dietetic treatment in disease and principles of home nursing."[3] At Madison, as in many institutions, nutrition was the most prominent of the home economics departments, with academic staff conducting research as well as running courses on cooking and food hygiene. In times of national emergency such as world wars, the nutrition staff led programs dedicated to being economical with food.

World War I created a demand for professionals trained in institutional management and dietetics, natural situations for home economists. After the war, additional demands arose in public health, community feeding, school lunch supervision, consumer protection, and associated areas. These demands extended the discipline's activities well beyond cooking and sewing. During the Great Depression of the 1930s, home economists were further called upon for advice in managing family needs.[4] This led to an increasing number of home economists working in utilities companies and other business in the 1920s and '30s, with some becoming consulting home economists. A fascinating example is presented by Carolyn Goldstein (1997) about trained home economists employed as home service agents in the power industry. The companies saw them as well suited for the task of interpreting electricity to consumers while projecting a friendly corporate image. The home economists found these companies a good springboard for the quest to enlighten and educate women in the use of the latest technologies. In academic circles, these new professions for home economists prompted debates about whose interests these women were serving: Were the industries that employed them or the families being educated (Stage and Vincenti 1997)?

SCIENTIFIC HOUSEKEEPING

An integral part of the development of domestic science is scientific housekeeping, as promulgated in the early twentieth century by influential women such as Lillian Gilbreth, Mary Pattison, and Christine Frederick—the latter two were home economists. Proponents of Taylorism[5] as applied to the domestic sphere, they wrote articles and

books advocating time and motion studies, efficiency, and the rationalization of housework. As home economists, whose discipline had its roots in the nineteenth-century scientific discoveries of bacteria and vitamins, these women embraced such rationalization as yet another way of raising the status of their profession.

The most internationally renowned of these women, Christine Frederick (1883–1970), founded and directed a laboratory for the conduct of Taylorist experiments at her home in Greenlawn (New York). She was especially interested in making kitchens more efficient for women and is credited with bringing about standardization of the height of kitchen counters and work surfaces. At the Applecroft Home Experiment Station, Frederick investigated some eighteen hundred different products from household appliances to food, looking for labor-saving methods of preparation and use (Rutherford 2003).

In 1912, Frederick began writing a series of articles under the title "New Housekeeping" in the *Ladies' Home Journal* (for which she served as consulting household editor) to explain Taylorism to middle-class women. These articles were subsequently published as a book, *The New Housekeeping: Efficiency Studies in Home Management.* Frederick's second chapter, on applying time and motion studies to household tasks, shows the clear parallel between her research and Taylor's well-known studies in the industrial sphere. She followed this up in 1915 with a correspondence course called *Household Engineering: Scientific Management in the Home* (Scanlon 1995).

In the 1920s, the Fredericks, Christine and her husband George, broadened their views to embrace the idea of planned product obsolescence as a form of large-scale efficiency. Rejecting the traditional idea that products should be made to last, they argued instead for obsolescence as a kind of creative waste that kept the industrial economy running smoothly. In this view, well-made, long-lasting objects were a problem because they saturated the market, creating resistance to the efficiencies of mass production—the Fredericks' support of which earned them Marchand's epithet "evangelists of the new ideology" of planned obsolescence (Marchand 1986: 156). In 1929, Frederick published a book propounding these and related ideas, *Selling Mrs. Consumer,*[6] arguing, among other things, for advertising as a way of keeping women informed of changes that would improve their lives, and for credit as a keystone of the consumer economy. Dedicated to Herbert Hoover, the book offers a view into a key moment in the transformation of women into modern consumers who must be trained and encouraged to buy ever more goods (Marchand 1986).

This important phase in the historical development of consumer science has been discussed in a number of significant works by authors such as Ruth Schwartz Cowan (1983), Rima Apple (1987), Sara Stage and Virginia B. Vincenti (1997), and Harvey Levenstein (2003), amply illustrating the close relationship between home economics and social and political development in the United States. Apple's 2006 book *Perfect Motherhood: Science and Childrearing in America,* for instance, analyzes the development and influence of scientific engineering as applied to mothering. Thus scientific motherhood is the conviction that mothers require scientific and medical expertise to successfully raise their children. Her book includes the role of vitamins in American culture and the history of home economics as a profession for women.

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ENTER CONSUMER SCIENCE

Consumer science seems to have been one of the specialties already promoted by the AHEA in the thirties. The Depression had made it obvious that women were not only homemakers, but also consumers, who now needed to balance the family budget on smaller resources and adjust their purchasing. A new and differently politically loaded definition of consumer had now been established. Deriving from economics and meaning the opposite of *producer,* the consumer is no longer a squanderer, but simply "a purchaser of goods and services" (*Concise Oxford Dictionary,* new edition, 1976). That the consumer is cast as a woman was nothing new. By the early twentieth century, U.S. trade journals estimated that eighty to eighty-five percent of consumers were women with almost total responsibility for family consumption (Marchand 1986). But now the need to recognize this fact and offer specially tailored help seemed urgent.

At a conference in 1933, a number of home economics organizations opted to change the discipline's name from *home economics* to *family and consumer sciences,* which the AHEA voted in favor of the following year. In the constant battle for professionalization and a scientific approach, the inclusion of consumer science meant a rapprochement with business administration, in particular with the thriving subdiscipline of consumer behavior. *Consumer behavior* is the study of when, why, how, and where people do or do not buy a product or service. It combines elements from psychology, sociology, social anthropology, and economics (Sandhusen 2008). It attempts to understand the buyer's decision-making process, both individually and in groups. It studies characteristics of individual consumers using demographic and behavioral variables in an attempt to understand people's wants. It also tries to assess influences on the consumer from groups such as family, friends, reference groups, and society in general. Consumer behavior is generally considered a subdiscipline of marketing: the process used to determine what products or services may be of interest to customers, and the strategy to use in sales, communications, and business development (see Lien and Jacobsen, Chapter 14, this volume).

The breakthrough period of consumer behavior was, however, the 1950s. During the 1940s, home economics dealt in large part with the impact of World War II. In terms of food, wartime rationing made it difficult to purchase meat; women had to work out recipes such as stuffed onions and vegetable scrapple to create filling meals for their families. Additionally, the absence of husbands on military service meant women had a much greater role in household finances and other affairs. Not only did they manage the homestead, but many worked swing (twilight) shifts in factories, as immortalized by the iconic image of Rosie the Riveter (Marchand 1986).

As the demand for consumables grew after the war, not least among the postwar baby boom generation, and with the introduction of television and advertising on a wide scale, producers became more and more eager to learn about consumer preferences and decision making for their product development (Belk 1995). To this end, marketing and, most notably, the study of consumer behavior flourished and began to incorporate

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other fields of knowledge besides economics, especially behavioral science/psychology. Societal marketing, which emerged in the 1960s, also appealed to home economists, for it deals with the needs, wants, and demands of customers and is associated with products that satisfy the customers and promote societal well-being.

The inclusion of consumer science as a part of domestic science was further propelled by a crisis in the home economics discipline during the 1960s. Because of major social changes, such as a growing number of young people pursuing higher education, more and more women in the workforce, and a new political awakening associated with the United States' involvement in the Vietnam War, the viability of the educational programs was questioned and challenged. A student movement emerged and young women no longer had any intention of becoming (just) housewives. Courses in nutrition, cooking, and laundering lost their relevance. The home economics movement was losing its status, even in the land-grant system where it had enjoyed its greatest support. Possibly remembering their own experiences of sewing aprons and preparing tasteless food, many leaders of the second wave feminist movement saw home economics as problematic for the advancement of equality for women. In their view, the high school curriculum fostered restricted and traditional roles for women and men. The discipline also suffered from a difficulty in dealing with issues of race and ethnicity, and was criticized for "promot[ing] the superiority of ideas and ideals of white middle-class culture" (Stage and Vincenti 1997: 187). Addressing the consumer in consumer society instead of the housewife in the home, as well as naming the discipline *consumer science* instead of *home economics* might be regarded as one way of keeping up with the times and the spirit of the period.

THE ROOTS OF CONSUMER SCIENCE IN SWEDEN

The emergence of domestic science in Sweden, and Northern Europe generally, follows a similar route to that in the United States, although not surprising, the primary concern seems to have been with the education of working-class mothers in densely populated urban areas rather than farmers' wives and the socialization of immigrants into American ways (Levenstein 2003). Like in the United States, there was a heavy emphasis on the biological and natural sciences. The most influential educational body in Sweden, the School of Home Economics in Uppsala, already included disciplines such as digestive physiology and chemistry of foodstuffs when it came into being in 1894, which seems to have firmly paved the way for nutrition to be the foundation for understanding food in Swedish home economics.

The strong links between the domestic science or home economics movement in the United States and Europe are obvious in, for example, the life of Lotten Lagerstedt (1839–1919), a protagonist for the development of training for teachers of domestic work in Sweden, who eventually became director of the education of household teachers in Gothenburg in 1893. A trained kindergarten teacher, she moved to Scotland and took up a position as governess in Edinburgh in 1874. Here she was inspired

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by women fighting for the introduction of home economics in schools. She wrote in 1890:

> Scottish women used to be known to prepare a simple and frugal diet, but since factories and mines now begin to attract girls as soon as they leave school, conditions have changed. To cook the food as fast as possible and thus often use expensive resources has become the standard, and the good simple dishes, oatmeal porridge and gruel, and the heavy soups, which characterised the old-fashioned Scottish cuisine, have been almost forgotten. When a factory girl as a wife and mother has to provide for her husband and children, the household is often so expensive or so foolish that the husband is tempted to leave the family for the pub (Albrektson and Fröberg 2007: 19; translation by the author).

The situation for Swedish families did not differ from that in Scotland, Lagerstedt argued. In 1892, she published the *Cookbook for School Kitchens and Simple Cooking*. In the foreword, she advocates thrift on almost every page and presents a host of dietary guidelines. She also argues for practical and hygienic practices that seem strangely modern today. She describes in detail, for example, how to "empty the rubbish and kitchen waste, with no running water and general sanitation arranged." She gives instructions on the way all waste must be taken care of and collected in separate containers to be recycled. The compostable material should be mixed with, for example, ashes from fireplaces and stoves. Dishwater and washing water should be used to irrigate trees and shrubs. The contents of chamber pots were to be collected in barrels to fertilize the fields. She even included the drawing of a cart to be used for transporting the barrel to the field (Albrektson and Fröberg 2007: 28; translation by the author).

Another similarity between the United States and Europe is the effect of the two world wars. When times became hard, interest was renewed in saving, reusing clothes, turning to local produce, and various methods of food preservation, and home economics schools became centers of knowledge. In Sweden, courses for housewives were held in subjects such as mending and altering children's clothes and the preservation of mushrooms and wild berries (Holmberg 2010).

THE SCIENTIFIC MANAGEMENT OF "THE PEOPLE'S HOME"

In Sweden, scientific engineering was put on the agenda in the thirties, mainly as a political issue. For the Social Democrats, social engineering was the route to the welfare state, or The People's Home (*Folkhemmet*), as it was commonly known, referring to the vision of the nation as a "home for all." Social engineering became the tool with which to achieve this vision and included changes in legislation, taxation, social policy, planning, education, and other social interventions seeking to transform society for the good of all people. Politicians should be like engineers, modeling society in accordance with scientific principles.

As to the domestic sector, the visions and practices formulated by Lillian Gilbreth and Christine Frederick spread to Sweden in the 1930s via large international home economics congresses. Swedish proponents, however, worked closely with housewives' leagues and wanted, at least to some extent, to engage housewives as research assistants. Swedish sociologist Boel Berner describes the methods advocated:

> The interwar modern housewife should measure her steps, count the seconds for each chore and register them for days, weeks and months. The basic principles of Taylorism—anticipating, organising, instructing, combining and controlling were stated over and over again. The housewife should provide herself with a pedometer, and experiment with new methods to manage the ironing and bed making effectively, and generally become "an expert in the field of routine domestic chores" (Berner 1996: 248; translation by the author).

Government consumer advice was also initiated during World War II in Sweden. The Ministry of Finance needed overviews of consumption and the supply situation. An independent institution, Active Housekeeping (Aktiv hushållning), was organized under the National Information Board. A burning question was how to increase food supply for the winter, and the first activities related to different preservation methods. One of the early pioneers in the area of food at Active Housekeeping, Carin Boalt, published a small booklet in 1939: *2700 Meals: A Survey of Dietary Habits,* in which 350 Swedish households reported their eating habits for a week (see Pipping Ekström forthcoming). These were carefully categorized by Boalt according to a five-point scale based on what was considered necessary, healthy, and nutritious food. Boalt was also one of the founders of the Home Research Institute (Hemmens forskningsinstitut, HFI) in 1944. The task of the HFI was "to study consumption and life within the home, the housewife's duties and division of labour between households and industry, methods and tools for household work." And, moreover, "to provide guidelines for the proper production of consumer goods and utensils, tools, food and clothing, instructions for facilitating and streamlining of housework, the basis for education and awareness activities in homes, schools and food service."

As a complement to the public education conducted by the Home Research Institute, a number of industrial research institutes were founded in the mid-1940s. Their task was to conduct socially relevant research with academic scientists concerned with issues considered desirable from industrial and national economic perspectives. The institutes were cofunded by government and industry. One was the Swedish Institute for Canning Research (Svenska institutet för konserveringsforskning), the predecessor of SIK. It is worth noting that in 1943–1944 one of its initiators, Professor Edy Velander, spent six months at the Swedish Legation in Washington, DC studying food science in the United States.

One of the arguments behind the creation of SIK derived from wartime experiences. It was argued that an improved level of technology in the food industry could lead to

better use of domestic agricultural produce and thus reduce the dependence on imports. The aim was to encourage industry to develop canned food that was more convenient, better, and cheaper "than the small-scale and often amateurishly cooked food which now dominates the diet of the country" (Holmberg 2010). In addition was the public health argument that a great deal of money could be saved in health care, where large sums were spent on curing diseases that "could have been avoided if catering was organised according to modern nutritional principles" (Holmberg 2010). Progress toward the goal of a healthy Swedish population ingesting essential nutrients via its food could be accelerated if, in addition to teaching housewives how to organize housework, a highly skilled domestic food industry was promoted—one whose products were based on scientific evidence. The vision for canned foods was not only that they should save time and rationalize cooking, but also that they should be presented with ample information and the latest scientific findings. This suggests an obvious skepticism about women's skills as housewives—and no longer were they recruited as research assistants.

CONSUMER SCIENCE AT THE TURN OF THE TWENTY-FIRST CENTURY

In the United States, family and consumer science is currently thriving as an academic discipline. Family and consumer science professionals practice in many areas, including secondary school teaching, college and university teaching, and research and outreach through cooperative extension programs. In Sweden, the picture is not as bright. As a subject in primary and lower secondary school, *home economics* was changed to *home and consumer science* in 2000, with the consumer science element mainly dealing with consumer economics. As a graduate discipline, however, home economics has had a hard time fighting for its existence. The department at the University of Gothenburg did not gain its first professor until the 1990s, and just ten years later the name of the department was changed from Home Economics to the Department of Food, Nutrition, and Sport Science: the household is no longer the primary focus. Nutrition and physical activity for the individual rather than the collective is stressed. This indicates the serious difficulty domestic science and home economics have had in gaining acceptance as an academic discipline and finding their place in the academy. One of the reasons for this is that the pursuit of professionalization and scientific standards from a natural scientific point of view has led the discipline to fragmentation into a combination of small scientific specialties and everyday practical knowledge of housekeeping without academic underpinning. Thus the discipline has been made to seem irrelevant, unnecessary, and unable to become the science of the everyday from the holistic perspective advocated by the pioneers.

From the 1960s onward this empty space has been filled by the social sciences, most prominently by anthropologists and sociologists interested in food and everyday life. One of the most influential is Mary Douglas, who, after the publication of *Purity and Danger* in 1966, increasingly turned to research on food in the 1970s. "Food is not feed,"

as the title of one of her essays from 1977 argues, but a system of social communication. This was followed by work such as Murcott's (1983a) edited collection, *The Sociology of Food and Eating,* where she argued that it was time for sociologists to take on and analyze food and eating habits. Consumer science could never meet the challenge from the social sciences of becoming a science of the everyday, and food consumer scientists to a large extent remained in their white coats in the laboratories. This does not mean that consumer science has had its day—on the contrary. But the discipline has moved away from the main field of the academy to meet the needs of industry and policy makers for knowledge about consumer preferences and behavior.

One site where consumer science is prospering is the industrial research institutes, such as SIK.[7] Social relevance and public health aims are no longer as evident, and the purpose is more explicitly to promote the development and competitiveness of the Swedish food industry and contribute to an increase in food exports. Typical areas of knowledge are convenience, taste, and quality in foods, product safety, food additives, and production methods. Issues such as health and climate change, ethical and social aspects of food production, and locally produced foods have been highlighted recently. One area that has attracted considerable attention at SIK over the years is the technological aspects of the food chain. There is a growing realization that major improvements, both in financial terms and in terms of product safety, quality, and the environment, are to be found in a more efficient chain, all the way from field to fork (see Pritchard, Chapter 9, this volume). A good example is the chain for chilled products. Improved efficiency and coordination of the chain can reduce waste and energy consumption at the same time as maintaining and improving microbiological product safety.[8]

At SIK, consumer science is a core competence, particularly in the area of sensory research. Like other large European industrial research institutes, SIK conducts sensory evaluations using trained panels to obtain information about the sensory properties of food products. Typical methods include determining differences/similarities between products. Panels are also used for consumer product evaluations, with the use of preference and liking tests, attribute diagnostics: liking specific attributes or determining "just right" levels, and qualitative studies to reveal information about attitudes toward and usage of particular products.

Research about consumer choice and decision making is conducted at business schools as part of research in consumer behavior and at departments of psychology by psychologists interested in economic psychology. The methods are generally quantitative and experimental. SIK sometimes collaborates on projects with these specialists. An example is the project "Capturing Consumer Food Choice in Action."[9] Five times a day for two weeks, forty-five consumers answered a questionnaire comprising twenty-one questions. The questionnaire was sent to the participants' mobile phones and concerned food choice decisions made in the last thirty minutes or imagined in the near future. Questions were related to situational and environmental factors, emotions, strategies for consumption decisions, and preferences for food sensory properties. The study was completed with a questionnaire based on standardized personality and purchase behavior scales.

Although "Capturing Consumer Food Choice in Action" is an attempt to study decision making in situ, and not just in the laboratory, the focus of studies conducted at SIK and at other European industry research institutes is far removed from the concentration on the everyday life of homemakers that was once the objective of domestic science. This means that consumer science today is firmly placed within what Elisabeth Shove termed the somewhat restricted paradigm of "ABC": attitude, behavior, and choice, where social change is thought to depend on values and attitudes (the A), believed to drive the kinds of behavior (the B) that individuals choose (the C) to adopt (2010: 1274). Instead, she proposes to study everyday behavior from a holistic perspective, as social and cultural practice, rather than as an individual lifestyle choice (2010).

FOOD CONSUMER SCIENCE

What is troublesome for social scientists interested in food research is the close relationship between consumer science as defined earlier, policy making, and EU funding. For the European Commission, food consumer science is basically about understanding the drivers of consumer behavior toward purchase and consumption, how consumer attitudes are formed, how these attitudes vary with age and other social parameters, and also how messages about a healthy diet can be successfully conveyed to the population (European Commission 2007). The ABC starting points are obvious. This positions consumer choice as the central research focus around which food consumer researchers are to rally, a focus where consumer choice is often conceived of as mysterious and unpredictable. What needs to be developed, according to the Commission, is "a scientific basis for guiding consumers' food choices towards more health-promoting eating habits and the integration of consumer needs and concerns into new product development" (European Commission 2007: 9). Four principal goals of food consumer science are presented. They should seek to "*accurately measure consumer behaviour in relation to food*—ensuring that what people say is in fact what they eat…*develop comprehensive models of consumer food choice processes*…*promote effective interactions with consumers* to provide open and trusted communication channels and help *develop effective strategies to deliver healthy messages on diet"* (European Commission 2007: 5). Scrutiny of these four goals indicates that the number of disciplines deemed capable of providing what is required is drastically reduced. Shove introduces the suspicion that disciplines such as the social sciences and anthropology are only considered useful when translated into a language of factors and influences amenable to management and manipulation (2010: 1280–1281), and that—since their practitioners are unable to align their research approach with the ABC paradigm—they will remain unheard.

As Shove states, it is also clear that the ABC is a political and not just a theoretical position (2010: 1274). This is partly because of a strong network of European industry research institutes and active lobbying. This lobbying is done as active participation in international bodies including the ETP Food for Life and FOODforce, which is a network of European Food Research Institutes. European technology platforms (ETPs)

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are industry-led, public/private partnerships encouraged by the European Commission to drive innovation and form alliances between academia, industry, and large retailers in reaching the strategic research objectives of key European industry sectors. The main goals of the ETPs are to strengthen the European innovation process, improve knowledge transfer, and stimulate European competitiveness across the food chain. ETP Food for Life was created in 2005 under the auspices of the Confederation of the Food and Drink Industry of the EU/Confederation des industries agro-alimentaires de l'UE (CIAA).[10] An example of a CIAA lobbying action is the encouragement of the 2011 Polish presidency of the Council of the European Union to promote the ETP and its work in presenting research opportunities and improving knowledge transfer across Europe. The presidency is called upon to promote research into healthy aging, including dietary regimes and lifestyles, but also to create a mechanism to finance regional research infrastructure and to make progress in simplifying existing legislation and reduce administrative burdens for the three hundred ten thousand food and drink companies in Europe.[11]

FOODforce is a network of leading European research provider organizations active in the areas of food, nutrition, and health. It provides a forum to facilitate interaction with EU secretariats involved in food, nutrition, and health research; facilitates and promotes mobility of researchers; develops and exchanges best practice in managing food and health research; coordinates with the European Technology Platform Food for Life and other relevant organizations; and submits Framework Programme Expressions of Interest to the European Commission.[12] The Institute of Food Research (IFR) in Britain, a partner at the time of writing in more than thirty European Union-funded projects, hosts the FOODforce website.[13]

No doubt, projects such as Healthy Structuring and Capturing Consumer Food Choice in Action are relevant and important for the food and drink industry as a way of providing products of better quality and health benefits to European consumers. But from a social scientific perspective it is easy to feel dejected by the large number of similar projects and the huge sums of money spent on them that leave little room for other relevant social scientific approaches to food and eating. What is needed, according to Shove (2010), is to open up a set of questions about the role of the state and allocation of responsibility. Her suspicion is that the ABC is in fact sustained by policy makers and that this vocabulary is required in order to keep a particular understanding of governance in place. A glimpse into the future, however, may provide a less gloomy picture.

THE TWENTY-FIRST-CENTURY FOOD CONSUMER

Much is happening in the field of food research, and applied industrial research and academic social scientific research are no longer as far apart. At industrial research institutes, there is a growing awareness that the individual consumer and the environment must be taken into account in real-life situations. Consequently, there is a growing interest in qualitative and ethnographic methods and collaboration with universities. Traditional quantitative and experimental methods are combined with qualitative methods,

for example, focus groups and in-depth interviews. Consumers are followed in real purchasing situations, and new digital techniques are used, such as equipping volunteers with Palm Pilots or iPods to be able to follow them in real-life situations. Research institutes such as the British IFR Extra also provide consumer trend interpretations: evaluation of consumers, markets, and products within wider social contexts.[14]

There is a growing awareness of social aspects of consumption within the European Commission. Models of consumer decision making and choice and attitude scales do not seem adequate to understand the diverse approaches to and practices in food and eating among the European population. To a slightly greater extent, consumers are not only thought of as single individuals whose cognitive and sensory capacities could be plotted on graphs and distributed along scales, but as social and cultural beings and part of social and cultural communities. There is also slight but increasing interest in including consumers and other stakeholders in studies in local communities.[15] Referring to Martin Hajer (1997), Shove argues that the extent to which policy discourses circulate, and the manner in which they endure, depends upon the existence of discourse coalitions: interconnected networks of policy makers, scientists, and industry sharing concepts, terms, and intellectual frameworks (2010: 1282). As can be witnessed in, for example, forums and other activities organized by FOODforce, this is obviously the case in the food and drink sector. The implicit models of consumption and consumers are steadfast and unquestioned. They are kept in the black box, to refer to Bruno Latour's use of the concept (1988). But the idea of discourse coalitions also means that small changes in one part of the network will spread and affect the network as a whole. The black box slowly opens for inspection if enough allies across the food chain are recruited. And maybe this is what is happening, for Shove's provocative examination of EU environmental policy can also be conceptualized as an expression of this reorientation.

A small step in a changed direction is the inclusion of *lifestyle* as a keyword. A good example of an international policy-driven study focusing on lifestyle instead of on choice is the Sustainable Lifestyles Manifesto by the UNEP Task Force on Sustainable Lifestyles.[16] The objective was to explore ways of engaging, exemplifying, enabling, and encouraging people, civil society organizations, and governments to further sustainability in people's everyday lives. Creative Communities for Sustainable Lifestyles collected and shared promising cases of sustainable ways of living across the globe: Intercultural Sister Classrooms were raising awareness of lifecycle thinking among teachers and students across American regions using new learning methods, and the Global Survey on Sustainable Lifestyles (GSSL), a twenty-country survey covering all regions, gathered insights from young adults (18–35) in urban areas on their current lifestyles, aspirations for the future, and reactions to sustainable lifestyles. The Task Force concludes that there are growing calls for a new approach to directing consumer change, away from simply raising awareness to relying instead on default policy programs that are inherently sustainable, such as affordable, convenient, and comfortable public transport instead of private vehicles. Such policies would require consumers actively to opt into sustainable consumption behavior, such as recycling, rather than simply telling them what to do.

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At universities, the new interest in actor-network theory (ANT) and practice theory may promote closer cooperation with the sciences. Nonhuman actants appearing in ANT studies range from microbes and scallops to transit systems and aircraft. Carefully applied ANT gives actants such as fragrances, taste buds, intestinal glands, microbes, and refrigerators their rightful place in food consumption. Moreover, the humans and nonhumans of ANT are intertwined in sets of relations that amount to networks in which it is difficult to identify precisely where the agency for action lies (Callon 1986; Latour 1988). For those developing practice theoretic studies, practices require performance for their existence involving a diverse range of technological procedures, objects, competencies, and practical know-how (Shove et al. 2007).

Of key importance are the ongoing attempts to overcome the strong polarization between production and consumption. Jackson and colleagues (2000, 2008) show that consumption is always an economic as well as a cultural process, in the same way that production is always a cultural as well as a technologic and economic process. Production is imbued with ethical and moral issues negotiated by a range of actors at different points along the supply chain. In a similar manner, the researchers of the ERC funded project "Consumer Culture in an Age of Anxiety"[17] explore the procedural geographies of social anxiety among the full range of actors: producers, retailers, consumers, legal authorities, and the media (Jackson and Everts 2010). Work packages aim to reveal, for example, how date labels function as a technology, incorporating and requiring particular models of consumer behavior, and how regulatory concern to address the salt, saturated fat content, and energy value of foods has changed the practices of food manufacturers, retailers, and consumers—fields of great interest for consumer scientists, but formulated from a social scientific perspective.

CONCLUSION

Although domestic science once cherished the ambition to become the science of the everyday, it has had a hard time realizing that ambition. In the attempt to professionalize the field and make a true science, the proponents have trusted the natural sciences, engineering, and economics. This is not just a question of gender and women struggling to gain respect and status in a male-oriented academic world. For one thing, microbes, vitamins, and cupboard heights are not intrinsically male, they are obviously just as important to women, and as the pioneers clearly show, women are as good as men as chemists and engineers. But during the twentieth century, biotechnology and engineering have been captured as male areas. Part of the answer is insecurity about how to approach social sciences, something the general ambition to become the science of the everyday requires. Holistic attempts such as arguing for *oekology* or *euthenics* as the name and focus of the discipline or collaboration with the Housewives' League during the 1940s in Sweden and the inclusion of housewives as research assistants have not survived. Every time the discipline has been in crisis, it has retreated to safer ground in the natural, technological, or economic sciences. Although the way the discipline has merged with policy

and industrial claims over the past decades has reinforced this move, the present situation opens up new opportunities for a mutual rapprochement between social and natural scientists in the food sector. The call for *eikos,* the prospect of a livable and breathable home, is raised once more (Latour 2010).This calls for a rethinking of the consumer on both sides. The consumer can no longer be conceived as a naked choosing subject. But neither can the consumer be thought of an individual immersed in everyday culture far away from the sectors of commerce and production, as has been the case in many food culture studies. The twenty-first-century food consumer is likely to be articulated as multidimensional in the midst of a disciplinary assemblage covering social, biological, and natural sciences, where food consumer scientists and their achievements have a clear role.

NOTES

1. See www.sik.se/hstructuring/headpage.htm. Accessed October 12, 2011.
2. The author wishes to thank her colleagues at the Department of Consumer Science at The University of Wisconsin Madison, especially Professor Lydia Zepeda, for guiding her to texts and websites where she could learn about the history of consumer science in the United States.
3. See http://www.sohe.wisc.edu/depts/history.
4. See http://www.sohe.wisc.edu/depts/history.
5. The theory of scientific management named after its original proponent, Frederick Taylor (1856–1915).
6. Available as a free download at http://ia700504.us.archive.org/7/items/sellingmrsconsum00fredrich/sellingmrsconsum00fredrich.pdf.
7. The information about the present history of SIK has been gathered from the website, leaflets, reports, and personal conversations with SIK staff.
8. See www.sik.se.
9. See http://engwww.sik.se.
10. See http://etp.ciaa.be/asp/index.asp. Accessed October 12, 2011.
11. CIAA Priorities for the Polish Presidency of the Council of the European Union, http://www.fooddrinkeurope.eu/uploads/publications_documents/PL_Presidency.pdf.
12. See http://www.foodforce.org/. Accessed October 15, 2011.
13. See http://www.ifr.ac.uk/. Accessed October 12, 2011.
14. See www.ifrextra.co.uk. Accessed October 15, 2011.
15. This argument builds upon the author's experiences as a member of the project "Enhancing the Connectivity between Research and Policy Making in Sustainable Consumption (CORPUS)," supported under the European Commission's Seventh Framework Programme (FP7) (http://www.scp-knowledge.eu/about).
16. See http://www.unep.fr/scp/marrakech/taskforces/pdf/SLT%20Report.pdf, and http://www.unep.fr/scp/marrakech/taskforces/pdf/SLT%20Brochure.pdf. Accessed May 13, 2012.
17. See CONANX http://www.sheffield.ac.uk/conanx.

17

Appetite and Satiety—A Psychobiological Approach

JOHN BLUNDELL, MICHELLE DALTON, AND GRAHAM FINLAYSON

DEFINING THE LANDSCAPE

The terms *appetite* and *satiety* have a clear place in the litany of food research and they are widely regarded as motivational processes used to explain why people eat, how much they eat, and what they eat. In other words, these terms are seen as explanatory principles underlying patterns of feeding behavior. In turn, feeding behavior reflects integrated sequences of behavioral acts involving the procurement of food or its actual consumption. Consequently, appetite and satiety influence not only the act of ingestion but also the approach to foods, choices between foods, and events taking place after a period of consumption has finished. A grasp of the psychology of appetite and satiety should help us to solve problems—to explain overconsumption, understand weight control, and contribute to good health.

Moreover, at this particular juncture in the early twenty-first century, ideas concerning appetite and satiety have been given urgency and status in connection with what has become known as the "epidemic of obesity" (see Ogden, Chapter 27, this volume). This epidemic is argued to be maintained by (and probably initiated by) an "obesogenic" environment that encourages overconsumption (Swinburn and Egger 2001; Swinburn et al. 2011). What are the roles of appetite and satiety in relation to this background? At the outset it should be considered that overconsumption of food is one example of a more widespread acquisition of material objects well beyond any limits defined by personal need (Judt 2011). People in industrial societies are encouraged to purchase more clothes, shoes, TVs, motor cars, refrigerators, furniture, and palatable foods; only the last of these is strongly blamed for obesity—although some will also note that the use of cars rather than walking constitutes an additional factor, but this does not normally attract such approbation. The prevailing socioeconomic system encourages materialistic

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self-interest and what for some is unnecessary consumption (and purchasing) required to drive economic growth. Thus overconsumption takes place in a climate of abundance, aggressive advertising, and easy accessibility in which food purchase is strongly promoted. In addition it is undeniable that the food industry strives to produce foods of ever increasing palatability to make them more attractive to the consumer (this is not an industrial secret). Overconsumption is legitimized, and not prohibited, by prevailing cultural values. However, this analysis is limited to certain technologically advanced societies—and may not even be typical of all. Such societies may also be characterized by considerable social inequality (e.g., Wilkinson and Pickett 2008) that may also promote psychological states promoting overeating and obesity. In quite different types of societies—for example in parts of Polynesia or Africa—the cultural pattern influencing eating and obesity will be distinct from that prevailing in Western Europe and North America. Here obesity may be seen as a symbol of status, wealth, or power and may represent a desirable condition. Obesity and overconsumption (eating in excess of energy expenditure) exist in societies defined by distinctive styles of psychological organization and cultural values. Social phenomena undoubtedly shape patterns of eating, choice of foods, values associated with eating and meals, and the prevailing nutritional repertoire. It is in relation to this situation that we have to seek meaning for the phenomena of appetite and satiety.

APPETITE: BIOLOGY OR CULTURE?

The object of appetite and satiety—namely feeding—is perceived (by separate groups of scholars) as either an exclusively biological or cultural phenomenon. For some researchers, feeding behavior is a way of getting food into the body to provide energy and nutrients for maintenance and growth of bodily tissues. In other words, it has a purely biological purpose and other features of eating—such as opportunities for entertainment or social discourse—are embellishments of the feeding process not related to its true purpose. On the other hand, some researchers view eating as an act the purpose of which is to fulfill cultural obligations, embodying rituals and influencing interpersonal relations. These primary acts also have a secondary physiological function. The impasse, then, is that eating is perceived as either biologically or culturally determined. How can this be resolved? One solution is to see biological and cultural determinism as incomplete explanations. Eating has its origins in biological obligations, but the integrated acts of feeding are shaped and given value by cultural obligations. Eating can therefore be viewed as the output of a biocultural interaction. Eating can be considered a behavioral bridge by which eating behavior expresses biological needs in a social landscape, but also acts as a vehicle to deliver a part of the environment (the nutritional part) that becomes assimilated into biological tissues. Under normal circumstances, eating—along with breathing—represents the most intimate interaction between biology and the environment. It is within this interaction that appetite and satiety play roles as explanatory constructs. This interaction is both complex and complicated (e.g., Finegood, Merth,

and Rutter 2010), and it is therefore important to be aware of major conceptual principles and not get too bogged down in biological or cultural molecularization. However, as the authors of this chapter are psychobiologists, this perspective will be apparent in the development of this chapter. An important step is to determine the influence of psychobiological processes on feeding behavior in an environment in which eating patterns are strongly shaped by cultural factors.

Appetite Control in Omnivores

One of the most salient features of the expression of appetite control in humans arises from the fact that humans are omnivores. Unlike herbivores or carnivores, whose feeding habits are determined by restricted types of foods on which they can exist, omnivores have a much greater range of potential edible items. This feature has a number of consequences. One advantage is that humans are not reliant upon a narrow range of food resources that may become scarce or unavailable. Another consequence is that there are very few single foods that contain all the necessary dietary requirements for human biological well-being. One example is human breast milk, which is a complete food providing all the essential nutrients for the newborn child. After weaning, humans have to select a range of different foods to achieve optimal nutrition. This involves the process of food choice. For humans, food choice is not an option; it is an obligation. Food choice requires the development of specialized processes (to ensure optimal rather than random selection of foods). Rational food choice can also be undermined by an environment in which the nutritional value (and therefore the biological value) of specific foods may be concealed or confused. This can easily happen in technologically advanced societies where synthetic foods can be readily manufactured containing unlikely combinations of nutrients and tastes. This can lead to quantitatively and qualitatively inappropriate eating habits.

During the development of research in the field of appetite control, two themes have always been apparent. One has concerned those processes influencing qualitative aspects of food choice (what to eat). The other has concerned quantitative aspects of eating (how much to eat). These fields of research have tended to develop separately, pursued by different groups of researchers with distinct ideas about the nature of appetite control. For example, Paul Rozin and Claude Fischler, psychologist and sociologist respectively, have defined the parameters and also the interesting paradoxes and puzzles of human food choice. On the other hand, a group of researchers more inclined toward a biological approach has influenced thinking about the quantitative processes influencing the expression of appetite. Elliot Stellar and Gerry Smith, both physiological psychologists, have defined processes concerning the stimulation and inhibition of eating; in other words, those processes that promote the initiation and the termination of human eating. It is within this second approach that the phenomena of hunger and satiety have been thoroughly investigated. This approach will form the basis for this chapter. However, this field of study has also been influenced by nutritionists and human physiologists such as Jean Mayer in America and Edholm and McCance in England

who brought to the field a knowledge of energy balance. However, since the processes of hunger/satiety and those of food choice are not completely dissociable, there will be a considerable overlap between the interests of Rozin and Fischler and those of Stellar, Smith, Mayer, and others.

Some Definitions

At the outset it may be useful to include definitions of terms frequently employed to describe the operations of processes within a system influencing feeding behavior (Figure 17.1). The terms may not be universally agreed upon, but those set out in Figure 17.1 provide working models. The definitions reflect the close association between research that has developed between behavioral scientists and the field of nutrition, and the progress made to explain the processes that account for the pattern of eating and involving the measurement of meals and snacks.

THE PSYCHOBIOLOGICAL SYSTEM OF APPETITE CONTROL

At the outset it is useful to view *appetite* as the expression of an interaction between biology and the environment. The *pattern of eating* is shaped according to biological drives and inhibitory processes and to the influence of environmental (physical and cultural) factors. This interactionist position is represented in Figure 17.2. The particular eating

Appetite : there are two definitions in circulation
a) covers the whole field of food intake, selection, motivation, and preference;
b) refers specifically to qualitative aspects of eating, sensory aspects, or responsiveness to environmental stimulation that can be contrasted with the homeostatic view based on eating in response to physiological stimuli, energy deficit, and so forth.
Hunger :
a) construct or intervening variable that connotes the drive to eat. Not directly measurable but can be inferred from objective conditions;
b) conscious sensation reflecting a mental urge to eat. Can be traced to changes in physical sensations in parts of the body—stomach, limbs, or head. In its strong form may include feelings of lightheadedness, weakness, or emptiness in stomach. Hunger will be used in this sense throughout this review.
Satiation : close up 'termination'
process that leads to the termina tion of eating; therefore controls meal size. Influenced by sensory qualities, palatability, energy density, density (weight and volume), and portion size. Also known as intrameal satiety.
Satiety :
process that leads to inhibition of further eating, decline in hunger, and increase in fullness after a meal has finished. Also known as postingestive satiety or intermeal satiety. Influenced by total energy, macronutrient composition, types of fibers, carbohydrates, proteins, and fats.

FIGURE 17.1 Common definitions of constructs in the psychobiological approach to appetite and satiety

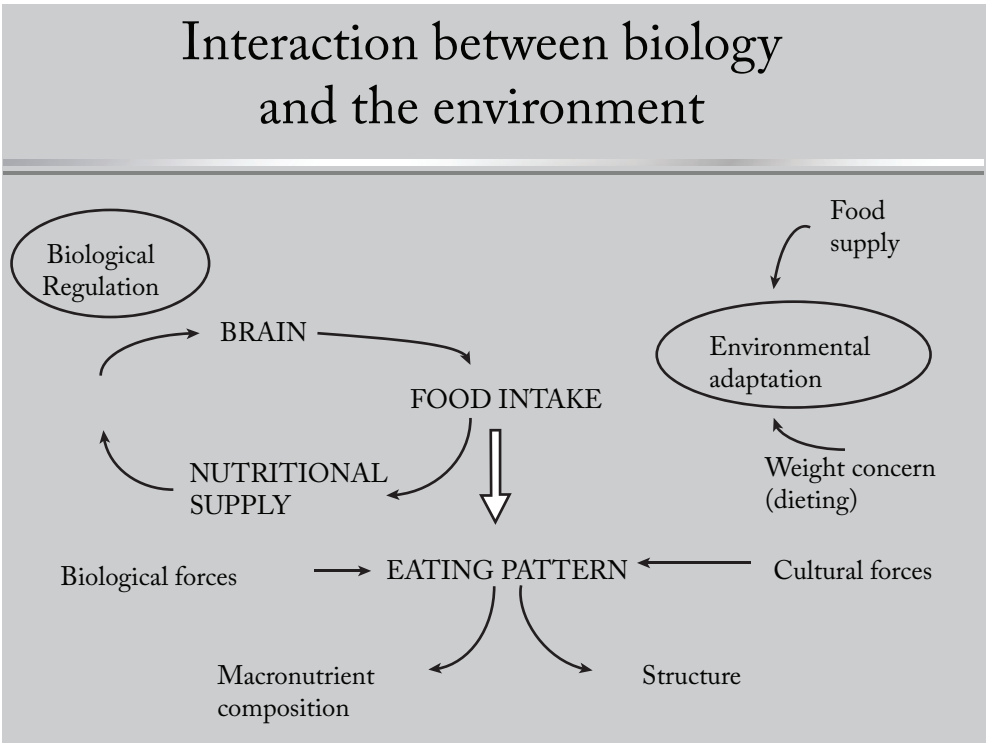


FIGURE 17.2 Conceptualization of eating behavior as the output of an interaction between biology and the environment

pattern of individuals can therefore be considered to affect the output of an interaction. The pattern can be affected in what, when, where, and how much to eat. This means that the pattern involves specific food choices and also the frequency of eating episodes (meals and snacks) and the amount eaten in these episodes. It is the amount of food eaten that involves the processes of satiety, hunger, and satiation and that forms the basis of the psychobiological approach. The psychobiological system is represented in Figure 17.3.

Three levels can be identified: these are the levels of psychological events (hunger perception, cravings, hedonic sensations) and behavioral operations (meals, snacks, energy, and macronutrient intakes); the level of peripheral physiology and metabolic events; and the level of neurotransmitter and metabolic interactions in the brain (see Blundell 1991). Appetite reflects the synchronous operation of events and processes in the three levels. When appetite is disrupted as in certain eating disorders, these three levels become desynchronized. Neural events trigger and guide behavior, but each act of behavior involves a response in the peripheral physiological system; in turn, these physiological events are translated into brain neurochemical activity. This brain activity represents the strength of motivation to eat and the willingness to refrain from feeding. This organization is a reflection of the underlying structure of the system that operates in conjunction with the shaping of behavior by culture. The resulting pattern of behavior is an outcome of the interaction between biology and culture.

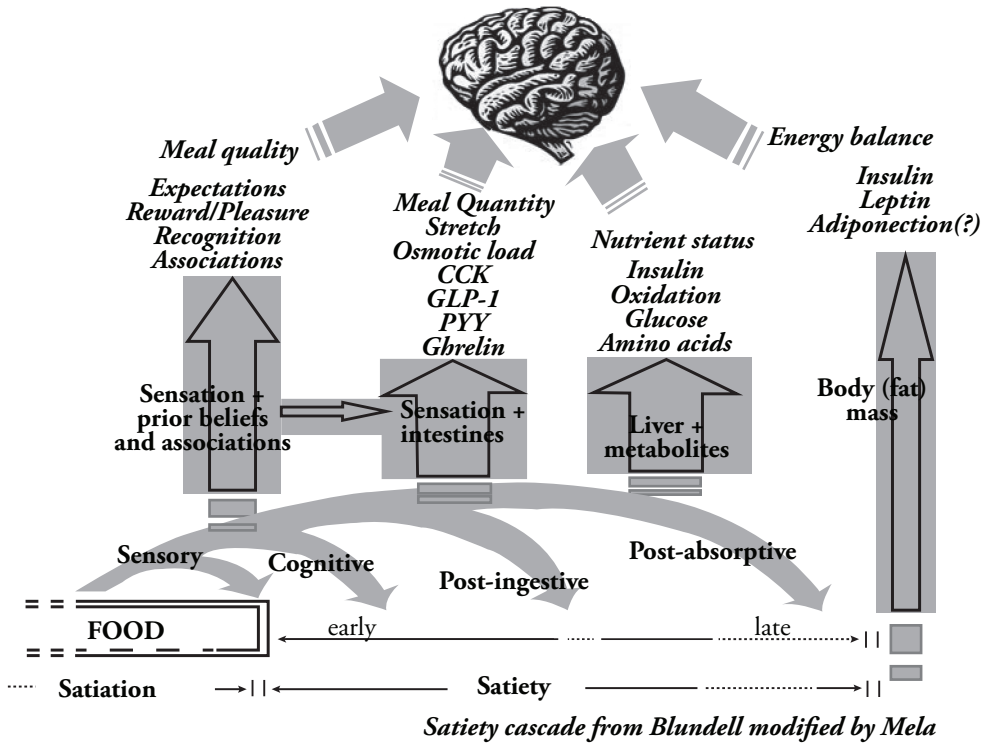


FIGURE 17.3 Psychobiological system showing the components of the satiety cascade and the three levels of interest: behavior and psychological processes, peripheral physiology and metabolism, and brain activity

The lower part of the psychobiological system (Figure 17.3) illustrates the satiety cascade, which prompts us to consider the events that stimulate eating and that motivate organisms to seek food. It also includes those behavioral actions that actually form the structure of eating and those processes that follow the termination of eating, referred to as *postingestive* or *postprandial events.*

Even before food touches the mouth, physiological signals are generated by the sight and smell of food. These events constitute the cephalic phase of appetite. Cephalic-phase responses are generated in many parts of the gastrointestinal tract; their function is to anticipate the ingestion of food. During and immediately after eating, afferent information (sensory stimulation from the taste and texture of food) provides the major control over appetite. It has been noted that afferent information from ingested food acting in the mouth provides primarily positive feedback for eating; that from the stomach and small intestine is primarily negative feedback (G. P. Smith et al. 1990).

SATIETY SIGNALS AND THE SATIETY CASCADE

The satiety cascade, proposed more than twenty-five years ago (Blundell, Rogers, and Hill 1987), provides a conceptual framework for examining the processes that influence

the frequency and size of eating episodes—and the intervals between these episodes. The cascade illustrates the interaction between the initial visual and olfactory effect of a food; the cognitions aroused by the food; the sensory impact of "mouthfeel"; and the physiological consequences of ingestion. An important distinction is between the impact of foods on satiation (processes that bring an eating episode to an end) and on satiety (processes that inhibit further eating in the postprandial period). It can be recognized that these two processes can be dissociated and that the overall amount of food consumed can depend on the size of an eating episode (satiation) or the interval between episodes (satiety). In addition, these two processes are influenced by different, but overlapping, groups of factors. At the present time there is strong interest (Blundell and Finlayson 2004) in the impact of food palatability on the pattern of feeding (via hedonic processes that influence the satiety cascade) and in the action of foods to promote satiety, giving rise to the field of study of functional foods for weight loss. Together, these two aspects define much of the current interest in the control of food intake (Blundell et al. 2010) (see Figure 17.3).

Initially, the brain is informed about the amount of food ingested and its nutrient content via sensory input. The gastrointestinal tract is equipped with specialized chemo- and mechano-receptors that monitor physiological activity and pass information to the brain mainly via the vagus nerve. This afferent information constitutes one class of satiety signals and forms part of the preabsorptive control of appetite. It is usual to identify a postabsorptive phase that arises when nutrients have undergone digestion and have crossed the intestinal wall to enter the circulation. These products, which accurately reflect the food consumed, may be metabolized in the peripheral tissues or organs or may enter the brain directly via the circulation. In either case, these products constitute a further class of metabolic satiety signals. Additionally, products of digestion and agents responsible for their metabolism may reach the brain and bind to specific chemoreceptors, influence neurotransmitter synthesis, or alter some aspect of neuronal metabolism. In each case, the brain is informed about some aspects of the metabolic state resulting from food consumption.

Satiety Signals from the Gastrointestinal Tract

It seems likely that chemicals released by gastric stimuli or by food processing in the gastrointestinal tract are involved in the control of appetite. Many of these chemicals are peptide neurotransmitters, and many peripherally administered peptides cause changes in food consumption. A number of these physiological signals (actually hormones released from the gastrointestinal tract following the ingestion of food) have now been identified. Experiments have revealed that their activity is related to the inhibition of eating (i.e., satiety). Hence they can be referred to as *satiety signals* or *satiety hormones.*

It is often said by physiologists that a state of satiety is conferred by an intestinal tract full of food. This is almost certainly the case in every culture. The effect is mediated by the release of peptides from specialized cells that respond to ingested food. However, not all peptide-signaling molecules are inhibitory. In recent years, the hormone peptide

ghrelin has been identified whose action appears to stimulate hunger and eating. Therefore, signals from the gastrointestinal tract can be both excitatory and inhibitory. In addition, we have to remember that even powerful physiological signals can be overridden by conscious action. That is, people can volitionally ignore their own physiological signals and continue to eat in a state of satiety.

APPETITE AND THE DRIVE TO EAT

For years the focus of investigations of appetite control has centered upon the termination of eating. This is because the termination of an eating episode—being the endpoint of a behavioral act—was perceived as an unambiguous event around which empirical studies could be organized. Consequently, satiety came to be the concept that formed the basis for accounts of appetite.(e.g., Smith et al. 1990).

However, some fifty years ago, there was an equal emphasis on the excitatory or drive features of appetite. This was embodied in Morgan's "central motive state" and in Stellar's location of this within the hypothalamus (Stellar 1954). One major issue was to explain what gave animals (and humans) the energy and direction that motivated seeking food. At the same time a group of physiologists working in the field of human nutrition developed the idea that energy expenditure was the main driver for appetite. In part, this view stems from the statement that any increase in energy expenditure will be met with an equivalent increase in energy intake (Mayer 1955). Indeed, it was proposed that "the intakes of food [of individuals] must originate in the differences in expenditure of energy" (Edholm et al. 1955: 297). In the light of knowledge about the physiology of energy homeostasis, and the utilization of different fuel sources in the body, it is possible to start to draw some conclusions. One source of the drive for food arises from the energy used to maintain physiological integrity and behavioral adaptation. Consequently, there is a drive for food generated by energy expenditure. Approximately sixty percent of total energy expenditure of the body is contributed by the resting metabolic rate (RMR). Consequently the RMR provides a basis for drive, and this resonates with the older concept of needs translated into drives. The RMR, in turn, is mainly influenced by the amount of lean tissue (fat-free mass) and much less by the amount of adipose tissue (fat mass). The activity of this fat-free mass (lean tissue) is an important determinant of meal size and daily energy intake (Blundell et al. 2011). This process can account for what appears to be a rather mundane observation: that in general men eat more than women. This is because men have greater fat-free mass than women and therefore a greater energy requirement.

In turn this drive to seek food—arising from a need generated by metabolic processing—is given direction through specific sensory systems associated with smell, but more particularly with taste. It is logical to propose that eating behavior will be directed to foods having obvious energy value. Of particular relevance to the current situation are the characteristics of sweetness and fattiness of foods. In general, most humans possess a strong liking for the sweet taste of foods and for the fatty texture. Both of these properties indicate foods that have beneficial (energy-yielding) properties.

Accordingly, appetite can be considered as a balance between excitatory and inhibitory processes. The excitatory processes arise from bodily energy needs (particularly the fat-free mass) and constitute a drive for food (which in humans is reflected in the subjective experience of hunger). The most obvious inhibitory processes arise from postingestive physiological processing of the consumed food—reflected in the subjective sensation of fullness and a suppression of the feeling of hunger. However, the sensitivity of both the excitatory and inhibitory processes can be modulated by signals arising from the body's energy stores.

It should be noted that the drive system probably functions to ensure that energy intake at least matches energy expenditure. This has implications for the maintenance of obesity since total energy expenditure is proportional to body mass. This means that the drive for food may be strong in obese individuals to ensure that a greater volume of energy is ingested to match the raised level of expenditure. At the same time, while there is a process to prevent energy intake falling below expenditure, there does not seem to be a strong process to prevent intake rising above expenditure. The system operates *asymmetrically:* strongly defending energy restriction and weight loss but permitting overconsumption and weight gain.

Consequently, any intrinsic physiological disturbance that leads to a rise in excitatory (drive) processes or a slight weakening of inhibitory (satiety) signals would allow consumption to drift upward without generating a compensatory response. For some reason a positive energy balance does not generate an error signal that demands correction. Consequently, the balance between the excitatory and inhibitory processes has implications for body weight regulation and for the induction of obesity.

SIGNALS FROM ADIPOSE TISSUE: LEPTIN AND APPETITE CONTROL

Although evidence has recently revealed that the activity of lean tissue (fat-free mass) is a driver of appetite, one of the classical theories of appetite control has involved a signal that informs the brain about the state of adipose tissue stores. This idea has given rise to the notion of a lipostatic or ponderstatic mechanism (Kennedy 1953). Indeed this is a specific example of a more general class of peripheral appetite (satiety) signals believed to circulate in the blood reflecting the state of depletion or repletion of energy reserves that directly modulate brain mechanisms.

In 1994, a landmark scientific event (Zhang et al. 1994) occurred with the discovery and identification of a mouse gene responsible for obesity. This led to the identification of a hormone, subsequently called leptin (from the Greek word meaning thinness) that is produced in adipose (fat) tissue and circulates in the blood. At the present time, the precise relationship between the ob-protein (leptin) and weight regulation has not been fully determined. However, it is known that in obese animals and humans the measured amount of leptin in the plasma is greater than in lean counterparts. Indeed there is always a very good correlation between the plasma levels of leptin and the degree of bodily

fattiness (Maffei et al. 1995). Therefore, although the ob-protein is perfectly positioned to serve as a signal from adipose tissue to the brain, high levels of the protein obviously do not prevent obesity or weight gain. However, the ob-protein certainly reflects the amount of adipose tissue in the body.

LEPTIN—DEFICIENCY AND APPETITE CONTROL

It seems clear that for the majority of obese people, the ob-protein (leptin) system is not a major cause of rapid or massive weight gain. However, for certain individuals very low levels of leptin (or the absence of leptin) may constitute a major risk factor. Recently a number of individuals have come to light. For example, two young cousins have been studied who displayed marked hyperphagia from a very early age. This hyperphagia (excessive overeating) took the form of a constant hunger accompanied by food cravings and a continuous demand for food (Montague et al. 1997). The elder of the two cousins had reached a body weight of more than ninety kilograms by the age of nine. Her serum leptin level (like that of the cousin) was very low, and subsequently a mutation in the gene for leptin was revealed. This finding seems to implicate leptin (ob-protein) in the control of the drive for food; that is, in the expression of hunger and active food seeking rather than with satiety or the short-term inhibition over eating. Leptin therefore appears to modulate the tonic signal associated with the translation of need into drive; when leptin levels are low or absent then the drive is *unleashed* and results in voracious food seeking. This phenomenon is quite different from the removal of a single satiety signal that would lead only to an increase in meal size or a modest increase in meal frequency.

HOMEOSTATIC AND HEDONIC PROCESSES OF APPETITE CONTROL

Traditionally, homeostatic regulation has been associated with the classical approach of Claude Bernard (1865) on the regulation of the internal milieu developed during the nineteenth century. In the field of appetite, it is used to explain the quantitative changes in eating and food intake such as those that occur during the operation of the satiety cascade. Curt Richter (1943) subsequently used the term *behavioral regulation of internal states* to indicate how eating behavior operated to maintain physiological functioning. Later, Jacques Le Magnen continued the tradition from the Institut Claude Bernard in Paris. Hedonic aspects of appetite are those concerned with the influence of pleasure and palatability on eating. The homeostatic system comprises a network of gastrointestinal peptides and brain neurotransmitters (described previously—see Figure 17.3). This system has been well characterized (e.g., Schwartz et al. 2000) and integrates physiological signals of energy requirements with the motivation to eat via sensations of hunger and fullness. The hedonic system, coordinated by the brain's reward circuitry (that is, the network subserving pleasurable aspects of eating), responds to sensory properties and thoughts about

food that reflect the cognitions of liking and wanting. Just like in the homeostatic system, a network of brain pathways and neurotransmitters mediates hedonic aspects of eating. It is known that these pathways are also involved in the addictive response to drugs such as cocaine and amphetamine. Although the homeostatic and hedonic systems are based on distinctive neurotransmitter systems, there is considerable functional overlap between the two systems in the control of appetite (Finlayson, King, and Blundell 2007).

Liking versus Wanting Food

Recently, a good deal of progress has been achieved in understanding the hedonic response to food and how separate psychological components of food liking and wanting feature in overconsumption and obesity. Clearly, the hedonic response has the potential to influence satiation (meal size) and satiety.

Kent Berridge's (1996) influential theory of reward (a process that allows eating food to become a reinforcing or satisfying experience) proposes that reward is not a unitary process but encompasses both an affective (emotional) pleasure component and a nonaffective motivational component, termed *liking* and *wanting,* respectively (Figure 17.4). *Liking* underpins the subjective pleasure elicited by food. Food liking is generated by the release of endogenous opioids in response to food acting on localized clusters of neurons termed hedonic "hot-spots" (Pecina, Smith, and Berridge 2006). To date, hedonic hot-spots have been identified in the various regions of the brain, indicating that the rewarding (pleasurable) aspects of eating are widely distributed. This confirms their significance in the control of eating. While food liking has been described as a kind of "pleasure gloss" actively painted onto the sensory perception of food (Berridge 2004), *wanting* accounts for the expression of behavior that does not normally have a verbal or explicit explanation (e.g., "I don't know why, I just had to have it!"). Liking and wanting

Liking:
a) affective "pleasure gloss" attributed to food (K. C. Berridge 2004)
b) perceived impact of a food or its sensory properties on subjective affect or some judgment of the pleasure it elicits
Wanting:
a) nonaffective motivational process of "incentive salience attribution" (K. C. Berridge 2007)
b) subjective state of desire, craving, or lacking something desirable
Implicit wanting:
directional (targeted) motivation operating outside immediate awareness and control affected by some attractive property of a food—for example, "I just had to have it! I don't know why"

FIGURE 17.4 Definitions of liking and wanting as psychobiological components of the "hedonic system" of appetite

have distinguishable substrates in the brain, and while hedonic aspects of food intake are typically a combination of liking and wanting, by measuring these components separately in behavior, we may learn under which circumstances they differ by degree or even dissociate and how this might determine an individual's tendency to overconsume and to gain weight (Finlayson, King, and Blundell 2007).

While liking and wanting as dissociable components of reward have acquired some validity from neurobiological processes encoded in the brain, the terms *liking* and *wanting* are also derived from the semantics of a shared language that describes human activities. *Liking* and *wanting* have separate meanings in English and various European languages. Indeed, the technical definitions of food liking and wanting correspond to the ordinary understanding of these terms (and their synonyms) in the context of human appetite behavior, such as food choice and food intake. *Wanting* may refer to subjective states of desire, craving, or literally to feel a "lack [of] something desirable or necessary (esp. a quality or attribute)" (*Oxford English Dictionary* 1989). *Liking* is usually understood as the perceived impact of a food or its sensory properties on subjective sensations or some judgment of the pleasure it elicits.

The nature of subjective forms of liking and wanting is that they are consciously experienced and subject to interference from other thoughts and subjective states. However, not all behavior is under direct control of conscious events, and therefore these components can have both an explicit and an implicit dimension (i.e., one that is conscious and one that is covert). The influence of implicit processes of liking and wanting on behavior does not require conscious experience and may be more automated and related to behavior where conscious awareness is low. Therefore, liking and wanting can be viewed as psychological components of reward operating at implicit (subconscious, automatic) and explicit (conscious, introspective) levels.

In the natural expression of appetite that manifests itself in a particular pattern of eating, there will be seamless interplay between homeostatic and hedonic processes. The pleasurable response to food that may stimulate consumption will be coordinated with the satiation and satiety processes that inhibit eating. Although the actual intermingling of the neurotransmitter pathways for the two systems is extremely complex, it is sufficient here to simply recognize that the expressed pattern of eating is dependent upon influences from both systems (Figure 17.5).

PHENOTYPES FOR APPETITE CONTROL

There exist many mechanisms that influence the expression of human appetite and through which an individual could gain weight and become obese. This diversity is reflected at the level of analysis of genetics, central and peripheral physiology, and the behavioral and psychological profile. It is also clear that a great number of environmental features can exploit intrinsic risk factors to induce susceptibility. In recent years, appetite research related to obesity has identified dietary features: high-energy dense foods; high-fat, high-carbohydrate, high-GI; high intake of sweet beverages; high-sucrose,

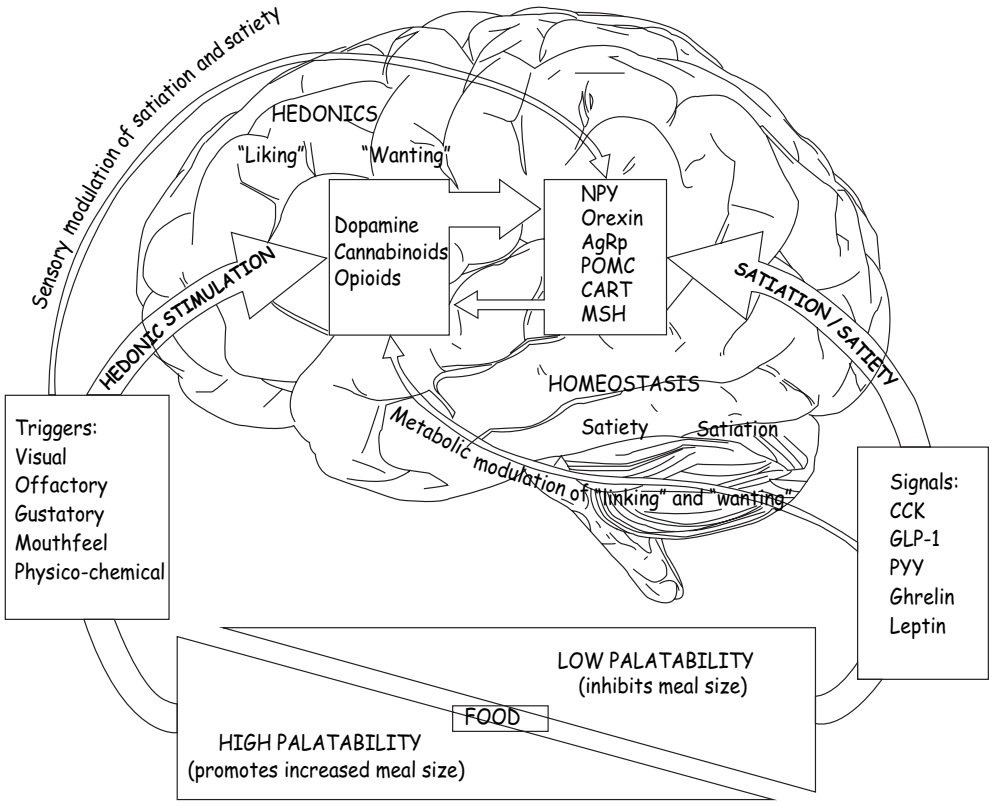


FIGURE 17.5 Model to illustrate interaction between hedonic processes (pleasure, liking and wanting) and satiation and satiety in the control of one aspect of eating—namely meal size. The consumption of food is reflected in the activity of special neurochemical systems that mediate them

high-fructose corn syrup and highly palatable foods; plus various combinations of these have been proposed as causal agents provoking susceptibility to weight gain. It can be recalled that this susceptibility is a dominant feature of the human body weight regulatory system.

Across the planet we can observe individuals habitually consuming quite distinctive diets yet maintaining a body weight within the normal range. At the same time, people can be observed consuming similar diets yet displaying wide variations in body weight. It is with reference to these features that an analysis of appetite regulation becomes important since it is appetite processes that mediate between (differences in) biology and (variations in) the environment. One approach to deal with this issue is through the characterization of phenotypes. These phenotypes represent forms of appetite regulation that constitute different routes to weight gain (Blundell and Cooling 1999).

In parallel with the characterization of individuals displaying different routes to weight gain with distinctive habitual diets—dietary phenotypes (Blundell and Cooling 1999)—we can identify people who show differing degrees of responsiveness to an obesogenic diet. These groups of individuals can be termed *susceptible* or *resistant phenotypes* (Blundell et al. 2005). The principle can be seen when the BMI response is predicted

for a large number of people exposed to a restricted or obesogenic dietary environment (Ravussin and Kozak 2003). People with diverse allelic profiles vary in their responsiveness to dietary conditions. When the dietary environment is restrictive, as in parts of sub-Saharan Africa, the genetic potential makes little difference and most people remain lean. However, in an obesogenic environment that encourages overconsumption, the genetic variability is more fully expressed and differences between susceptible (prone) and resistant individuals can be seen (Ravussin and Kozak 2003) with many attaining varying levels of obesity and a minority remaining lean. It should be noted that this situation mirrors that seen in laboratory rats that, when subjected to high fat diets, show marked differences in body weight response; some become obese while others remain lean (Levin et al. 1997). Consequently, the differences between lean and obese humans should not necessarily be attributed to varying attitudes toward weight and shape or to the cognitive control of dieting. The differences may involve more fundamental psychobiological processes.

In investigating susceptibility at the human level, we have identified changes in both homeostatic and hedonic processes of appetite control, as well as in the expression of physical activity. (Blundell et al. 2010). Careful examination of appetite responsiveness under controlled laboratory and free-living conditions has shown that susceptibility to weight gain on a high-fat diet is marked by a weak satiety response to dietary fat, a strong preference for high-fat food (particularly in the postprandial period), a moderate tendency to show passive overconsumption, and a high score on the trait of Disinhibition (measured by using the Three Factor Eating Questionnaire TFEQ) (Blundell et al. 2005), as well as low levels of leisure time physical activity. Consequently, susceptibility is characterized by a cluster of variables including weak control over meal size and postmeal hunger and a strong attraction to highly palatable, high-fat foods. That is, susceptibility is determined by homeostatic and hedonic features of appetite control: in other words, weak satiation and satiety and strong liking and wanting. In addition, a qualitative analysis of the cognitions of susceptible phenotypes has revealed a strong emotional relationship with foods that is not displayed by the resistant phenotype. Coupled with a low level of physical activity energy expenditure, the susceptible phenotype displays an acquisitive and conservative psychobiological profile, over which any deliberate control is difficult to achieve. The phenomenological aspects of the susceptible individual suggests a thrifty pattern, and this type can therefore be regarded as the phenotypic expression of a thrifty genotype (Prentice 2007; Speakman 2007). The term *thrifty phenotype* would be appropriate here, but this term has already been used with a slightly different connotation (Hales and Barker 2001).

POSTSCRIPT: INDIVIDUAL VARIABILITY—A KEY FEATURE OF EATING BEHAVIOR

One key lesson quickly learned (but seldom declared) from working within a psychobiological framework is that aspects of human appetite expression are characterized by

huge individual differences. One message emerging from the genetic analysis of appetite is that there is huge allelic variation (genetic differences) operating on the processes that influence food intake and energy balance. This diversity poses a considerable problem for devising public health policies for dealing with eating behavior change in relation to the obesity epidemic (Ridley 2003).

The description of susceptible and resistant phenotypes (together with other research not mentioned here) has drawn attention to the wide diversity in the pattern of the human eating response in the face of an obesogenic culture. Perhaps this should not be surprising given the great variability in the nutritional patterns adopted by the human species in quite extreme ranges of climate and habitat. What are the implications of this diversity? One methodological issue concerns the use of the statistical mean—or other measures of central tendency—to describe responses to interventions or treatments. Very often the *mean* outcome fails to adequately reveal the true effect of the intervention or treatment (the weight loss response to enforced exercise is a good example). A truer reflection of the operation of the challenge is described by the diversity of responses that encourages a deeper examination of the internal processes responsible. In other words, this means that one unique explanation cannot account for all outcomes.

This issue draws attention, once again, to the nomothetic and idiographic approaches to scientific explanation (Allport 1937). What should be the balance between seeking a common unifying principle and a regard for individual differences (quantitative and qualitative)? In light of this question, it may be an appropriate time for a paradigm shift (along the lines envisaged by Kuhn 1962) to focus attention on individual variability rather than on the mean value of any set of responses. The value of such a combined approach has recently been proposed (Caudwell et al. 2011). In scientific research the mean response is the statistical parameter associated with the elucidation of scientific principles. However, given cause-effect relationships and other features normally seen as the objectives of scientific inquiry, the great diversity of the human eating response suggests that we are dealing with a phenomenon for which the average is often inappropriate. This means that the traditional use of normal scientific methodology in research may be missing much that is truly important in defining human appetite. The identification of phenotypes—their behavioral expression and their underlying physiology and genetics—constitutes a partial step toward a recognition of the variability inherent in human appetite regulation.

18

Sociology of Food Consumption

LOTTE HOLM

The sociology of food consumption focuses on the topic as socially created sets of practices and on the social and cultural meanings of such practices (Ilmonen 2011). In earlier, classical sociology, however, food consumption per se was not an important theme in its own right. If addressed at all, it was more often included as an element or indicator of other phenomena that were and continue to be closer to the main focus of sociological interest, such as social inequality or social problems like poverty. Since the final decades of the twentieth century, however, there has been an increase in sociological research on food consumption, most of which has been empirically based. In terms of theory, contributions within the field are neither uniform nor distinct, but instead reflect important theoretical approaches in the wider field of sociology (and social anthropology) such as functionalism, structuralism, a developmental perspective, and cultural theory (Mennell, Murcott, and Van Otterloo 1992). Empirically, sociological studies of food consumption cover a broad area, ranging from the developments of culinary cultures via trends and differentiations in eating patterns according to social class, ethnicity, religion, and gender to the character and meaning of household work related to food and to the conduct of meals. (See Germov and Williams 2010 for an introduction and Mennell, Murcott, and Van Otterloo 1992 for an overview of the field).

What follows begins by highlighting how a sociological perspective on food consumption—as sets of practices—differs from theories derived from two other social scientific disciplines, economics and social psychology (see Tiffin and Salois, Chapter 8, this volume and Blundell, Dalton, and Finlayson, Chapter 17, this volume). This difference entails a shift from thinking in terms of the individual to the social. Second, the social patterning of eating practices will be discussed in both a historical perspective and on the basis of empirical studies of the last thirty years or so. Third, social differentiation in food consumption will be considered with a special focus on the way styles of eating

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differ among social classes, and finally, a few observations will indicate the need for future sociological research in food consumption.

FOOD CONSUMPTION: FROM INDIVIDUAL CHOICE TO SOCIAL PRACTICES

In neoclassical economic theory, consumption "is the sole end and purpose of all production" (Adam Smith, *The Wealth of Nations,* 1776, quoted in Söderlind 2001: 6), and the system of production is seen as responding like a servant to the needs and wishes of consumers (Fine and Leopold 1993: 54). The sovereign consumer is thought of as making rational choices driven by an individual utilitarian orientation seeking to maximize personal benefits at the lowest possible cost. This conceptualization implies a tendency to see consumers as independent and autonomous actors and their choices of consumer goods as impelled solely by their individual needs and demands.

While economic theory takes needs and demands for granted, thus giving them little attention, social-psychological consumer research has focused more on preferences, that is, on how consumer needs and demands are constituted. Shepherd (1990) reports on a series of models that summarize factors influencing food acceptance, food preferences, and food choice. All models include factors related to the specific food product in question (e.g., brand attributes, appearance) and to the individual making the choice (e.g., personality, values, beliefs, attitudes, norms, socioeconomic background). While the number, character, and naming of factors included in the models vary, a shared focus is on individual choice as the key action in food consumption that needs to be explained. A sociological framing of food consumption as a set of social practices implies not just a broader view on what influences food consumption, but also a broader perspective on what constitutes food consumption.

Food Consumption as Sets of Practices

Alan Warde has presented a discussion of consumption as practice that suggests consumption is best understood as embedded in particular practices rather than constituting a practice in itself (Warde 2005). Reckwitz, among others, proposes that a practice is "a routinised type of behaviour which consists of several elements, interconnected to one another: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know how, states of emotion and motivational knowledge" (2002: 249). It follows that the individual is conceptualized as someone who performs or carries a practice, that is, carries a certain routinized way of understanding, knowing how, and desiring. These conventional ways of understanding, knowing how, and desiring are seen as "elements and qualities of a practice in which the single individual participates, not qualities of the individual" (Reckwitz 2002: 250). This view stresses the routine, collective, and conventional nature of consumption, but it also maintains that wants and preferences emanate from practices, not the other

way around. (See Gronow and Warde 2001 for more on the habitual and conventional qualities of consumption.)

Whereas much food consumption research confines its interests to market exchange (i.e., the circumstances in which choices are made), the practice perspective implies that food consumption must be understood as a much broader phenomenon to be examined as an integral part of daily life. Relevant practices involved in food consumption are associated with the acquisition, the preparation, and the eating of foods, all of which are organized in ways that depend on specific historical circumstances, and all of which may themselves be entangled in other practices. Eating is something that everybody does (needs to do), usually every day. But practices that involve eating are highly variable. They may, for example, include the practices of making and eating family meals; of maintaining health, strength, and functionality; of maintaining energy levels while doing other things—work or leisure activities. It may be an element in practices of sociability with other people, of pausing and resting, of celebrating, and so forth. This approach implies a shift in focus from individual perception of particular foods to the logic of situations where food is purchased, cooked, served, and eaten. The focus is on how activity generates wants, rather than vice versa.

Even though sociodemographic or cultural background, interests, and personal skills influence practices, this influence takes place within a practice already established before the individual enters the scene. Before individuals want sandwiches instead of chocolate bars for workday lunches, there are already institutionalized sets of practices that establish lunch breaks during the working day, define sandwiches as appropriate food for everyday lunches, ensure that they are readily available in canteens at workplaces or schools because of established commercial or welfare policy programs—and there are other institutionalized sets of practices defining chocolate as not part of ordinary meals, but a snack readily available across a wide range of outlets found almost everywhere in Western urban life. People may and will often challenge or alter practices through their actions, but they will do so with reference to the established practices and to the structures that form these practices. From this perspective, social categories are then understood as socially constructed rather than representing individual properties. The ways a practice is performed are flexible and vary according to performing individuals' background, biography, and level of expertise. But attention is directed toward how groups of people understand a practice, the values to which they aspire, and the procedures they adopt within practices. "The patterns of similarity and difference in possessions and use within and between groups of people, often demonstrated by studies of consumption, may thus be seen as the corollary of the way the practice is organized, rather than as the outcome of personal choice, whether unconstrained or bounded" (Warde 2005: 137). Social differentiation and inequality are then not a matter of randomly choosing a lifestyle, but a structurally contingent disposition influenced by economic resources, upbringing, social networks, and cultural codes.

Practices are dynamic; they have a trajectory or path of development, a history. The substantive forms practices take will always be conditional upon the institutional arrangements

characteristic of time, space, and social context (see Shove, Pantzar, and Watson 2012). When focusing on the particular practice of eating, it is therefore of sociological interest to analyze patterns of similarity and difference according to location, time, and social and institutional context. Which are the basic characteristics of such patterns in specific historical contexts, how are patterns differentiated, and how do they change over time?

One example of such an approach is Stephen Mennell's analysis of taste through three and more centuries in England and France. Mennell argues that the differences between English and French cookery and taste have their origin in contrasts between the social positions of the aristocracies in the two nations. The French preference for elaborate and complex dishes reflects the social position of the French aristocracy, whose life centered on Paris and around intrigues and competition of the royal court, where social display and consumption became main means of self-expression, In contrast, English cooking was simpler, based on local ingredients reflecting the position of the English aristocracy, who still possessed considerable political power and regional bases. After the French Revolution, restaurant chefs brought French cuisine to the elite all over Europe, including the English upper classes, who thereupon turned their back to English cuisine, which then coarsened (Mennell 1985).

Mennell's historical account is exemplary, for it places the analysis of eating and cuisine within the social structures influencing the practices of the people in question. By choosing the neighboring but contrasting cases of the elites of France and England, he reveals the social basis for changes in taste and of culinary development. However, sociological research has also focused on how eating among ordinary people develops according to location, time, and social and institutional context. Here, rather than cuisine and cooking, meal patterns have been a topic of interest.

EATING PATTERNS

As an integrated part of everyday life, eating contributes to ordering the day into segments: morning, midday, afternoon, and evening. The order and rhythm of eating in patterned fashion form intersections between the public sphere of production and the private sphere of reproduction, of family, and recreation (Aymard, Grignon, and Sabban 1996). Meal patterns reflect the organization of schedules in society, the particular modes in which food preparation and meals interchange with work and other activities, as part of cyclical calendars as well as throughout the day. These schedules change historically. Indeed, as marketers put it, there is more grazing (i.e., snacking, eating on the go) in the West, and researchers seek to shed light on the question of whether "our meals and therefore our food habits are ceasing to be social institutions" (Poulain 2002: 52).

Historical Change

One of the few studies to analyze meal patterns in their societal context was undertaken by Robert Rotenberg and concerns the impact of industrialization on meal patterns in

Vienna, Austria (1981). This study was based on participant observation and household interviews as well as documentary materials.

Rotenberg retraced the process whereby a meal system with five daily meals, commonly found in commercial cities at the turn of the last century, was gradually replaced by the three-meal system, commonly found in industrialized societies today. The five-meal system allowed daily meals to be consumed in three different locations and social contexts: at home with family members (morning, midday, and evening), at the workplace with colleagues (mid-morning), and at a cafe with friends and old schoolmates (afternoon—the latter reported as a common habit among middle-class men). This system reflected a form of social organization in which adults tended to work at or close to the family residence. This made it possible for the family to share meals in the home during the course of the working day, and it allowed domestic activities to be accommodated within the work schedule. Women were therefore able to prepare a complex, hot meal in the middle of the day at the same time as they were occupied either in the home or in the family business.

According to Rotenberg, this pattern gradually changed into a three-meal system as Vienna became industrialized. The number of meal breaks during the working day decreased and their duration became shorter. This new system allows three daily meals at two different locations and in two social contexts: at home with the family (morning and evening) and at the workplace with colleagues (midday). Snacks are eaten between meals. During working hours, this consumption is not organized in the form of a meal (which, in Rotenberg's view is defined as a social occasion), but takes place when the individual worker can take a short break, and it is frequently eaten at the desk or workbench. Eating with friends or schoolmates lost the status of being a daily activity and became an optional event that tends to take place in the course of weekends rather than on ordinary working days (see Julier, Chapter 19, this volume).

Rotenberg argues that the change in eating patterns and their social contexts is strongly influenced by the industrial reorganization of everyday life in Vienna. The daily routines of the urban household became redirected in a manner that stems from changes in the organization of activities in the workplace. Taylorism[1] (see Brembeck, Chapter 16, this volume) and scientific management on one hand and trade unions on the other became engaged in a struggle, and the ensuing negotiations eventually led to a strict definition of every minute of the workers' day. The mid-morning and the mid-afternoon meals of earlier times were lost in this process. Another influential force was provided by changes in the relationship between workplace and household. By 1971, Rotenberg notes, fewer than one percent of employed persons worked in family firms. All others worked under systems of management that were free from family control and did not need to accommodate domestic activities. Furthermore, the new industries were commonly located at the periphery of the city, far removed from older, multifunctional neighborhoods. The present pattern of the convenience lunch can therefore be seen as an adaptation to the lack of adequate time to prepare meals in the course of the working day and to the increase in commuting time between the home and the workplace. Consequently, lunch,

which had played a prominent role in the family life of commercial Vienna, declined in importance. Rotenberg's analysis suggests that patterns whereby the home and the workplace became the primary locations in which meals are consumed, family members and work colleagues constituting the social contexts of such meals, can be understood as by-products of the process of industrialization. In the course of this process, personal friends became excluded from participation in ordinary everyday meals.

A similarly profound change in meal patterns has been described as having taken place in the course of the development from a rural to an industrial society in Finland during the period following World War II. Urbanization and industrialization are seen as having led to the provision and consumption of fewer meals, especially fewer hot meals (Prättälä et al. 1993; Prättälä and Helminen 1990). It is also suggested that in this process the home lost some of its significance as the major organizer of Finnish meals as workplaces and schools began to provide daily meals. In his account of the struggle between trade unions and employers over the duration and organization of the working day during industrialization, Claude Grignon (1996) sees the rhythm of eating as a compromise between antagonistic interests. The ability of meal patterns to withstand particular interests ensures that meals and mealtimes are events where social conquests can become permanent and pass into what defines a normal, decent life—into conventions governing what each person has a right to expect and what may be required of him or her.

Ideas about Eating in Postindustrial Societies

Grignon ends his historical analysis with the observation that, in the late twentieth century, powerful economic interests encouraged a chronological deregulation (destructuring) of social life. He asks whether existing conventions governing meal patterns can be maintained in practice (1996). Similarly, a number of hypotheses and ideas have circulated in the literature and popular media to the effect that, in postindustrial societies, eating has become more individualized and flexible, that is, destructured. Fischler (1988) has suggested we live in an era of *gastro-anomie* where regular meals have become increasingly rare, replaced by irregular eating patterns. By *gastro-anomie* he means a tendency for cultural norms as to what should be eaten, when, and with whom to disappear. Similar arguments for a dissolution of meal patterns, an increase in isolated and individual eating, a potential disappearance of meals, especially family meals, have been proposed by others (Falk 1994; Mintz 1996; Whit 1995). Considerable attention has been given to the idea that commodification means that the home is no longer the primary location for meals as eating increasingly takes place in public places such as restaurants, cafes, fast-food outlets, and so forth (Dinkins 1992; Dumangan and Hackett 1995; Mogelonsky 1998)—although Warde and Martens (2000) found less empirical support for this in their United Kingdom-based study than might have been expected (and see Julier, Chapter 19, this volume). Finally, it has been suggested that the meal is losing its significance as an event in its own right, since eating events increasingly take

place simultaneously with other activities (such as walking down a street, working at a desk, or watching television) (Bugge and Døving 2000; Senauer, Asp, and Kinsey 1991).

In many cases, this more recent discussion about modern eating habits and how they have changed is based on observations and empirical studies undertaken in the United States. American trends are seen as presaging likely developments in eating habits in Europe and elsewhere. The question is whether this is the case or whether local history and culture will counteract tendencies to homogenization (see Bryant, Bush, and Wilk, Chapter 1, this volume).

Empirical Studies of Eating Patterns in Postindustrial Societies

A comparative study based on time-use data has shown that while some patterns of eating appear to converge between the United States and some European countries, national path dependency is clear too (Warde et al. 2007). In all countries analyzed, the time spent on food preparation declined from the 1970s to the 1990s. This was also the case for time spent eating at home, except in France, where it remained stable and much higher than in the other countries. Eating out increased dramatically in the United Kingdom and France, rising to American levels, whereas it hardly grew in the Netherlands.

Other analyses based on time-use data have demonstrated change within nation-states. Cheng and colleagues (2007) showed a decline in time spent eating from 1975 to 2000 in the United Kingdom. Eating episodes at home became less frequent but their duration did not change. Commodification of food provisioning increased as eating out became more common, and correspondingly, entertaining at home and visiting others less frequent. However, this change did not appear to diminish the significance in terms of length of domestic meals. Mestdag found a small decline in the number of meals in Belgium between 1981 and 1991, but hardly any change in the timing of meals and eating events (2005). An increase in eating as a secondary activity was observed, but it was concluded that eating patterns were not disrupted but instead still characterized by commensality (see Julier, Chapter 19, this volume) and regularity. However, from 1966 to 1999, the number of solitary eating events almost doubled, from fourteen to twenty-five percent of all eating events, a change ascribed to changes in household composition over that period (Mestdag and Glorieux 2009).

A comparative study of meal patterns in Denmark, Finland, Norway, and Sweden (Kjærnes 2001) also showed that ideas about destructuration and individualization of eating could not be confirmed. This study was based on telephone interviews with more than five thousand people about their eating on the previous day. The results demonstrate that flexibility and coordinated rhythms of eating coexist. Some flexibility in the patterning of eating was clearly evident in that in all four countries eating events were reported for any time of the day from early morning until late at night. At any one time, about fifteen percent of populations were eating (Gronow and Jääskeläinen 2001). Yet in all countries, relatively uniform rhythms could be identified that were distinct for

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each country. For the first part of the day, rhythms appeared similar in all four countries, but after around 3 P.M. they diverged into quite different times for evening meals. It is notable, that even though work life and its time rhythm is similar in the four countries, the timing of the evening meal on weekdays ranged from between 4–5 P.M. in Norway to 5–6 P.M. in Finland and 6–7 P.M. in Denmark and Sweden. On Sundays, eating was more heterogeneous between the countries and more spread out during the day. Eating in the Nordic countries thus appears strongly socially coordinated and heavily influenced by the organization of the working day. However, nationally distinct conventions are important.

This study also found that in all four countries, eating did first and foremost take place in the home. The majority of respondents reported taking most of their meals in their own home, and approximately half of the population in each country had all of its meals at home. Eating out in restaurants, cafes, or fast-food venues and similar outlets was uncommon. Congruent with the home-based character of eating, the most widespread pattern was eating either in the company of one or more family members or alone, but not others. On workdays, eating at the workplace and with colleagues was unsurprisingly also common. People more rarely ate in the company of friends, hardly at all on weekdays, a little more at weekends.

Patterns in the way meal formats fluctuated over the day were distinctly different among the four countries. In the morning, in all four countries, the large majority had eaten a simple meal with a limited selection of foods and drinks (bread with coffee or tea). The midday meal varied: in Denmark and Norway it was typically cold, consisting of open sandwiches, but in Finland and Sweden it was typically a hot meal. This variation is, most likely, a reflection of differences in welfare policies. Hot lunches reflect institutionalized provision of meals that are part of Finnish and Swedish welfare provision, where cold lunches reflect private provisioning systems, with food brought from home. In the evening, respondents in all countries typically reported eating a hot meal. On weekdays this would have a uniform and relatively simple menu structure, generally including a single course consisting of meat or fish, vegetables, and potatoes, supplemented by bread in Finland and Sweden. The typical main course of a "proper meal" reported by Douglas and Nicod (who presented it in terms of four components, center, staple, dressing, and trimming) and the folk model of a "cooked dinner" reported by Murcott and by Charles and Kerr was found in all countries, but appeared not to be very frequent (Charles and Kerr 1988; Douglas and Nicod 1974; Murcott 1982). Fewer than twenty percent of hot meals in all countries, and in Finland below ten percent, represented this combination (Mäkelä 2001).

The Nordic study confirmed that even countries that share many structural and cultural features do not necessarily display the same eating pattern. Historical traditions and national policies appear to counteract the homogenization of both rhythm and structures of meals. In France, Poulain (2002) reports a discrepancy between individuals' ideas of a proper meal and their actual practices. He conducted a large-scale study of eating patterns based on a random sample of just over one thousand employed men

and women in several workplace cafeterias in five urban areas across the country. The research design combined three methods: direct observation of employees' chosen meals, interviews about their selection, and questionnaires asking about the dining locale, its surroundings, and menus. While most respondents maintained that a real meal should include a starter, side dishes, and a dessert, many would eat simpler meals and snack between meals. Overall, the study hints at support for the view that rather than structured eating giving way to unstructured, the two modes may instead *coexist.*

Family Meals—Significance and Frequency

The role of meals in social life has been a recurrent theme within the sociology of food. Claude Fischler states that sharing meals, commensality, is central for creating groups, for bonding, and for building intimate relationships (Fischler 2011). And a number of small-scale qualitative studies of family food habits from several countries show that research participants consider family meals very important for maintaining the cohesiveness of the family unit (Bugge and Døving 2000; Charles and Kerr 1988; DeVault 1991; Iversen and Holm 1999; Mäkelä 2000; Murcott 1983b). It is a common theme that the meal, and in many studies especially the hot evening meal, is an important element in what has been analyzed as "doing family" (DeVault 1991) and described as "the project of creating a family" (Iversen and Holm 1999). The idea that the whole family should gather together for a daily meal is central in many households, and informants (women for the most part) give numerous detailed reports of their endeavors to plan, organize, create, and conduct such meals.

In public debate in many countries it is a frequent theme that such meals are in decline. It is, however, unclear as to whether or not the tradition of sharing family meals on a daily basis has really existed and if so, how widespread it is. Historically, family forms and household structures have varied considerably from one social class to another, and it is suggested that the ideal of the family that is expressed in worry about the decline of the family meal is probably an "ideal-typical model of the middle-class and (respectable) working-class family" (Murcott 1997: 44). Anne Murcott suggests that the anxiety lest the family meal wanes should "be understood as if it were a standing item on the agenda of twentieth-century public commentary on the nature of family life" (1997: 46), while Jackson and colleagues declare the repeated theme reflects a "moral panic" rather than historical reality (Jackson, Olive, and Smith 2009 but see Murcott 2012). This interpretation is consistent with the repeated findings in qualitative studies that shared family meals are seen as symbolic of the family.

The question is, however, whether this expressed ideal of the family meal reflects a currently important practice or the bemoaning of its disappearance. Large-scale studies such as those described earlier are useful in that they provide data that can shed light on this. For instance, the Nordic study showed that family dinners (operationalized as a hot meal eaten with all other household members at an event where everybody in the household ate at the same time and ate the same food) was indeed an important

practice that was reported to be enacted if not daily, then at least every other day (Holm 2001). A similar pattern emerges from the time-use studies in Belgium, where eating together is the predominant activity in the time families spend together (Mestdag and Vandeweyer 2005).

The studies of meal patterns discussed here are examples of research that analyzes food consumption from a practice perspective. Rather than focusing on choice of food products, they testify to the way food consumption is formed by large-scale societal structures, such as time rhythm, localization of workplaces and households, household composition, and family structures, and by policies and regulations, such as those affecting the workday. They do, however, also demonstrate that the influence from such societal structures is not deterministic. Clear differences between the collective time rhythms of different nation-states provide evidence of path dependency in the way eating develops. National and local cultures in populations and in various population groups influence food consumption. This is the case not only with respect to the rhythm and social context of eating, but also with respect to which foods are eaten.

SOCIAL DIFFERENTIATION

National and local cultures do not, however, influence food consumption in a homogenous manner. Studies of food consumption show patterns of differentiation according to gender, age, ethnicity, and social class. A review of more than 600 studies on gendered food habits in Western industrialized societies showed distinct gendered differences in preferences and consumption of food (O'Doherty Jensen and Holm 1999). It suggests that these differences reflect the cultural conventions associated with what researchers have identified as a hierarchy of foods, with red meat and alcohol at the top and white meats lower down (Twigg 1984) and a similar hierarchy of meals with main meals higher than simpler meals such as sandwiches or soup (Douglas and Nicod 1974). So men's preference are found to be aligned with the former, while those of women with the latter. A tacit rule may be involved, one that deems those foods and types of meals suitable for men that are accorded the highest status while those accorded a lower status are deemed suitable for women (Charles and Kerr 1988, and see Mennell, Murcott, and Van Otterloo 1992: 55ff for more on this topic).

Food consumption varies according to age. Whereas in nutrition research children's consumption of different foods is a prominent theme, the focus in sociological research has been on the multiple ways food and eating organize social groups, and interaction in children's lives during the school day and in their leisure time have been studied (Morrison 1996; Sylow and Holm 2009), as has the role of family food and junk food in teenagers' identity building (Prättälä 1989; Wills et al. 2008). Food among the elderly has been studied with a focus on the way childhood eating patterns are still reflected in the values prioritized in current eating habits of the elderly (Banwell et al. 2010) and how social support and companionship may increase the appetite and food consumption of elderly who have lost their partner (McIntosh and Shifflett 1984).

(See also Mennell, Murcott, and Van Otterloo 1992: 57 and McIntosh and Kubena 2010 for further discussion.)

Ethnicity is the focus in studies of immigrants' eating habits, which show how elements of original food culture may be maintained over several generations (Goode, Curtis, and Theophano 1984) and how food consumption patterns of immigrants diverge both from their culture of origin and their culture of residence (Wallendorf and Reilly 1983). Social class is highlighted in much research. It is a recurrent finding that dietary habits differ among social groups, and it is argued that such differences help explain social inequalities in health (Harrington et al. 2011). Meta-analyses and literature reviews show that, generally speaking, individuals with higher socioeconomic status or higher levels of education eat more of the kind of foods nutritional recommendations and health authorities promote as healthier: whole grain, lean meat, low-fat dairy products, fruit, vegetables, and fish (Prättälä et al. 2009). In contrast, fatty meat, refined cereal, and food with added fat are consumed more by low-status individuals or individuals with lower levels of education (Darmon and Drewnowski 2008). It is therefore discussed in the epidemiological literature whether these differences can be explained by the costs of healthy foods, a lack of knowledge about nutrition among individuals with lower socioeconomic backgrounds, or a limited access to supermarkets with healthy foods (Darmon and Drewnowski 2008). While all of these mechanisms may influence the diets of individuals, they do not take into account that the unhealthy foods people with low socioeconomic background eat may very well be the kind of foods they prefer to eat. This is a theme Pierre Bourdieu discussed in his analysis of the judgment of taste in his book *Distinction* [1979] (1984).

Dispositions and Preferences

In *Distinction,* Bourdieu presents *habitus* as a theoretical concept that helps overcome the traditional split between an objectivist and a subjectivist perspective in the social sciences, where focus is either on the social conditioning of human actions or on the intentional aspects of them. The concept of habitus combines objective living conditions with subjective orientations and explains values and actions common to different individuals within a group by the living conditions common to the members of the group. These conditions are incorporated in the individuals and orient their perceptions, opinions, values, and strategies. An element in the habitus is taste, which Bourdieu sees as the "real principle of preferences" (1984). He regards taste as a systematic expression of a particular class of conditions of existence. "It is a virtue made of necessity which continuously transforms necessity into virtue by inducing 'choices' which correspond to the condition of which it is the product. . . Through taste, an agent has what he likes because he likes what he has" (1984: 174).

For an explanation of social differences in food consumption, it is, therefore, necessary to take account of the characteristics of different social conditions and circumstances. Bourdieu emphasizes what he calls the "opposition between the tastes of luxury

(or freedom) and the tastes of necessity" (1984: 177). The former are the products of living conditions defined by distance from necessity, whereas the latter express the necessities of which they are the product. The taste for food high in sugar or fat is thus a taste for the most filling and most economical foods, a taste formed by conditions associated with low income. In the study Bourdieu conducted in France in the 1970s, the taste of necessity included a taste for heavy and fatty foods, charcuterie, pot-au-feu, and bread, whereas the taste of freedom or luxury was directed toward light, refined, and lean food such as beef, fish, fruit, and exotic food. This pattern appears to be similar to the social differences found in more recent studies referred to earlier.

A commonsense idea of taste presupposes freedom of choice, and therefore many "find it hard to grasp the paradoxes of the taste of necessity" (Bourdieu 1984: 178). This is why the food consumption patterns of low-income individuals are often seen as a direct rather than mediated product of economic necessity, thus "failing to realize that necessity can only be fulfilled most of the time, because the agents are inclined to fulfil it, because they have a taste for what they are anyway condemned to" (Bourdieu 1984: 178).

Manners of Eating

Bourdieu found a parallel pattern with respect to the manner of eating on special occasions. Whereas in the working class such meals were characterized by abundance, informality, and liberty, the meals of the French bourgeoisie are described as characterized by rhythm, form, and restriction. In the Sunday meals of working-class families, all foods may be put on the table at much the same time and strict sequencing of the meal may be ignored. "The women may have reached the dessert, and also the children, who will take their plates and watch television, while the men are still eating the main dish and the 'lad,' who has arrived late, is swallowing his soup" (1984: 195). Bourdieu sees the root of this liberty in the sense that there should be no self-imposed controls or constraints in the heart of domestic life, "the one realm of freedom, when everywhere else, and at all other times, necessity prevails" (1984: 195). In contrast, the organization of the bourgeois meal implies restraints and self-control:

> The manner of presenting and consuming the food, the organization of the meal and setting of the plates, strictly differentiated according to the sequence of dishes and arranged to please the eye, the presentation of the dishes, considered as much in terms of shape and colour (like works of art) as of their consumable substance, the etiquette governing posture and gesture, ways of serving oneself and others, of using the different utensils, the seating plan, strictly but discreetly hierarchical, the censorship of all bodily manifestations of the act or pleasure of eating (such as noise or haste), the very refinement of the things consumed, with quality more important than quantity—this whole commitment to stylization tends to shift the emphasis from substance and function to form and manner, and so to deny the crudely material reality of the act of

> eating and of the things consumed, or, which amounts to the same thing, the basely material vulgarity of those who indulge in the immediate satisfactions of food and drink. (Bourdieu 1984: 196)

A disciplining of appetite and food consumption is the result, which denies the meaning and primary function of consumption by making the meal a social ceremony, an affirmation of ethical tone and aesthetic refinement. Bourdieu sees this adherence to rigorous rules as the expression of a habitus of order, restraint, and propriety that distinguishes itself from the more loose and easy-going habitus of the working class.

Food for Guests

Two distinct patterns of describing food for guests were found in a 1990s Danish study based on qualitative interviews with parents of young children (Holm 1996). Some informants would make a point of describing the food they served for guests as abundant, underlining that no one was hungry after leaving the table. They would report how they made efforts to serve individual guests foods they were known to like, such as cooking the favorite dishes of parents and in-laws and preparing specific dishes especially for visitors' children. Other informants who appeared somewhat less confident about their own cooking skills would report that they served what was expected, the usual or customary food for visitors, which would be roast beef. "We don't boast" or "we don't put on a show" would be typical remarks. These families appeared to serve food for their guests that underlined community, commensality, consideration, and personal care for the visitors. This pattern was dominant among the working-class families in the study and more seldom among the participating middle-class families.

Among middle-class families, informants would typically emphasize the use of new and advanced recipes and how they served carefully designed meals for their guests with novel and surprising ingredients or dishes. Goat, African beans, rabbit, and "dangerous" desserts were examples. The food could refer to the host's travel experience, such as one informant purporting to serve Spanish food because he had traveled to Spain a lot. In some instances, the food would be described as provocative—this was especially the case when the visitors were parents and other relatives. "We gave them a Christmas dinner they will talk about for the next fifty years." An interpretation of this pattern is that middle-class families in the study served food for their guests that underlined their own individuality, their familiarity with the new and the modern, and their skills in advanced cooking. At the same time, it was often food that demonstrated their dissociation from parents and relatives.

The two patterns suggest fellowship and individuality as cornerstones of social relations in working-class and in middle-class families (Holm 1996). Results from qualitative studies such as this that are not based on a random sample do not allow for generalizations in any statistical sense, but the patterns analyzed have been confirmed in a recent large-scale quantitative survey in Denmark. Here it was specified that middle-class

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individuals with high cultural capital would serve nontraditional food and that they did not worry whether their guests liked it or not, whereas individuals with high economic capital were more inclined to serve expensive foods. Those with low economic and cultural capital preferred serving traditional food and were concerned to serve foods they knew their guests liked (Prieur and Rosenlund 2010). As is the case in France, research provides empirical support for the general presumption that social orientations appear in eating practices.

FINAL REMARKS

The work presented here provides examples of research in the sociology of food consumption that focuses on the meanings and role in social life of food and eating and on the way eating is patterned in time and space. An understanding of food consumption as embedded in the rhythms, activities, and relations of ordinary daily life and as influenced by overall societal structures and cultural traditions is basic to the sociological perspective. However, there is a tendency in recent empirical sociological research to focus rather narrowly on food consumption and its relation to everyday life and local cultures while omitting broader societal dynamics. Future research needs a broader perspective more directly addressing the way food consumption changes over time, the way it is linked to changes in food production, food manufacturing, food distribution, and to developments in regulatory systems and policies. Food consumption is high on public agendas related to and alongside climate change, sustainability, obesity, public health, and major economic crises. A critical sociology that highlights how food consumption is related to the social domains of markets and politics could give valuable insights into the dynamics of current and future developments within the field.

NOTE

1. The theory of scientific management named after its original proponent, Frederick Taylor (1856–1915).

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Meals: "Eating in" and "Eating out"

ALICE P. JULIER

In 2006, Taco Bell, the U.S. chain, launched a campaign called "The Fourth Meal" encouraging people to frequent the fast-food emporium late at night or between the common three daily meals for "volcano nachos" and snack-like foods sold in large portions. The Centers for Disease Control reports that the average restaurant meal is four times larger than it was in 1950, such that commercial food establishments have reached saturation as to how many calories they can pack into a single purchase and still make a profit. Multimillion-dollar marketing strategies that create new eating occasions help food corporations make money outside the boxes and change the social landscape of eating. Ad campaigns and market research show that these late-night eating patterns belong to more than a third of all men aged eighteen to thirty-nine, many of whom are on nontraditional work schedules.

To many people, the three-meals-a-day pattern feels like a long-standing cultural ritual as well as a physically necessary means of sustenance, despite its having evolved out of the economic organization of society. Whether people create and consume food at home, in public, or in commercial settings, their actions are shaped by the notion of a meal as the standard food event[1] from which all others deviate and derive their patterning. A meal is defined by historically shifting standards, deeply affected by the way work and domestic lives are shaped (Rotenberg 1981 and see Lehmann 2002) and the capacity of commercial marketing and political ideologies to influence culture. To understand the how, what, and why of people's "eating in" or "eating out," we must explore the material and ideological forces that define meals and the patterning of eating habits and the resulting opportunities to examine cultural continuity and change. Currently, the dominant narrative is about the way commercial foods created by Western-influenced industries have the power to reshape people's eating at home and out.

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While much contemporary research on meals is done by those interested in the physical effects and nutritional health benefits of consumption habits, this chapter relies on social scientific research on the meaning and function of meals eaten at home or out. Thus, the emphasis is not on what dietary patterns are most effective for human physical well-being, but rather how people as social beings construct choices among the endless array of items that can be foraged, grown, or produced and are then codified into the fabric of daily life. Those choices form the basis of political and social institutions whose function is to sustain social order. As anthropologist Audrey Richards (1932) suggests, food might be more basic than sex as the necessary ingredient to the development of society and culture. The material components of meals are not insignificant: meals are situated in a perfect space between social and material reality. Georg Simmel proposes that eating together is a profound intersection of the social and the individual because "what the individual eats, no one else can eat under any circumstances . . . we might sit down together at a meal but we must understand what we share. We must accept that we never really share food" ([1910] 1994: 344–346).

Paradoxically, this extremely individual material activity is also the basis of our sociality, since the physical necessity to eat is something all humans share. Cuisines and culinary patterns emerge from the need to systematize and share the social and material skills of producing and consuming food—knowing what to eat, when, and how, and what meanings foods convey is a basic skill for members of any society. That knowledge is enacted in domestic and in public settings. When people share food—the production, the preparation, and, most important, the consumption of it—they engage in forms of sociability, delineating lines of intimacy and distance. Mary Douglas asserts:

> Many of the important questions about food habits are moral and social. How many people come to your table? How regularly? Why those names and not others? There is a range of social intercourse, which is based on food, on reciprocity, on frequency of exchange and other patterns. We ought to know more about patterns of social involvement so as to understand rejection . . . (1984: 13)

Connecting commensality to larger social arrangements that stratify people demonstrates how choices about food and sociability are guided and constructed within a range of opportunities and constraints. Certainly, meals are not the only social forms that include eating, but the meal is the central one around which all others are patterned. Thus, sociable events with food are based on temporal cycles, such as weekly dinners, annual celebrations, special events, and life course changes. Anthropologists and historians spend considerable amounts of time deducing the structure of civilizations past and present based on the daily, weekly, monthly, and yearly cycle of eating events. Meals—and the study of where and how we create and consume them—must be situated among a larger body that examines everything from rituals, holidays, ethnic and regional cultures, global migrations, historical permutations, and prognostications about the future (Belasco 2006; Brown and Mussell 1984; L. Long 2000; and see Ray,

Chapter 21, this volume). As Simmel points out, such social forms are "the synthesizing principles which select elements from the raw stuff of experience and shape them into determinate unities . . . And they are not fixed and immutable but emerge, develop, and perhaps disappear over time" ([1910] 1994: xv). Here, we analyze contemporary dilemmas as they relate to other sociohistorical configurations of eating together in domestic or public settings.

If everyday practices in contemporary society seem idiosyncratic and individualized, a focus on the social form allows us to see common patterns of interaction that help organize the complexity of individual experiences. Consider some common meal forms: breakfast, lunch, dinner, and snacks all express something different about the relationships enacted, the cultural norms and necessities, and the social structures and institutions that provide constraints, opportunities, or supports for such social roles. Each food event involves different degrees of formality, different roles and social expectations for participants, and different divisions of labor in the actual production of the food and the social interactions. The key issues in exploring the nature of eating in versus eating out are understanding what forces create separate domains for living, working, and consuming, and what discourses support or contest how such eating events are constructed as part of appropriate domestic or public roles. What is it about contemporary American culture that positions men to eat late at night? Why are coffee shops ubiquitous as gathering places in Japan? How and when do children warrant their own distinct foods at meals?

Whether created and consumed in domestic settings, commercial establishments, or institutional spaces, meals are also an important tool used to promote or constrain citizenship, group membership, cultural hegemony, and moral economies. During the two world wars, U.S. government-sponsored poster campaigns suggested that women on the home front use "beans as bullets" to support the troops (to whom most of the meat was being sent). Similarly, when asked what Americans could do to support their country after 9/11, President Bush advised they spend money, eat out, go shopping. Through the twentieth century and beyond, meals eaten in or out are a product of the dominance of wage labor over household production, the rise of a consolidated industrial-commercial sector with enormous power over agriculture and food production, distribution, and consumption, and the cultural anxieties surrounding shifts in class, race, and gender-based experiences (see Holm, Chapter 18, this volume).

Given contemporary changes in work and family life, the ideological assertion of the inviolability of home and public life is at odds with the actual permeability of domestic and commercial spheres. While the Victorian notion of separate spheres was more of an aspiration for anyone outside the white upper class, the rise of consumer culture has meant that for all classes, food has increasingly been an item that was not produced in the household. Priscilla Parkhust Ferguson suggests that, since the nineteenth century, there has been increasing variability in these boundaries, "blurring the distinctions between the two—between what is considered eating in and what is deemed to be eating out. Social and geographic mobility undermined the apparently secure definition of

home, which more and more changes over time and place, even for the same person" (2011: 113). Given this blurring, the exploration here examines eating in and eating out in tandem.

MEALS

The main blurry boundary to explore is the nature and shape of the food events that take place in and out of the home. Anthropologist Mary Douglas famously raised the issue "what counts as a meal?" which, while a seemingly straightforward question about an everyday event, becomes the starting point for any social scientist, cultural critic, or policy maker thinking about the nature of the economic, cultural, and political structures upon which societies are built. While food itself is ubiquitous, necessary, constant and yet malleable, meals are the cultural container within which meaning is communicated. Meals traverse the seemingly private spaces of home and kinship and the larger public spaces shaped by commerce and citizenship. In the West and increasingly across the globe, much of the food consumed in the home is produced in commercial settings, including prepared meals from the market, fast food, takeout (takeaway), as well as ingredients such as flour and cheese. As smaller percentages of the population live on farms or have food-producing gardens, more foods are grown, processed, and prepared elsewhere. Furthermore, the variety of foods available through commercial production has grown exponentially. Globally, in the last two decades, the number of meals eaten out has increased dramatically (e.g., USDA 2000) because of migration, commercial expansion, and urbanization. While people in some countries have maintained their eating patterns, many have become more fragmented, with work and leisure dictating times for meals or snacks. At the same time, the meal remains the definitive comparative for all other food events.

Much has been written by social scientists and others on meals as a relationship between foods provided, structure of dishes and courses, seating, and setting (Douglas 1984; Meiselman 2000; Visser 1992; Warde 1997). First, meals are social. Mary Douglas defines a meal as a system of repeated analogies, stressed and unstressed, such that we can understand how this system of structuring the types, flavors, and qualities of foods is concurrent with the structuring of social life—a meal in America is a seated event, with one course, held at a particular time of day, meant to be sustaining both in quantity and in quality. Some people are more likely to see an event as a meal if they are not alone (Sobal 2000). For a dinner (the main meal of the day), the meal is a one-course variation on a protein plus a starch and one or possibly two vegetables, or "A plus 2B" in Douglas' original formulation. Descriptions of what constitutes a proper meal in the West generally start with the dishes necessary for what household members consider a filling or nutritious meal. British studies in the 1980s found that a meal had to be home cooked and consisted of meat, potatoes, vegetables, and gravy (Charles and Kerr 1986; Murcott 1982). In south Wales, Murcott concluded that this folk model of a cooked dinner was regarded as a proper meal and perceived as essential to family feelings of

health and well-being. In Western-influenced cultures like those in North America, this version has had a hegemonic power over the shape of meals, regardless of waves of migrants from different culinary traditions (Murcott 2000). In many cultures, a meal is not complete without a specific starch, like pasta, rice, or manioc, or a particularly ubiquitous dish, like beans and rice (Mintz 1992; Ohnuki-Tierney 1993; Watson and Caldwell 2005; Wilk and Barbosa 2012). The amount of time taken at the main meal of the day is usually longer than any other (see Cheng et al. 2007), but that pattern can be disrupted by work schedules, the configuration of rooms in homes, the necessity for children's schooling, or the availability of a person or people in the household with the capacity to prepare a meal.

In the nineteenth and twentieth centuries, the Western format of meals was reinforced by domestic science, dietary reform movements, government programs to promote American agriculture, and other cultural and economic structures (see Brembeck, Chapter 16, this volume). Historian Laura Shapiro (1986) demonstrates that, literally and metaphorically, "white food" encouraged by social reformers and home economists from early American cooking schools was an assertion of middle-class morality, racial virtue, and health, drawing boundaries between the assimilated and the immigrant. Restraining food tastes is often part of larger campaigns to reform manners, public behavior, and cultural differences. The dinner table was seen as the key site for socialization into middle- to upper middle-class manners. Advice books about etiquette focusing on dinner table manners were geared toward the burgeoning middle class, as mass-manufactured household goods like furniture, silver, and serving ware were put on the market and servants left for factory jobs (S. Williams 1987).

Eating out means engagement in the public sphere. Historically, most safe and welcoming spaces away from home were dependent on cultural norms of hospitality, which, according to Harry Murray (1990), have their roots in the welcoming of strangers and the provision of food and shelter for travelers (see Mitchell and Scott, Chapter 13, this volume). Such hospitality shifted into economic remuneration when people traveled farther from home and the household economy gave way to industrial wage labor. However, travel, particularly travel alone, has often come with social restrictions based on race, gender (see Finkelstein 1989), and economic means. Additionally, wage labor and industrialization took the midday meal out of many households and encouraged the development of cafeterias and street vendors. In Asia and India, reliance on midday meal delivery and takeaway service is a long-standing tradition, but the main meal of the day was still consumed at home. Colonialism both reinforced and disrupted normative household patterns for people uprooted by slavery, migration, and nation building (Friedmann 1999). Restrictions on women's public eating dissipated as restaurants and eateries recognized their power as a consumer market. Simultaneously, migration, travel, the opportunity to work, and the surplus income earned in capitalist societies converge to create the need to consume food outside the household, hacienda, or immediate kin networks. Cafeterias, canteens, and mess halls provided meals for workers and soldiers, providing opportunities to eat out framed by the workday, war, and public education.

PATTERNS OF EATING IN AND EATING OUT

The latter half of the twentieth century saw changed meal formats. Domestic servants had left for better-paying industrial jobs; cooking high-status European cuisines was democratized by public chefs and authors like Julia Child and Craig Claiborne in the United States and Fanny Craddock in the United Kingdom; an increase in global contact and migration after World War II introduced new cuisines and new types of meals; and the food industry aggressively sought out and created new products and new markets, often drawing on varied foodways as inspiration. Better transportation introduced more people to the regional cuisines within their home countries. The A plus 2B "meat and two veg" formulation expanded to include additional meats, accents, cheese, more starches, and multiple sauces, condiments, and side dishes. The availability of a variety of foods, both for home use and prepared or commercially consumed, has meant that the family members who decide meal form and structure seem to feel the need to have a much broader repertoire of food knowledge, from nutritional information to culinary cultures, to cooking techniques and provisioning problems. For middle- and upper middle-class families, this is a trade-off between the ease of access and the dilemma of producing variety. For families with fewer economic resources, strategies often involve choosing the simplest, most easily available means of getting a meal on the table (see Mennell, Murcott, and Van Otterloo 1992). Despite these hurdles, survey research shows that mealtime has a great deal of social desirability among most populations. Significant, the act of eating together is more important than the location of the meal (see Warde and Martens 2000).

MEALS AND THE CONSTRUCTION OF FAMILY

Dining in implies eating in a familiar, private space. Frequently, such spaces of intimacy are kin-based (see Mennell, Murcott, and Van Otterloo 1992 for a discussion of the distinction between household and family). The question of domestic food consumption is wrapped around and through what is eaten, how it is eaten, what it means to those eating it, who produced it, and under what circumstances of social and economic power. Food is often the centerpiece of domestic organization, determining the configuration of members, status relations, and the longevity of the household. Its purpose, membership, rights, and responsibilities are as much ideological as social, seemingly natural but shaped and mobilized by states and political economies to justify a larger framework for production and reproduction of people and goods. In surveying types of households and meanings people gave to these groupings, Gubrium and Holstein (1990) conclude that no single unit is sufficient to determine the concept of family. While families are created both discursively and interactionally, for most people it is a specific local enactment grounded in the material organization of care and sustenance. Thus, eating meals together is a particular enactment of family life although grounded in a more general set of expectations about how families behave (see Haukanes 2007).

Families are built on patterns of shared activity, affection, and, in principle, a communal distribution of resources, from material to emotional support. Historically, the main experiences of family life included working together—on farms, in stores, in households, producing things for home use or for sale—and educating children. While the Industrial Revolution—and with it the introduction of the factory—was already under way a century earlier in England, until the twentieth century, the majority of the world's households were shaped by a need to produce food and goods within small to mid-sized communities. Work and family life were less distinct and more integrated. Meals were not rigidly defined as private events, but rather as part of the everyday activities regardless of whether everyone was out in the field or in the household. Households were permeable and the current ideal of three meals a day was not culturally taken for granted across regions and groups. More significant, in contrast to today's meal culture and marketplace of endless variety, meals were often repeated within a small cycle of items based on season, and meals consumed outside the home were most frequently consumed by working men. Globally, the household economy often had a division of labor that required interdependence, whether it was a middle-class home with boarders and servants, a slave plantation, a colonial hacienda, or a small village of extended and fictive kin. This pattern of household life remained in colonial and non-Western societies well into the middle of the twentieth century when there was a shift to smaller household units and a reliance on paid services outside the home. As servants, slaves, and other domestic labor shifted, the nature of food provision and consumption in the household also changed.

The twentieth century saw a reconfiguration of domesticity, meals, and family in both public and private spheres. As global capitalism spread, some functions within the home that require time and labor (such as making food) were moved into the industrial landscape, freeing household members from daily unpaid labor and changing how people engaged in the paid labor force. New technologies made the boundary between work and domestic life less distinct. While multiple family forms have existed throughout history, economic conditions also created new types of households. These shifts changed people's capacity to engage the marketplace and construct identities not rooted in what Dorothy Smith (1993) calls an "ideological code" of the Standard North American Family (heterosexual, nuclear, and with a division of labor positing one person responsible for affective care and support). For example, John D'Emilio (1998) credits capitalism after World War II with creating the conditions for gay identities and politics to emerge, since wage labor freed people from dependence on family resources and sensibilities about self. Work and consumption in modernity did not require the older family forms, so people were free to develop affective attachments and lives outside the domestic realm. At the same time, such changes were tied to the existence of a commercial marketplace that could provide goods and services—and meals. In new ways people began to use consumption in the marketplace as a resource for individual or group identity construction (see Ray, Chapter 21, this volume). Governments and corporations routinely play off a need for an ideological form of family and independent citizen/consumers.

Regardless of the family form, we can say that, historically, eating together at home, in routine daily meals and on special communal occasions was seen as a hallmark of group membership. While there is little evidence that most families ate together at every instance, there was high cultural value placed on eating one main meal a day communally (Cinotto 2006; P. Jackson 2009; Murcott 1997). At the same time, as more production (from clothing to furniture to food and lighting) moved out of the home and into the marketplace, the family became primarily a source of emotional support and companionship with an emphasis on relationships and togetherness. Affect was now at the heart of family life. As the components of home cooking became less essential materially, it became reinforced as a domestic task most closely associated with women. Socializing children and "creating a haven in a heartless world" were key functions of domestic life. Meals took on additional ideological power in this configuration, as they became the visible activity upon which social training could be hinged. The importance of family meals rested less on sustenance and necessity and more on cultural anxieties about social fragmentation. Murcott (1997, 2012) finds that fears about the decline in the family meal repeat historically and are an indication of invented nostalgia for the social value placed on domestic life.

De Vault's oft-cited study of caring labor highlights the family meal as the site where gender inequalities and class meanings get created and reproduced, such that people do gender and create family around the production and consumption of dinner. Women (and some men) are not only responsible for the actual physical maintenance of the household and its members, but also for creating and sustaining "the meaningful patterns of everyday life" (De Vault 1991: 178). Carrington's (1999) qualitative research with gay and lesbian couples notes that one person, usually the one with less economic capital, becomes the key food person, but that couples often rationalize this to avoid gender stigma. As many social scientists point out, it is difficult to get clear data since meals and cooking together have such a high social desirability people may be reluctant to say that they did not achieve this goal, although generalized expressions of attempts are expressed. Most significant, the material trappings of meals can become foundations for more emotional aspects of family life, such that creating family meals is one of the main ways that people do family and that women do gender on a regular and active basis. To fail to achieve this is to fail at both family and gender expectations (De Vault 1991).

With the rise of the agricultural and industrial food complex, the science of consumption uses an analysis of the meal (versus individual food items or categories based on nutritional components) as an entry into discussions of the social and cultural implications of consuming certain foods. For example, research might explore the relationship between family and food, concluding that "well-functioning families have better overall health and well-being than poorly functioning families," who are at risk for health-related problems correlated with diet (Rhee 2008). Myriad studies seek to demonstrate what health changes occur when people do or do not eat meals at home, together, alone, in front of the television, or with children. The volume of research

asserting the significance of family life and family meals is overwhelming and inescapably prescriptive, built on a singular construction of family as a bulwark of socialization, affective support, and intimacy. It is almost impossible for this research to function outside a structural and ideological need to assert the importance of family. Recent approaches focus on mitigating factors that appear to impinge on this version of family life (Drewnowski 2012; Fulkerson et al. 2010). In all of this work, the emphasis is on the family as the unit of analysis, with occasional acknowledgment that change could be implemented through public policies and shifts in workplace expectations.

The emphasis on family as the site for socialization obscures the classed, gendered, and racialized nature of such expectations, particularly as they are tied to invisible emotional labors (Wilk 2010). Based on her interviews, De Vault demonstrates that women were often unaware of the extent of the work they did on a daily basis to produce meals for their family members. This work was often disguised as caring and love, rendering it invisible and naturalizing domestic food labor as a central form of doing gender and creating family life as well as enacting social differences of class (1991: 13). Women are recruited into this type of labor through ideologies that posit women's caregiving as innate and consistent across differences of race and class and culture. As Lisa Adkins suggests, "Because it is theoretically untenable to associate women with affective labour, it doesn't mean that we disregard that women do most of it. Perhaps the distinction that matters here is . . . between being and doing. While women may not be naturally caring, they end up doing the work" (2005: 167). Women's unpaid labors rationalized as caring work remain a value even as their utility is called into question by a commercial marketplace that can provide more than enough quantity and variety of food to satisfy family meals. What remains is the ideological importance of home, the assertion of family as the main site for child socialization, and the presumption that the act of cooking and eating together cements social relations despite any means of demonstrating that concretely. The obverse of this dichotomy is that eating out is considered unquestioningly detrimental to the health and well-being of individuals. Neither family life nor public consumption is considered with significant nuance or variation.

CHANGES AND CONTINUITY IN MEALS IN OR OUT

Globally, the effects of war and commerce created the groundwork for different experiences of family, public life, and work. Why people eat out has evolved away from the necessity of safe travel or hunger during the workday to more complex motivations. Some public noncommercial eating relies on government social support, such as school lunch programs (Poppendieck 1999) or charitable food provision in the form of soup kitchens (Allahyari 2000; Murray 1991). These public meals are the result of large societal upheavals creating migration and/or poverty, begun as emergency solutions for food insecurity (see also Midgley, Chapter 25, this volume). Despite the need to support citizens via the provision of meals during times of crisis or for vulnerable populations, meals out are generally considered part of the landscape of commerce. (The trend

in U.S. government support is to make aid indistinguishable from other forms of public consumption—such as credit cards instead of food stamps—so that recipients feel less stigmatized in restaurants and supermarkets).

Dining out has a profound influence on the nature of meals. Although restaurants existed in Asia for centuries, the modern restaurant is often seen as a European invention (see Spang 2000). Early eateries were coffeehouses (cafes), boarding homes, or pubs where people came for social and political discourse first, then for drink and then the food (see Ellis 2004). Most accounts suggest that the food was a variation on home-cooked meals with available ingredients, providing for workers and travelers for whom a long midday meal at home was not feasible. The early 1900s saw a great increase in cafeterias and lunchrooms where urban white-collar workers could go on a break, women could eat in public, and families could go out without participating in pub culture (Whitaker 2002).

Restaurants have long been stratified in type, such that the presentation of food, décor, formality of environs and dress, are all codified as part of the experience. As more people have disposable income, eateries offer fancier emulations of home-cooked meals as well as elevated dishes that require specialized training, a corps of kitchen assistants, and less common ingredients. Haute cuisine, while rooted in elitism, was democratic in the sense that, ostensibly, anyone who could afford to pay the price would get the same meal. Formal and informal gender, caste, or racial segregation restricted people's capacity to participate fully in the public marketplace. This social differentiation is a key hallmark of consumption. Building on Bourdieu's work, Warde and Martens confirm that dining out operates as "a field of distinction, marking boundaries of status through the display of taste" (2000: 226). Although they suggest that eating out actually reinforces the standard meal structure, their conclusions may be short-lived based on the rise of differentiated eateries such as sushi bars, fast-food emporiums, food courts, street foods, and cafe tables in box stores. There are probably simply many more opportunities for people in the West to eat a la carte snacks and "fourth meals" than ever before in history.

As food trends in restaurants changed, so did home cooking, and vice versa. With migration and conflict-related diasporas of the early twentieth century, new populations in ethnic enclaves focused on recreating cuisine and food products for local patrons from the same ethnic-racial group (Gabaccia 1998). Although American journalist and food writer Calvin Trillin jokingly credited the U.S. Immigration Act of 1965 with the improvement in American restaurant cuisine, he accurately pinpoints a key moment when ethnic restaurants began to flourish for a larger population. Meals eaten out are also one of the main ways that people encounter cuisines, foods, and people from different ethnic-racial and regional backgrounds. At the same time, many restaurants adapted cuisine based on a lack of indigenous ingredients and sensibilities about nonnative eaters and their tastes (see for Britain Panayi 2008). These choices were dependent on the location of the restaurant, the patronage of customers from within or outside the ethnic group, and the economic capacities and geographic mobility of a class of people able to eat out on a regular basis. While some cuisines become ubiquitous and incorporated

into a general commercial food vocabulary (pizza or kebab), others remain exotic or provide a counterpoint to home-cooked meals. The food industry capitalizes on both trends, creating more restaurant options and prepared foods to be purchased and consumed at home. This, in turn, also encourages an ideology of variety and sampling in domestic meals.

There is a relationship between menu trends and the development of food industry products. Krishnendu Ray (2007a) suggests that there is an "ethnic succession" of restaurants in key metropolitan areas that parallels changing hierarchies of taste in mostly urban cultures. The exposure to a greater panoply of cuisines in the paid marketplace gets mirrored in the expectations for home meals. People across the globe now encounter more types of cuisine—often divorced from any social or geographic roots—and attempt to bring that food home or incorporate it into their eating patterns. Culinary tourism—or, as Lisa Heldke (2001) describes it, culinary colonialism—occurs without large social or cultural upheavals. Globally, pizza, pad Thai, and sushi are examples of foods with restaurant roots now available at the supermarket for take-home versions, sometimes to be heated up in the domestic setting. In the endless quest for sales, the consolidated food industry takes ethnic-based foods and transforms them into new products like egg rolls or tacos that only vaguely resemble a version once consumed as part of a meal structured around specific rules of cuisine and culture. Recognizing that cuisine is a cultural invention that changes and that authenticity is as much an invention as new commercial food products, it is useful to recall that what makes foodways rooted in culture is the repeated creation and consumption of those foods in patterned social gatherings. Thus, even if restaurants and chefs are the public face of specific kinds of cuisine, the domestic meal is the site where culinary traditions are created, reinforced, and transmitted generationally. In contemporary global culture, such practices are infiltrated by the production and promotion of endless variety, which create new conditions of continuity and change.

Global meal patterns have been studied extensively by historians, nutritionists, anthropologists, marketing specialists, and public health and policy analysts, all of whom look for consistency and change (Fjellström 2004; Lewis and Feiring 1982). These analyses include explorations of the adoption of new foods, the invention of culinary traditions, and the transference of skills (DeSoucey and Téchoueyres 2009; Pilcher 1998; Wilk 2006b). Many studies are devoted to exploring the impact of colonialism, globalization, and tradition on national diets, with the majority focused on the transmission of those dietary adaptations through commercial food sites. The global spread of fast food is often linked to a decline in domestic meals, a rise in diet-related health problems, and a loss of culinary culture and skills or the invention of new traditions and adaptations. (Cook and Crang 1996; Nabhan 2002; Pilcher 1998; Wilk 2006b). Many studies show that fast-food restaurants adapt to cultural conditions in other countries, offering such changes as seats not bolted to the floor (France), vegetarian menus (India), and side orders of culturally necessary foods, like rice (Watson 2006). Globalized cuisine often finds its way into households in one form and into restaurants in another. Colonial ingredients imported from Europe are mainstays in Belizean households—but the cuisine

served in tourist restaurants as Belizean cuisine is an invention based on expectations of what is or might be local and indigenous rather than what is actually consumed at home (Wilk 2006a).

With global structural adjustment and the stagnation of real wages in the 1970s, people in affluent societies found the gap between rich and poor growing larger rather than smaller, dividing a population further based on what it consumed and how that consumption reflected a hierarchy of tastes. Identity-based politics were also easily co-opted by corporations. As Belasco (1989) explains, the origins of the whole foods movement may have been a reconfiguration of society and the way we produce and consume food, but the food industry eagerly took advantage of the relationship between healthy planet and healthy individuals, suggesting that the best route to social change was through consumption. The time bind and the inequities of the division of household labor became more of a general problem as white middle-class people began experiencing what African Americans, working-class people, and other racial-ethnic minorities had experienced throughout the twentieth century.

While doing gender is centrally implicated in the construction of family meals at home, it is also a way systems of class and race are perpetuated. For example, Randall Collins demonstrates that it is "largely women who perform the Weberian task of transforming class into status group membership" (1992: 219), including navigating and negotiating the marketplace and maintaining awareness of food and nutrition discourses. Such work also involves making sense of taste cultures for the household and for its social networks, a task compounded by the fact that the landscape of what counts as good and appropriate food is constantly shifting, often highly politicized, and definitely ideologically charged. De Vault's comparison between poor and middle-class families shows that meals are experienced differently in these households, such that "in families with more resources, food becomes an arena for self-expression, providing a chance to experience family as a reward for achievement; in poor families, feeding and eating are themselves the achievement" (1991: 97).

Eating in the public sphere raises the question of labor—who does the food preparation, cooking, serving, who provides the space. Much industrialization and globalization has been fueled by women's labors, which have been highly concentrated in food production in industrialization: Barndt (1999) and Friedman (1999) show that gender shapes the current food regime by propelling women of different statuses into jobs serving, working in supermarkets, doing prepared foods, and working in factories—so while eating out frees many women from unpaid labor at home, it also means other women may be undertaking that labor for low wages.

add an 'n' at the end of Friedman

Worries about the decline in the family meal are often a way of expressing concerns over shifting gender expectations and economic conditions. At the same time, the growing power of giant corporations that produce and sell food suggest that some of these fears are grounded in historical experience with institutional incursions into everyday life. Social reformers, governments, and the food industry have increased the pressure and expectations attached to family meals. As Anne Murcott reminds us, there is very

little information about whether or not people actually eat a regular family meal together and if so, how often. In 1993, approximately forty percent of survey respondents claimed they did, although Murcott is quick to point out that eating together has such high social value people will be very unlikely to admit they were unable to attain that goal in any given week. Concerns about the family meal surface at various points in history and disappear again, regardless of any real drop in aggregate numbers. Murcott summarizes: "The anxiety lest the family meal is waning is also to be understood as if it were a standing item on the agenda of twentieth century public commentary on the nature of family life" (1997: 46 and see Murcott 2012).

CONTRADICTIONS AND CONVERGENCES

While some countries have taken on comprehensive studies of the nation's diet, the sector most successfully poised to gather information about what people eat and in what meal format is the food marketing industry (see Lien and Jacobsen, Chapter 14, this volume). Market research provides enormous amounts of information about eating patterns, meal solutions, trends, and attitudes, most of which is not utilized by scholars, partly because the data are not freely available, partly because the purposes for their collection mean they can be couched in terms different from those scholars might need. Work in public health and nutrition problematizes the commercial marketplace but not the ideology of family. Social scientific work on the division of domestic labor and caring work misses shifting patterns of consumption (see Holm, Chapter 18, this volume). But all three are concerned with how the shape of the domestic household and the way time and labor are configured have a major impact on meals taken in or out of the home and their meaning.

Today, meals in and out are rooted in a contradictory framework of pleasure and struggle. On one hand, the commercial marketplace and the global diffusion of people and goods have made eating together adventurous and enjoyable. On the other hand, only a segment of society is capable of achieving that kind of experience at the table. Women's labors continue to provide both the food cooked in the household and the vast majority of food produced outside the household. Consider how the discourses of good food have shifted so that local, organic, and nonmeat foods constitute the pinnacle of proper eating among affluent groups. While these may be laudatory assertions for individual health, the global environment, and local economies, many people cannot accomplish meals with these kinds of products or ingredients because they lack income, access, knowledge, or time to prepare such foods. This is particularly true when supermarkets and other food venues offer inexpensive alternatives that may allow people to feed their families and manage to fulfill 24/7 work obligations. Globally the meal is shaped, affirmed, and disrupted by global capitalism. Warde and Martens (2000), in their work on dining out, point out that these studies do not consider the possible social, cultural, and economic resources family members might receive by having meals separately, in public venues, or with nonkin on a regular basis. Many studies tend to

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ignore that there is pleasure to be derived from dining away from home. For example, in a series of ethnographic case studies, Beriss and Sutton (2007) assert that restaurants have a significant social and economic function in social and cultural life, providing environments where people construct identities, social relationships, status distinctions, and various forms of capital (symbolic and cultural most obviously). To Beriss and Sutton, restaurants form "a bustling microcosm of social and symbolic processes focused on the formation and maintenance of identities in the context of highly sensory environments" (2007: 3). Unlike Finkelstein (1989), who argues that the individual who dines out is acting in a scripted and mediated way that is inherently commodified, Beriss and Sutton demonstrate a variety of experiences where individuals have the capacity to invest multiple meanings into the seemingly fixed commercial sites where one might purchase and eat food outside the home.

In general, we know that meals provide opportunities for people to assert or reinforce who and what is important in terms of obligations and affections. Sociability at meals provides a window into broader social patterns (Sobal 2000). Cooking and eating together remain the same but adapt to changing conditions. But one conclusion to be drawn is that despite warnings and evidence, meals remain important and have not lost symbolic or material relevance for social life. While patterns of eating together are changing, the need for shared meals and the desire for meals as a means of structuring social life—in or out of the home—remains a highly important social issue.

NOTE

1. Mary Douglas introduced the expression *food event* to refer to an occasion when food is eaten "without prejudice as to whether it constitutes a meal or not," the better to detect people's discriminations between meals, snacks, and so forth (Douglas and Nicod 1974: 744).

20

Drinks: Water, "Soft," and Alcoholic

TOM BRENNAN

According to one recent survey, Europeans drink nearly a third of their daily liquids in the form of tea, coffee, and cocoa. Alcohol amounts to little more than ten percent of their liquids, and both milk and soft drinks come to nearly as much. The largest amount of liquid, over a third, is still water either from tap or from bottles.[1] This is hardly a uniform region, of course. The Irish drink more than three times as much soft drink, at 126 liters per person, than the French, who consume only 37 liters per person. According to World Health Organization statistics, the Irish also drink more alcohol, both in volume and in ethanol equivalents, but not by much. Both drink about fourteen liters of ethanol to the Italians' eleven and the Czechs' sixteen. Nor is Europe typical of other regions. Americans drink an average of 216 liters of soda and the Japanese drink only 22. Europeans drink roughly twice as much ethanol, at an average of twelve liters of ethanol per adult, as Asians, Africans, and South Americans. North Americans fall in between.[2] Europeans also drink four times more coffee than citizens of Asian and Muslim countries and three times more than Latin Americans. North Americans drink a little more coffee than Europeans but less than a third as much tea. European per capita tea consumption, which matches Asian tea consumption, is quite distorted, however, by British and Irish levels that surpass any other country except Turkey. Rates of tea drinking in Muslim countries are higher than in others. International statistics on milk consumption are harder to find, but most of the non-European world is more or less lactose intolerant and consumes its milk products in more solid forms. And actual water consumption, as opposed to water availability, is also very hard to determine.

Unfortunately, the scholarship devoted to drink does not reflect current patterns of consumption. Compared to the massive amount of work on alcohol, the rest of what people drink appears an afterthought. This is a reflection, in part, of the relative

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antiquity of alcohol compared to the early modern discovery of coffee or the modern invention of soft drinks, but obviously age does not explain the modest scholarship on water, milk, or tea. It is clear that alcohol has also played a disproportionate role in the symbolic place of drink in the human diet, becoming the implicit equivalent of the word when we buy someone a *drink* or *drink* to someone. Alcohol has symbolized religion, rebirth, civilization, status, refinement, taste, sophistication, relaxation, play, masculinity, forgetfulness, sin, debauchery, and abuse at various times in its history. With so much baggage, it is hardly surprising that alcohol has needed a great deal of explanation or that it has explained so much about cultures. What is surprising is that this symbolic act of drinking tends to be studied less than the production and exchange of drink.

Research into drink of all kinds tends to revolve around the fairly predictable poles of production, commerce, and consumption, with the last of these themes generally the least developed. The production of drink is important, of course, as the livelihood of large percentages of people throughout history and the world. Yet the scholarship of production has tended to focus on more dramatic themes, focusing particularly on origins and innovations, with much energy devoted to finding the earliest wines and beers, the first coffee drinkers and houses, the beginnings of the soft drink industry, or the revolutions in technique that led to modern wines and spirits. The commerce of drink, although less well studied, has usually focused on the theme of globalization, particularly the early modern exchanges of caffeinated drinks. Much is made of how the British "stole" tea from China and developed it in India or how Europeans spread coffee trees around the globe. And, of course, the commercialization of soft drinks, through complicated bottling arrangements, intense advertising, and clever branding, has been a triumph of modern business acumen. Research into the consumption of drink is considerably more diverse and covers questions of diet, social setting, cultural meanings, addiction, and regulation. What follows is necessarily selective but hopefully representative.

The study of origins typically begins with alcohol despite the obvious antecedent of water consumption, in part because it has the advantage of leaving a chemical residue. Recent work on Neolithic fermentation has been using chemical analysis of archaeological remains to push its origins back to the seventh or sixth millennium and more widely across the Eurasian continent. Domesticated vines and grain are both associated with the Middle Eastern "fertile crescent" in this period, from which they spread throughout the Eurasian continent, though evidence of fermented grain and grapes in China is as old as any in the Middle East (McGovern 2009). Since the only grape that produced enough sugar to make a real wine was the vitis vinifera, found originally only in the Middle East, the role of wine in human drinking remained limited to a fairly narrow region for millennia. Grains, in contrast, spread out from several areas to cover much of the Eurasian continent, so what we might call *beer,* meaning alcohol based on a fermented grain, quickly became far more common and more fundamental to people's diets.

The standard accounts of beer making emphasize its Middle Eastern origins, where ancient Mesopotamians and Egyptians treated beer as a staple, much like the bread that came from the same grains (Hornsey 2003). There is some debate about the spread of

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beer westward into northern Europe. Several authors portray it as a late arrival, with the Celts in the Bronze Age, whereas a recent work argues for a Neolithic development, roughly simultaneous to and independent of its appearance in the Middle East (Nelson 2005). Wine, in contrast, spread in a more limited way into the eastern Mediterranean, where it became the essential drink of Aegean societies. McGovern argues for a concerted effort by Canaanite and Phoenician traders to export the vines and vinification technology of the Middle East throughout the Mediterranean. By the Iron Age, if not earlier, something like the familiar division between wine and beer cultures had emerged, with Mediterranean countries preferring wines they produced locally and the north of Europe relying on its own beers (Nelson 2005).

Wine seems to have been common enough in both the Greek and Roman worlds that it was considered the essential drink. Rather than merely a form of sustenance, wine gave meaning to a meal. The Greeks treated it as a symbol of their civilization and surrounded its consumption with rules and ceremony that equated wine with everything from rational discourse to male fellowship and self-revealing truth. The Romans did not obsess about wine in the same way, and their convivium was usually less sedate than the Greek symposium, but they too viewed wine as evidence of their superior civilization. On the other hand, the democratization of wine was possible because of wide variations in its quality (Phillips 2000).

Beer and wine have remained staples of the European economy and diet for the rest of its history, but for nearly a thousand years after the fall of Rome, both were overwhelmingly made by domestic production and aimed for local consumption. The good storage potential of grain and the short shelf life of ale meant that housewives brewed regularly for current consumption and sold any excess in an informal system of putting a bush above the door (Bennett 1996). A weak (small) beer was probably as common in the diet as bread, at least in northern Europe. A growing urban market in the late Middle Ages led to more commercial brewing, but private brewing continued to provide the majority of English beer through the eighteenth century (Burnett 1999; Hornsey 2003; Unger 2007). Most of the research has instead focused on the commercial production, from the classic work of Peter Mathias to recent work by Richard Unger. It charts the innovative addition of hops to ale, which was increasingly distinguished as beer, thus prolonging its shelf life and making it easier to ship over greater distances. By the sixteenth century, the Dutch and English were producing large quantities of beer for domestic and export markets (Unger 2007). With the eighteenth century invention of porter, brewing became increasingly industrialized.

Wine production had a different geography and different rhythms. Although wine was produced across the northern Mediterranean, it is the wines of France that have been studied most intensively and for the longest. Several major studies building on a host of local monographs came out in the 1950s and ’60s, and have continued since then (Dion 1959; Enjalbert 1953; Gadille 1967; Laurent 1967; Pijassou 1980). They have focused on several classical themes: origins and turning points, production and distribution, and particularly on the question of quality. The French claim to surpass all other wines was

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not yet challenged, but historians now looked for ways to explain their successes that went beyond semi-mystical paeans to *terroir* (see West, Chapter 12, this volume). Of course the prominent involvement of geographers and geologists in the study of wine production means that terroir continues to be invoked as a reference to climate, soil, and subsoil, but the cultural study of wine production treats terroir as a social construct that has more to do with marketing (K. M. Guy 2003; J. E. Wilson 1998). It was a geographer, Roger Dion, in fact, who insisted on the role of human agency, emphasizing the effect of markets, demand, and transportation on decisions made by vine growers to grow better grapes and produce better wines. His and other titles often invoked the vine and the vine grower, and were works of social history that dealt with an important section of the peasantry (Durand 1979; Garrier 1984; Lachiver 1988). One of the main conclusions of this work is to reinforce the importance of an early modern shift in winemaking.

The viticultural and vinification practices of the Middle Ages produced thin, pale, low-alcohol wines that barely lasted a year in barrel and did not travel well. Peasants might drink wine regularly in the years of high wages following the Black Death, but otherwise wine was a drink of urban elites, and vine growers had to sell their drink in order to buy their food. Thus wine production leant itself to a more commercial economy, but transportation costs quickly became prohibitive, even by water. Through most of the Middle Ages, wine rarely aimed beyond the local, urban market, so vines were cultivated widely but more in response to market conditions than to climate or soil. Vines were cultivated throughout much of southern Europe, but the lack of urban markets for much of this epoch, as well as the hostility of Islam to alcohol, limited the viticulture of much of the Mediterranean. A notable exception was the French Atlantic coast, which supplied important amounts of wine to nonviticultural regions to the north, especially in England and the Netherlands.

The seventeenth and eighteenth centuries experienced a "viticultural revolution" that has been the subject of much historical attention. The creation of high-quality, high-price wine in Bordeaux, Champagne, and Burgundy and the development of the wines of Beaujolais, Portugal, and Xerez have been described in dozens of monographs that emphasize the interrelated roles of changing demand and negociants' response to new markets, leading to refinements in vinification and care of the wine in barrel and bottle. Dutch and English consumers and merchants were responsible for much of this, first encouraging French wines and then turning away from them toward Iberian wines in the late seventeenth century as foreign policies shifted. There they found small centers of viticulture in conditions that favored stronger, sweeter wines than those in cooler, more northern countries. Demand for these wines led to their expansion in the late seventeenth century. Growing competition with these wines also contributed to the viticultural revolution in France. As French winemakers in Bordeaux sought to find markets for their wines, they turned increasingly toward later harvests, longer maceration, better barrels, and bottling (Lachiver 1988). All of these steps led to a stronger wine with the potential to improve with age. A search for markets in the eighteenth century similarly forced Champagne winemakers to invest in the expensive process of

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bottling their wines that resulted in sparkling champagne. Although the secret of capturing the wine's mousse (carbon dioxide gas) in a bottle had probably been arrived at in the seventeenth century in the homes of English consumers, the Champagne producers resisted the greater outlays in bottling and inventory until their markets forced them to adapt (Brennan 1997; Musset 2008). Here, again, the wealthier owners and negociants alone could afford these investments, just as these more expensive wines became the object of new elites seeking status and fashion.

Other innovations in the early modern world disseminated new forms of alcohol. In the sixteenth century, the Dutch and others began to produce spirits on a commercial scale. The actual origins of distilling are the subject of some debate, with most authors finding it first in the Arabic world and arriving in Christian Europe around the twelfth century, but a recent work pushes it back to classical antiquity (Forbes 1970; Wilson 2005). Most work focuses on the later period, when spirits became a part of people's diet as well as contributing to new forms of fortified wines. The Dutch, and later English, production of cognac in France and of various grain-based spirits in northern Europe has been studied by several authors, and the general outlines are now clear, though much more could be done on the topic (Cullen 1998; De Bruyn Kops 2007; Forbes 1970). Spirits offered several advantages to traders, in that it had none of the spoilage problems suffered by beer and wine and was more effective at delivering alcohol for less weight and volume. In addition, the preservative effects of spirits played a large role in the development of new wines from the Iberian world that is slowly receiving scholarly scrutiny (Hancock 2009; Phillips 2000).

Alcohol production globalized and industrialized in the modern world, so there have been studies of new scientific production techniques and the emergence of new producing regions. Wine production in Europe needed all the scientific help it could get in the face of new diseases and pests, but wine producers also sought help against fraud and competition from new rivals (Goldberg 2011; Gough 1998; Loubère 1978, 1990; Paul 1996; C. K. Warner 1960). The creation of wine appellations in Europe not only protected consumers and producers from fraud but also contributed to the invention of tradition. Wine sellers played upon a complicated mixture of national and regional identities to market their goods with increasing sophistication (Guy 2003). And the late twentieth century saw the dramatic emergence of high-quality wine from parts of Africa, Australia, South America, and North America that still needs more study by serious scholars. The industrial production of spirits joined with sophisticated marketing to make cocktails and aperitifs a standard part of social rituals (Adams 2004).

For all that has been written about its production, there is relatively little work on the consumption of alcohol in Europe. Some of this has to do with the lack of sources. Thus, although the amounts of alcohol consumed in premodern Europe can appear impressive, the numerous attempts to identify consumption rates are mostly exercises in frustration and imagination. Too much is made of anecdotal evidence or of nominal household accounts and institutional rations when the number of people who actually shared the drink is largely speculation (Martin 2001, 2009). Beer consumption in

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northern countries during the Renaissance, for example, is generally given as roughly a liter per person per day, but neither the *liter* nor the *person* is a stable or particularly useful term. Ale or beer could be made in such a range of strengths that its caloric and alcoholic content could easily vary by a factor of three. And the "person" depended on sex, age, income, class, occupation, and location. Wine consumption in southern Europe was certainly less; at perhaps a third of a liter per day, it amounted to somewhat less alcohol than in the north (Garrier 1995). Although commercial wine typically varied less widely in composition, the wine drunk by many growers was often a "piquette" made by adding water and perhaps some sugar to the grape solids left after pressing. Since sellers could easily add water to beer and wine before the final sale, not to mention more noxious adulterants, they did (see Atkins, Chapter 5, this volume). Thus it is very difficult to establish the role of drink in diet before the modern world or to track changes with any precision.

In any case, the quantity of alcohol drunk is a less interesting question than the purpose of the drinking, its role in a society and culture, and the consequences of the drinking. And here there is probably more debate among scholars than on any aspect of drink. For some, the deleterious effects of alcohol on careers, families, and communities in the form of violence, crime, or degradation outweigh any redeeming features. For others, alcohol is an instrument in the creation of masculine identity, professional cohesion, and neighborhood sociability that is managed successfully by the large majority of people. The differences in interpretation result in part from differences in time and place, because some societies seem better able to integrate alcohol than others. But there are also subtle disagreements in the choice and use of sources to make sense of behavior that is perceived through many layers of cultural expectations and social distance. Too many writers have used the image of a medieval populace spending their lives in a drunken stupor, when in fact most of what was drunk in the Middle Ages was small beer and thin wine. Drunkenness in Europe, as in many cultures, was associated instead with periodic festivals and rituals, when "carnival license" brought communities together. This pattern changed only very slowly toward a more regular and moderate consumption of stronger drink (Nicholls 2009).

Consumption has been studied most carefully in certain contexts, such as public drinking and "gin lane," when drinking provoked controversy. There are several studies of public drinking in early modern Europe and America that have established its centrality both to popular culture and to a growing elite condemnation of popular culture. Taverns in the classical world and then, again, in the early modern era underscore the unusually social nature of drink. The shared meal, whether feast or simple repast, was obviously a social practice as well, but it required time to prepare and consume and it imposed complex rules of intimacy and trust. The shared drink leant itself to a wider range of social relations and spontaneity. The growth of urban populations also put a premium on places in which men, and occasionally women, could interact with friends and relative strangers. Consequently, some form of tavern was common in most urban and even rural societies (Brennan 1988; P. Clark 1983; Conroy 1995; Haine 1996; Kümin 2007; Salinger 2002; Tlusty 2001). As the focus of communal, professional, and

masculine identities, however, the public drinking place encouraged behavior that violated a growing demand for sobriety, thrift, and restraint. This tension reached a crisis in the spasm of gin consumption in early eighteenth-century England.

Spirits had become cheaper and more popular throughout northern Europe, perhaps because of the perception of warmth associated with spirits, or perhaps because beer-drinking societies were more inured to alcohol. The Dutch, already drinking roughly 300 or 400 liters of beer per capita in the sixteenth century, turned increasingly to spirits in the next century and were drinking six or seven liters of the hard stuff by the end of it (B. Roberts 2004). The English too were drinking 400 or 500 liters of beer by the late seventeenth century, and when Parliament, in its solicitude for large landowners facing a glut of grain, encouraged the production and sale of cheap gin, the people of London did their patriotic duty and drank great quantities of it. There has been much debate about the causes and consequences of "gin lane"; most now agree that it manifested a less traditionally male form of consumption and sociability and that the scandal of women drinking publicly contributed to an exaggerated account of its depredations (Dillon 2003; J. Warner 2002).

The history of drink in America, in contrast with that in Europe, is the history of drinking; few serious histories discuss the production of alcohol in this country, though there is plenty of light reading on the subject (S. W. Baron 1962; Mittleman 2008; Pinney 2005). Instead, it is the consumption of alcohol, as well as the reaction to this consumption, that dominates the bibliography of drink in America, and the size of this bibliography is overwhelming. Historians and others have been writing about the temperance movement since the nineteenth century, although, for a long time, their interest in drinking was subsidiary. Then, starting in the 1960s and building on the work of social scientists and anthropologists, historians wrote increasingly about American drinking. They studied amounts and venues, whether in bars and saloons or at home, and discussed the role of alcohol in the political, domestic, and social life of the country (Duis 1983; Powers 1998; Rorabaugh 1979). Yet always looming over this discussion was the issue of temperance and its assumptions of dysfunction, of the abuse of alcohol and the harm it caused. The "social problem model" for studying alcohol has a very long history in America, and it continues to dominate scholarly approaches even though recent decades have seen some effort to adopt a cultural approach (Blocker 1976; Gusfield 1963; Tyrrell 1979). Even as social historians began to study drink in its own terms, an early practitioner set the tone with his description of the "great alcoholic binge of the early nineteenth century" (Rorabaugh 1979: 25). Rorabaugh's own somewhat questionable statistics suggested Americans were drinking less than the citizens of other countries at the time and that the early decades of the temperance movement actually coincided with a sharp drop in consumption, but the temperance movements that grew to play such a large role in American history seem to have convinced him and many other historians that drinking in America was a real problem. Despite some debate on that score, this appears to be the dominant paradigm even now (Blocker 1989; Gusfield 1996; Pegram 1998).

Whatever the actual scale of this drinking problem, the temperance movement certainly problematized drinking and thus gave scholars interesting questions they could ask about its role in society. It directed scholarly attention to who drank, what, and where, as well as the social, ritual, and psychic role of drink. It also provided historians with massive amounts of evidence provided by thousands of temperance sympathizers. This, of course, has been a mixed blessing since so much of it is a very partisan view of drinking from across a moral and often social divide. And there is the further problem that most of this research has really been about opponents of drink rather than the practitioners, hence usually beginning with an overview of the "drink problem" that is rapidly overtaken by a long study of the various "solutions" through history.

Temperance movements elsewhere in the world, though on a smaller scale, have also encouraged interesting studies of alcohol consumption. English historians have maintained a more nuanced view of the "alcohol problem" than many of their American colleagues, noting that the lag between high consumption in the early eighteenth century and temperance movements in the early nineteenth was even more pronounced in England (Gutzke 2006; Harrison 1971; Nicholls 2009). Studies of temperance in England have linked it less to rates of alcohol consumption than to other factors, such as the appearance of an industrial working class and particular religious movements, an argument that has also been made, from time to time, for America. There is some debate about whether the prominent role of spirits consumption, not only in Anglo-Saxon countries but also in northern France and Germany, might have contributed to greater perception of a drinking problem, perhaps because of its more recent origins as much as because of its faster effects, but the strongest temperance countries have the strongest force of a particular kind of Protestantism that seems to make a big difference (H. G. Levine 1993; Nourrisson 1990; Roberts 1984).

Sociologists and anthropologists have focused far more than historians on the consumption of alcohol and are more likely to consider non-Western societies. They have done much to establish the norms of drinking behavior and to identify its more "constructive" role in society (De Garine and De Garine 2001; Douglas 1987; Marshall 1979; Wilson 2005). Indeed, a survey of anthropological literature on drink published in the 1980s argued that it is a "striking pattern that most non-anthropological writers who deal with alcohol tend to focus primarily on various problems that they consider derive from its use, whereas most anthropologists tend to focus more on the use" (Heath in Douglas 1987: 36). A prominent sociologist working in alcohol studies argued much the same point, but criticized anthropologists for what he called a general tendency toward "problem deflation" or of minimizing the disruptive effects of alcohol on the societies they study (Room 1984). More recently, however, they have been accused of moving in the opposite direction and succumbing to the "problem perspective" of the public health paradigm (Hunt and Barker 2001). Sociologists have long tended to work more within a public health paradigm that begins by focusing on alcohol's harmful impact on society, with the occasional dissent (Gusfield 1996). Yet they have kept a critical distance from the reigning modern paradigm of alcoholism as a disease, preferring to see the "concept of alcoholism as a social creation of particular times and situations"

(Room 1983: 49). All of these approaches, however, have made scholars sensitive to the practices and contexts of drinking alcohol.

The scholarship on caffeine, although small in comparison to that on alcohol, follows similar patterns: much more is made of production and trade than of consumption, too much is made of origins and dramatic turning points rather than of habit and social function. The origins of tea drinking in China are highly disputed and undoubtedly quite ancient. More important, tea had become a common drink as early as the Tang dynasty, when it also became a beverage in Japan, a thousand years before it came to Europe (Ukers 1935). Yet, besides a large literature in Chinese and Japanese, the studies in English tend to focus on tea's early modern adoption in Europe, "opium wars" with China, and the British introduction of tea in India. Much of this is laid out in a rather dated classic by William Ukers, but there have been a few serious efforts to study tea more recently (Macfarlane and Macfarlane 2003; Ukers 1935; Weinberg and Bealer 2001). Coffee, in contrast, is a relatively new drink, whose reliable dating only goes back to the fifteenth century in the Middle East, yet it has drawn just as much scholarly attention. Several semi-popular works have built on another Ukers classic to detail the rise of a global system of production and trade (Pendergrast 1999; Ukers 1922; Wild 2005). Much less is written about the social and cultural meaning of caffeine consumption.

Writers trying to understand the relatively sudden popularity of caffeine drinks in the West have often turned a variety of correlations into dubious causes. The eighteenth century was the beginning of industrial and the height of commercial capitalism, the triumph of the bourgeoisie and its Enlightenment, and so on; thus the more or less concurrent success of caffeine has become an expression of middle-class sobriety, capitalist calculation, and enlightened reason (Schivelbusch 1992). The fact that coffee triumphed first in the Middle East and that many of the new European caffeine drinkers were also happy to binge on the stronger alcohols recently made available and appreciated caffeine as another strong sensation suggests a more complicated reality (Nicholls 2009). Historians are on somewhat firmer footing when they point out that the rise of world trade inevitably brought Europeans into closer contact with imported goods and that the expense and exoticism of these goods made them attractive to an increasingly wealthy society seeking the means to make status distinctions through consumption. Coffee, tea, and chocolate offered new expressions of refinement through their paraphernalia of preparation and serving and their specialized, and often socially exclusive as well as gendered, locations for gathering and consuming (Jamieson 2001). Where coffee and coffeehouses became a masculine drink and setting, tea and chocolate fit into more domestic and feminine situations. Just as important, all three hot drinks became a way to consume ever greater quantities of sugar. Sugar had not been a part of tea, coffee, or chocolate drinking in their original settings in China, the Middle East, or South America, yet European consumers gradually turned them all into highly efficient sugar-delivery systems (Smith 2004). Sugared coffee or tea became a meal in itself by the nineteenth century among the working classes of much of Europe.

In a manner reminiscent of studies on alcohol consumption, some of the most serious work on coffee has focused particularly on the venue of public drinking: the

coffeehouse. Unlike tea, which was consumed in domestic settings throughout the world and had relatively little impact on public sociability, coffee drinking rapidly became associated with coffeehouses. Within a short time of appearing in the Arabic world and literature, coffee began to appear in shops that looked much like taverns but could serve good Muslims who did not drink alcohol. Coffee was not without its Muslim critics, but coffeehouses provoked the most controversy as potential dens of subversion and vice (Hattox 1985). Thus coffeehouses, even more than the drink itself, become a good way to think about the societies they served in the Middle East and elsewhere. Spreading rapidly from there into Europe in the seventeenth century, coffee was introduced each time by sellers offering a drink and a place to drink it. These coffeehouses had the advantages of fulfilling a widespread need for public sociability and of being different from and more discriminating than the taverns that had hitherto filled that need. Coffeehouses catered to a more respectable clientele that sought a more exclusive venue and more middle-class pastimes, free from the mores and presence of the popular classes. Coffeehouses in Oxford, London, Paris, and Vienna became places for savants, businessmen, and writers to find like-minded customers and society (Albrecht 1988; Bödecker 1990; B. Cowan 2005; Heise 1987). With famous men of letters, business, and politics among their customers, they attracted attention at the time and since. Historians tend to get a little overexcited by coffeehouses and identify them as the harbingers of civil society, the public sphere, and bourgeois sobriety without recognizing that they played these roles and many others in their evolution. A recent work identifies the nostalgia of the twentieth century for a "mythologised" early eighteenth-century England, with its "rational and egalitarian coffee-house" (Ellis 2004: 223).

Modern drinks, particularly coffee and soft drinks, are still studied principally from the perspective of supply. In the case of coffee, this means a consideration of the millions of coffee growers across the globe and their struggle to make a living from a primary good. In the case of soft drinks, the production of the beverage is less interesting, being composed primarily of sugar and water. Instead, the studies of soft drinks have focused more on the business of selling the drink, the marketing, advertising, and distributing of the product. This makes for good stories, given the peculiar, sometimes monstrous, but always colorful individuals who have led this industry. Indeed, the human element has made the marketing of soft drinks more amenable to the light reading that dominates the study of this commodity. Soft drinks have received little scholarly attention in the premodern period, when still largely a matter of domestic production. They would become far more important commercially in the nineteenth century, however, with the invention and commercialization of soda water. Soda water was combined with fruit juices and with a wide variety of flavorings, many marketed initially as medicinal and health tonics. In nineteenth-century America, soft drinks were associated particularly with a new public drinking place, the soda fountain in drug and department stores, where the gender and age barriers of the saloon were overturned. The twentieth-century evolution of soft drinks, however, parallels the widespread demise of public drinking and its replacement by individual servings, containers, and consumption in an increasingly domestic

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setting (Funderburg 2002). The serious study of commercial soft drinks is still surprisingly thin, despite their success in countries like England and America with strong temperance movements. There is much critical attention given to various founding myths of the principal brands and, more usefully, discussion of the myth making that has gone into defining these brands (Pendergrast 1993; Riley 1958). Soft drinks have come to represent the triumph of marketing over manufacturing and the merging of consumption and identity in the modern economy (Foster 2008). Yet the actual symbolic meaning and practices of soft drink consumption is less in focus, perhaps because it has only very recently become controversial. Whether it was presenting itself as a medicinal tonic or as a temperance beverage, the soft drink was perceived as harmless or even good for you. But as public health officials raise the alarm about the role of soft drinks in obesity and diabetes, there will probably be more attention paid to how and why people are drinking them.

One of the oldest drinks is also one of the latest to be commercially available and one of the last to be studied carefully. Milk spoiled too quickly to be consumed in liquid form beyond a short distance from the animal producing it so, until a surge in demand for liquid milk in the nineteenth century, it was a local commodity. There have been several studies recently detailing the struggles to make milk safe for consumers and the agricultural and commercial responses to the growing demand. They also look closely at the nature of this demand and reach a common conclusion that it is based on the social construction of childhood, nutrition, health, prosperity, and nature (Atkins 2010; DuPuis 2002; Guillaume 2003; Mendelson 2008; Valenze 2011). Milk's image as a perfect food and, at least originally, as a child's drink puts it in a slightly different category than the other drinks considered here, yet it parallels much of the more general history of drink in the trajectory of its increasingly scientific and manipulated production, the careful construction of image and identity in its marketing, and the layers of meaning in its consumption.

Much of the world now enjoys a wide range of drinks, alcoholic and otherwise. This has meant that alcoholic drinks no longer serve multiple functions as calories and refreshments; they have been replaced by a range of nonalcoholic drinks, generally sugared, caffeinated, and often cold, that avoid the complications of even mild intoxication. Although more and more of the world has learned to drink wine with meals, alcohol is increasingly reserved for festive, if frequent, punctuations to work and domestic activities. Our drinks are now healthier and safer, in that they are less likely to host contaminates, but whether they have made us healthier is still an open question.

NOTES

1. The report, at www.efsa.europa.eu/en/datexfoodcdb/datexfooddb.htm, is based entirely on self-reporting in samples from each country. Accessed 17 June 2011.
2. Numbers on alcohol come from the 2011 WHO global status report on alcohol and health at www.who.int/substance_abuse/publications/global_alcohol_report/msbgsruprofiles.pdf. Accessed 17 June 2011.

21

Food and Identity

KRISHNENDU RAY

In 1988, Claude Fischler published an authoritative essay that began with a declaration: "[F]ood is central to our sense of identity" (275). Although he grants that eating allows human *groups* to assert their collective identity—"its oneness and the otherness of whoever eats differently"—he simultaneously states that food is also central to *individual* identity. Indeed, acknowledging the work of American psychologist Paul Rozin, he bases his arguments heavily on psychological presumptions about a human subject. That psychological subject is also the most durable creature of common sense of both the American college and public commentary. It is a peculiarly universalized subject: an autonomous, free, adaptable individual, who can eat anything he or she chooses. It is also a subject whose identity in terms of Fischler's declaration vis-à-vis food depends on a remarkable degree of self-consciousness.

Yet food, like any other everyday activity, is often unavailable to consciousness and hence identity (unless, that is, it is made so in circumstances out of the ordinary). That is what Pierre Bourdieu acutely proposes in his *Outline of a Theory of Practice* (1977) by way of the term *doxa,* that is, habituated, uninterrogated practice. What is retrospectively declared as the most important domain of identity is in fact invisible to the subject, who at the time is immersed unself-consciously in it. As soon as uninterrogated practices are brought into consciousness, they are then distributed and fought over as orthodoxy and heterodoxy. It is only at that moment we begin to have arguments about what is a national cuisine—do Americans have one?, FE is it similar to French cuisine? how is it different from Chinese cuisine? is Indian cuisine the same as European cuisine—and other such related measurable and immeasurable questions.

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Once that point is reached, food and identity becomes a vast, rambling field containing national and religious claims, class and ethnic preferences, racial and gender

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distinctiveness, and individual personality formation over life cycle choices. Managing this considerable territory means having to separate sections and attend to them singly. In this chapter I concentrate on food and territorial identity, but before I do that I need a short theoretical detour on subjectivity. One way of managing this territory is to pursue discussion of the body of work on food and identity that relies on a psychological individualistic notion of identity[1]—where the identity is primarily about the person rather than the food or cuisine. The point of departure for this chapter, however, is different, for it remains with Fischler's article and his largely but not exclusively tacit reliance on images of Frenchness and French eating; the purpose for doing so is to present a discussion where identity refers to food and cuisines as well as to the persons typically associated with it or who promote its distinctiveness.

IDENTITY AND IDENTITY PRODUCTION

After poststructuralism it has become impossible to assert that identity is either attained or stable. Identity production is a work in progress, both for groups and for individuals, and it is often developed in opposition to other identities, themselves also works in progress. Much of the recent work on identity has been done under the sign of subject formation. We have learned from the work of Michel Foucault (1984) and Pierre Bourdieu (1984) that subjects are produced within larger force fields such as nation, class, caste, and so forth, and individuals are both defined by and define themselves against such forces. Each individual is born and socially produced in a preexisting community imagined and arrayed in some relationship to other communities. Hence individuals do not produce their identities from scratch just as they do not choose to speak *any* of the world's many languages but grow up speaking that of the group into which they are born. Individual subjectivities are produced in tension with others and other selves. Sometimes subjectivities are asserted consciously as ideologies of self while sometimes they are practiced unself-consciously as everyday habits.

In spite of numerous differences between scholarly studies and popular journalistic literature, both fields have over the last century assigned food habits to groups of people in terms of nationalities and ethnicities (e.g., Blue 2008; Tuomainen 2009). Genders and sexualities have typically not been included in this catalog of determined foodstuffs other than as mild stereotypes of delicacy and preciousness or their opposites. On rare occasions, eating-related ideological identities have been asserted strongly, for instance, in the case of feminism and meat eating (Adams 1990) or caste and abstinence from beef (Dumont 1981). Class has also played its role in constructions of taste, especially in sociology, where Pierre Bourdieu's *Distinction* continues to dominate (1984). Bourdieu's work on class and culinary culture was replicated in a recent study in the United Kingdom (Bennett et al. 2009) that also shows how discussions of class culture inevitably have to confront issues of race and ethnicity (which Bourdieu could not address) through attempts to capture boundary-crossing transnational people in their analytical webs. Some human communities are said to produce structured diets that come to

be called cuisines, while others do not—the subject of sustained analysis by social anthropologist Jack Goody (1982). To manage the vast literature on social identities and patterns of eating, I confine myself to a discussion of three kinds of collectivities here—nation, region, and ethnicity—as an illustration of how identity work can be productively imagined in the social sciences and the humanities.

FOOD AND TERRITORY

The dominant Western frame of constituting gustatory identity has been in the name of territory, with nation as its preeminent center and province as its conjoined peripheral twin. As soon as we begin the discussion on nation and cuisine in the modern West, the French in the eighteenth century become the paradigmatic case of food and identity. That is the by-product of dominance of a certain kind of institutional French food in a new kind of urban space we have come to call a restaurant (Spang 2000). Before the French Revolution, there were less than 100 restaurants in Paris, by 1825 nearly 1,000, and in 1834 over 2,000 (Drouard 2007). Dining out became a common custom, according to Jean-Marc Vanhoutte, when about sixty thousand people went to restaurants daily in Paris at a time when its population was about eight hundred thousand (quoted in Drouard 2007: 274). By the first decade of the twentieth century, Paris had fifteen hundred restaurants, twenty-nine hundred hotels, two thousand cafes and brasseries, and twelve thousand wine merchants, most of whom also served food (Drouard 2007: 274). The word *restaurant* entered the *Dictionnaire de l'Académie française* in 1835.

In *Accounting for Taste: The Triumph of French Cuisine,* Priscilla Ferguson notes, "cuisine cannot exist without food; nor can it survive without words" (2004: 19). She stands with a long line of writers such as Stephen Mennell (1985), Massimo Montanari (1996), Pascal Ory (1997), and Jean-Louis Flandrin (1999) who assert that cuisine is a product of a double orality, taste and talk. "French cuisine has emerged as a system of relationships between three groups who all depend on one another: the cooks—both at home and in the restaurant—the gourmets, and the consumers" (Drouard 2007: 263). Cuisine happens, they say, when cooking leaves the domestic kitchen to enter the court in early modern Europe and the restaurant in modern France, which is when it enters "the new domain of a public sphere whose decisive mark was the published word" (Habermas 1989: 16). At least that is the story for Europe.[2]

In this story both restaurants and cuisine are presumed to be French inventions. Ferguson asks: Why have the French dominated Western culinarity? Her answer suggests it is misleading to seek the reason in the variety and freshness of French produce, the profusion of its regional cuisines, or *terroir.* As Sonnenfeld put it, "The glorious diversity of French soil and produce, the cliché of France as 'the garden of Europe,' does not adequately distinguish France from Italy or, for that matter, from California" (1987: 33). Nevertheless, the claim to a uniquely diverse territory is not so easily dismissed as shown in the work of French geographer Jean-Robert Pitte (2002), who points out that

France has some 600 microclimates that allow different agricultures to flourish and taps the benefits of numerous navigable river systems connecting farmlands directly to urban markets in the gastronomic centers of Paris and Lyon. Yet Pitte subtly turns the question from a matter of topographical fact to a critique of self-congratulatory discourse: "Of all the European countries, France is by far the one that grants the most importance to its gastronomy, and for many generations, the French have shared the almost absolute conviction that the world's best cooking takes place on their soil" (2002: 1) (and see West, Chapter 12, this volume).

Pascal Ory accentuates that critique by showing how claims of the superiority of French cuisine "implies the superiority of French 'civilization,'" which was probably some recompense for military and diplomatic humiliation in the same century (1997: 444). Thus, in the late eighteenth and early nineteenth centuries, the target of French and Francophile gastronomes is almost always English food or the food of their dominant economic, military, and political neighbor. Furthermore, by the same time—the early nineteenth century—as the state acquired increasing power and penetrated deeper into their own society, the French belief in their culinary superiority "spread beyond the milieu of chefs and men of letters, becoming henceforth the common property of all classes of society" (Ory 1997: 444). Predictably, by the late nineteenth and early twentieth centuries, when the national contest turned east from the Channel, Black Forest meatballs came to be described as "heavy, thick, and dense, like German thought, literature, and art," while "quiche Lorraine, the foie gras of Périgord, and the bouillabaisse of Marseilles…contain all the refined riches of France," as written by early twentieth-century French journalist Marcel Rouff (cited by Ory 1997: 444).

"The Burgermeister in the Bottle" is a popular late nineteenth-century French story about two Frenchmen, Ludwig and Hippel, who travel through the vineyards of the Rheingau region of Germany making various judgments about national palates and moral characteristics (Guy 2002, 2003). Sojourning at various inns and vineyards, they drink German wine, and as a result they are assaulted by bad dreams. That turns out to be predictable given their unspecified doubts about German wines that had prompted their journey in the first place. Their drinking tour merely confirms what they already knew, good wine that is good for your soul can only be French because only the French have *terroir,* which is both a particular kind of territory and a propensity for a kind of rooted soul. French identity as a sophisticated one is built at the expense of the German burgermeister, a national contrast, as it usually is in matters of taste at the end of the nineteenth century. The burgermeister of the title is "described as large and flabby, with grey eyes, large nose, and thin, tightly pursed lips. He appears 'heavy, thick, and dense,' attributes assigned equally to 'German thought, literature, and art,' and 'Black Forest meatballs'" (Guy 2002: 40–41).

Such narratives mobilize the idea that culture must be contained within the nation and has to be bounded at the borders, notwithstanding persistent extensions such as Alsace and Lorraine between Germany and France, Punjab between Pakistan and India, Mexico and New Mexico in North America, or Bengal spread out between Bangladesh

and India. The examples can proliferate from almost every border region of the world, once we take existing societies into consideration. Nevertheless, national taste is always constructed, often against the very neighboring regions that are gustemically proximate but ideologically distant.

No scholar has done better than Stephen Mennell in showing how the archetypes of national difference such as sophisticated French cuisine and unremarkable domestic English cookery came to be constructed. By the eighteenth century "there had emerged the main outlines of distinctive English and French cookery and attitudes towards food" (1996: 133). In contrast to the male chefs of the French court, English women cooks and male tavern cooks produced a more simplified style of cookery. But by the seventeenth century French culture had become hegemonic in Western Europe because of the triumph of the political system of absolutism, and the old relationship between political power and symbolic production, signaled by the use of modern terms such as *artists* and *scholars,* achieved "its greatest intensity thanks to absolutism" (Ory 1997: 450).

Although English absolutism had been incipient and the court ascendant under the Tudors and the first two Stuarts, that process was stopped in its tracks by the English Civil War (Mennell 1996: 118). The Glorious Revolution of 1688 redistributed power away from the absolutist center to the country, gentry, and the landed aristocracy. These distributed nodes in England "retained independent political power well into the nineteenth century, and thus had other and more important modes of expression than competitive virtuoso consumption" (Mennell 1996: 119) of the kind that took hold at the heart of absolutist France, where "all the threads of society ran together," and "from it the rank, reputation and even, to an extent, the income of court people continued to depend" (Elias 1969: 79). In England, the eclipse of the courtly English cookery book "after Lamb (1710), Smith (1723) and Carter (1730)" coincided with the diminution of the political and social role of the English court, while rural traits showed considerable resilience, thereby stamping a country character on much of English food in contrast to the courtly quality of French cuisine (Mennell 1996: 124, 127).

The French Revolution did not destroy French haute cuisine, but it did change the cooking profession's theater of operations by producing a public via the print coverage of competitive restaurants. Restaurants and the competition between them and their patrons provided an immense stimulus for the development of elaborate, refined, and luxurious food. "The gap between professional and domestic cookery widened, as did the related gap in prestige between male and female cooks. Parallel to the emergence of a cookery profession catering for a dining *public,* there also emerged the bourgeois gastronome—not himself a cook, but an expert in the art of eating and leader of public opinion in matters of taste" (Mennell 1996: 134).

There is no proof, according to Ory (1997: 450), that anyone, including the French, saw anything superior about French cuisine before the seventeenth century, whereas by the beginning of the nineteenth century such superiority was routinely affirmed. The nineteenth century also saw the establishment of a "French international culinary hegemony, not merely over England but over much of the rest of Europe, and by the end of

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the century, North America too . . . and French dishes were to be found not only at the tables of the few of the richest aristocrats and gentry, but also setting the style in London clubs, hotels and restaurants. French hegemony meant in particular hegemony within the cooking profession" (Mennell 1996: 135). So the question of comparative French and English cookery turned on the fate of a profession and its regendering, along with the birth of a public, mediated through print journalism.

Others have subsequently confirmed Mennell's work. Thus Ferguson tells us that it was only in the early nineteenth century with the invention of gastronomy that the reputation of French food was fully established, especially in conjunction with the print media. Amy Trubek clarifies and contains that claim by suggesting that "the French invented the cuisine of culinary professionals" not just a national cuisine (2000: 3). The crucial player here was Antonin Carême, who would rationalize French restaurant practices and create a stable technical repertoire (with named cuts such as julienne and batonnet and standardized sauces such as béchamel and velouté). He would also aestheticize culinary discourse and be instrumental in nationalizing talk and taste. Carême would eventually write his way out of the kitchen and into the book of gastronomes. For Ferguson, there is cooking of all kinds, including very good cooking, and then there is cuisine, which is a canonized form of cooking but also a certain kind of discourse, that shape each other, and was invented in the Western world, in and around Paris, at about the time of the French Revolution, in institutions such as the court and restaurants.

If France is the paradigmatic case of a highly valued national cuisine, and England the inevitable home of mediocre food, the United States of America is often seen as a nation that could not develop a cuisine. Sidney Mintz dismisses American claims to a cuisine merely by listing the popular entrées in American restaurants, which include pizza, ham sandwiches, hot dogs, cheese sandwiches, hamburgers, and spaghetti (2002: 27). As a result, he concludes:

> I don't think anyone wants to call that array a cuisine. I do not see how a cuisine can exist unless there is a community of people who eat it, cook it, have opinions about it, and engage in dialogue involving those opinions. This is not to say that people cannot debate the merits of various restaurant renderings of *quesadillas* or *chao dze;* but that is not the same as having a cuisine. (2002: 29)

While Ferguson pegs cuisine on a discursive field from the top down as haute cuisine, Mintz's assertion of cuisine as something practical, habitual, and customary is an argument from the bottom up. Mintz presses on the divide between cuisine as everyday practice and cuisine as haute cuisine in *Tasting Food, Tasting Freedom* (1996: 92–124). *Cuisine* is what people of a geographically defined area—a "foodshed"—eat regularly and habitually and recognize as such. It is a system of ingredients, dishes, and cooking techniques that change relatively slowly. Cuisine, for Mintz, is not the artificial collation served in restaurants claiming a national heritage. *Haute cuisine* is institutional food of

the court and the restaurant of the international style. *Cuisine* in contrast is domesticated food. He notes:

> A "national cuisine" is a contradiction in terms; there can be regional cuisines, but not national cuisines. I think that for the most part, a national cuisine is simply a holistic artifice based on the foods of the people who live inside some political system, such as France or Spain. "Cuisine," more exactly defined, has to do with the ongoing foodways of a region, within which active discourse about food sustains both understandings and reliable production of the foods in question. Haute cuisine, so called, is some sort of refinement of the aggregate foods, styles, and dishes of a collection of regions, a skimming off of representative foods to create a cuisine that is national by virtue of being widely representative. Haute cuisine differs from cuisine by representing more than one region, by adding expensive substitutions in the foods themselves, and sometimes by acquiring international status. It is, like it or not, "restaurant food," of the sort that turns up in restaurants abroad, and in capital cities. (1996: 104)

Mintz here is pursuing a point developed in other directions by Michael Freeman. In his work on Sung cooking (1977: 143–176), Freeman describes cuisine as a product of agricultural abundance and availability of a wide variety of extraregional ingredients through trade. "A cuisine does not develop out of the cooking traditions of a single region," Freeman asserts (1977: 144). Trade, travel, and leisure are intertwined in its constitution. Equally important is "a sizable corps of critical, adventuresome eaters, not bound by the tastes of their native region." Moreover: "A cuisine is the product of attitudes which gives first place to the real pleasure of consuming food rather than its purely ritualistic significance" (1977: 145).

REGION AND CENTER

Regionality is sometimes paradoxically produced by a center, which is often the consequence of travel, tourism, and other forms of circulation of commodities, representations (maps), people, and cars. There is a reason a French tire company, Michelin, became the arbiter of regional French cuisine in the twentieth century.[3] The proliferation of national cuisines today is the product of an international circulation of chefs, critics, media, heritage, and values.

From the early decades of the nineteenth century, the circulation of chefs and the work of gastronomes played an important role in defining and promoting French cuisine whether it was *grand cuisine, cuisine bourgeois* (home cooking), or *cuisine de province.* According to the leading French gastronome of the nineteenth century, Curnonsky (1872–1956), there were not one but four French cuisines: *grande cuisine, cuisine bourgeoise* ("the pride of our ancient families"), *cuisine régionale,* "that incomparable cuisine which incorporates the diversity of our thirty-two provinces and centuries of experience, and which has created five thousand local dishes," and finally, *cuisine paysanne,*

"the cuisine one might call *impromptu,* improvised in a flash with poultry from the henhouse, fish from the nearby river, rabbit from the hutch, vegetables from the kitchen garden, fruit from the orchard" (quoted in Drouard 2007: 269).

Similarly, illustrating the Italian case in a useful section titled "Identity as Exchange," Alberto Capatti and Massimo Montanari begin:

> Italy, the country with a hundred cities and thousands of bell towers, is also the country with a hundred cuisines and thousands of recipes. Mirroring a history marked by provincial loyalties and political division, a huge variety of gastronomic traditions makes Italy's culinary heritage unimaginably rich and more appealing today than the cuisine of any other country, now that the demand for diversity and for distinctive, "provincial" flavours has become especially keen. (2003: xiii)

Capatti and Montanari's claims on behalf of Italian cuisine can be dismissed as a commonplace of any nationalist self-congratulation. Such a narrative usually makes two assertions: (a) that the nation has a "culinary heritage unimaginably rich and more appealing today than the cuisine of any other country"; and (b) that such immense variety and diversity is contained within the unity of a nation. What is more promising is the subtler note hidden within the nationalist bombast, which is "now that the demand for diversity and for distinctive, 'provincial' flavours has become especially keen" Italian cuisine has reached its zenith. First, it is a matter of timing. Now that French haute cuisine is declining as an Occidental standard of culinarity, there is room for Italian cuisine to emerge. Second, some of the newer markers of novelty in Western haute cuisine, such as freshness, seasonality, and vernacularity work well with the latecomers to national cuisine such as Italian (Capatti and Montanari 2003: xiv). What is deemed important now depends on what came before. Here identity is defined by difference—over time and across space—through circulation. "Mortadella from Bologna is called 'Bologna' only when it leaves the city where it is produced. 'Ascoli-style olives' (*olive all'ascolana*) assume this name when they travel beyond the borders of Ascoli, even if they are promptly shipped back there, bearing this name, in a kind of boomerang effect" (Capatti and Montanari 2003: xiv). The work of turning the local into the national is often done by cities, which are the sites of heritage making and transmission via tourists, media, critics, and government organizations.

Capatti and Montanari furthermore note how pizzas and pasta have become the most recognizable signs of Italy the further one goes from Italy: "Thus Italy truly exists thousands of miles from home, where it has an unmistakable identity" (2003: xx). In closing, they cite Prezzolini wondering in 1954: "What is the glory of Dante compared to spaghetti?" Is that a lament in light of pasta's far-flung perseverance against the fragility of Dante's Tuscan dialect? Instead of insisting on the distinctions between palatal taste and taste in literature, they underline the point of contact between mundane practice and high art:

> Spaghetti and pizza belong to a legacy that has spread throughout the world, just as books have . . . Literary writers have no precedence over cooks, and neither do their

> artistic visions have any particular usefulness in matters of cooking. Yet their role is no less important than the cooks'. Along with the exchange of food products, dishes, and flavours, there is also an exchange of documents and recipes. This lively traffic . . . is vital for good taste. In fact, without realizing it, when we eat spaghetti we also ingest something of Dante (2003: xx).

On that ringing note, Capatti and Montanari flatten the aesthetic hierarchy set in place by the very same Renaissance. The national and regional presumptions about Italian cuisine can be seen as contingent, especially if one recalled that Rome never identified itself with the land of its birth but preferred the empire to Italy. Mistress of the emerging Occidental world, Rome forged links across the Mediterranean turning it into our sea (*mare nostrum*), rather than the nation. It was possible to construct territorial identities that exceeded the nation. Similarly, an identity such as European was born in the confluence of Roman and Germanic cultures, archenemies for long, where a culture of wheat, grapes, and olives clashed with a culture of meat, milk, beer, and butter, one "civilized" and the other "barbaric," to produce a persistent, conquering hybrid still spreading around the world.

Cities are central to national cultural imaginations (see Scholliers and Van den Eeckhout, Chapter 3, this volume). For instance, Shanghai's honey nectar peach became the bearer of acute nostalgia for the nation during the Republican period (1912–1949) when civil war tore apart the Chinese body politic, as outlined by Mark Swislocki in *Culinary Nostalgia: Regional Food Culture and the Urban Experience in Shanghai.* "Shanghai residents turned to food once again, this time to the city's many regional Chinese restaurants, to connect with their country's rich heritage, and to imagine for themselves how such a culturally diverse country might be held together" (2009: 2). To K. C. Chang's contention that "few other cultures are as food oriented as the Chinese," Swislocki adds that in few places have conversations about regional food culture been as historically valued as in China (2009: 6). The Chinese conventionally classify the "four great" cuisines of Canton, Sichuan, Huaiyang (or Jiangsu), and northern (or Shandong), which pulls together numerous temporalities and trajectories. For instance, what we know today as Sichuan cuisine did not take shape until the late seventeenth century (about the time of French absolutist court cuisine in the West), and Cantonese cuisine did not acquire high status until the early twentieth century with the simultaneous Sinification *and* Westernization of parts of southern China. The wider prestige of "Northern" cooking is synonymous with Shandong (Lu) cooking, attributable to the patronage of Shandong and Henan chefs by the Manchu emperors, and after them the Qing (1644–1911). Furthermore, Republican-era restaurant critics wrote about Shanghai's "Cantonese cuisine" (*Yuecai*) restaurants, as a cover term for different cooking styles within Guangdong province, such as Chaozhou and Guangzhou varieties (Swislocki 2009: 9). Taiwanese historian La Yaodong notes that Chinese regional cuisines did not acquire their identity "until the purveyors of different cuisines came into contact with one other" and sought to "differentiate the qualities and flavours of their variety of cooking from others"

(quoted in Swislocki 2009: 11). Often, Prasenjit Duara notes, the local is "a site of authentic values of a larger formation, such as the nation or civilization" (2000: 13–16).

Developing both points—regionality and nationality—Arjun Appadurai (1988) noted long ago the distinction between France on one hand where a centralized national haute cuisine emerged and the case of China and Italy on the other hand where regional idioms retained their dominance. In India, Appadurai finds a thinly stitched together national menu, essentially a postindustrial, postcolonial product of about a generation's duration (in the 1980s when he was writing), an outcome of the circulation of urban professionals by way of railroads, the military, and private firms.

Appadurai's early intimation about Indian cooking can be developed further with the aid of the work of Jeffrey Pilcher (1998), Igor Cusack (2000), and Richard Wilk (2006). What Mintz dismisses as artificial is seen by these authors as precisely the nature of nation building through recipes. In Equatorial Guinea, "the national elite are assembling the favourite foods of different ethnic groups and repackaging them as part of the Equatoguinean national cuisine" (Cusack 2000: 218). In this case the impetus seems to come as much from the old metropolitan center, Spain, as from the local national elites. Specific bureaucracies, such as the Spanish "Aid Agency and the Ministry of Health and Consumer Affairs, and Spanish religious orders" are "implicated in the building of a national cuisine" (Cusack 2000: 219).

According to Wilk, a successful national cuisine appeared in Belize only through the *promotion* of rice and beans as a national dish. In typical Belizean fashion, imported red kidney beans were favored above the lowly black turtle beans cultivated over millennia. The irony, of course, is that rice and beans began as an imported food but ended as the epitome of Creole home cooking, which, with habanero sauce, was brought forward as a public symbol of a national cuisine, promptly mass produced for tourists (2006: 107).

In this story, local and authentic foodways, which emerge from conditions of globalization, are crafted for tourists looking for diversity and difference. This manufacturing of locality *is* the global phenomenon, argues Wilk, sometimes done in a densely lived, unself-conscious way and sometimes done as pure Disneyfied performance. "It took more *globalization* to bring local food out of the kitchen" and assert its presence in the public domain of Belizean national identity (2006: 166). "Everyday cooking in Belize did not really start to turn into 'Belizean cuisine' until migrants who had lived for years in the USA began to return home in the 1980s," demanding authenticity and backing it up with capital (2006: 172–173). The first "Belizean restaurant" in Belize City was opened by an expatriate family from Los Angeles in 1989.

What unites the Equatoguinean and Belizean experience, and is rarely commented on, is that the tenuous national cuisines are sometimes a product of the interstate system with its own hierarchy of values espoused by development bureaucrats and tourism bureaus. Meaning Belize and Equatorial Guinea are said to have a cuisine because it is now expected that nations have cuisines as much as flags, anthems, and airlines. Or in Mintz's cutting words, "is having a cuisine important—is it because other people have one?" (2002: 24).

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ETHNICITY AND CUISINE: TERRITORY IN MOTION

A survey of ethnic restaurants conducted by the National Restaurant Association (of the United States) in 1999 identified twenty different cuisines Americans consider ethnic. Pizza places were excluded from the survey for having lost their ethnic affiliation. It also noted that "[s]ome cuisines are becoming so in-grained in the mainstream of US culture that they are hardly considered ethnic any more. This applies especially to certain forms of Italian, Mexican, and Chinese (Cantonese) cuisine" (NRA 2000: 5). Ethnicity is the way difference is marked within the nation.

American scholarship has paid the most attention to the cohort of the some twenty million immigrants who arrived at the turn of the nineteenth and the twentieth centuries, partly driven by the density of documentary collections and partly by the nostalgia of scholars, many of whom are from the third and subsequent generation of Jewish and Italian stock. One exemplary instance is Donna Gabaccia's *We Are What We Eat: Ethnic Food and the Making of Americans* (1998). Based on detailed and varied archival work that includes diaries and memoirs of plantation owners and their wives, slave memoirs produced by the Works Projects Administration, autobiographies of food businessmen, and newspapers and cookbooks, Gabaccia develops a refreshingly new argument that Americans have always been Creoles with hybrid tastes. Based on a mixed Creole diet she shows how the relationship between food and group identity was changing, relational, and unsettled for a long time. Where European domination was demographically overwhelming, such as in New Mexico, Texas, and California, European culinary conservatism did temporarily overwhelm the natives' food patterns but usually no culture's food habits obliterated another's. Even when they borrowed from one another they did not become the other. By the end of the colonial era, "region more than ethnicity defined American identities" (1998: 35).

That changed with the gradual formation of the national food market, along with the transportation (railroads and roadways) and mass media revolution (print, radio, and TV), in alliance with new refrigeration technologies, when a putative national diet was promoted. But the immigrant labor that made the national market possible at the end of the nineteenth and early twentieth centuries also produced enclave eating, as racism, xenophobia, and cheap housing contained new immigrants in certain urban neighborhoods. That is also where the ethnic entrepreneur operated, supplying the produce of the old land, often new to the rest of Americans, such as Nappa cabbage and radishes introduced by Japanese farmers in California and broccoli, wine grapes, figs, and olive oil by Italians. "In New York in 1938, almost 10,000 groceries still catered exclusively to Italians and an equal number to Jews" (Gabaccia 1998: 75). Sometimes small eateries and restaurants evolved from grocery stores, a delicatessen, or a family boarding house. In the 1930s some sources claimed New York had roughly ten thousand Italian restaurants, an institution still seen by the entrepreneur as a route to escape wage work (Gabaccia 1998: 81).

Thus corporate nationalization on one hand and ghettoization of the poor urban immigrant population on the other produced two scripts on American cuisine. One eroded

ethnic and regional accents to claim mass-produced foods as national icons where hot dogs, Cracker Jacks, fried chicken, and Fritos, although originally from smaller communities, lost their ethnic signifiers. Then there were ethnic enclaves such as Chinatown and Little Italy catering mostly to ethnic insiders. Nevertheless, the popularity of Chinese and Italian food with some Anglo Americans was real enough that ethnic restaurateurs often cooked specifically to American preferences.

American taste makers, that is journalists and restaurant critics, have framed their appropriation of culinary cultures in two divergent ways: first, as high-status foreign foods, initially limited to Continental and French cuisines, eventually consecrating Italian and Japanese cookery at the end of the twentieth century; second, as the low-status product of the labor and implicit knowledge of the immigrant poor classified as ethnic fare. The appropriation of the first sort is understood primarily in aesthetic terms of taste and masculine notions of skill, while the latter is understood as a matter of necessity, primarily in terms of undifferentiated toil (Ray 2006).

Even a casual observer of the American food scene will notice certain niches—such as diners and takeouts—where particular ethnic groups dominate. If we have some familiarity with restaurant history we would also know that there is a long-term pattern of ethnic succession. Food work done by German and Irish immigrants in the mid-nineteenth century was carried out by Italians and Eastern Europeans at the end of the century, who in turn were replaced by Latinos and Asians at the end of the twentieth century. Tastes change too. French cuisine gave way to Italian cuisine in America's most expensive restaurants, which was accented by Asian and Latin American ingredients at the end of the last century. There is a twofold ethnic succession here: one in the ethnicity of the labor force; and the other in the sphere of food served. The two are shaped by each other in counterintuitive ways.

Hasia R. Diner's comprehensive comparative work on ethnic cuisines titled *Hungering for America* (2001) is crafted around two telling questions: first, what is the fundamental difference between preimmigration and postimmigration foodways of the Italians, the Irish, and Eastern European Jews in the United States; second, why did the Italians and Eastern European Jews develop an American identity around the specificity of their "authentic" foods while the Irish did not?

The most important difference between pre- and postimmigration foodways, she notes, is abundance. Rosolino Mormino, a resident of Napoleonville, Louisiana, wrote his brother in Italy with telling eloquence, "In America bread is soft, but life is hard" (quoted in Diner 2001: 48). A dietary study of Italians, done by the U.S. Department of Agriculture and Hull House in the 1890s around Chicago, reported that olive oil seemed to become essential to Italian identity, as did meat. "In Italy few from the lower classes ate [meat] more often than three times a year. In America meat appeared regularly on their menus" (Diner 2001: 56). Dishes that continued to keep their Italian names, such as "*minestra* (vegetable soup), *ciambotta* (mixed vegetables), *scarola* (escarole), *cocozza* (squash), and the like," got richer and more complicated. "Pizza in Roseta Valforte [in Italy] was a flat, thin disc of bread with salt and oil. In Roseto, Pennsylvania,

tomatoes, onions, and anchovies gradually covered the dough" (Diner 2001: 53). Migration effectively elevated the cuisine of the poor Italian to that of its elite.

Class elevation also occurred with Eastern European Jewish food after immigration. "The formerly poor started to eat *blintzes, kreplach, kasha-varnitchkes, strudel,* noodles, *knishes,* and, most importantly, meat every day. Their once meagre cabbage or beet *borschts* now glistened with fat pieces of meat" (Diner 2001: 180). Marcus Ravage, a Romanian Jewish migrant in New York in 1900, noted with astonishment, "In New York, every night was Friday night and every day was Saturday [sabbath], as far as food went" (1917: 75–76). Furthermore, a "national" cuisine was born in the diaspora, which eventually deemphasized regional styles. Angelo Pellegrini wrote that immigrants came to America "ignorant of cuisines beyond their own regions. In the Little Italy of the American metropolis the Southern Italian ultimately learned about *osso buco* and *veal scaloppini,* and his neighbour . . . from the north met up with pizza and eggplant Parmesan" (1971: 31). Furthermore, as Niccola de Quattrociocchi, a native of Palermo, wrote in the 1920s, "One evening [while strolling in New York], we went to an Italian restaurant where I was introduced to two very fine, traditional American specialties called 'spaghetti with meatballs,' and 'cotoletta parmigiana' . . . I found both extremely satisfying and I think someone in Italy should invent them for the Italians over there" (1950: 30). Other new elements crept into their repertoire such as the drinking of beer rather than wine with their food (Diner 2001: 60).

Food played such an important role in Italian American identity that surprisingly, according to Diner, "even children expressed little interest in transcending the food boundaries of their families and communities" (2001: 81). She continues:

> They pushed the limits of their foodways but only within a constructed definition of "Italianness." In the evolution of an Italian American food culture based on a fusion of certain iconic Italian foods, pasta and sauce, olive oil and distinctive cheeses, with American foods, particularly meat, Italian Americans created a distinctive way of life in America. While they no longer ate as they had back home, neither did they eat like other Americans. Yet they evinced little personal anguish or familial discord over the distance between standard American fare and their own. (2001: 81)

Diner is probably right to argue that "The Italian story may best represent the experiences of most immigrants" (2001: 26). But I think it is an exaggeration to conclude that "the Irish and Jewish stories were too laden with inner conflict, too fraught with problems" compared to the Italian American story (2001: 226). I have developed a fuller critique of Diner's claims in *The Migrant's Table* (Ray 2004: 103–108). There I also argue that the more recent Bengali American story (at the turn of the next century) is different precisely because the respondents in my study are more affluent both in their native contexts and in the New World. The hagiography of American abundance among Irish and Eastern European Jews or even the muted critique of American foods and tastes by Italian Americans stands in sharp contrast to the attitude of the Bengali

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American interlocutors. Only two of my respondents out of 126 mentioned abundance and most are highly critical of American foods. That is mostly because of where they came from and how they crafted an identity that left behind the hunger of their poorer compatriots and took advantage of the post-civil rights cultural terrain.

CONCLUSION

As promised, this chapter has concentrated on nation, region, and ethnicity, a focus on three collectivities to make it possible to manage the very large literature on social identities and patterns of eating so that the way identity work can be productively imagined in the social sciences and the humanities can be illustrated. None of the this analysis, however, provides a universal model of food and identity. As indicated at the outset, there have been some attempts to construct such a model, most of which turn toward psychology (that modern science of people everywhere), with Claude Fischler's 1988 article as an interesting example. In contrast to his approach, this chapter has dealt only with various versions of gustatory identity formation based on territory as roots and routes of dispersal.

National culture regions, inhabited by American psychology's universal subject or French nationalism's normative citizen-consumer, are one of the many ways of constructing subjectivity and identity around food in the modern world. What is more interesting, and rarely done, is to excavate unself-conscious practices and other notions of identity that have been submerged under the science of the modern nation state. New work takes us below the nation (e.g., Bennett et al. 2009; Osella and Osella 2008; Williams-Forson 2006) and out of it to show how migration and electronic mediation are remaking such national containers of culture (Appadurai 1996; Ray and Srinivas 2012). This is a world in which "modernity is decisively at large, irregularly self-conscious, and unevenly experienced," and the imagination of the self and the world are mediated through obligatory passage points such as airport terminals and computer screens (Appadurai 1996: 3). In today's world, it has become necessary to excavate issues of food, identity, and self that exceed national imaginations.

NOTES

1. A good deal of this work is less explicit about the underlying model of identity, tending to use the term as if it is self-explanatory. Examples include Daniel (2006); Finnis (2008); M. McWilliams (2007); Tuomainen (2009); Valentine (2002); Wills et al. (2008); and Wright-St Clair et al. (2005).
2. Relatively little is known about China, where the evidence is tantalizingly subversive of French claims of singularity, but that is a tale that cannot be addressed here fully (see Swislocki 2009).
3. Because the development of transport is associated with new opportunities for and the growth of roadside and railway station restaurants, cafes, and so on.

PART FOUR

Contemporary Issues, Problems, and Policy

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Editorial Introduction

The chapters in this final part of the *Handbook* move from more purely academic (basic scientific) analyses toward the application of theoretical ideas and research evidence in the service of policy and practice. In so doing, they underline the multidisciplinary nature of the field. To take just one example, Jane Ogden's chapter on eating disorders and obesity suggests that diet-related policy research involves the work of dieticians, psychiatrists, psychologists, sociologists, philosophers, historians, anthropologists, and those involved in gender studies from a range of disciplinary backgrounds. The chapters in this concluding part of the book emphasize the need for public policy to be built on a sound evidence base—a task that may not be straightforward where central concepts and approaches are contested. The chapters range in geographical scale from global food markets to the domestic level of household consumption. They question the current emphasis in food-related policy on individual choice, showing how such choices are shaped by wider institutional forces and embedded within routinized social practices (see Ray's chapter in Part Three), and they explore a range of alternatives to the widely deployed deficit model that emphasizes public ignorance and misunderstanding of science, looking to science and technology studies for more positive ways of construing public understanding where different forms of expert and lay knowledge are placed on a more equal footing.

In the first chapter, Ellen Messer focuses on the causes and consequences of hunger and famine at the global scale. While *famine* has a specific technical definition, referring to acute food shortages resulting in large-scale human suffering, starvation, and death, *hunger* is a much more pervasive subjective condition that defies easy definition. Messer distinguishes between food shortage at the national level, food poverty at the household level, and food deprivation at the individual level. She shows how different forms of food insecurity have different causes, including natural phenomena such as drought

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and social phenomena such as political instability and military conflict. Significantly, however, Messer concludes that all currently occurring famines and food shortages are found in places where there is active conflict or a legacy of conflict and political repression that prevents the implementation of an effective humanitarian response. This lends weight to the argument that hunger can be mobilized as a political tool. It also supports those who argue that food sovereignty is a human entitlement that requires the support of a free press and democratic governance. Messer reviews the range of international organizations charged with providing an institutional response to hunger and famine and the range of indicators and policies they have employed to address the problem. Echoing the historical essentials with which the *Handbook* began, Messer argues that the history of hunger has seen a shift from localized seasonal food shortages characterized by periodic and expected shortfalls of food (the focus of Kaplan's work discussed in the introduction) to a situation where chronic hunger and undernutrition has become more common.

In the next chapter, David Smith provides an historical overview of the role of nutrition in the development of policy about food, from nineteenth-century experiments in social hygiene to recent calls for a fat tax. Focusing primarily on the United Kingdom, he outlines the (often contested) scientific basis of these interventions from the "discovery" of the calorie to the more recent emphasis on micronutrients such as vitamins and minerals. Smith shows how many interventions were driven by the need for a healthy and efficient military during wartime (see Burnett's work as discussed in the introduction) or by the desire to improve the health and well-being of schoolchildren following public reaction to the widespread prevalence of rickets or dental disease. Smith traces the influence of pioneering figures like John Boyd Orr on the dietary deficiencies of the poor. He examines controversies over wartime rationing and free (or subsidized) school milk. Acknowledging the protein gap between richer and poorer nations, Smith documents the establishment of international agencies such as the Food and Agriculture Organization of the United Nations (FAO), faced with an increasing divergence between chronic and widespread malnutrition in the Global South and problems associated with overconsumption, such as diabetes and heart disease, in the Global North. He ends by noting the growing influence of celebrity chefs such as Jamie Oliver and high-profile journalists such as Michael Pollan in shaping the contemporary public agenda on food, concluding that the history of nutrition policy shows that it has always been politicized and that nutritional science has long been involved in public debate among professionals, policy makers, and politicians.

Smith's chapter serves as a reminder of how far the meaning of food goes beyond its nutritional properties. Unni Kjærnes extends this argument in her analysis of food-related risks and questions of consumer trust and confidence in the food supply. Noting that food is not just a basic human necessity but also a potentially serious health hazard, Kjærnes charts the development of expert systems of risk assessment, risk management, and risk communication, arguing that each involves a balance of science and judgment. She challenges individualistic framings of risk, showing how consumer trust

in food varies systematically among European nations, suggesting that risk also has institutional and political dimensions that cannot be reduced to individual choice or personal perception. Reviewing work by Beck and Luhmann on the sociology of risk, Kjærnes shows how variations in public perceptions of food risk are embedded within social norms and routinized practice. Historically, she argues, consumers have moved from a situation in which trust in food was based on direct personal exchange, rooted in face-to-face relations of familiarity, to a situation where trust is now more abstract and impersonal, mediated through market mechanisms such as brands and third-party systems of quality assurance, traceability, and safety audits—illustrating once again the extended length of contemporary food chains. Her analysis sheds light on why there is such a significant divergence in public perceptions of new technologies, such as genetically modified (GM) foods and nano-science, in Europe and North America.

Returning to the global scale, Jane Midgley provides an account of the development of policy-related thinking about food security since the introduction of this "chaotic, contested, and inconsistent concept" in the 1970s. Contrasting four approaches to food security (in agricultural economics and resource management, socioeconomic analysis, political economy, and policy analysis), she shows how the term's usage has broadened from concerns about access and food safety to encompass more subjective notions of food preference and healthy living. Midgley argues that political debate about food security has intensified during periods of crisis when acute shortages of food arise following natural disasters or short-term price spikes. This, she argues, detracts from a more fundamental understanding of the process of securing food. Showing how the term can be applied at a variety of scales (from the nation-state to the individual) and over a range of temporalities, Midgley examines the various statistical measures that have been employed as indicators of food security as well as more qualitative approaches designed to explain the experience of food insecurity. She concludes by arguing that the instability of markets and food prices might be taken as the norm rather than the exception in future studies of food security.

Roger Dickinson's chapter on food and the media attempts to disentangle the problematic nature of media effects, focusing mainly on television and print media but also considering other channels of mass communication. Dickinson begins by noting the telegenic properties of food and cookery, accounting for its increasing presence across the media, including the rise of celebrity chefs and entire TV channels devoted exclusively to food. Dickinson considers whether the media should be understood as a mirror of society, reflecting social change and acting as a barometer for public attitudes, or whether the media themselves exert an independent influence on audiences. While some critics imply that food media have an inordinate influence (in advertising junk food to children, for example), others suggest a more complex model of media viewing whereby audiences are capable of exercising critical judgment in decoding media messages. Dickinson considers that American researchers have reached more definite (and pessimistic) conclusions about the media's negative effects than British researchers, reflecting different methodological approaches and theoretical orientations. He argues

that media research, particularly within the cultural studies tradition, has tended to focus on textual and visual analysis rather than exploring the production of particular kinds of media text (working with producers) or engaging directly with audiences (as consumers). Dickinson himself advocates a rapprochement between studies of media representations of food and the audiences who consume them, blending the traditions of empirical social science and theoretically informed cultural studies. He also discusses the role of the media in amplifying the effects of recent food scares, focusing on definitional struggles between different stakeholders (including scientists, government officials, and commercial interests) and on the different interpretive frames employed by different (lay and expert) audiences. The media, he argues, are best understood in terms of the resources they provide for their audiences, acting as a repository of different ways of making sense of the world.

The media also feature in Jane Ogden's chapter on eating disorders and obesity where they are construed as "the most powerful conveyer of social norms" and part of a wider "obesogenic" environment. Ogden seeks to explain the recent increase in rates of overweight and obesity in many Western societies, including the United States where roughly half of the population is overweight and around a third is obese. The incidence of disordered eating (including anorexia nervosa and bulimia nervosa) is also on the increase, with many people (especially women) reporting dissatisfaction with their body image and many dieting to reduce their weight. Ogden introduces four psychological perspectives on obesity and eating disorders. The first focuses on the role of the media and obesogenic environments; the second emphasizes individual cognition and social learning; the third is a psychoanalytic approach emphasizing early childhood experience within the family and the relationship between food-related symptoms and sexuality; and the fourth deals with ethnically specific culture-bound syndromes. Arguing that each of these approaches is inadequate on its own, failing to explain either cultural or individual variability, Ogden proposes an integrative model involving socially sanctioned pathways. Applying this model to eating disorders and obesity, Ogden argues that food-related tensions and anxieties are communicated in socially sanctioned and culturally meaningful ways. These symptoms include obesity and eating disorders among individuals who appraise them to be personally relevant.

The final chapter concerns food waste. Catherine Alexander, Nicky Gregson, and Zsuzsa Gille challenge the conventional wisdom of "end of pipe" approaches that consign waste to the final stage in a linear process of production and consumption. This conventional thinking, they argue, has led to waste being construed as an afterthought in mainstream research on food rather than as a productive site for cultural theorizing. In contrast to a technocratic interest in the efficient disposal of unwanted food, they introduce three theoretical approaches to food waste labeled respectively, political-economy, cultural, and posthumanist. They show how waste occurs at all points along the food supply chain from growing and harvesting to food processing, retailing, and consumption. They illustrate how contemporary food standards contribute to the generation of food waste and how governments at different levels have attempted to reduce

waste through legal directives and related policy instruments. Focusing on the cultures and ideologies of consumption, they show how food waste is often construed in terms of overconsumption, focusing on alleged deficiencies in consumer knowledge or assumptions about consumer profligacy, but also how food waste is related to displays of social power and acts of extravagant hospitality such as feasts and banquets. Finally, the authors turn to actor-network theory (ANT) to emphasize the range of (human and nonhuman) agents involved in the constitution of food waste. This leads to an interest in the material properties of different kinds of food and their agentic capacities as edible matter and an emphasis on the habitual domestic practices that contribute to the generation of household waste.

The discussion of food waste is a fitting way to end the *Handbook,* not because of its assumed place in a linear sequence of production-consumption, but because of the very way its thoughtful consideration challenges conventional modes of research and thinking about food. Historically, it is worth considering the point at which food waste became a significant issue in industrialized systems of food production and related cultures of mass consumption. Conceptually, fruitful further study might consider how food wastage can be accommodated within different ways of understanding contemporary agri-food systems, whether in terms of food regimes or commodity chains, networks, circuits, or assemblages. In policy terms, one might question how far the onus for waste reduction, recycling, and disposal should be on individual households or on wider political structures and institutional practices. Whichever way the issue is conceptualized, however, there can be little doubt that current levels of food waste are unacceptable—politically, environmentally, and ethically—within a global system characterized by such rampant inequalities and growing insecurities. Future generations of food scholars will have to grapple with these urgent challenges. It is hoped that the chapters in this volume will provide a reference point for such future scholarship and a conceptual compass for charting the future direction of food research.

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Hunger and Famine Worldwide

ELLEN MESSER

In the summer of 2011, the world looked on as famine engulfed parts of Somalia, forcing thousands of people to abandon their desiccated lands and food deserts and migrate in search of sustenance. The situation, implicated in thousands of deaths, fit the technical definition of *famine:* acute food shortage resulting in massive human suffering, starvation, and death and population movements out of food-deficit areas to avoid starvation. The root causes and precipitating factors fit classic famine concepts that such food production failure occurs in the face of weather, climate, or political shocks where local societies lack sufficient technological or trade capacities to compensate (see Devereux 2007). In this case, effective local food supply and demand were sharply reduced as pastoralists and farmers, whose crops and herds had been decimated by multiple years of drought, became unable to produce or buy sufficient food. The violent and unstable political context was another contributing factor, as the politically dominant Shaba refused to declare a famine or to allow food aid or its agents to flow into the most affected areas. The Shaba banished the World Food Programme, the most important food aid responder, and then shot starving people struggling to reach places offering emergency food sustenance. Humanitarians, who had been monitoring these deteriorating food conditions through multiple early warning systems (EWS), also blamed themselves for failing to respond with life-saving assistance (Maxwell and Fitzpatrick 2012).

This horrific disaster encompassed all the "natural" nutritional, geographic, and demographic and "human" economic and political factors that enter into modern understandings of hunger and famine as a situation that encompasses not only or necessarily food shortage or decline in supplies, but access to food as a household economic and individual social concern. It also showcases why reductions in food insecurity and eradication of famine worldwide remain human rights and development aspirations, not achievements. Global EWS were in place: the Food and Agriculture Organization of the

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United Nations' (FAO) Geographic Information EWS (GIEWS) and the United States Agency for International Development's (USAID) Famine EWS (FEWS) were closely monitoring the situation, but humanitarians still lacked accurate community-based assessments by populations experiencing severe local food stress, so they missed opportunities to intervene before deepening food insecurity became deadly famine (Maxwell and Fitzpatrick 2012; see Chaiken et al. 2009). United Nations (UN) agencies, moreover, did not enter uninvited and intervene in Somalia's internal affairs until famine, in diplomatic parlance analogous to genocide, was declared, which set obligatory humanitarian response in motion.

The urgent crisis situation, assessed by mortality indicators and population movements, reportedly moderated after emergency interventions and the onset of seasonal rains. Employing the most modern methods, humanitarians administered ready-to-use therapeutic foods (RUTF) to rehabilitate severely malnourished children. These fortified, lipid-based pastes enabled parents or caregivers to continue nutritional treatment at home, so as to prevent exposure to infection in emergency care situations. Humanitarians also used cash transfers to create effective market demand for food, so averting the risks and additional costs of trying to move food aid into remote, famine-affected areas. Relief also focused on helping restore the livelihoods of destitute pastoralists and farmers, who needed replenishment animals, seeds, and safety nets (cash or food credits) to tide them over and rebuild incomes. These interventions demonstrate changes in humanitarian thinking, from supplying free food or food for work to remedy food shortage to restoring and protecting livelihoods and entitlements to access food through market mechanisms (Maxwell and Fitzpatrick 2012).

The media also played their part, exaggerating the desperate food situation, although mostly after famine had been declared, offering dramatic, almost pornographic images of starving people and of Shaba militants with guns drawn and firing at them. The impacts of such media images highlight the catalytic role of the press in bringing famine events to the world's attention, but also its failure to document the incremental buildup from moderate to extreme food insecurity, which might have elicited earlier life-saving action.

These particular famine events, which came in the wake of a 'perfect storm' of factors that caused a world food price spike crisis in 2007–2008 and again in 2010–2011, also spotlight the root cause of deficiencies in global food systems, in official and nongovernmental (NGO) humanitarian institutions, and in legal-political ideas of ethical obligations to ensure everyone has a right to food and is free from hunger. In human rights parlance, the international community recognizes that individuals have a right "not to starve," but still struggles to respond appropriately to chronic poverty, food insecurity, and violations of civil-political and economic-social-cultural rights so that ordinary hunger does not deepen into severe deprivation and death. The sections forthcoming in this chapter address changing understandings of famine: concepts, definitions, and measurement; causation and corollaries; and related institutions and values. The last section explores the many ways scholars integrate hunger and famine into research on food and relate current to historical famines, including local to global impacts.

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CONCEPTS, DEFINITIONS, AND MEASUREMENT

Agriculture, food, and nutrition professionals systematically distinguish between *hunger,* a painful or uncomfortable subjective feeling of distress caused by unmet desire for food, and *food insecurity,* which measures unmet need or desire for food, principally for economic reasons. *Hunger* and *food insecurity* also serve as umbrella concepts that distinguish and interrelate hunger/food insecurity situations or vulnerability at multiple social scales.

The Hunger Typology

Drawing on famine research (history, geography, sociology, and demography), entitlement and political theory (economics and political science), nutrition (science and policy), and anthropology, the World Hunger Program at Brown University in 1986 formulated a three-tiered conceptual framework that considers food shortage at the national level, food poverty at the household level, and food deprivation at the individual level (see De Rose, Messer, and Millman 1998). This tripartite hunger typology distinguishes lack of food availability or acute food shortage at a regional or national level from lack of food access at the household level, where people lack adequate resources to acquire food even though national or regional food supplies are available. Even where households command sufficient resources to access adequate food, certain individuals within food-sufficient households may still suffer malnutrition if social distribution rules or cultural taboos militate against their getting a fair share or restrict their consumption or biological utilization of nutrients. This third situation, of individual malnutrition or risk of nutritional insecurity, characterizes nutritionally vulnerable groups, such as children; women who are menstruating, pregnant, or lactating; and others deprived of adequate nutriture as a result of class or cultural discrimination or disease status, which raises nutritional requirements.

If a country is food short, then some households will be food poor, and within food poor households some or all individuals will be food deprived. But not all households or individuals in food short or famine afflicted places are hungry. Community mechanisms for sharing and storing food, and moral rules for protecting nutritionally vulnerable women (widows), children (orphans), or strangers (noncitizens), also help determine who gets access to food in ordinary times or under conditions of dearth. Household coping strategies follow a regular sequence (see Colson 1979), whereby the person responsible for meals rations or extends available supplies by cutting meals and portion sizes, serving up less desirable comestibles, including more coarsely processed staple foods that allow consumers to feel full longer, or resorting to "famine" foods that are less palatable and often harder to digest. As supplies dwindle, social networks of food sharing shrink; social rules may break down as desperate people steal food and are harshly punished if caught. In hard-hit agricultural places, working-aged adults usually try to augment income streams through nonagricultural wage or piece work or more violent occupations,

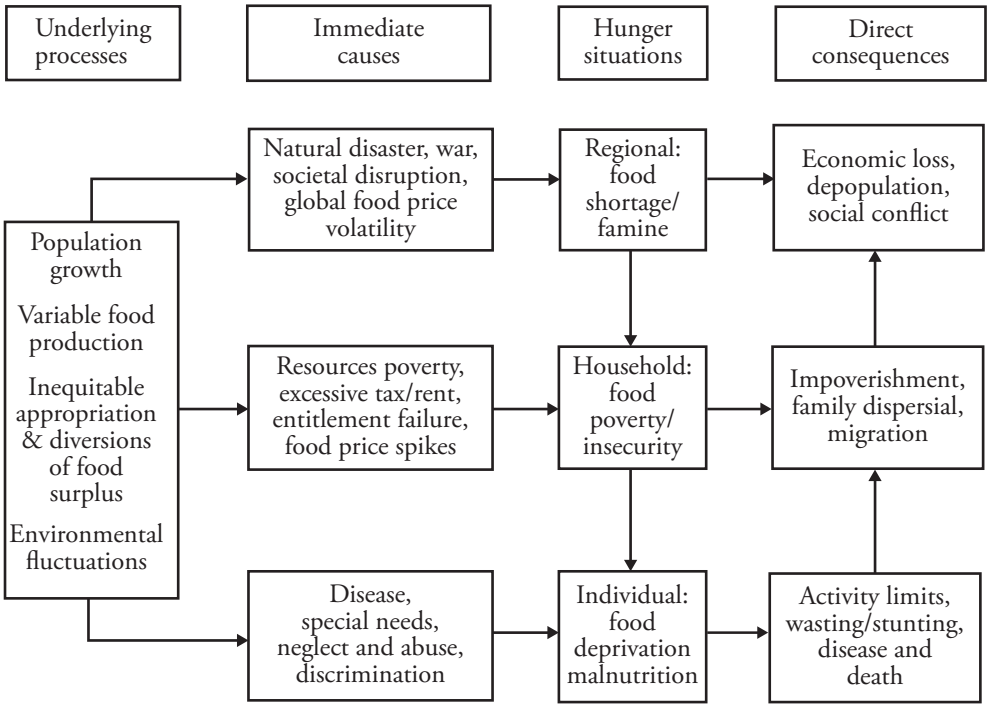


FIGURE 22.1 Conceptual framework for hunger and famine (adapted from Newman et al. 1990)

including prostitution or armed banditry. Some migrate away, which reduces the numbers of consumers and increases possible remittance income. As conditions deteriorate, children may be sent, lent, or sold to households that promise to feed them. As a last resort, remaining households relocate, with or without prospect of return. These coping mechanisms align with famine signs, which include declining food availability and access due to crop failures, appropriations, or exceptional market price increases accompanied by social disruptions, population migration, and increases in antisocial behavior.

Understanding and blocking the causal pathways that leave some individuals malnourished in situations of adequate food and other individuals well nourished despite general dearth is a major objective of food and nutrition science and policy. Food security paradigms, which define *food security* as "all people at all times have physical, social, and economic access to nutritious, safe, and sufficient food to meet their dietary needs and food preferences for an active and healthy life" (FAO 2003) and *food insecurity* as lack, analogously incorporate these three levels of analysis: availability, access, and utilization (see Midgley, Chapter 25, this volume).

Situating Famine and Food Insecurity

At the time of writing (2012), there is no world food shortage; since the 1960s, the world in aggregate has produced more than enough food to feed everyone a nutritionally

adequate basic diet. But much of this agricultural product is diverted to nonfood or nonhuman (livestock) end users, and what food remains is not equitably distributed. Moreover, market forces do not necessarily transfer food from places in surplus to places in deficit; within countries, food access is further restricted by socioeconomic inequalities and poverty. In 2012, at any particular time, twenty to thirty developing and transition countries were dangerously food insecure, in need of emergency external assistance. This means that national food consumption requirements outstrip dietary energy supplies, and for various political-economic reasons, governments lack capacity or will to respond. The largest proportion (two-thirds) of these food-crisis countries are located in sub-Saharan Africa (SSA), which, after years of natural compounded with political disasters, shows the largest numbers in protracted food crisis (FAO 2010). Other crisis countries (e.g., Afghanistan, Iraq, North Korea, Haiti) show analogous histories of political and economic violence, repression, or instability, plus natural disasters, for which they lack human and political resources to respond. The FAO GIEWS *Crop Prospects and Food Situation* classifies such countries as suffering "aggregate shortfall," "widespread lack of access," or "severe localized food insecurity." Reports attribute as principal causes low productivity, HIV/AIDS, adverse weather, deepening economic crisis, natural disasters, and poor market access, but also conflict or conflict-related damages, civil strife, insecurity, refugees, and internal displacements. All famines or acute food shortages today occur in places where there is active conflict, a legacy of violent conflict, or political repression that does not allow timely or effective humanitarian response (Messer 2009).

Although acute food shortage—famine—or starving children present the most dramatic images of hunger that evoke the most passionate response, lack of household access to food presents the largest challenge. The one billion people or one-sixth of humanity who are the target of World Food Summit (1996) and Millennium Development Goals (MDG) efforts to halve absolute numbers and proportions of world hunger, are mostly food poor and lack access to balanced food and nutrition for economic reasons, not because there is any world food shortage (UN Millennium Project 2005). Although countries such as India and Bangladesh show progress in reducing hunger, the largest numbers are still located in south Asia, followed by large and increasing numbers in SSA. Many economists worry, in addition, that numbers will increase everywhere as a result of economic downturns, livelihood failures, sharply increasing food commodity prices, and disruptions to production and markets as a result of climate change, conflicts, and "land grabs"—that is, foreign direct investment (see the annual *Global Hunger Index* reports). Since the 1940s, plant breeders and agronomists have been raising levels of food production, using the tools of *green revolution, doubly green revolution* (which adds environmental sustainability components), *precision agriculture,* and *bio-revolution,* which includes genetically modified seeds and molecular diagnostics (cf. Le Heron, Chapter 2, this volume). Critics of such high-input production methods add additional and alternative agro-ecological tools that should help both small and larger-scale farmers make agricultural processes and incomes sustainable and more just (see, e.g., Food First Institute for Food and Development Policy and communications of the IAASTD).

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But whether such food production increases will substantially reduce hunger depends on distribution, entitlements, and what people are eating. Food crops diverted to animal feed or fuel reduce staple food crops available for direct human consumption, and in the process raise food prices. Whether there will be enough food produced to feed everyone in the world will depend very much on proportions of grain-fed animal foods in future diets, and the cultural as well as economic choices individuals, households, and countries make about food resource allocations.

Another concern is malnutrition, caused by insufficient or unbalanced diets that fail to deliver essential nutrients. In famine and food shortage situations, starving and emaciated adults and wasted or distended-belly children suffer also from less visible, but equally life-threatening vitamin and mineral deficiencies. Accordingly, emergency food aid interventions increasingly emphasize enriched food rations for adults and children and micronutrient supplements or fortified foods as preventives. As a corollary, food-system interventions, such as those of the World Food Programme (WFP), seek to build not only food production, but enriched food processing and marketing, as enhancements to local and regional trade capacities and food self-reliance (Webb et al. 2011).

AGENTS AND AGENCIES

Multiple UN, government, nongovernment, and civil society agencies, especially since the 1973–1974 world food crisis and corresponding 1974 World Food Conference, assume responsibility for diagnosing, addressing, and preventing these food security and malnutrition problems. This crisis, marked by spiking food and oil prices at a time of Middle East political crisis and OPEC oil reductions that caused petroleum shortfalls and higher prices, led to an international conference that established roles for the major food agencies. It also corresponded with the founding of the International Food Policy Research Institute (IFPRI), whose food and nutrition numbers and analyses supplemented those of the FAO.

Official Agencies

Official intergovernmental food and nutrition activities since World War II are centered in Rome, Italy, home to the Food and Agriculture Organization of the United Nations (FAO), WFP, the International Fund for Agricultural Development (IFAD), and Bioversity.

The FAO, the UN international food agency, estimates national food supplies and per capita food availability. It also hosts GIEWS and, since the world food price crisis of 2008, reports basic food commodity price information for most countries. The FAO combines these food statistics with household economic income, expenditure, and consumption survey data to estimate the proportions and numbers of households and individuals who do not have economic access to a minimally adequate basic diet (food insecurity) or food energy (undernourishment). It collects, analyses, and regularly

reports these global and national, and, in some cases, subnational food production, food flows (imports and exports, terms of trade, and waste), food price, and consumption trends in two annual publications, *State of Food and Agriculture (SOFA)* and *State of Food Insecurity (SOFI).* The FAO also posts up-to-date food insecurity vulnerability monitors, reports, and interactive maps on the Internet and tracks progress on the international goals to halve hunger, defined as cutting the absolute numbers of world hunger from 800 million to 400 million over the period 1990–2015.

Separate nutritional indicators document childhood hunger, using measures of childhood growth failure: the proportion of children under five who demonstrate low weight for age, low height for age, low weight for height for age; and infant and child under five years mortality rates. The United Nations Children's Fund (UNICEF) regularly reports this information and judges how well governments and the world are meeting obligations to reduce childhood hunger and advance child survival in its annual report, *The State of the World's Children* and special publications, such as *Children on the Frontline,* which considers the situations of children in war zones.

The United Nations Development Programme (UNDP), in conjunction with the World Bank, also tracks progress on nutrition as part of the Millennium Development Goals (MDG) framework, which includes "halving hunger" (proportion of world hunger 1990–2015) as a target and achievement indicator of goal number 1, which aims to cut poverty. Reducing hunger is also integral to and reliant on achievements of other MDGs, which include improvements in child health, water, and sanitation, women's reproductive health, reductions in epidemic disease, and improvements in education and networking. These agencies publish annual agriculture, food, and nutrition situations, by country, in their respective annual *Human Development Report,* which considers hunger among other standard of living indicators, and *World Development Report,* which considers agriculture, food, and nutrition and related gender and conflict issues among other economic development concerns. In the recent period—since 2007—of rising food prices and crises, UNDP increasingly works with the World Bank to monitor food and hunger situations and responses, although food sovereignty proponents who support the FAO's human right to food approach see such indicator-driven efforts as a direct challenge to the FAO's and civil society mandates. Food sovereignty proponents advocate people's control over their food systems, and include among their numbers Via Campesina, a network of land and peasants' rights activists, and Slow Food activists. They ordinarily oppose World Bank efforts to modernize, homogenize, and integrate agricultural production and markets within and across countries.

The United Nations University (UNU) historically also has worldwide research and training divisions dedicated to world hunger, poverty, food, and nutrition, and publishes the *Food and Nutrition Bulletin;* UNU's World Institute for Development Economics Research (WIDER), based in Helsinki, analyses the economic causes and consequences of food problems.

In conjunction with these UN activities, international and national food and agricultural research centers (IARCs) under the Consultative Group on International

Agricultural Research (CGIAR) address production, prices, consumption, and nutrition issues all along food value chains and across food systems. Within this "Future Harvest" network, the International Food Policy Research Institute (IFPRI), based in Washington, DC, contributes studies evaluating all aspects of food policies and projecting food into the future, especially in its 2020 Vision on Food, Agriculture, and Environment program. IFPRI also monitors and reports global and regional hunger numbers and food system trends, adding value to the FAO's numbers and often providing additional analysis and interpretations. As an additional informational and advocacy tool, since 1990, IFPRI, with German Bread for the World and Project Concern, has been reporting and tracking trends in a Global Hunger Index (GHI) at the national and regional levels. The GHI is the arithmetic average of food insufficiency, proportion of children who show low weight for age, and death rates in children under five years. Taken together, these indicators and indices display the many ways the world community tracks hunger and food insecurity in standard categories, which agencies and advocates then use to advance and promote programs to end hunger and achieve the Millennium Development Goals (MDGs). UNDP and the World Bank, for the MDGs, track these numbers; along with the FAO's annual SOFA and SOFI reports, and many more frequent publications, which include crop situations, emergency food needs, and, since 2010, food prices.

In disaster situations, the World Food Programme (WFP) and the international Red Cross and Red Crescent Societies are the main humanitarian responders. Although for a brief period, in the early 1990s, WFP privileged development over emergency assistance, it had to reverse the ratio again in the 2000s as complex emergencies and protracted crisis situations multiplied, along with escalating demands for food. In the 2010s, WFP clarified the optimal nutritional content of emergency rations for different age and gender categories and sought to source more of its food locally, in a more timely fashion, nearer to intervention sites. Such sourcing has seen WFP move into food system interventions, especially in conflict-affected countries, where its Purchase for Progress (P4P) program aims to build reliable, high-quality local sources of emergency food while helping farming households and associations renew agricultural capacities and expand reliable and transparent food markets and trade. The International Fund for Agricultural Development (IFAD) is the other Rome food agency, established in the wake of the world food crisis and World Food Conference of 1974, to recycle OPEC petrodollars into agricultural development, particularly in Muslim countries in the Middle East and north Africa.

These intergovernmental agencies work closely with sovereign government food, agriculture, nutrition, and health departments and ministries, and also with international banks that provide financing for food improvement and agricultural development programs. They also work with the international Red Cross and Red Crescent societies, humanitarian agencies responsible for delivering essential aid to people on all sides of natural and political disasters. The International Federation of Red-Cross/Crescent societies publishes an annual *Disasters* report, which reports food emergencies. Evidence from these reports can be used to assess nutritional needs and international response and

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to pressure countries to be more generous in food aid, or in some cases to stop using food as a political tool to control disaster-stricken populations.

Nongovernmental and Civil Society Organizations

Numerous nongovernmental organizations (NGOs) also monitor and respond to food and hunger situations; among the best known are Action Aid, Oxfam, Project Concern, CARE, and Save the Children, which all have international, regional, and national offices. They provide local-level or supplementary reports of national food security conditions and link national and international agencies to local populations. Many, like Oxfam, were founded to respond to particular famine conditions (in the case of Oxfam, to Greek starvation in the wake of World War II). Numerous faith-based NGOs are also involved in food and agricultural technical assistance, advocacy, or direct service, including emergency food relief and economic and social development. These NGOs respond out of religious conviction and obligation and add to the voices asserting that everyone has a human right to food and that the international community has an obligation to provide it.

In response to the Sahelian and Ethiopian famines of the 1970s, and then horrific Ethiopian famines again in 1984–1985, Western media raised public interest in relief. Band Aid, Live Aid, and USA for Africa were three media star responses to suffering in Africa, which raised millions of dollars for relief.

The actions of all these agencies, of which there are now thousands, show that there is no shortage of concern about famine and hunger or of technology efforts to prevent food shortage in the first place. Most recent efforts include some combination of public action partnered with private agency or agencies, which offer technical and business expertise in addition to emergency funds and longer-term investments in education, training, and infrastructure for development. In the twenty-first century, the persistence of hunger appears to be more a question of aligning cultural values to end hunger with political priorities to do so and the requisite economic pieces.

INSTITUTIONS AND VALUES

The last great subsistence crisis in the Western world occurred after a year without summer (1816–1817). In response, European governments mobilized carryover food stocks and imports of grain from surplus world regions to mitigate shortfalls because "It had become politically unacceptable to allow famine to run rampant" (Post 1977: 233). The idea that starvation deaths are preventable and therefore immoral, and that governments have an obligation to intervene, later motivated Great Britain to establish famine codes for its colonies in India and southern Africa. These institutions and values subsequently were taken over by national governments in south Asia and sub-Saharan Africa and by UN institutions that viewed food security and famine response as central to its peace and development mission. Simply stated, it became immoral and irresponsible to let people starve in a world with abundant food.

Yet ironically, only thirty years after Europe averted widespread famine, Irish peasants and paupers starved when their primary staple food, potatoes, rotted with blight, yet British landlords continued to extract grain from their Irish estates. British trade authorities chose not to distort regional grain markets and changed its damaging corn laws only years after they allowed the Irish to starve. Similarly, British famine codes in colonial India and southern Africa responded to declarations of famine, recognized by rising grain prices, increased migration, rising numbers of beggars, and elevated crime. The codes set in motion include government tax relief, public works livelihoods programs (now called food for work), emergency soup kitchens, and in the case of the Sudan, shifts in production from export cash crops to basic food crops in the best irrigated company lands. Yet these codes were established only after horrific famine death tolls in the 1870s, and even after enactments were only selectively implemented because colonial governors first had to declare a famine and implement the codes, imposing considerable economic costs, which some were reluctant to admit.

Feeding starving masses, moreover, remained subordinate to other strategic priorities or theories. This proved especially true during wartime, when the British, like others, fed their military first and foremost, even when this occasioned severe deprivation among civilian populations. The great Bengal famine of 1943–1944 (Sen 1981) was one result. Across the nineteenth and twentieth centuries, more generally, hunger continued to be used as a weapon and food as a political tool. China's Great Leap Forward produced what may have been the greatest famine mortality in history (1959–1961), killing fifteen to thirty million people (cf. Zhou 2012). Agricultural and command economy provisioning policies of Communist Chairman Mao are implicated, although Helen Siu's (1989) oral history suggests it is not clear that such massive suffering and starvation was at all intentional.

Blockades, scorched earth, and destruction or diversion of food supplies figured prominently in historical civil wars, including the U.S. Civil War, the Nigerian-Biafran civil war (1969), Pol Pot's brutal suppression and forced exodus of urban Chinese into the countryside (1975–1979), and the Guatemalan civil war pitting elites and military against indigenous, alleged communist subversives (1979–1982). Siege also continued to play a part in interstate warfare, including Stalin's (Soviet Union's) violence against Ukrainian peasants (1932–1933), the Siege of Stalingrad by Germany (World War II), and Nazi Germany's dehumanization of Jews and other victims in ghettos and camps. Violent conflict is particularly implicated in persistent and complex food emergencies in some thirty sub-Saharan African countries, war-torn Persian Gulf countries, and Afghanistan.

These examples show that, despite peace time values on preventing suffering due to acute food shortages, famine persists in places where food is used as a weapon, where conflict or postconflict conditions of political violence and instability make food flows very difficult, and where outsiders let the market and politics take their brutal, hunger-potentiating course. The international humanitarian community, through its Geneva Conventions and United Nations and NGO agencies, provides the values and

institutions to intervene, yet such interventions raise additional ethical dilemmas. Historically, wars of attrition were nutritionally self-limiting: armies ran out of food or arms, peasant soldiers returned home to plant or catchment areas atrophied from violence and pillage. In the present era, however, humanitarians act on principled obligation to feed everyone, regardless of politics, in an emergency. In many sub-Saharan African conflicts, life-saving humanitarian food aid becomes a fungible commodity that feeds and funds combatants and keeps thuggish leaders in power. This pattern, which began with humanitarian response to the Biafran-Nigerian civil war, allows no uncompromising exit. Repressive political regimes, such as North Korea's, insist that some large proportion of aid be delivered through official channels, necessarily feeding their military before civilians. More troubling, famine relief does not necessarily end hunger, only starvation. Where famine relief provides safety nets to keep or pull households out of destitution, survivors may still be stuck in chronic food insecurity and undernutrition.

CAUSES OF FAMINE AND HUNGER IN HISTORY

Hunger in History (Newman et al. 1990) tracks changes in food shortage, poverty, and deprivation over millennia, centuries, decades, and very recently. Ancient understandings of causation involved both efficient (natural, material) and ultimate (superhuman, moral) causes, with human steps in between. Famines might be caused by drought or war; survivors credited superior leadership capacities and divine favor. In China, emperors saw their power wax and wane depending on their capacities to prevent drought, flood, and plague, ensure prosperity, feed the people, provide for the military, and successfully store and distribute grain, keep the peace, and demonstrate they enjoyed the will of heaven. Biblical sources treat horrific famine as a natural occurrence but also divine punishment, and delivery from famine or siege warfare as divine grace.

Modern scientific explanations use the Malthusian language of demographics and economics. Malthus (1798), a clergyman and economist, rationalized starvation, "the third horseman of the Apocalypse," as the inevitable equalizer (see Tiffin and Salois, Chapter 8, this volume). His 'dismal hypothesis' posited human populations would increase exponentially, and food resources arithmetically, and so periodically crash, from overpopulation, experienced as famine, disease, war, and death. Esther Boserup's alternative innovation hypothesis countered that scarcity (population pressure) stimulates agricultural innovation (stimulus and response hypothesis). Karl Wittfogel's hydraulic hypothesis is a variation on this theme, which holds that organizing society for water management is key to social and political evolution, or in food terms, harnessing people and water for greater food production and power. Various environmental determinist, possibilist, and ecological models supplement these basic ideas, which view forces of nature or humans as more or less dominant in transforming the conditions of production and food security and raising or decimating human food production and populations overall. Thus, depending on one's predilections, one blames the potato, the blight, the landholding and agricultural production system, the British cultural political

attitudes toward free market economics, or the Irish themselves for the Great Hunger of 1846–1849 (see Ó Gráda 2009; Sen 1981).

These various scientific aetiologies view acute food shortages as combined natural and human failures, where nature may set the context, where human societies somehow fail to invent or implement agricultural technologies and measures of social control to produce a surplus, then store and distribute this extra food in a bad year or import food from afar, all while keeping the peace. Additionally, at multiple levels (local, subnational, national, regional, world), human societies somehow fail to instill consumption habits that will stretch food supplies, grow healthy children, maintain adult health and functioning, and organize society and leadership for sufficient if not optimal and flexible food system functioning. Ultimately, these explanations for food system and social breakdown, entitlement failures, and vulnerability to environmental or political hazards are not so far from persistent religious explanations, which attribute hunger to the superhuman realm, but do not neglect the dimensions by which humans manage the natural world more or less successfully. Some combination of natural and political factors also explains the extent and causes of famine mortality. In most cases, the majority die not of absolute starvation, but of disease, because hygiene is so poor and infection so endemic.

Alternatively, food shortages can be viewed through a Marxist lens, that availability depends on specifics of economic exploitation of workers by middle- and upper-class managers and owners (excess appropriation hypothesis), the way capitalist elites manage or mismanage food production, processing, and distribution for their own profit-making ends (Wittman, Desmarais, and Weibe 2010). Another economic lens is Amartya Sen's entitlements framework (1981), which assembles evidence to support the hypothesis that acute food shortages (famines) are not caused by absolute lack of food, food production failures, or food availability decline, but rather by lack of effective demand and market failures and distortions. Contributing factors include natural resource endowments to land, water, and seed to produce food, exchange entitlements to sell for food and other goods in the marketplace, and social security or transfer entitlements to acquire and receive food as gifts when the other entitlements fail. Ó Gráda (2009) points out that such explanations do not rule out a genuine food deficit resulting from political or war-related food diversions or government unwillingness or incapacity to respond to food crisis. Amartya Sen and Jean Dreze (Dreze and Sen 1989) also argue that democracy—a free press, political capacities to hold government accountable—is intrinsic to famine prevention and freedom from hunger.

De Waal (1997) and Stephen Devereux (2007) add that food systems breakdowns and entitlement failures have certain political causes. Violent political conflict and political instability diminish food production by destroying lands, poisoning water sources, and commandeering farm labor to fight. Conflict furthermore interferes with markets and trade and diverts food and marketing to military ends, destroys or limits access to health services, and increases disease. Messer and Cohen (Messer, Cohen, and D'Costa 1998) detail the many ways *food wars,* defined as the use of food and hunger as weapons, and the legacy of conflict, contribute to continuing food shortages, poverty, and

malnutrition. Disease is another element contributing to food underproduction, especially HIV/AIDS in sub-Saharan Africa. Finally, humanitarians blame predatory and human rights-violating authoritarian political regimes, intentional or unintentional incompetence or governance failures, and the humanitarian and economic development communities because they encourage economic and political violence by the ways they distribute food and other economic assistance. These political perspectives view failures in humanitarian response (Devereux 2007), whether intentional or not, as underlying causes of protracted political crises and complex emergencies in more than a dozen SSA countries (FAO 2010). These are the "new" or "new variant" famines of the 2000s.

Overall, the history of hunger shows hunger situations and causes have shifted from localized seasonal food shortages, periodic and expected food shortfalls for which local populations have effective coping mechanisms, and very infrequent famines that kill when such food substitutions, rationing, ramp up of exchange entitlements, outmigration of workers who send remittances, and social security or other coping mechanisms fail, to chronic hunger and undernutrition. Since the 1974 World Food Conference, more systematic world efforts to diagnose and respond to famine mobilize official and NGO responses. Efforts include getting the media and media stars on board to publicize hunger, famine, and human responses.

But as the Somalia case shows, these efforts are still insufficient. Since the 1990s, these international interventions point to market mechanisms for managing food prices, supply, and demand, and also to household livelihoods as the best way to produce sustainable end to hunger. In a world context where external foreign direct investment (FDI) and transnational food commodity markets make control over land and markets a growing threat for poor and marginalized food producers and consumers, there is also increased attention to rights-based approaches, articulated especially by the office of the UN Special Rapporteur on Right to Food. But in this context, world leaders continue to argue over whether or how much to let markets run their course, to smooth production, price, financial, and other volatilities, or when to intervene. Such arguments are rooted also in different visions and evaluations of sustainable agro-ecological versus high-input modern agriculture, and whether food insecurity, which threatens famine and starvation, is due to natural resource scarcities or scarcities of effective and compassionate human governance, political institutional capacities, and democracy. Agro-ecological professionals (see, e.g., IAASTD 2009) envision increasing biodiversity and cultural diversity in food and agriculture as the way forward, a way that privileges the distinct knowledge, crops, and technological approaches of different peoples. They see this as especially urgent in an era of climate change and food price volatility. By contrast, proponents of agro-biotechnology persistently favor high-input and technology-driven optimal agricultural enterprises (e.g., Fedoroff and Brown 2007; Juma 2011). They proceed with generous funding from forward-looking, strategic agents of change, such as the Bill and Melinda Gates Foundation, a leader in private and public funding consortia investing in agriculture, especially in sub-Saharan Africa.

HISTORY AND THE FUTURE OF FAMINE AND HUNGER IN FOOD RESEARCH

Historically, famines produced indelible memories; affected populations named the most horrific multiyear food shortages (e.g., year of the locusts, year of the specific famine food), remembering such extreme privation in their folklore as famines that killed, and marking births and deaths and individual, community, and national political events in reference to them. Historians point out that these severe famines were game changers: transforming the political landscape of the ancient Near East, historical China, and modern Europe through emigration and the Americas through immigration, and also setting in motion economic policy changes, including the aforementioned ending of the corn laws and introduction of famine codes.

Analogously, humanitarians and global citizens, professionals and ordinary people who respond with food aid on all sides of a crisis, and also promote political advocacy on behalf of the hungry, mark policy time in relation to the 1973–1974 African famines, which forever raised the ante of United Nations and world responsibility to monitor and respond with food aid.

Famines are disappearing, but the key to ending hunger will be sustainable decline in poverty and improvements in food access, and political-economic capacities to break the links between climate, weather, political, and economic shocks that catapult some countries into acute food crisis without sufficient capacities to respond. Although it is difficult to disagree with the promoters of modern agricultural technology that "Malthus must wait" as a result of their achievements, famine and hunger are largely failures of management and human rights, which are less amenable to laboratory, field, or market fixes.

Thus, engagement with issues of hunger and human rights will be central to famine and hunger studies in the future. In particular, the legal commentaries of the UN Special Rapporteur on Right to Food provide guidance for reflection and additional research. Among other topics that should continue to engage hunger and famine researchers are continuing studies of the ecology and politics of world hunger and the ways food shortage cascades into food poverty and food deprivation—or is stopped in its tracks. Studies of globalization, of the ways political-economic transformations affect hunger and poverty (see Von Braun and Diaz-Bonilla 2008), are likely to remain current for the foreseeable future, with continuing demand for country- and community-level case studies. The significance of foreign direct investment ("land grabs") will also provide increasing evidence for analysis, particularly investments of Chinese state and private agencies in sub-Saharan Africa, and the impacts on food security in all places where foreign or combined foreign and nonlocal investors replace food crops with cash crops, particularly crops for liquid biofuels. Finally, studies of conflict, the use of food and hunger as weapons and political tools, should continue to engage researchers and activists as a related but separate topic (see Messer 2009).

23

The Politics of Food and Nutrition Policies

DAVID F. SMITH

We are familiar with voices calling for the application of nutrition science via public policy. An example is a recent article in *Nature,* in which American pediatrician Robert Lustig and his colleagues called for controls on sugar similar to those on tobacco and alcohol. They argued for a tax doubling the price of sugar-laden soft drinks, their particular concerns being the alleged metabolic impacts of fructose, a constituent of table sugar (sucrose), and high-fructose corn sugar used in many foods and drinks. They regard fructose as a poison implicated in obesity, diabetes, hypertension, and heart disease and consider that the focus on fats in nutrition policy since the 1980s has been counterproductive—leading to an increase in sugar consumption (Lustig, Schmidt, and Brindis 2012). Lustig meets with skepticism from some scientists, defensive responses from food industries, and, to date, inaction from the U.S. government, although attempts to tackle obesity via taxation are being made elsewhere, notably Denmark (Corn Refiners' Association n.d.; Dayton 2012; Katz 2011). But calls for policies based upon nutrition science have a long history, and there are numerous episodes of policy making.

This chapter focuses on the history of policy informed by nutrition science rather than microbiology and toxicology (i.e., adulteration/contamination issues), or economic and commercial issues (e.g., tariff reform, subsidies, compositional standards, etc.), although such dimensions of food policy do interact with nutrition policy. Virginia Berridge (2005: 15–21) has characterized four schools of thought regarding science-policy relationships: first, the evidence-based approach, which supposes that science could lead policy in a value-free way—if only, for example, scientists were skillful communicators and policy makers scientifically literate; second, the journalist school, which features heroes, villains, and conspiracies (visible in academic as well as journalistic output); third, analyses informed by the sociology of scientific knowledge, which, in fact, are often less concerned with policy than with the laboratory construction of knowledge;

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and, finally, science/policy studies, which often take the science as given, but explore the networks involved in translations into policy. There are examples of such analyses dealing with policies arising from links between diet and degenerative diseases, principally heart disease (Garrety 1997; Hilgartner 2000; Mills 1992). But empirical historical case studies are often not neatly pigeonholed, and Berridge might have added a fifth school: the illustration of large-scale social theory about science and the transition to modernity, where examples focus on the quantification of diets (Treitel 2008; B. S. Turner 1982). But broad divisions within history—for example social and economic versus cultural history—sometimes separate historians concerned with food, nutrition, and policy (see, for example, Oddy 2009; Walton 2003).

Drawing on a variety of literature, this chapter introduces nutrition policy via a broad chronology covering the last century or so. By the 1910s, the modern tools of the trade of nutrition science were in place: the calorie, macronutrients (carbohydrate, fat, and protein), and micronutrients (vitamins and minerals); serious state funding of biomedical science was beginning; nutrition scientists were seeking involvement in policy; and, to a greater or lesser extent, governments were embracing nutrition as part of their remit. To allow a tolerably coherent account Britain will provide a focus, but comparisons with other countries, and international dimensions, will be included. The concluding section reflects on some general features of nutrition policy and considers future research opportunities.

WORLD WAR I

Before 1914, the newer knowledge of nutrition was emerging: the discovery that unidentified substances, labeled *accessory food factors* or *vitamins,* were needed to prevent deficiency diseases. This gave rise to an approach sometimes described as "qualitative" as opposed to the older "quantitative" approach focused on thermodynamics (calories) and protein—although the estimation of vitamin requirements was soon under way. The older approach was associated with a German-American research program using calorimeters, expensive machines for quantifying energy expenditure funded by governments or philanthropy. Several scholars have deployed social theory in analyzing this new science. Treitel (2008) considers the "rational nutrition" program of the German M. Rubner as, like eugenics, an example of biopolitics—attempts to apply biology to problems of modernity. Greta Jones' (1986) category "social hygiene" implies a similar position. (And see also Smith's [2009] treatment of vitamins in terms of biopolitics.) Bryan Turner (1982) has spoken of the Foucauldian disciplinary potential of the "discourse of diet." James Vernon (2005) argues that the quantification of food requirements contributed to a broad ethical shift manifest in the emergence of school meal programs. Analyzing the technopolitics of school meals, he emphasizes the roles of scientific and technical actors and uses a similar approach in a cultural history of hunger (2007). The study of the aspirations and rhetoric of scientists and the emergence of nutrition-related services no doubt illustrate long-term social dynamics, but tracing policy formation and

implementation concretely via archival research requires reference to personal, professional, disciplinary, institutional, economic, and political interests, as well as specific contexts. This is the approach advocated by Naomi Aronson (1982) in her study of American pioneer W. Atwater, who raised funds for research by claiming that food requirement measurements could help settle conflicts over wages. It should also be noted that, far from leading a charge toward modernity, some scientists and pressure groups deploy research findings in the defense of traditional ways of life, including eating.

A key actor in the newer knowledge was biochemist F. G. Hopkins. Since, in the early 1900s, his research resources at Cambridge University were inadequate, he collaborated with American diet reformer Horace Fletcher. Fletcher advocated thorough chewing (Fletcherism), claiming it reduced the energy and protein requirements recommended by Atwater. Fletcher was a prominent figure of the American "Golden Age of Food Faddism," and his views on food requirements were supported by American chemist Henry Chittenden (Barnett 1992; Carpenter 1994: 107–112; Levenstein 1988: 86–97). Fletcher and Hopkins appeared as expert witnesses before the Local Government Board's 1905 Committee on Vagrancy. In light of Chittenden's findings, Hopkins was amenable to lowering the protein standards. He also pointedly remarked that Chittenden was supported by government grants not available in Britain (Barnett 1997). Hopkins is an example of a "public scientist" (F. M. Turner 1980) who wanted state funding and the involvement of scientists in policy. He first alluded to unknown essential food substances in a 1906 speech to the Society of Public Analysts. In 1912, he published his experiments with rats and refined diets in *Journal of Physiology* and introduced the phrase *accessory food factors* (Weatherall 1995; Weatherall and Kamminga 1996: 275, 417–418).

By 1914, Hopkins was realizing his ambitions. He was receiving funds from the new Medical Research Committee (later Council, MRC) and the Development Commission, a body supporting rural development projects—including animal nutrition research (Weatherall 1997). During World War I, as food shortages and price increases intensified, Hopkins became a leading advocate of scientific wartime food policies, the vehicle for which was the Royal Society Food (War) Committee, which advised the Ministry of Food (established late 1916). Relationships between the Committee and Ministry were stormy. The Committee's mantra was that, according to thermodynamics, food intakes could not be reduced without damaging working capacity. It argued for a policy whereby bread remained unrationed and affordable, constituting an elastic reserve. The Committee was offended whenever the Ministry offered contrary advice and outraged when it employed followers of Fletcher (Barnett 1985; Hull 2002; Smith 1997b). Few of the Committee's memoranda referred to vitamins, and, although Hopkins was to characterize the advent of vitamins as superseding the thermodynamic approach, there are no signs that he dissented from the Committee's position. Maintaining unity and gaining influence with officials and politicians took priority. But in contrast to the civilian sphere, in the military sphere the new science of vitamins and deficiency diseases was pressed into service (Smith 2009).

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The authority on energy requirements, D. N. Paton, Regius Professor Of Physiology at Glasgow, had supervised dietary surveys using methods pioneered by Atwater (Smith and Nicolson 1995). He represented the Royal Society on the Ministry's Rationing Committee and helped prepare for an Inter-Allied Scientific Food Commission meeting in early 1918. The challenge was to counter the arguments of an American delegation led by Chittenden, who maintained that calorie and protein intakes could be reduced. By pressing Chittenden's case, the U.S. Food Administration hoped to decrease its commitments to Europe. However, his proposals were defeated (Barnett 1992) and the British delegation thereby helped maintain the "breadstuffs" policy throughout the war. Although Gazeley and Newell (1910) claim that the vitamin content of working-class diets deteriorated, historians have generally regarded British policy as successful on the basis of improving civilian mortality rates (J. M. Winter 1977). In contrast, in light of the Allied blockade, the German population suffered an increase in mortality (Vincent 1985).

INTERWAR

According to Aronson (1981), following Atwater, U.S. nutrition science prescribed class/income stratified food packages. The poor were to purchase the cheapest fuel to enable their work, while the better off could enjoy a palatable diet. But from 1917 the U.S. Food Administration directed food toward the war effort. Propaganda now condemned overconsumption by the rich, which reduced the food available for military purposes. The prescriptions therefore became more egalitarian, and the newer knowledge supported the new policy, emphasizing the value of homegrown vegetables and fruit and facilitating acceptance of shipping staples to Europe (Levenstein 1988: 137–146). Britain, in contrast, relied more on intervention than propaganda. There was widespread, but limited, rationing in 1918, but the unrationed breadstuffs strategy was, in effect, a class-stratified policy. The egalitarian potential of the newer knowledge was not prominent until later in Britain. American foreign policy, such as the Relief Administration's management of food supplies in Europe, remained denominated by the calorie (Cullather 2007).

In light of its successes, toward the end of 1918, the Royal Society lobbied for the establishment of a national nutrition laboratory to conduct and coordinate research and provide advice. Reminiscent of Aronson's description of the claims of Atwater, it suggested that nutrition held the key to labor disputes, gender-based pay disparities, and the productivity of native labor. However, the ambition to found such a laboratory dissipated for several reasons. First, the administrative landscape was now very complex: the war gave birth to or strengthened a range of agencies concerned with food, and the proposal would need to win their support; it failed to. Second, the wartime unity of purpose vanished. Some committee members had only been temporarily interested in nutrition—even Hopkins was more concerned with developing biochemistry (Smith 1997b; Weatherall and Kamminga 1996). Furthermore, a conflict erupted over the practical

importance of vitamins—centered on rickets. Hopkins' acolyte, E. Mellanby, the key proponent of the vitamin theory of rickets, was opposed by Paton and his pediatrician colleague, L. Findlay, based in Glasgow. They proposed lack of fresh air, confinement, nonspecific infection, and maternal inefficiency as causal factors. The Glasgow group was interested in other dimensions of nutrition, especially energy. E. P. Cathcart, Paton's successor as Regius professor, studied energy expenditure via portable respirometry. He also published MRC reports, the last appearing in 1941, which analyzed diets in terms of energy and macronutrients, and claimed that maternal inefficiency, not poverty, was the key factor in malnutrition (Smith and Nicolson 1989).

The discovery that sunlight as well as cod liver oil and other foodstuffs were curative and preventative might have allowed a truce. But it did not. The conflict was about more than rickets, spanning differing approaches to the chemistry of life and the weight to be placed upon clinical experience versus laboratory experiments. But by the mid-1920s, a broad consensus considered Mellanby the victor. Concentrated, and later pure and synthesized vitamins, were becoming available, the fruits of research led by German and American chemists that became the basis for product development and marketing in the food and pharmaceutical industries. Popular books were spreading knowledge of vitamins (Apple 1996, Horrocks 1995, 1997; Kamminga 1998, 2000).

Mellanby and Cathcart differed in their proposals to counter malnutrition: Cathcart favored training in shopping and cooking, while Mellanby wanted state action to ensure citizens received sufficient healthy food, just as the government had assumed responsibility for sanitation. Mellanby proposed a board of nutrition scientists to advise the government, which would also control voluntary health societies—Mellanby had in mind food reformers who had ridiculed his claim that cereal consumption, especially oatmeal, contributed to rickets. Voluntary Groups interested in nutrition inlcuded the People's League of Health (founded by a retired actress, Olga Nethersole, in 1917) and the New Health Society (founded by maverick surgeon William Arbuthnot Lane in 1927) (G. Jones 1986; Smith 1987; Smith and Nicolson 1989; Zweiniger-Bargielowska 2011a). Policy-making machinery was created in 1931, when the Ministry of Health established an Advisory Committee on Nutrition. However, both Mellanby and Cathcart became members and it proved difficult to reach unanimous conclusions. In 1932, Cathcart added a note of reservation to a memorandum stating that public health authorities should be alerted to evidence that vitamin D could mitigate or prevent rickets and dental disease. He thought it would be unjustified for infant welfare centers to issue ergosterol (a form of vitamin D). This was precisely the kind of policy favored by Mellanby (Smith 1995).

In medico-scientific discourse, *nutrition* was a physical state of the body as well as the study of bodily processes connected with food. A body might be assessed as exhibiting bad nutrition (or malnutrition) by clinical inspection (intuitively or using anthropometry). Schoolchildren's nutrition had been assessed by school medical officers since 1908, and their returns compiled by the central health authorities (B. Harris 1995). In the early 1930s, these data fueled debates about the effects of the economic depression—the

government maintaining that nutritional status had not declined (Webster 1982). In Canada (Ostry 1997) and the United States there were similar debates. In the United States, the destruction of agricultural surpluses to maintain prices and the profitability of farming was widely publicized, raising the political stakes (Levenstein 1993: 53–63).

A British Medical Association (BMA) Nutrition Committee adopted an alternative to clinical assessment by comparing the cost of an adequate diet with the money available for food in working-class homes. This suggested that many families could only be under or badly fed. The BMA standards took account of the newer knowledge, but controversy arose over calories and protein: the BMA standards were more generous than those in an Advisory Committee memorandum on institutional feeding. The Advisory Committee was offended: it thought the BMA unqualified to pronounce on nutrition. But controversy was damaging to both sides and when the Ministry persuaded them to meet, a compromise glossed over the differences (Mayhew 1988; Smith 1995). Around this time, the egalitarian potential of the newer knowledge was being realized. For health, even the poorest needed expensive vitamin-rich foods. Two pressure groups were formed: the Committee against Malnutrition led by communist activist Frederick le Gros Clark, and the Children's Minimum Committee, led by independent MP Eleanor Rathbone. Both campaigned around unemployment benefits, cheap food, and the expansion of school milk and meals, and disparaged the notion that ignorance and carelessness caused malnutrition, the solution lying in education. A major campaigning resource was J. B. Orr's *Food, Health and Income,* published in 1936, along with a film featuring Orr, *Enough to Eat?* (Boon 2008: 94–104; G. Jones 1986; Kamminga 2000).

A former student of Paton and Cathcart, from 1913 Orr directed a Development Commission-funded nutrition laboratory in Aberdeen, later named the Rowett Institute, after a benefactor. He opposed the vitamin theory of rickets and emphasized minerals (Smith 1999), but later embraced the newer knowledge. *Food, Health and Income,* based upon dietary survey data, assessed the adequacy of diets of different income groups via standards devised by H. Stiebeling of the U.S. Department of Agriculture Bureau of Home Economics, which covered vitamins and minerals as well as energy and protein. These were intended as optimum rather than minimum standards. Orr claimed that the majority of the population was deficient in one or more nutrients and became the most prominent voice calling for a food system that met the needs of all citizens (Orr 1936).

Officials advised that Orr's report was inconclusive and the government referred it to the Advisory Committee on Nutrition, to which Orr was appointed. It embarked upon a complex study that effectively sought to test Orr's claims. Orr also obtained Carnegie Trust funds for a large dietary and clinical survey and an experiment assessing the impact of supplementing diets (Smith 2000a). Two voluntary organizations—the People's League of Health and the National Birthday Trust—experimented with supplementing the diets of pregnant women (S. Williams 1997). None of these studies was complete by the outbreak of World War II. For Mellanby, Orr, and others, these projects signaled the slow progress of the state in applying nutritional knowledge. Voluntary

organizations, along with local government, were also the main providers of nutrition education.

There was one area of successful policy making: the provision of subsidized school milk. Enthusiasts for a range of nutrients could find favor with milk, and on this topic consensus was achieved following trials during the 1920s. Other voices were more concerned with milk as a vehicle for bovine tuberculosis, and Atkins (2005, 2010) argues that school milk was more about fattening farmers than children during this period of increasing intervention in the depressed agricultural industry. Petty (1987) argues that for some children school milk was counterproductive: where existing school meals were replaced by milk. But the consensus about the nutritional value of milk certainly facilitated commercial and government efforts to popularize consumption (McKee 1997). The practical achievements of the 1930s nutrition campaigns may have been limited, but they encouraged public commitment to fair shares, facilitating acceptance of wartime food policy, and paving the way for postwar reforms including the advent of what Pickstone dubbed "communitarian medicine" (Pickstone 2002; Roadhouse 2006; Trentmann 2001; Webster 1997).

Turning to international dimensions, during the interwar years the League of Nations took up the cause of nutrition and encouraged policy-making machinery in member countries. The most prominent British nutrition scientists were members of the League's nutrition committees. The Mixed Committee on Nutrition, which met in London in 1936 under Mellanby's chairmanship, did much to advance the idea of the "marriage of health and agriculture" (i.e., managing agriculture on the basis of nutritional need), which Orr's international networking had helped to crystallize. The Mixed Committee called upon members to set up national nutrition committees, and by 1938 twenty-one had been formed, thirteen of which were in Europe (Barona 2008, 2010; League of Nations 1938; Staples 2006; Weindling 1995).

WORLD WAR II

In light of the preceding decade of campaigning, World War II was quite different as compared to World War I. As secretary of the Medical Research Council since 1933, Mellanby's agitational activities were confined to government circles, but Orr engaged in both insider and outsider politics (Werskey 1971). This continued: in the spring of 1940, during unrest following food price rises, Orr published *Feeding the People in Wartime,* which used Carnegie survey data and called for the dietary deficiencies of poverty to be made good. It strengthened calls for an expert committee to advise on food policy, which were successful after Churchill became prime minister. Mellanby and Orr were both members of the Scientific Food Committee tasked with advising ministers. The Committee was appointed, and its recommendation accepted, in the face of opposition from the Ministry of Agriculture and Fisheries, which feared the scientists' ideas would be impractical. The Committee initially set out broad principles, which

strengthened the position of the Ministry of Food (reestablished in September 1939) vis-à-vis the Ministry of Agriculture of Fisheries (Smith 2000b).

The Ministry of Food's chief scientific adviser was vitamin chemist and food historian Jack Drummond. During the autumn of 1940, he was favorably disposed to Scientific Food Committee reports that assisted in controlling the Ministry of Agriculture of Fisheries, but later felt its reports were amateurish and duplicated his own efforts. Drummond's historical studies sensitized him to the importance of food habits and enabled him to identify impractical policies and creative solutions (Burnett 1966: 249). As the standing of the Scientific Food Committee declined, an interdepartmental committee chaired by the chief medical officer became responsible for nutritional aspects of food policy. Mellanby then regarded himself as official nutrition adviser, a position he guarded jealously. Orr, now marginalized, engaged more in international issues, looking forward to postwar reconstruction (Smith 2000b).

Almost everything the nutrition campaigns had demanded was implemented. The rationing system proclaimed the fair shares principle, while school milk and meals, communal feeding, fortification of flour and margarine, and supplementation for special groups were all implemented or expanded. And there was no longer a dichotomy between state action and education; a massive government educational program was supported by the Children's Nutrition Council, formed by a merger of the main 1930s pressure groups (Atkins 2011a; Farmer 2011; Smith 1998; Webster 1997). But a significant body of nutrition experts in specialized institutes, universities, government departments, and industry felt under engaged in the war effort. Some of them organized Informal Conferences of Nutrition Workers, which sent memoranda to Drummond. Mellanby objected to this, but Orr proposed transforming the conferences into a scientific society—establishing the Nutrition Society in 1941. It ran conferences on practical themes, established a journal, and ran a Bureau of Nutrition Surveys, which attempted to coordinate surveys and standardize methods (Smith 1997b).

The general view is that British wartime food policy was again a great success, although Zweiniger-Bargielowska (2011b) and Oddy (2003: 140–144) question just how fair the fair shares were. Oddy (2003: 162–163) also regards the impact of nutrition science on policy as marginal. Regarding the United States, Levenstein (1993: 64–79) takes a similar line, as average consumption during 1937–1941 rather than recommended nutrient allowances was the basis for rationing. The fortification of flour was achieved, but educational and other programs advanced by scientists were subverted by agricultural, food, and pharmaceutical industry interests. The continuing power of American industry to undermine nutrition policies has been highlighted by other authors (Nestle 2002).

As for the international dimensions, by 1942 Orr's international network was campaigning for a postwar world food plan to abolish hunger and promote peace and development. He made an unofficial visit to the United States to meet officials, businessmen, and politicians to promote the plan. In 1943 the United Nations held a conference on Food and Agriculture at Hot Springs, Virginia. Orr was not selected as a British

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delegate, but was visible by virtue of the premier of the powerful film *World of Plenty* (Boon 1997). But the outcome was disappointing: the proposed agency—the Food and Agricultural Organisation (FAO) would merely collect statistics and promote research (Lubbock 1963: 25–26; Orr 1966: 157–160).

POSTWAR

Orr was against the FAO's narrow remit, but was persuaded to accept appointment as director-general. After two years of unfruitful campaigning for his world food plan, which included a further film project, *The World is Rich,* he resigned (Boon 2008: 158–165; Staples 2006: 78–96). Until the early 1970s, the nutrition policy of the international agencies was dominated by infant protein deficiency (kwashiorkor) and the "protein gap" (low availability of protein in less developed countries). Unsuccessful high-protein weaning foods were developed, and development projects concentrated on animal production, policies advocated by a powerful expert committee, the Protein Advisory Group. Eventually, protein requirements were revised downward, and when world food production dipped following droughts in 1972, food replaced protein as the focus of the agencies. Mclaren (1974) condemned the wasteful diversion of resources that the "Great protein fiasco" entailed (Carpenter 1994: 142–203; Ruxin 2000).

In Britain, after hostilities ceased, a clamor arose for the rapid abolition of food controls, but this proved impossible. For a while, even bread and potatoes were rationed. Government reassurances that, scientifically, the nation's diet remained adequate had little purchase: there is no indication that experience and propaganda had converted the population to scientific eating (Zweiniger-Bargielowska 2000: 218–226). In contrast to Britain, the United States dismantled its food controls quickly and relied upon voluntary efforts to conserve food supplies (which proved ineffective) (Levenstein 1993: 96–100).

As the economy recovered, the welfare state expanded, the National Health Service was established, and food controls were dismantled, the malnutrition of poverty seemed irrelevant or marginal in Britain. In the United States, in contrast, hunger proved a continuing issue in the postwar period (Levenstein 1993: 144–159). But soon interest in most developed countries came to focus primarily on the possible role of overconsumption of particular nutrients in degenerative diseases, especially heart disease. But in 1952, a British overconsumption problem of a different character arose, the result of excessive vitamin D intakes from fortified welfare and commercial baby foods, leading to calcification of major blood vessels. Five years later, reductions in vitamin D levels in welfare foods were agreed upon, but some children still received high intakes from proprietary products, which manufacturers were persuaded to modify. In 1961, the universal provision of free cod liver oil ceased. From the late 1950s, however, a new rickets problem emerged—among Asian immigrants. Bivins (2007) analyzes the response as mirroring colonial medicine—where unhealthy natives provided useful research material. Studying "Asian rickets" advanced vitamin biochemistry, while policy debate, low-key educational efforts, and occasional calls for action lasted for two decades. Bivins'

study, however, does not cover the Stop Rickets Campaign that followed in the early 1980s. In line with the new conservative government's commitment to roll back the state, the Department of Health employed a charity, the Save the Children Fund, to organize campaigns in Asian communities to explain the cause and prevention of rickets (Save the Children Fund 1983).

Geoffrey Cannon (1987, 1992), a journalist turned food researcher, presents British policy making on diet and heart disease as a story of prevarication. Lack of consensus was part of the story: John Yudkin (1974), a generation before Lustig, opposed the prevalent focus on fats and demonized sugar. Mark Bufton (2005) analyzed the roles of scientific activism, the media, and the rise of epidemiology in policy formation in the 1980s. According to one critic of nutritional theories by a medically qualified journalist, policy consensus was achieved just when evidence opposed to the fat hypothesis was emerging (Le Fanu 1999: 322–350).

Scandinavian countries, which trace their policy-making machinery to the League of Nations' initiatives (Kokko and Rasanen 1997; Norum et al. 1997), are regarded as world leaders in nutrition policy. In Norway, for example, conflicts over nutrition, poverty, and social responsibility in the 1930s gave way to consensus that the state should enact policies for optimum nutrition. This position was carried forward by social democratic postwar governments under the guidance of the National Nutrition Council. A consensual effective policy was devised to modify and lower fat intake, although controlling sugar consumption, which is imported rather than domestically produced, is problematic (Jensen and Kjærnes 1997; Kjærnes 1995, 2003; Kjærnes and Døving 2009).

Campaigning around nutrition, so prominent in 1930s Britain, returned in the 1970s (Lang 1997; J. B. Whitehead 2011). The Coronary Prevention Group, inspired by the tobacco lobby, Action on Smoking and Health, called for nutrition policies to prevent heart disease. The London Food Commission (LFC), created in 1984, campaigned on a wider range of issues, including food poverty. Like the 1930s campaigns, it claimed that the poor could not afford a healthy diet, judged by the latest expert recommendations. But food safety issues soon became most prominent. Questioning the necessity for and hazards of additives and pesticides, the LFC tackled issues addressed by consumer advocates in the United States in the 1970s (Levenstein 1993: 171–172). Analysts compared the relatively open American and European regulatory systems with the secrecy prevailing in Britain (Abraham and Millstone 1989). Microbiological food safety then dominated with the Bovine spongiform encephalopathy (BSE)/variant Creutzfeldt-Jakob disease (vCJD) affair and other food poisoning episodes. These became the subject of numerous academic analyses (e.g., Van Zwanenberg and Millstone 2005). Lang, director of the LFC, later moved into food policy research and teaching, and has produced numerous critical studies retaining an activist orientation (e.g., Lang, Barling, and Caraher 2009). The New Labour government sought to restore public confidence in food safety, creating the independent Food Standards Agency in 2000, which has emphasized transparency in decision making. It was also given responsibility for nutrition, labeling becoming a

key policy arena. In England, however, with a change of government in 2010, nutrition has become the responsibility of the Department of Health.

After 2000, nutrition scientists seemed less visible than celebrity chefs such as Jamie Oliver. Oliver's show *Jamie's School Dinners* and the Feed Me Better campaign, which began in 2005, sometimes condemn school meals in terms of nutrient content, but Oliver's overall message is that culinary skill rather than nutritional accounting holds the key to healthy eating (Jamie Oliver Foundation 2011). Meanwhile, some food writers have cast doubt upon the whole nutrient-focused approach. *New York Times* journalist Michael Pollan substitutes such food choice rules as "avoid food products that make health claims" and "do not eat anything your great-grandmother wouldn't recognize as food" (2010). In Britain, Joanna Blythman (2012) has developed a similar critique. A recent scholarly history of American nutritional guidelines argues, similarly, that a qualitative discourse of taste needs to replace the quantitative scientific discourse (Mudry 2009). One professional response is a call for a new nutrition science that combines the biological, social, and environmental dimensions (Cannon and Leitzmann 2005). Meanwhile, the authority of nutrition scientists is undermined by alternative experts, in the era of what Pickstone (2002) styles "consumerist medicine." A large cadre of nutritional therapists offers advice and nutrient pills, despite attacks from strident advocates of "evidence-based medicine" (Goldacre 2007: 112–180).

CONCLUSIONS

From this historical sketch several general features emerge. First, nutrition policy making is complex and thoroughly political. Policies benefit or threaten different sectors of the food system, make demands upon public finances, have different implications for different government departments, and challenge food cultures and domestic habits. But certain political-economic imperatives may facilitate policy making, wartime, when the maintenance of production, fighting fitness, morale, and food economy is vital, being the prime example.

Wars may encourage consensus or compromise among nutrition scientists, sometimes in pursuit of collective professional advantage. But generally they are in competition: different research groups favor different approaches, theories, and nutrients, the success or failure of which condition the careers of individuals, laboratories, and institutes. And they are frequently in competition with alternative experts, some of whom possess high-status qualifications—such as doctors. Consensus among scientists and other significant actors strengthens, while disagreement weakens, the case for policy, but charismatic leaders, such as Orr, may help to galvanize opinion among professionals, policy makers, politicians, and the public.

As for approaches available to policy advocates, dichotomies between poverty versus ignorance and state intervention versus education gave way to a comprehensive program in Britain during World War II. Subsequently, actors could point to various methods requiring the participation of eaters: education, communal feeding, and cheap or free

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foods or nutrients for special groups, or fortification—a technical fix that obviates the need to change habits. There are current examples of all of these approaches, but as emphasis on problems of overconsumption has intensified, some commentators invoke principles from tobacco and alcohol control. Meanwhile, manufacturers offer consumers technical fixes consisting of low-fat, sugar-free, and otherwise modified foods, sometimes styled *functional food* or *nutraceuticals.*

Regarding the impacts of policy, nutrition scientists were arguably partly responsible for successful wartime food policies, but there have been unintended consequences: the substitution of school milk for meals in the 1930s, hypercalcaemia in the 1950s and the failure to deal resolutely with "Asian rickets," the diversion of resources toward the protein gap, and, at least according to Lustig, the role of low-fat diets and increased sugar consumption in the obesity epidemic (see Ogden, Chapter 27, this volume).

Do nutrition scientists have anything to offer public policy against the obesity epidemic? Oddy and Atkins imply the answer is very little. They declare: "Policymakers have little to offer, because prescriptive measures will arouse opposition from vested interests such as the food industries" (2009: 232). It may be that only profound cultural change, changing our relationships with food, rather than the mere application of public policy, can reverse the obesity epidemic. In this case, perhaps those who voice opposition to the obesogenic environment—whether they be activists, scientists, or celebrity chefs—hold the key to change, whatever they achieve in formal policy terms.

What of future research? There are numerous historical episodes that could repay investigation, Whitehead's 2011 study being an example of the opportunities available for filling gaps in current knowledge. Studies of policy making and application in less developed countries could prove especially productive. But the current emphasis among grant-awarding bodies for multicenter interdisciplinary projects, and demonstrating the relevance of the humanities, may present historians with more ambitious possibilities. Following the food safety episodes of the 1980s and 1990s, research programs were funded in the hope of providing guidelines for future policy, the outputs of which were dominated by the evidence-based framework. Now that attention is turning toward the obesity epidemic, research insights into the problematic processes of nutrition policy making of the past may allow historians to assume a leading role in interdisciplinary programs that can be the basis of creative solutions.

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Risk and Trust in the Food Supply

UNNI KJÆRNES

Hazardous food is a very old issue in public and scholarly discourses on food, associated with medicine and science, but—even more important—with the regulation of food trade. In Europe, regulations for food hygiene and the treatment of meat can be traced back to medieval times at the least (see Atkins, Chapter 5, this volume). Here, as well as in the United States, a major change took place in the late nineteenth century and in the first decades of the twentieth century, when the emergence of mass-produced processed food made fraud on a major scale possible, some of which was highly unsafe. At the same time, advances in microbiology and chemistry allowed much more precise assessments of the standard of food (see Scholliers and Van den Eeckhout, Chapter 3, this volume). Across the Western world, the turn of the nineteenth to the twentieth century was associated with a great deal of turbulence over the quality and safety of food, with broad social mobilization, academic debates, and political controversy. In some places, members of the protesting public were called *consumers,* but more often *housewives, workers,* or a *mob.* Stricter public regulation was demanded, and, eventually, new legislation and better controls were put in place to protect consumers and to produce more accountability in the market.[1]

Does this sound familiar? A century later, we find many similar features characterizing debates about food hazards. Controversy has been intense, with companies accused of profit seeking at the expense of public health and well-being. Notably, however, what is different is the vocabulary used and, at least in part, the solutions have also changed. The notions of risk and trust have been at the forefront of public as well as academic debates and the people affected are now called *consumers. Risk* is used to encompass social matters rather more than the term *hazard,* introducing potential dangers to health and environment as well as issues of responsibility and human judgments. A number of contentious issues have appeared in the mass media, some framed as scandals—the

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biggest of all being Bovine Spongiform Encephalopathy (BSE), the "mad cow crisis"—some framed as responses to new technologies such as genetically modified (GM) food. Like a century ago, the response from public authorities has been to develop new types of regulation, now called *risk regulation,* based on expert risk assessment and risk management to be carried out not only by public authorities but the food industry. In parallel, people's responses to new food safety challenges have been framed in terms of *risk perception.* Increasingly, however, it has been realized that negative attention and public worries cannot be addressed by food safety assertions alone; people also have to find these claims trustworthy. So trust has emerged as a key issue in the development of new regulatory institutions for food safety. While a discourse on risk and trust has thus become an integral part of the new policy making on food safety, the implications have varied considerably—among countries and, even more, across continents.

The point here is to underline the historical and political contingency of debates on food hazards and the caution and necessary reflexivity with which we as academics (and consumers) should use concepts like risk and trust. *Trust,* though part of our everyday vocabulary, is used for specific analytical purposes in a number of academic disciplines. Yet the debate about trust in food seems to have developed more or less separately from the broader social scientific literature on trust, with no clear position within it. Instead, the debate has been dominated by individual-oriented, cognitive approaches, often making links between (dis)trust and individual perceptions of risk. While pointing to significant psychological aspects in the formation of public responses, these approaches do not capture the social and political aspects of trust needed to understand the conditions underlying variations in trust and how trust changes over time.

In this chapter, I concentrate on the academic debate that emerged in the late 1980s on risk and trust in food. I discuss the various ways these concepts have been framed in the social sciences, a framing that in many cases has also had political connotations. Rather than trying to produce neutral and generalized conceptions of processes related to food risk and trust, I argue that an analytical approach is needed that takes the specific institutional and political situation into consideration.

COGNITIVE TRUST: INDIVIDUALS AND THE ROLE OF INFORMATION

Why is it that people seem so concerned about issues related to food? Is it a reaction to the recent media scares? Why are people so skeptical when scientific experts and authorities say there is no reason to worry? These questions have dominated the research agenda about risk perception and risk communication. Trust in food is mainly seen as an element in or outcome of cognitive processes associated with individual evaluations of risk, most often safety hazards such as GM food and BSE. An important topic has been the lack of alignment between lay and expert perceptions and assessments of risks. Food experts and policy makers often judge public unease as excessive, unwarranted, and irrational, the main reason held to be lay ignorance. Bryan Wynne (1996)

has characterized this as the *knowledge deficit model.* This entails departing from assumptions that the problem of public unease is that objective information about scientifically assessed risks is misinterpreted by ordinary people. A large body of literature has emerged on people's perceptions of risks, seeking psychological mechanisms underlying consumer attitudes (e.g., Fife-Schaw and Rowe 1996; Slovic 1999). Avoiding the distinction between objective risks and subjective perceptions, risk assessment should be regarded as inherently subjective, representing a blending of science and judgment influenced by psychological, social, cultural, and political factors. This holds for lay people and experts alike. The perception of risks is thus found to be multidimensional (even including factors unrelated to human health), varying with the degree of personal control, evaluation of risks versus benefits, and perceptions varying according to specific hazards (Hansen et al. 2003).

In this school of thought, trust is associated with the ways individuals perceive, evaluate, and act upon risks. It has been suggested, however, that trust may be as much a consequence as a cause of variations in risk perception (Frewer, Scholderer, and Bredahl 2003; Poortinga and Pidgeon 2005). Trust is involved because most aspects of food risks at the product level cannot be identified or controlled by consumers, so-called credence characteristics. In communication about risks, therefore, source credibility emerges as an important factor, understood as "whether an audience perceives a speaker to be making assertions that she or he considers true or valid" (Hansen et al. 2003). The lack of success of one-way information has led several to suggest two-way communication programs and consumer involvement in debates and regulatory decision making (Foster 2000; Scholderer and Frewer 2003). Leading representatives of risk research now accept that their approach can be criticized for its "lack of integration" with the "social and cultural context" and are trying to find ways of considering the institutional sphere (De Jonge et al. 2007).

A general feature of all these studies is that distrust emerges from communication on food risks. How can trustworthy information be established? Research on risk *communication* is directed more toward institutional strategies. Being more managerial in nature, often evaluating communication programs or the handling of specific media crises, new and more active modes of building trust are sought to counteract assumed declining levels of public trust toward industry, regulators, and science. The decline is linked to the dramatic rise in access to information through television and the Internet, to the centralization of government, and to the amplification of risk by the media. This means that the main concern is how organizations communicate and are perceived, more than what they actually do. Studies typically focus on regulatory scandals in the media, including those with a major impact, such as GM food, BSE, and the dioxin scandal in Belgium, but also less prominent ones, such as the cases of alar and acrylamide (Löfstedt 2004; Renn 2003).

There are obvious lessons to be learned from these studies, about different rationalities and perceptions, about the importance of what organizations (especially authorities) tell the general public, and also about how controversies unfold. However, food

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consumption, and trust related to it, is, problematically, assumed to be a matter of individual, rational decisions in the shop. Also problematic is the restriction of trust issues in relation to food to specific safety hazards and expert evaluations. Finally, a cognitive understanding of trust concentrates on transmission of information as the major conduit of trustworthiness. But such a cognitive account of trust easily becomes tautological: trust is based on trustworthy information and trustworthy information is information that is trusted. The actual interaction associated with the food items as such and its associated practices tend to be overlooked.

DISTRUST IN RISK SOCIETY: A QUESTION OF UNCERTAINTY?

In cognitive accounts, individual uncertainty and ignorance are cited as major reasons problems of distrust emerge. Uncertainty has also been considered important in some sociological contributions addressing macro-level social change. The much vaunted risk society hypothesis of Ulrich Beck suggests that the nature of responses to danger and hazard has changed in recent years. Beck points to two major features of what he calls "the second modernity," where trust is relevant: risk society and individualization (Beck 1999; Beck and Beck-Gernsheim 2002). Instead of seeing dangers as produced by nature or divine forces, modern risks emerge as a side effect of societal efforts to produce material welfare. The notion of a risk society implies that modern risks are man-made, typically difficult or impossible to estimate, and have consequences unconfined by time and space. Our activities may produce insurmountable risks for future generations. At the same time, people are increasingly forced to take individual and personal responsibility for their everyday lives and lifetime careers. This responsibility gives freedom, but also represents pressures, dilemmas, frustrations, and uncertainties. Structural constraints influence how individuals take on these responsibilities; lack of knowledge and insight, asymmetrical power relations, and distribution of resources all affect freedom to maneuver. These dilemmas and uncertainties appear in all areas of everyday life, not least in the labor market. The feeling of uncertainty in the face of new forms of risk, combined with a lack of power and control, forms the background for Beck's understanding of contemporary issues of distrust.

Beck's theory, aimed at understanding major processes of social change, has formed an interpretative frame for understanding contemporary issues of distrust in food (Brown and Michael 2002; Michelsen 2001). Modern risks, among which food issues figure high on the list, and the consequences of individualization, are taken to imply that distrust will be prominent in the most advanced societies. The increasing complexity of modern systems of food provisioning, knowledge, and regulation is frequently said to lead to unpredictability, fragmentation, and contradictions, themselves core features of contemporary consumption (Busch 2000; Lang 2003). GM food is a typical example, where risks may emerge as unintended side effects, perhaps affecting future generations, but with responsibility attributed to individuals through their food purchases (based on product labeling). However, while uncertainty, linked to assessments

of safety and environmental hazard and conflicts between lay and expert evaluations, is seen as the outcome of macro-social processes, distrust seems to be primarily an individual, private response.

TRUST AS SOCIAL: CULTURE AND PERFORMANCE

Against the reasoning about distrust as individual uncertainty others have contended that distrust in food is associated with more concrete issues, that is, discontent with both food quality and actors in the food system. Following from the latter, improving trust will not only be a matter of eliminating feelings of uncertainty or producing more assurance about food safety, but will involve actual improvements in the quality of food or demonstrating social justice. If this is the case, there is no need to assume a long-term trend toward greater distrust. It may very well be that after a period of rapid shifts, new institutional arrangements may, if successful, provide legitimate solutions to conflicts of interest and power imbalances and find ways of handling asymmetries in information. Indeed, the historical record shows that changes in the food sector have often been accompanied by consumer distrust and activism, which in turn have resulted in new forms of organization (Kjærnes 1995; Levenstein 1988; Tilly 1983). From this perspective, the question of trust in food can be understood as a primarily social and political phenomenon.

In the social sciences, trust is often considered to be more than an individual attitude or a private and personal judgment. Instead, it structures social life and has a collective orientation. To say that trust in food is social is to emphasize shared norms and expectations, an element of cooperation, and a condition for routinized everyday practices. Trust is associated with how people normally relate to each other, how they interact in social networks, and how they develop their relationship to political institutions (Misztal 1995). Buying, preparing, and eating food are associated with basic assumptions that the food is alright—with regard not just to safety and healthiness, but even a (variable) range of other issues associated with the production, distribution, and eating of food. Because all these aspects cannot be directly controlled, the assumptions in modern societies will, to a large degree, be based on trust. The habitual, tacit character of everyday food-related practices often sustains an unreflective trust, a culturally and socially founded trust. Referring to Bourdieu, Misztal has characterized this form of trust as *habitus:* "[T]rust as habitus is a protective mechanism relying on everyday routines, stable reputations and tacit memories, which together push out of modern life fear and uncertainty as well as moral problems" (1995: 102). It is important to recognize this role of trust in facilitating routinized practices in situations characterized by lack of direct control, and, at the same time, to acknowledge the routinization of daily life as itself an important source of trust. Even our interactions with food suppliers when we shop for food are to a large degree characterized by a routinized normality. This is not necessarily blind trust—trust without any foundation—because trust is typically confirmed by experience and the normative and institutional framing of the practices.

The formation of trust requires shared and relatively stable norms within society. Normatively founded expectations about food and eating, developed through upbringing (socialization), social relations, and education, are crucial for understanding people's reactions in terms of what is acceptable and what is not. People *learn* to trust one another, reinforced by their own experiences. From this perspective, trust in food institutions may be regarded as an extension of interpersonal trust projected onto political institutions and therefore conditioning the assessment of political performance (Putnam 1993; Uslaner 1999).

As opposed to theories of trust emphasizing norms and routines established early as part of social life (which Mishler and Rose [2001] call cultural theories), so-called institutional theories propose that trust is derived from institutional and political performance. Institutions, like food companies, performing well generate trust, while those performing badly generate skepticism and distrust. Political trust also has a dynamic beyond direct evaluations of performance. Trust links citizens to regulatory bodies intended to govern on their behalf, thereby enhancing the legitimacy and effectiveness of governance (Hardin 2001). Thus, distrust of food authorities can be understood as an outcome of insufficient response to a problematic situation as well as arising from more general considerations about injustice and problems of legitimacy—for example that they are too close with the food industry. However, political distrust does not necessarily have the opposite effect to trust. Skepticism is assumed to have a constructive role in democracy, in the sense of requiring sufficient evidence or reasons for trusting (Braithwaite and Levi 1998). The conditional character of citizens' trust may be accepted as part of a legitimate democratic framework, and does not necessarily contest governance. People *should* question the performance of politicians and governmental bodies, and a healthy skepticism is a prerequisite to democracy. So distrust may represent an important democratic voice and constructive feedback. This reasoning is often behind regulatory arrangements that involve consumer representatives (Halkier and Holm 2006).[2]

Cultural and institutional explanations refer to different social mechanisms for the generation of trust. Culturally based trust, developed outside the formal spheres of markets and politics, will be less affected by poor performance of institutions and therefore less directly conditional. Trust derived from institutional performance may be more volatile and sensitive, as trust will vary according to evidence of success and failure of performance in a much more specific way. However, for a discussion of the dynamics of trust in food, cultural as well as institutional explanations are needed. Normative and cultural frames influence how the food industry and public authorities operate and how people relate to and react upon them. Moreover, high levels of culturally founded trust can represent an effective buffer against negative responses to instances of institutional failure. Yet this generalized high trust can hardly be sustained if institutional performance is continually inadequate. Likewise, generalized distrust in other people and in institutions will be a major obstacle to the development of trust in particular organizations and institutional procedures.

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A RELATIONAL UNDERSTANDING OF TRUST IN FOOD

In order to understand the dynamics of trust in food we need to be more specific about what food consumption is and how trust is involved in food-related activities. The debate on trust in food often refers to the trusting person as a consumer, a shopper. This, in turn, reflects an understanding of people's relationship to food founded on an economic understanding of our relationship to food and food institutions. An economic perspective usually takes, implicitly or explicitly, consumer sovereignty as axiomatic, assuming consumers' free choice based on their preferences and the information they received. Criticism by sociologists who maintain that economic transactions should be understood as embedded in social relations and context seems especially pertinent when analyzing consumer trust in food.

Food consumption cannot be reduced to a matter of individual decision making at the point of purchase but involves routine everyday activities of buying food items, cooking dishes, and eating meals. Trust is part and parcel of the development of such activities. It is necessary to consider both learned habits and organizational performance to understand the social sources of trust in food. Trust is mediated through other actors. From the consumer point of view, he or she, most of the time, trusts or distrusts some*one* rather than some*thing* (Kjærnes 2006). A distinction is often made between trust involved in personal or network-based relations on one hand, and trust involved in interactions with impersonal and formal organizations on the other. Both forms emphasize stability and shared norms and expectations, but each is established in distinctly different ways. Important, the balance of power and information is very different. At one extreme, trust may be founded on particular, network-based personal relations with, say, the local butcher or market stall owner. This may be characterized as *familiarity* (Luhmann 1979; Seligman 1997). Such a relationship between shopkeeper and customer will be built on a wide and versatile set of mutual obligations based on personal knowledge, experience, and local networks. The imbalances of power and information will be limited, with, instead an emphasis on mutual dependencies. Explicit distrust is hardly an option. Typically, production and distribution is small-scale and not standardized and the relationship is based on trust in the persons' direct engagement in the network. Trust is associated with particularity, (small) scale, and (limited) distances of food provisioning in time and space. It is also likely to be linked to consumption habits and culinary systems based on fresh foods, home cooking, and low degrees of industrial processing, and a selection limited by seasonality and what local provisioning systems can provide.

In general, functioning trust relationships based on personal networks in this basic form are rare within European provisioning systems, which in most cases involve at least some degree of impersonal, formalized relationships (in the distribution chain, regulatory interventions, etc.). References to particular personal relations and distribution networks today mainly represent a reaction to a breakdown in impersonal trust in formal public and market institutions (Guseva and Rona-Tas 2001; Völker and Flap 2001).

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When people are generally distrustful of institutional actors and institutionalized solutions, one option is to search for much more particular and personal forms of interaction, with fewer imbalances in power and information and more emphasis on mutual dependency (Kjærnes, Harvey, and Warde 2007). Examples include farmers' markets, box schemes, local markets, and so forth. One may also find references to such localized or familiarized relations in the building of product labeling, promoting a local region, or particular sets of values, such as Slow Food (Murdoch and Miele 1999).

In contrast to the association of trust with direct personal exchange, formal organizations represent the major contemporary mechanism for establishing trust in food. Most Western citizens buy their food in supermarkets, provided through complex supply chains and by advanced technologies, control being exerted by authority inspections and quality assurance programs. Contrary to the situation of personal networks, people need to trust a large number of unidentifiable strangers, with the trust relation becoming abstract and impersonal (Seligman 1997; Shapiro 1987). In systems like this, organizational efforts to ensure adherence to standards and normative expectations, communicated to the public via generalized symbols, such as brands, generic labels, or country or region of origin, can form the basis for routinized and tacit consumer trust. This kind of abstract trust may be reinforced through people's experiences of predictability and consistency; the quality of the milk and the frozen pizza is the same every time.

But the provisioning and control systems that people depend on involve huge imbalances of power and information, and the inherent possibilities of limiting information and misuse of power may give rise to skepticism (Shapiro 1987). A number of efforts made by corporate actors can be perceived as solutions to assuring and demonstrating predictability and adherence to shared norms and expectations, such as branding and labeling, traceability, declarations of corporate social responsibility, and so forth. In an unchallenged and consensual situation, this may work perfectly well, making everyday food practices easy and comfortable. However, the situation can also be more contentious and the interpretation and prioritization of norms and expectations may become subject to controversy. Big food corporations are resourceful when it comes to controlling the quality of food, but their profit seeking may easily conflict with consumer interests. People's own bad experiences, rumors, media attention, or efforts made by experts or consumer advocates may all introduce questions about fraud, about the way food institutions handle food safety hazards, and about other problems associated with food production and distribution.

The capability and willingness of market actors and regulators to produce predictability and acceptable standards seems to vary. Some places appear better than others, but there are also changes over time, with important elements of competence and learning on the part of suppliers as well as buyers of food. What is expected and acceptable and what is not? Evaluations will inevitably be very complex. Moreover, businesses are, for competitive reasons, typically rather closed organizations. How can uncertain and skeptical consumers be convinced that the outcome is acceptable, and how can they be made confident that they will be neither poisoned nor cheated?

HOW CAN WE TRUST FOOD SUPPLIERS?

We depend on others to supply us with food, over whom we lack direct control, beyond a capacity to select among goods available in the marketplace. Food is both a basic necessity and potentially a serious health hazard. And with increased processing and anonymous suppliers the potential for fraud is extensive. Moreover, food is very important as part of our everyday lives and has many facets and ramifications, thus raising a wide range of other issues, such as those related to quality, taste, and economy, as well as a number of wider normative and social concerns about proper conduct, including fairness, cultural values, and specific concerns such as animal welfare or environmental issues. Controversy and lack of control may be associated with all of these aspects. Food's multidimensionality makes it different from many other commodities.

When making food purchases, people have, first and foremost, to trust the provisioning system and the actors inhabiting that system. Seligman (1997), among others, observes that uncertainties and lack of control may be overcome by simple reliance on the ordered workings of existing institutional arrangements. Referring to Luhmann (1988), he characterizes this as confidence in a system and its institutions, that is, the continued functioning of patterned, normative role expectations. Because consumers have less power than the organizations providing food, judging the latter trustworthy generally requires shared, or at least clear, norms and expectations, as well as the ability and competence of the latter to meet those expectations. Will the food suppliers consider what is good for us as consumers and will they tell the truth? And do they have the resources to deliver what they promise? This is not simply a matter of knowledge and information, but also of our reliable delegation of practical control. This delegation requires the existence of trust. It is necessary that other actors assume and comply with certain responsibilities. In such a situation, the consumer must be clear about what those responsibilities are, and that these other actors are competent and capable of meeting those responsibilities. A clear social division of responsibilities is a key feature of any set of impersonal trust relations. Trust emerges from the establishment of social responsibilities and their fulfillment in practice. Where this occurs, nonreflective reproduction of trust that delivers, relatively efficiently, other benefits too is often found.

It is important to note that norms and expectations cannot be understood as individual preferences or personal value hierarchies. Rather, these are genuinely social constructs, embedded in institutionalized practices of buying food, cooking dishes, and eating meals. Reputation and experience from these ordinary routine activities become the basis for new or reinforced expectations and hence for confidence in the system of interacting activities. Predictability is therefore important. Economists see organization processes (as opposed to personal relations) as a way of reducing uncertainty, leading to less reliance on trust (Guseva and Rona-Tas 2001). For the food shopper, organization may improve predictability and thus form a foundation for tacit and generalized trust relations. This does not remove, however, his or her basic underlying lack of power and control. Any market exchange between suppliers and consumers is characterized

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by asymmetries of power and information that invariably favor the former. That the supplier will conform to consumer expectations cannot be taken for granted. Suppliers depend on selling food so there is always the possibility of misuse of power for commercial reasons. Various forms of social control and sanctioning have therefore been put in place, including regulation, meant to ensure reliable performance. Trust will also be called upon, perhaps to an even greater degree, when this implicit and tacit mutuality of norms and expectations is not obtained, either because shared norms and expectations are not established or because the acts, the character, or the intentions of the other cannot be confirmed. Contemporary food supply organizations are very dynamic, new technologies are incessantly introduced, and responsibilities are continually shifting. Standards and expectations may need to be rapidly and repeatedly revised. The judgment of acceptable risks is often contested. In addition, it may not be clear to whom these expectations should be directed; the farmer, the trader, the processor, the supermarket chain owner, the technological innovator, local food authorities, or, as relevant, the European Commission and other supra-national bodies.

Continuing changes in the food sector have features that may both strengthen and challenge the foundations of trust. Integration, management systems, and technological innovations can improve predictability and efficiency, thus supplying foods at a lower price, of a predictable quality, in a wider selection, and with lower risks for unintended (but known) safety hazards. On the other hand, many of the changes imply shifts in power and distribution of responsibilities, such as vertical integration of markets along the food chain, more concentrated ownership structures, global sourcing, and so forth. The number and types of economic agents involved in interdependent exchanges is large and changing, including different types of retail outlets, food processors (branded and supermarket own label), distributors, logistics, packaging, marketing, seed growing, farmers, agricultural services, technology experts, auditors, marketing consultants, and so on (Busch 2000; Harvey and Randles 2002; Lyon 1998). The complexities of technologies and provisioning systems pose problems of understanding, such that consumers may not be convinced that their interests are sufficiently protected.

New and wider social issues are also being raised. This is illustrated by the debate on genetically modified foods. But this debate also shows how normative and trust-related questions raised by institutional change depend on the social and political context. While American consumers tended, when they knew of it, to see this as relatively routine technological improvements, the framing of the European debate has been that this new technology is challenging the institutional order and thus also raising the issue of trust (Bruce 2002; Pollack and Shaffer 2000). Skeptics have referred to consequences for consumer health, but a number of other issues have also been prominent, such as environmental effects, economic power, and consequences for third world countries (Isserman 2001). The debate eventually also came to consider the role and involvement of consumers as actors in policy formulation and implementation on both sides of the Atlantic (Barling and Lang 1999; Light et al. 2003). In Europe, the issue escalated in such a way that it raised many questions about the organization of the food system.

TRUST IN DECLINE?

The nature of food risks and conditions for institutional legitimacy of food institutions have changed significantly over the last few decades. This may be seen as part of social transformations that have led some to argue for the emergence of new forms of trust. Giddens (1991) states that modern forms of interaction require "a leap into uncertainty." The extent to which trust is actively and reflexively attributed to actors is a source of considerable debate. It is a standard refrain of supporters of the reflexive individualization thesis (Beck, Giddens, and Lash 1994, as well as many others) that Western populations have become more skeptical, less deferential, less trusting of authority, and more likely to feel that it is their own responsibility to make decisions about their personal actions, commitments, and careers. In such circumstances people are less likely tacitly and routinely to trust other actors to behave in accordance with their interests or for the general good. For this purpose, several theories of trust indicate the importance of a type of trust that is more consciously and actively negotiated. Giddens coined the term *active trust* to signify a condition where trustworthiness is no longer taken for granted, but has actively to be argued and demonstrated. Without the same emphasis on individualization and reflexivity, Seligman and Luhmann are also concerned with the instability, complexity, and uncertainty of modern societies. They suggest that changes in modern societies represent a development from "confidence" to "trust," where reliable forecasts of consequences cannot be made (Luhmann 1979: 25) and circumstances necessitate stronger belief in the goodwill of the other (Seligman 1997: 41).

It is not, however, easy to find empirical support for these general assumptions. No studies have been conducted that can document changes in trust in food over any longer period of time. A comparative study of trust in food carried out in six European countries concluded that opinions of trust as well as institutional conditions vary (Kjærnes, Harvey, and Warde 2007).[3] Across the board, many people agreed that the modernization of the food sector may cause worry and that processed food is more unsafe than unprocessed. When asked directly, the majority was suspicious of additives and genetic modification, as well as food hygiene. However, more than half of the respondents in the survey were optimistic about ongoing changes, especially with regard to food safety. Trust in the truth telling of institutional actors varied consistently with their respective roles in society; while consumer organizations and food experts were generally expected to tell the truth in the case of a scandal with salmonella in chicken, opinions were more divided when it came to food authorities and the mass media, and statements from commercial actors were met with widespread skepticism. This indicates that rather than generalized worries about modernization, people have clear, differentiated expectations about the roles of various institutional actors.

When it comes to overall levels of trust, a general observation was that opinions vary more across countries than among social groups within countries. High levels of trust were observed in Scandinavian countries, along with relatively consensual politics of food and standardized, predictable food supply systems. In contrast, distrust predominated

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in Mediterranean countries like Italy and Portugal, together with less transparent food institutions and political contestation. We therefore find that trust responses vary according to conditions in the food sector. But, with reference to cultural influences on the generation of trust and distrust, it is important to acknowledge that similar tendencies are found even in other sectors of these societies. The difference between Britain and Germany seems more challenging. Political contestation around food issues was found in both countries, but trust responses were quite different—with considerably more distrust among German than British respondents. One reason may be that general trust in food institutions (like supermarkets) and institutionalized procedures was stronger in Britain than in Germany, indicated, for example, by the observation that while demands for better assurance and labeling programs have been significant in Britain, dissatisfied and skeptical Germans have been more inclined to seek alternative shops and familiar networks. Another observation is that food consumers represent an established (albeit not very powerful) actor in the British politics of food, unlike their weaker position in Germany. In general, distrust among and between actors in the food sector both public and private is more pronounced in Germany than in Britain.

From this we cannot judge about temporal tendencies when it comes to how trusting people are. What we can say is that trust in food varies consistently and that these variations seem to correlate with the character and performance of food provisioning as well as political systems. Moreover, there are no indications that advanced modern supply systems generate more distrust. Instead, institutional change (e.g., changing regulatory strategies, shifting/concentrating power in the supply chain, transferring responsibility from public to private actors, new technologies that challenge judgments of food quality) may trigger underlying tensions and produce resistance expressed as distrust and mobilization. This distrust may or may not be transferred from the public and political arena to market exchange, expressed as consumer activism—or withdrawal (e.g., stopping buying beef) when such activism is not seen as possible or relevant. The importance of such dynamics, involving suppliers, regulators, and ordinary people as citizens and consumers, was demonstrated in the United Kingdom and other European countries in the so-called mad cow scandal (Ansell and Vogel 2006).

TRUST AND GOVERNANCE

The problem of—and need for—signaling honest intent or good faith and acceptable performance is significant, often involving other institutional actors, such as control bodies, special interest organizations, experts, and the media. Many current controversies in the area of food are associated with problems of legitimacy of institutions, including systems of quality and safety assurance, a proliferation of independent audit systems, traceability and transparency, and new forms of consumer representation (Busch 2000; Lyon 1998). These are institutional solutions that aim to keep imbalances of power and information in check. They are techniques for allaying consumer anxiety, dealing with suspicion or skepticism about the quality of food supplied.

In more general terms, they may be characterized as "institutionalization of distrust" (Braithwaite 1998; Luhmann 1979). The institutionalization of distrust is reflected in the fundamental importance of third-party involvement (primarily understood as somebody without direct commercial interests) in recent as well as more distant times (Coppin and High 1992; French and Phillips 2000). Yet there has been a distinct shift from public to private responsibility over the last couple of decades (Fuchs, Kalfagianni, and Havinga 2009; Halkier and Holm 2006). This has also challenged established arrangements with regard to producing solutions that are legitimate from a food consumer point of view and that can function as an institutionalization of distrust.

Negotiating and balancing norms and expectations and making clear divisions of responsibilities between various actors supports the establishments of a certain mutual understanding. Market arrangements demonstrating clear standards, reliability, and predictability, together with third-party audits and/or public and stakeholder involvement that can promote transparency and verification, can provide a basis for considerable generalization of trust relations and, in turn, for the routinization of consumption—even when relations and the food selection are very complex. The privatization of audits and quality assurance has added to this complexity.

It must be emphasized that this may not be an even, predictable, or consensual process. On the contrary, changes and institutional responses depend on the handling of conflicting interests and unequal power relations, how the food system is organized, on power relations between actors, on how problems of distrust have been solved in the past, and so on. Therefore, negotiations and balancing of values, interests, and responsibilities appear very differently across national settings and at different points in time (Kjærnes, Harvey, and Warde 2007).

CONCLUSION

Continued trust in people and procedures is a core element of our pursuit of everyday life, without which buying, cooking, and eating food would be immeasurably more difficult than it appears to be. Still, distrust in the conditions under which food is produced and provided is not at all a novelty of the contemporary period. Trust in food is a taken for granted element of everyday activities and it has conditional, political dimensions.

Trust in food is primarily a matter of trust in pertinent and particularly powerful actors involved in its production, delivery, and regulation. The conditions for trust and distrust in food depend on the character and functioning of a complex of relationships—in the market, in public regulations, and in civil society and public discourse—and on the interdependence between these arenas. Different systems of provision, regulatory regimes, and patterns of consumption will provide distinctly different roles of consumers and forms and levels of consumer trust. The expectations people have toward food institutions vary across countries. These expectations refer to who should do what, which depends also on the food items and issues in question. Agreement about the solutions, for example what central or local authorities or supermarkets should do

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to ensure acceptable safety and quality standards, may therefore be reached in different ways: Norway differs from the United Kingdom, which differs from the United States. And responsibilities and expected actions differ when it comes to various questions, whether nutrition or animal welfare. But consensus is not always achieved and powerful actors may systematically fail to meet expectations. There may be sustained mismatches in expectations as well as upheavals and crises of legitimacy. The changing character and increasing complexity of food provisioning systems is, among other things, reflected in the proliferation of internal and external control and audit systems.

I have argued that trust is not merely a self-regulatory device of the social system. Nor can it be reduced to a public good consciously to be engineered—especially when the engineers may be as much a part of the problem as of its solution. Trust and mistrust ebb and flow in response to events and interventions. This conditionality can in its turn result in new forms of institutionalization, like procedures to ensure transparency, third-party audits, representation, regulatory arrangements to check power imbalances, and so forth. But conditionality is also manifest through public attention, mobilization, and protest. Lack of trust may appear in different guises: as a generic feature expressing generalized distrust in food institutions, which, if severe, may be accompanied by feelings of powerlessness and insecurity, or, if less severe, may be reflected in intermittent reactions, such as shifts in demand. But distrust may be more systematically expressed and cultivated, providing a basis for action by the consumer (or, more precisely, by the public in relation to its role in consumption), like complaints, boycotts, or forms of political action, which may generate new, perhaps less generalized trust relations in the market.

Recent social theories of trust, especially when illustrated in accounts at the level of entire societies, have tended to distinguish between different types of trust. Although different terms are used by different theorists, there is a common rationale behind making distinctions between familiarity, confidence, and active or reflexive trust. While familiarity relies on particular personal networks, confidence refers to (more or less abstract and general) institutions and institutional procedures. I have argued that individual reflexivity is not a good characterization of what has happened over the past decades. But the distinction between familiarity and confidence is important. Still, we must pay attention to the processes by which trust is reconstituted, in the context of episodes of contestation or potential crises of legitimacy, as with BSE, for example. This is a process of *re*institutionalization, which may involve reform of procedures, reallocation of responsibilities, or establishment of new organizations in response to distrust. This may be characterized as a phase of reassurance. The reconstitution of trust may now be achieved primarily through the establishment of new arrangements designed precisely to allay public distrust through explicit acknowledgment that there can be many grounds on which consumers may rationally doubt the trustworthiness of powerful actors in the food system. This process of institutionalization of distrust is the hallmark of recent reforms of the European food regime, whereas the American food regime does not seem challenged in the same way.

NOTES

1. There is a wide historical literature on this epoch (see, for example, French and Phillips 2000; Levenstein 1988; Lyon 1998; Teuteberg 1993).
2. We have to be careful about how we interpret such processes. Since consumer representatives generally lack organizational resources, there is a real risk that such representatives may be swallowed by the system, that is, co-opted. This is all the more challenging considering the expert and technology-dominated discourse on food risks. What is significant is whether there are channels for openly expressing critique and distrust, as distinct from representation per se.
3. The study included representative surveys of the population and studies of food market structures and regulatory arrangements in Denmark, Germany, Great Britain, Italy, Norway, and Portugal.

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Food (In)Security in the Global "North" and "South"

JANE L. MIDGLEY

Food security is defined by the Food and Agriculture Organization (FAO) of the United Nations as existing when "all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (2009a: 8). This definition is perhaps the most pervasive of the multitude in existence and reflects four decades of changing international political emphases and policy developments influencing the concept. *Food insecurity* represents a problem, risk, or threat. Therefore, I use *(in)security* to capture the continuum between food insecurity and security, as well as associated research.

This chapter begins with a discussion of the contemporary context within which food (in)security and associated research are situated (see Messer, Chapter 22, this volume). The chapter then problematizes the concept of food security by tracing the development of FAO definitions since the 1970s. Changing political emphases are identified alongside three dominant research approaches; these help to contextualize past research and the evidence base informing policy developments. The three research approaches identified and discussed are agricultural economics and resource management, socioeconomics, and political economy. A fourth approach of interpretive policy analysis is suggested; this recognizes the importance of different interpretations of food (in)security being operationalized by policy makers, and this is where I situate my own research. Given space and time constraints this cannot be a complete review of food (in) security research.[1] I take a social science perspective and do not cover nutritional security debates and related research in depth. Wherever possible I draw from a range of research techniques, including qualitative and quantitative approaches, and examples from the Global North and South to inform the chapter. The chapter closes by outlining some of the future challenges for research.

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THE CURRENT CONTEXT

During 2006 and 2008, global institutions such as the United Nations and the World Bank, along with numerous national governments, declared a global food crisis (FAO 2009b). The crisis was typified by rapidly rising food prices, which by association saw increased numbers of individuals who were malnourished, and civil unrest in cities around the world, with food-related protests in Italy, Morocco, India, Indonesia, Egypt, Mexico, Zimbabwe, Senegal, Pakistan, and Thailand, for example (see FAO 2008a; Patel and McMichael 2009). At the same time, the FAO estimated that by October 2008, thirty-six countries were food insecure (lacking resources to respond to food insecurity caused by recent and current extreme environmental conditions such as drought or typhoons, conflict and civil strife, refugees/international displaced persons, as well as the HIV/AIDS pandemic affecting the labor force available for food production) (FAO 2008b). In turn, a number of high-level meetings (such as the FAO-organized world food summit in Rome, the Tokyo International Conference on African Development, and the G8 group of nations summit in Hokkaido-Tokyo) were held deploring the situation.[2] These organizations pledged to improve food production and distribution and specifically to support efforts in Africa and proposals for a "green revolution" in the region. These outcomes occurred in response to a series of interlocking issues that contributed to the food price inflation: adverse weather conditions leading to reduced harvests (and the flourishing of pests and disease further reducing yields), rising oil prices, agricultural policies encouraging producers to follow the market and so moving away from grain production, fiscal supports for bio-energy rather than food crops, changes in overseas development assistance reducing the emphasis on agriculture, individual country responses reducing the amount of grain and staples for export, the general economic downturn (fixed exchange rates caused problems as the U.S. dollar weakened, in addition to financial speculators in commodities markets), as well as changing global dietary demands toward meat consumption (which requires grain as feedstock) (see Midgley 2008). Consequently, in the early twenty-first century, food insecurity was a global problem. The debates that followed reflected the technical means by which food security could be achieved. This is typified by the chief scientific adviser to the UK government commenting that the link between ensuring food security and other global issues such as population growth, climate change, and increased water and energy demands threatened to create a "perfect storm" of global events requiring the application of technological knowledge and developments to mitigate against such problems (Beddington 2009).

These events were, however, not a new phenomenon (see Bryant, Bush, and Wilk, Chapter 1, this volume). The early 1970s was characterized by a period of global food price rises resulting from adverse weather conditions (primarily droughts) leading to reduced grain harvests, compounding already low levels of grain reserves (Maxwell 1996). In turn, in 1974, the global policy community came together to announce

global commitments to achieve what was termed *food security* at a world food conference in Rome. Thus, the concept of food security emerged onto the global policy stage. The commitments at this conference included responses to ensure that nations from the Global South could act to improve their own production and storage or be assisted in resourcing (importing) food reserves. Thus, for nearly forty years there have been periods of intense policy concentration and engagement with food (in)security, often in response to global food crisis events.[3] And for nearly forty years there have been periods of intense research concentration and engagement with food security, reflected in the article content of a journal such as *Food Policy* from the 1970s to date, for example.

Food security as a concept has shown a remarkable temporal tenacity in global debates. However, I argue there is very little about food security that has remained constant other than its aspirational and strategic presence in policy and political debates. Food security is a contested concept and a chaotic conception (Sayer 1992). For example, it is often stated that there are over 200 definitions of food security in existence (e.g., FAO 2003), and when this is combined with the disparate characteristics now associated with the term—such as issues of hunger, poverty, social assistance/safety nets, food safety, public health, nutrition, human right to food, human security, sustainability, improved crop yields, genetically modified foods and agri-industry advancements, intellectual property rights, land rights, rural development—and its application to different scales of social organization and governance, it is unsurprising that a chaotic, contested, and inconsistent concept has been created. However, the notion's inherent chaos and contestation contribute to its having become a powerful organizing concept. It has become a strategic concept used in attempts to unify different groups and interests. This strategic power results in periods of political salience and ensures the concept's enduring usage.

The political currency periodically attached to the concept often results in its uncritical application, which then feeds into policy and research debates. For example, for the first six months of 2011 a search of one of the main multidisciplinary citation databases[4] found fifty-one academic journal articles had been published with *food security* in the title from a total of 813 since 1970, one-sixteenth of all articles. An analysis of the fifty-one articles shows that most related to food production (agriculture, aquaculture, livelihoods, ecological issues including threats from climate change and soil infertility), water security, food safety/hygiene, safety net approaches and the economic security of individuals and households, political strategies, humanitarian assistance, and bioterrorism. The location of the research published in this period covered Africa (including north, east, and west Africa, specifically Ghana, Malawi, Ethiopia, and Sudan), India, China, Japan, Nepal, Bangladesh, Uzbekistan, Russia, the Middle East, North America (primarily the United States and Canada), and New Zealand. Without prejudging any of the published material, this brief review of content shows the currency and popularity of the concept, enhanced by the recent food crisis, and reflects its contested application.

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FOOD SECURITY: KEY POLICY DEVELOPMENTS SINCE THE 1970s

The term *food security* originated at the World Food Conference of 1974 (Maxwell 1996). The conference was organized in an attempt to deal with the changing global food system and a worrying world food situation following the 1972–1974 global food crisis. The crisis was caused by global food price instability and concerns over whether current and future food production systems would be able to meet increasing global demand, specifically how this would affect the Global South. The conference's focus on supply and general trade concerns is reflected in the definition of food security agreed upon at the time: food security represents the "availability at all times of adequate world food supplies of basic food stuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices" (FAO 2003). Consequently, attention was given to increasing grain production and its stockpiling to ensure adequate and reliable supplies at a national as well as global level. Additional support was given to institutional arrangements for monitoring world food supplies, financing imports, approaches to increasing production and storage of foodstuffs, and to encourage global cooperation. The definition mentions "at all times," a phrase that has remained in all subsequent definitions created by the FAO[5] and that suggests a temporal element to food security, be that countering long-term/pervasive insecurity or temporary variations or the risk of either situation.

However, since the mid-1970s, the definition of food security used by the FAO has broadened to incorporate issues beyond food supply (i.e., what is termed *availability*) at scales other than the world or nation-state. By the early 1980s, the term had become associated with food supply *and* the ability of individuals to access food to meet their basic needs. In 1983, the FAO defined food security as "ensuring that all people at all times have both physical and economic access to the basic food that they need" (FAO 2003). This expansion of the concept shifts the emphasis from the state to the individual and considers distribution and demand side issues. This reflects the influence of Amartya Sen (1981—see later discussion in this chapter) and his seminal work arguing that famine and by implication food insecurity was a socioeconomic problem and not one simply of food supply and availability.

A further shift in definition and focus then occurred during the mid-1990s. Another world food summit was held in Rome in 1996 to renew the commitment of international policy actors to reduce food insecurity and overcome the "collective failure" of eradicating global hunger (Shetty 2006: 8). Thus, food security was defined "at the individual, household, national, regional and global levels" as being achieved "when all people, at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO 2003). This expanded definition introduced more subjective terminology (*preferences* and *active life*). It also incorporates cultural relations and sensitivities to cultural groupings into the construction of food security. The 1996 meeting was globally important as it also made a

commitment to halving the number of malnourished people in the world by 2015. This provided the basis for the headline UN Millennium Development Goal, agreed upon by the international community in 2000, to eradicate extreme hunger and poverty by 2015. This global momentum toward development and empowerment is characterized in the concept of human security (UNDP 1994), of which food security is a constitutive component (without food security—or economic, health, environmental, personal, community, and political security—there cannot be human security [see McDonald 2010]). Human security can be broadly conceived of as "a concern with human life and dignity"; it is a universal concern that is people centered rather than state centered (UNDP 1994: 22). This conceptual development was advanced in relation to food security when at a 2001 summit meeting the idea of access as physical, social, and economic was incorporated into the definition, which now became:

> Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. (FAO 2009a: 8)

As noted earlier, this definition is perhaps the most pervasive and has been the basis of policy debate and political action for more than a decade.

Following the global food crisis of the late 2000s, a more concerted engagement with the concept of food security occurred by policy makers and researchers. There was another world food summit in 2006, and at the end of this conference overwhelming support was declared for global and national action to be taken to improve and assure food security (as defined earlier). However, three years later in 2009, at a further world summit on food security called because of the worsening world food situation due to the impacts of the accompanying global economic and financial crises on governments and households alike, it was noted that: "The four pillars of food security are availability, access, utilization and stability. The nutritional dimension is integral to the concept of food security" (FAO 2009b). The pillars add an additional element and perhaps some clarity to what has become an all-encompassing concept. The first three pillars may reflect distributional issues, but availability, access, and stability can be interpreted as ensuring and improving supply and price stability and the different trade and market relations that occur in the process. Stability may also suggest a longer-term emphasis on actions as well as reliability. Utilization captures the different issues that may affect translating resources into food consumption, such as food purchasing decisions and water sanitation.

The separation of nutrition from the pillars somewhat detracts from its integral nature, and whether food security in policy and practice encapsulates food *and* nutrition security remains debatable. Notably, the extent of concern with nutrition has changed over time in the definitions of food security from initially being concerned with meeting basic needs toward a more complex requirement of sufficiency, safety, nutrition, and dietary health. Elsewhere it has been suggested that food security and nutrition security

are different concepts; *food security* captures the processes by which food is obtained, whereas *nutritional security* captures the nutritional adequacy of the food consumed, as food may be filling but contribute to malnourishment (Robertson et al. 2004).

The 2009 declaration restated commitments to achieving food security and halving hunger, seen as a national responsibility, with regional working and increased partnerships between institutions at global, regional, and national levels, and with action focused on emergency relief and longer-term provision. Moreover, there was added emphasis on increasing food production, particularly on encouraging investment in agriculture in the Global South stimulated by a global fund for agriculture. As noted, the continued restatements regarding international cooperation, partnerships, and other governance arrangements reflect the importance of the concept for organizing action, together with its strategic importance in global and regional policy and politics. It is also a concept that contains within it the imperative of global trade to ensure food security, and reflects the dominant neoliberal food regime within which efforts are situated.

By the end of the 2000s, food security and its strategic application had become highly political, even though the definition and associated summit commitments are often neutrally phrased. The utility of the concept for generating engagement, particularly on a global scale through representing a relatively neutral public good that most parties can sign up to achieving is one thing. However, food security as a concept is problematic for both policy makers and researchers because of its definitional shifts and vagaries. Tracing the concept's development reveals three important research approaches. These are not mutually exclusive but capture key political and research developments over time; the 1970s emphasized agricultural production and efficiencies in increasing supply and the 1980s reflected a socioeconomic concern with distribution of food and wider resources within society; both approaches continue to influence food (in)security debates and provide an expanding evidence base. A third approach, political economy, can be identified as a critical response to policy developments; this engages with power differentials that may hide the inequalities in society and the food system. A fourth approach is suggested, interpretive policy analysis, that further critiques the concept and the ways policy and supporting institutional systems operationalize the concept.

CONTRASTING RESEARCH APPROACHES

Agricultural Economics and Resource Management

The study of agricultural economics concerns the issues surrounding agriculture, resource and environmental management, and rural communities from an economic perspective.

During the initial development of food security as a policy concept and goal, significant emphasis was placed on agriculture and achieving greater efficiencies in production (yield increases) and the impacts this held for food prices and trade, particularly in the Global South. Agriculture's place in debates declined as issues of entitlement and

distribution (see socioeconomics in the next section) dominated the 1980s; however a resurgence occurred in the 1990s and agriculture continues to be recognized as an important part of the response to food insecurity (Haddad, Webb, and Slack 1997). This emphasis is found in debates and associated research concerning how to feed a growing world population from limited resources given the potential impacts of climate change. The broadening of issues connected to agricultural economics is strongly linked to resource management, climate change, and sustainability (see Winter, Chapter 11, this volume), and encompasses connections to rural livelihoods and economic development in the Global South (Beddington et al. 2011; IAASTD 2008; Pinstrup-Andersen and Watson 2011; Pretty et al. 2010; Tweeten 1999). The changing emphasis placed on agricultural economics and development can be charted through an analysis of World Bank publications connected to food security over the last four decades (country-specific reports and discussion papers). The latest stage is typified by the World Development Report 2008, which focused on agriculture and identified "three worlds of agriculture" relating to the different levels of urbanization and food markets found in different nations and regions and the impacts this held for food security, economic development, and poverty reduction (World Bank 2007). Another useful resource providing agricultural economic perspectives on food security is the extensive research published by various contributing authors through the International Food Policy Research Institute (IFPRI).

Socioeconomics

Socioeconomics explores how economic issues are embedded within a societal context, for example, the organization of society and the values and relations present.

The changes observed during the 1980s that began to incorporate issues of distribution and demand reflect the influence of Amartya Sen's seminal studies highlighting inequalities within society and the food system. These studies have universal applicability. Using the multiple cases of mid- to late twentieth-century famines—the 1943 Bengal famine and the famines of Ethiopia, the Sahel region, and Bangladesh during the 1970s—Sen (1981) argued that starvation could occur even if supply (typified as amount of food available per head of population) was plentiful as it depended on the abilities of individuals to transform their available resources as bundles of entitlements to access (both economically and physically) available food. Therefore, the issue was not simply supply based but also distributive. This was what Sen referred to as the "acquirement problem" (1995: 34). In particular, it is individuals' entitlements that are crucial to their security; entitlements reflect different bundles of commodities possessed by individuals and what they can then transform legally through exchange (such as money, labor, land). These circumstances create the different entitlements they possess and ultimately whether they can access food (Sen 1992, 1995). Entitlements are "not an alternative term for the distribution of income or food" but emphasize different relations (economic, political, social, and cultural) that can impact and determine an

individual's command over food and ability to exchange (Hussain 1995: 3). Sen's ideas continue to influence researchers in both the Global North and South concerning food insecurity and access (see Larson and Moseley 2012 and Rubin 2009 for recent representative examples).

Political Economy

Political economy explores how political relations affect the distribution of resources, often focusing on the control and influence of power relations in such processes.

Those involved in defining the concept of food security have tended to omit questions of power and control over resources whether they refer to purchasing of food or the means of production. Thus, political economy approaches can encompass issues concerning inequalities to structural violence and exploitation. The strongest critiques of food security from both Global North and South perspectives come from political economy approaches and are typified by the work of Philip McMichael (2000, 2003, 2009a,b) (McMichael and Schnieder 2011) and Raj Patel (2009) both independently and in collaboration (Patel and McMichael 2009). These approaches question the ability of the market to provide food security as expounded by the FAO and other international institutions and governments and, more critically, question the ability of transnational corporations and agribusiness to provide food security through the continuing dominance of the neoliberal food regime. McMichael (2003) argues that there has been a global corporatization of the agri-food system. This has occurred through a combination of factors. The role of the state in food and agriculture systems has decreased globally. In the Global South this often occurred at the behest of donor governments and institutions in the Global North by encouraging trade to provide the means for food security and placing the means for national production and distribution much more in private hands. It also occurred indirectly through reduced overseas development assistance for agriculture as aid was transferred to other social policy areas.

The reduction in Global South governments' spending on agriculture was only questioned relatively recently—for example, the 2003 Maputo declaration by the African Union (see NEPAD).[6] Food production increases have also been encouraged, but increased production does not equate to food security—questions remain as to what is produced and who consumes it as some of the produce is likely to go for export (and be explicitly produced for this market) and become part of global commodity chains (McMichael 2009a; McMichael and Schnieder 2011). Thus, McMichael (2009a) points to a growing "metabolic rift" between the resources used (and their intensified use) and the ultimate consumer, facilitated by an increasingly globalized agricultural industry. The latest episode of this has been the controversial land grab. Overseas governments and financial institutions acquire land tenure rights and thus the control of land resources and sizeable agricultural production activities in often vulnerable nations; foodstuffs are then exported for trade or national food security needs (McMichael and Schnieder 2011; see also GRAIN[7]).

Consequently, "The political mechanisms of trade liberalisation and the belief in the ability of transnational food corporations to 'feed the world' has led to suggestions of the 'privatisation of food security' " (McMichael and Schnieder 2011: 126). Patel also argues that "The terms on which food is, or is not, made available by the international community has been taken away from institutions that might be orientated by concerns of 'food security,' and given to the market, which is guided by an altogether different calculus" (2009: 664). The changing political power and capabilities of institutions and nation states to achieve food security has been challenged by the globalizing neoliberal order. Thus, food security can be explained "by using the term as a mirror of international political economy" (Patel 2009: 664).

A more comprehensive and radical attempt to deal with the definitional inadequacies and uncertainties of food security and the power relations concealed within them is offered by the term *food sovereignty.* Through the food sovereignty social movement (typified by the global peasant movement Via Campesina) attempts are made to achieve a more democratic, rights-based approach to the control of resources involved in food production through to consumption. Detailed engagement with food sovereignty is out of the scope of this chapter and readers are directed to the *Journal of Peasant Studies* 2009 for discussion of the concept's applicability to the Global North and South. However, it remains an unpopular concept with policy makers, arguably because this may challenge the dominance of existing global trade relations (see McMichael 2003, 2009a; McMichael and Schnieder 2011). This is illustrated by the policy silence that has surrounded the UN-sponsored International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) and the panel's report that called into question the imbalance of power and inequalities affecting food, agriculture, and sustainable development (IAASTD 2008). Consequently, issues of power have come to belie the concept of food security and the strategic neutrality associated with it.

Interpretive Policy Analysis

Interpretive policy analysis explores policy through the analysis of meanings and the contexts it is found in and applied to that reflect and create social and political worlds.

The term *food security* is a political construction. This has important implications for how policy makers construct, interpret, and use food security/insecurity terminology impacts on the resources deployed in any response, and, important, related research (both monies spent on research if they have identified it as a problem and the adoption of particular understandings of the terminology applied by researchers). Interpretive analysis (see Fischer 2003; Fischer and Forester 1993) is a growing area of research on food security (and wider food policy). It has links to political economy approaches but focuses on the means by which policy is produced, interpreted, and implemented. My own work, following this tradition, shows how integral food security—its constructed meanings and interpretations—are within recent UK food policy developments; with respect to policy framing and associated discursive analysis of household food security

in UK government policy and this construction's relationship to civil society actors, particularly with respect to their incorporation into policy approaches (Midgley forthcoming). Elsewhere I have explored devolved power and food policy making within the United Kingdom (Midgley 2010) and the ways food security is used as one component of power seeking. A comparative perspective concerning the framing of food security in the United States is offered by Mooney and Hunt (2009). These authors identify hunger, community food security, and risk as the different consensus frames food security movements and political actors organize around, which holds potential implications for recognizing food insecurity as a social problem and for the organization of the agri-food system with its potential restructuring affecting diverse communities differently.

REVEALING THE PREVALENCE AND PROCESSES OF FOOD (IN)SECURITY

The breadth of methodologies that have engaged with food (in)security and the various issues it is associated with are potentially vast; however, while some may investigate the concept and responses (such as policy analysis), others are orientated to creating measures and indicators of food (in)security to help the targeting and evaluation of policy intervention. In this section I focus on typical approaches concerning attempts to capture the prevalence of food (in)security and the process-based nature of food (in)security inherently associated with the terminology and the different scales at which it is applied (e.g., household or national). Examples are drawn from the Global North and South.

Estimating the Prevalence of Food (In)Security

A long-standing proxy measure of national food security has been the amount of food available (as calories) per head of population. However, as diverse measures are put forward that relate to consumption and access (and nutrition) at different scales and in different contexts, then such measures become more complex estimates of food insecurity.

Since 1995, the U.S. Department of Agriculture (USDA) has sponsored an annual survey of households (as a representative sample of all noninstitutional citizens) to establish the extent of food security and insecurity within the nation (see Nord et al. 2010 for methodological detail and analysis of these data). The survey questionnaire collects data to enable estimation of the extent and duration of a household's food security by asking about the conditions associated with the household's food provisioning and consumption. The questions are statement based and reflect different conditions associated with food insecurity and its frequency; for example, "we worried that our food would run out before we got money to buy more." Combinations of responses provide a categorical scale to estimate the number and proportion of households that are food secure or insecure (with low or very low security) and the temporal nature of these conditions (occasional or chronic).

The data are primarily reported as cross-sectional trend data (i.e. frequencies over time but not following the same individuals or households). The data are then analyzed and

reported as percentages on the basis of different sociodemographic categories such as household type, income level, race, and area of residence, as well as different spatial/administrative geographies. For example, in 2009 6.8 million U.S. households (5.7 percent of all households) experienced "very low food security" such that "eating patterns of one or more household member were disrupted and their food intake reduced, at least some time during the year, because they couldn't afford enough food" (Nord et al. 2010: 5); this figure had incrementally increased each year from three percent of all U.S. households in 1999. Additional questions are asked that capture more experiential aspects of food (in) security such as food purchasing behaviors and the use of social assistance programs or other sources of support such as food pantries. As an administrative survey, it provides information on the interventions made and the continued requirement for such assistance for households across the nation. Throughout the twentieth century and continuing into the twenty-first, the United States has possessed a varied history in recognizing hunger and latterly food insecurity among its citizens and developing food-related social assistance/welfare programs to support food insecure households (Poppendieck 1998). The USDA food security survey has been an important influence on attempts to qualitatively measure food security elsewhere in the Global North (see Radimer 2002, also Holmes 2007 for survey results concerning households in materially deprived areas of the United Kingdom).

Another statement-based estimate, the coping strategies measure, was developed by Maxwell and colleagues (1999) and informed by research in Ghana, Sierra Leone, Uganda, and Tanzania. This measure aimed to provide insights into the impact of policy initiatives over time and/or to identify households vulnerable to food insecurity. A series of questions relating to the frequency of different behaviors and trade-offs made by households in response to limited food access were identified by focus group participants, who also ranked the severity of the responses. The rankings provided the statement weightings that informed the indices (estimate) bases. Estimates of household vulnerability to food insecurity are then derived from data collected by household questionnaires or group interviews in communities.

Greater knowledge regarding the risks associated with food insecurity for individuals and households, including its duration and frequency of occurrence, can be gained from longitudinal panel studies (those in which the same individual or household is repeatedly surveyed over time). This is particularly useful in relation to the potential effects of policy interventions (see Matellinos-Katsaras et al. 2011 for an illustrative example using the USDA food security supplementary survey approach, data on food related social assistance take up, and maternal and child health). The data allow for more detailed analysis, through logistic regression, of associated likelihoods of being food (in)secure and their occurrence over time.

Exploring the Processes and Experiences of Food (In)Security

Paying attention to the different contexts in which food (in)security is experienced enables the process of securing food to be identified, explored, and brought to the forefront

of methodological approaches. These approaches frequently emphasize qualitative methods—ethnography, observation, depth interview, and focus group—and data are analyzed most commonly through thematic analysis. These approaches provide a depth to the experience of insecurity rather than an overview of the issue.

This is typified by a recent study by Ford and Beaumier (2011), which provides a detailed case study of food insecurity among Inuit community members and highlights the conditions and processes affecting food access and availability, its transitory nature, and how these are influenced by changing livelihood practices and environmental pressures experienced by the community. Other recent qualitative research examples include using a purposive sampling strategy to identify food insecure individuals and households, often with a focus on a specific demographic or socioeconomic group, as in studies of elderly Thai women (Piaseu, Komindr, and Belza 2010), and elderly people in Australia (Radermacher, Feldman, and Bird 2010). Elsewhere the linkages between poverty and food insecurity and the coping mechanisms used by residents in two urban communities in Addis Ababa, Ethiopia have been explored (Tolossa 2010). Another important emerging research site is the local voluntary/civil society organizations that respond to the problem of food insecurity, including their practices and policy/incorporation (Midgley forthcoming; Poppendieck 1998; Warshawsky 2011). The recent studies reviewed here contain detailed analyses of different aspects and experiences of food insecurity and offer recommendations for local policy makers.

CONCLUSIONS AND FUTURE DIRECTIONS

Food security continues as a concept that is chaotic and contested. It has developed to encompass issues of food production and supply, distribution and inequalities, power relations within the global food system, and numerous other issues. Some have argued that the "cornucopia of ideas" represented by the concept reflects the "nature of the food problem experienced by poor people" (Maxwell 1996: 155). Others suggest that the expansive definitions (reviewed in this chapter) have been "both a cause and consequence of its increasing irrelevance as a guiding concept in the shaping of international food production and consumption priorities" from a time when nation-states and their governments were politically powerful compared to the power now wielded by globe-spanning institutions and capital (Patel 2009: 664).

Use of the concept of food security has encouraged the development of different knowledges and research approaches to respond to different contexts, but this has led to the differentiation and dilution of issues and ideas. Moreover, its periods of political salience are often crisis related. This periodic engagement means that attention often lurches from one issue to another, contributing to the chaos surrounding the concept. This could be reduced if the concept was more widely perceived to refer to a continuing process, such as securing food, and I propose the latter to overcome the chaos and problems associated with food security. Thus, while food (in)security for the moment—arguably—retains its strategic and political power to influence global

and more localized responses to issues of access, availability, utilization, and stability (along with nutrition) concerning food for all, there is the risk that food security may lose its strategic power. Further uncritical engagement may undermine the concept and negate the ideals with which it is associated. This is occurring at a point in time when it is critical for both the Global North and South to engage with the issues captured by food security and with its unifying potential to help develop coordinated responses that transcend the differences constructed. Food (in)security is a complex and multifaceted issue and importantly does not respect national or administrative boundaries. Indeed, the knowledge of the particular and its contextual setting is important, but so too is the learning from other cases, cultures, contexts, and scenarios in enhancing research approaches and knowledges as well as strengthening their applied policy relevance. I conclude by outlining some of the potential future challenges and areas worthy of research attention:

1. Embrace the flexibility of the concept and the rapidly changing and challenging economic, social, political, and environmental conditions and relations. Consequently, focus research on the processes of securing food. This could potentially capture practices from production to consumption, the variety of actors involved and affected, different sites and scales (individuals, households, cities, nations, regions, and global), and overcome the competing claims that detract from food security. It could also promote more interdisciplinary studies.
2. Recognize that instability rather than stability (e.g., global market and food price) may be the dominant future research context. As decisions have to be made with respect to instability (whether by households or governments), this should be embedded within research approaches.
3. Food security as a component of social order and wider security concerns (for individuals, cities, nations, regions, and globally). This is important given the challenges noted previously and the continuing pace of urbanization resulting in greater food demands and susceptibilities of urban populations to food insecurity. Given the political power held by urban populations this must be explored together with the implications for rural areas and populations.
4. Making visible the often overlooked processes and practices of securing food as essential/critical infrastructure (for cities, regions, and globally).
5. How, and if, lessons are learned from different contexts including Global North and South knowledge transfers. For example, northern perspectives often overlook southern practices that have historically recognized and incorporated food into strategic policy agendas often at a city level. This may require more multisite and comparative research to inform global as well as local initiatives.
6. Continuing policy-related research to identify possible failings of approaches, agreements, and so forth, and to enable policy makers and institutional practice to be held further to account. This should be balanced by further explorations of how food security is used and mobilized (against) by civil society.

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NOTES

1. One recent attempt to provide a comprehensive review was the UK government's report on Food and Farming Futures (Foresight 2011) identifying the main drivers of the global food system to 2050. Another example is the UN-sponsored International Assessment of Agricultural Knowledge, Science and Technology for Development panel report (2008).
2. The FAO Committee on Food Security maintains a list of relevant meetings and events by the FAO and other international organizations available at www.fao.org/cfs/cfs-home/list-events/en/.
3. Admittedly, associated issues such as hunger, food supply and distribution problems, and global attempts to combat these have a longer history than that recorded and reflected by the term *food security.* See, for example, the Hot Springs Conference on Food and Agriculture of May 1943.
4. This search was undertaken through the ISI Web of Knowledge database searching all databases on July 2, 2011.
5. The FAO definition is used here as the FAO has been and remains the main global institution concerned with food security, and it is this institution's definitions that global policy debates generally adopt.
6. The New Partnership for Africa's Development (NEPAD) program of the African Union provides updates on the Maputo agreement and its achievement; see www.nepad.org/.
7. GRAIN is an international NGO that has been vociferous on the land grabbing situation and techniques employed.

26

Food and the Media: Production, Representation, and Consumption

ROGER DICKINSON

The mass media bring the social and cultural significance of food to public attention in all their forms. Food—its production, its preparation, and its consumption—features increasingly frequently in print, on radio, in the cinema, on television, and online. Over the past sixty years, there has been a gradual, but in recent years, quickening rise in food's prominence in the media. This is partly because there has been a steady global expansion in the media industries themselves and there have been large increases in the range and forms of output. It is also partly because of the simultaneous rise of the global food industry and its dominance of commercial advertising. Both these trends are clearly discernible in the United States and the United Kingdom and appear to have been shaped and reinforced by local conditions. In the United Kingdom, for example, the challenges brought about by food rationing during and in the years following the Second World War created a need for increased public information and instruction about food. Advice and recommendations about food and its economical use and recipes making the most of limited ingredients, although evident in Britain long before this period, started to feature more noticeably in women's magazines and newspaper columns throughout the 1940s and 1950s. The early television producers, sensing the telegenic properties of food and cookery, also responded by placing them firmly in their schedules, creating programs that featured presenters who were either already, or who went on to become, successful food or cookery writers. Julia Child and, later, Martha Stewart in the United States (see Goldstein 2005 and Polan 2011 on their cultural significance) and a string of television cooks in the United Kingdom from the 1940s through the 1960s (e.g., Marguerite Patten, Philip Harben, and Fanny Craddock) helped to establish food as a central feature of the television calendar.

Commercial television, fueling and fueled by the postwar consumer boom, built much of its early financial success on food advertising. Food has since become a growing

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presence on television to the point where, for regular television viewers, it is almost impossible to avoid. In one week in the summer of 2011 the schedules of the five British television channels with the largest share of total viewers contained nineteen programs with food as a central feature (cookery programs in a range of formats, reality shows featuring restaurants, cooking contests, and travel-and-food documentaries), amounting to a total of more than twenty hours of food-related programming.[1] The total figure for 2010 was more than twice that of a decade earlier (Dickinson 2000: 24). The audiences for programs about food are now so large as to warrant the creation of entire channels devoted to the topic. Since 1993, an American cable television channel—the Food Network—has been transmitting programs exclusively about food (see Meister 2000 and Swenson 2009 for discussions). The rapid rise of the Food Network in the United States and elsewhere (it now has channels showing in Britain, Canada, and Asia) and the 2010 launch in the United States of its more instruction-oriented Cooking Channel stimulated competition from mainstream networks seeking to capture the expanding audience for food-related viewing. There are now similar channels in Australia (Lifestyle Food), Britain (Good Food Channel), and France (Cuisine TV). The U.S. company that owns the Food Network family—Scripps Networks—captures the essence and extent of its media/food enterprise on its website homepage:

> Scripps Networks Interactive has become the dominant media and marketing company in the home, food and lifestyle categories. Our brands provide relevant ideas, information and entertainment to a passionate audience, delivering content across multiple media platforms—television, the Internet, satellite radio, books, magazines, in-store and the latest mobile and emerging media—to provide value to our distributors and advertisers. (Scripps Networks 2011)

The celebrity chef shows and the publishing and merchandising tie-ins promoted across these "multiple media platforms" are all evidence that the subject of food attracts large and lucrative audiences. Perhaps for this reason more than any other in the study of food, the role of the media is frequently acknowledged; the sheer volume and variety of material about food in the media make them variables difficult to ignore. Surprisingly, however, they are only now beginning to be studied with the necessary theoretical and methodological sophistication required to understand their role and significance. More than twenty years after a detailed review of the field concluded that the topic was "seriously under-researched" (Mennell, Murcott, and Van Otterloo 1992: 90), the situation has changed quite markedly, but, like media and communication research in general, research on the media and food is represented in scholarship belonging to several different disciplines and research traditions that address the subject in differing ways and set out to answer differing research questions—a varied intellectual terrain that can be difficult for newcomers to navigate across.

This chapter is an attempt to bring some of that disparate work together and to evaluate its contribution to the wider field of food research. It will take a Western perspective, its

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discussion derived from mainly North American and European sources and limited to those written in English, reflecting the fact that, although there are both emergent and established centers of media scholarship elsewhere, most academic research on media and communication originates from the West. The main preoccupations of Western media scholars lie in the interrelationships between, on one hand, human society and culture, and, on the other, the institutions of the media and the social structural factors that underpin them. This entails the examination of the ways the media work and the contribution they make to the creation of culture, defined narrowly at one end of the research spectrum at the level of the individual, or defined broadly at the other at the level of society and social structure. Often lay and, sometimes, policy concerns about food and the media have focused on the narrow end of the spectrum, the role of the media thought of in negative terms, the overriding and rather limiting view being that they are to be blamed for promoting unhealthy eating behaviors or for perceived deficiencies in public understanding of health and food-related matters. These themes have motivated much of the research carried out so far on the media and food and will be evident at various points throughout the chapter.

From a broader perspective, the media have significance in relation to food in their representations of poverty and hunger, famine, food science and agriculture, and the global food industry. Studies of news have sometimes placed these issues at the center of their analyses (e.g., Philo 1993; Shanahan, Scheufele, and Lee 2001); sometimes the media are peripheral concerns in studies of the food industry (e.g., Lang and Heasman 2004; Nestle 2002). The Internet is also increasingly relevant as a space for public expression and conversation about food (see Cox and Blake 2011 and Lynch 2010 on the growing global interest in food blogs). While attention to these topics is clearly essential to fully apprehend the media's contribution to and reflection of contemporary culture as it relates to food, they will receive less attention here. Instead, via a tour of some of the dominant approaches to the study of the media and food, taking research on television and the press as its main focus, this chapter takes a narrower and more socially situated approach and suggests new and potentially fruitful approaches to the subject that will not only help to provide the basis for a more complete understanding of the media's role in their representation of food and the creation of food-related meanings on one hand, but will also add to what is known about their influence on the social practices concerned with food and eating on the other.

One notable medium will be omitted from the discussion: the cookery book—but see Claflin Chapter 6, this volume. Just one relevant observation can be made here. Although books about cooking have been important disseminators of information and instruction for more than a century and written information in other forms about cooking and food preparation has been around for much longer, research on their role in domestic practice is hard to find (but see Brownlie, Hewer, and Horne 2005 and Gallegos 2005). While, as Mennell and colleagues suggest, by the 1950s other mass media such as television, magazines, and advertising had become as important as vehicles for cookery instruction and for spreading information about new products and new ways

of preparing and cooking food, books on cooking have continued to sell in vast numbers (Mennell, Murcott, and Van Otterloo 1992: 88). In the United Kingdom, the rising popularity of television programs about food and the books they promote have given cookery book sales an added boost. A glance at Amazon UK's archive of best-selling fiction and nonfiction books between 2000 and 2010 shows that there was at least one, often two cookery books in the top ten each year (Amazon 2012).[2] As Mennell and colleagues point out, the sociology of how people learn to cook and what use they make of printed materials in the process are neglected research topics.

UNDERSTANDING THE MEDIA AS INDEPENDENT VARIABLES

The media are rightly at the center of many studies of food. Indeed, in as much as the study of food is concerned with its meanings and representations, a food studies that neglected the media would be seriously lacking. But in food research the media often appear as *dependent* variables—individually in particular forms (the magazine, the television documentary, the celebrity chef show) or collectively—as indicators of societal-level social processes, of shifting behavioral trends, or of public fads and fashions. The media are frequently conceived in food research as mirrors of social change in public attitudes and practices relating to food and its production, preparation, and consumption, most often seen as reflecting the outcomes of these changes, rarely as variables implicated in the social processes that give rise to them. As I argue, the studies that conceive of the media in this way are limited because, despite their centrality to the analysis, they are cast in a minor, somewhat passive role, their products seen as sites onto which social meanings are reflected. This, I suggest, provides a less than fully rounded understanding of the forces shaping social change.

For example, a small number of academic studies over the past thirty years have treated popular media forms as useful sources of discourse—and therefore useful sources of evidence—about cultural boundaries and status distinctions, about group membership and exclusion and identity in terms of age, gender, ethnicity, or social class in contemporary society. For example, Stephen Mennell's seminal historical study of changing food habits in England and France is one of the earliest and most well-known works that can be placed in this category (1993, first published in 1985). For part of his analysis, Mennell examined the food columns and recipes published in British and French women's magazines from the nineteenth century to the 1970s. He lists several reasons for doing so, but important among these were the fact that the readership for these publications at the time numbered in the millions, that they appealed across the social classes, that they contained large amounts of advertising for food and food-related products, and that there was a correlation between their representations of food and the descriptions of domestic food consumption found in the literature and journalism spanning that period. This suggested to Mennell that the content of magazines of this kind could be taken as a reflection of common practice (Mennell 1993: 233). Warde (1997) carried out a similar survey but conducted a narrower and more systematic content

analysis of recipes printed in British women's magazines in 1967 and 1991 to measure the changes between those years in the types of foods recommended. Following Mennell, Warde noted that, in Britain, women's magazines have a very large readership, devote substantial space to articles and advertisements about food, are therefore likely to bring information about food to a large proportion of the British population, and thus "have some influence on the determination of food taste and knowledge" (1997: 45). However, the aim of Warde's study being to explore the significance of trends in food consumption, he shows relatively little interest in the influential role magazines might play in this. In fact, as does Mennell, he simply takes magazines to be mirrors of public taste. As he puts it, "magazines may both reflect current practice and, . . . even more likely, reflect and reproduce contemporary categories of judgement" (1997: 49). Similar, though with slightly different intent, is Warde's more recent study based on an analysis of the British *Good Food Guide.* He charts the shifts across more than fifty years of publication in the *Guide*'s definitions of British cuisine and its nature and quality (2009). In this a role for the *Guide* is claimed as a "barometer of general pressure in the cultural climate," Warde's analysis of the book being "guided by the prevalence of the different ways in which judgments of quality have been framed" (2009: 155).

Neither Mennell's nor Warde's work has the workings of the media at the center of attention, but if an important goal for food research is a better understanding of the factors that help condition and determine food provisioning and consumption, then the lack of focus in food research on the media's role as a source of influence is an important omission. Mennell's and Warde's are sophisticated analyses, but their weight needs to be brought to bear in the analysis of the media not as variables that merely reflect current practice in relation to food, but as *independent* variables implicated in the shaping of that practice. This must entail an equally sophisticated view of the media and the processes of influence in which they play a part, not as all-powerful shapers of attitudes, beliefs, and behaviors, but as being significant in the contribution they make to meaning making, interpretation, and social practice.

The need for this shift in thinking in food research, and not just in the study of the media, is also important because conceptualizing the media as independent variables helps open to scrutiny the forces that shape them. The economic, political, historical, cultural, and institutional factors that determine media structures and processes—might then, in turn, receive due theoretical and empirical attention among sociologists of food. The benefits of this will become clear in a subsequent section of this chapter, but before that I will describe the research approach to the media and food that appears to have been more active than any other in the last ten years.

FOOD AND CULTURAL STUDIES

Research in cultural studies has attempted to understand consumption practices by exploring the social and cultural significance of food and eating in approaches that take media output as reflecting emerging as well as enduring social values and mores.

There is a similar strand of inquiry in the field of film studies, although detailed treatment of it lies beyond the scope of this chapter.[3] The cultural studies work on food is worth considering in some detail partly because it seems to be where researchers in the sociology of food and those interested in the study of the media have recently begun to come together most productively, and partly because there are important things to say about its limitations that could contribute usefully to debates in both fields.

Cultural studies research on food seems promising because it places food and its representation in the media much more at the center of its analysis than previous sociological work. Where it is perhaps least convincing is over its theorization of media/audience processes, but, while not always clearly treating the media as independent variables, these studies do attribute a far more important, determinant role to them.

Over the past decade, several studies have examined popular media forms that contain or feature food and presented analyses that aim to illuminate their cultural significance and symbolic power (see, for example, De Solier's study of food on television [2005] and Hollows' analyses of celebrity chefs [2003]). The objectives in this work are somewhat different from the sort Warde and others pursue. In place of an interest in social change and social structure, although sharing some of their theoretical scaffolding, there is a much tighter focus on the nature of popular cultural forms and the meaning of their language and symbolic codes. Cultural studies work on food treats media representations as repositories of meaning that can be uncovered using the techniques of discourse analysis to examine the way language represents ways of thinking that delimit both what can be understood and the ways it can be understood.[4]

Despite its greater attention to what the media might convey about food, however, cultural studies writing on this topic is similarly neglectful of the role media actually play in what and how people eat. Ashley and colleagues (2004), for example, explore the cultural significance of television chefs. After a detailed and thought-provoking examination of the meanings they discern in the phenomenon of the celebrity chef, they note in their conclusion that there is little evidence that the programs that feature well-known chefs have any influence on cooking practices (a point suggested in an earlier study by Caraher, Lang, and Dixon 2000). Instead, Ashley and colleagues suggest that the way to understand the significance of celebrity chef shows for viewers is in terms of the pleasure they give. They speculate that for the audience members it is the fantasy that they might themselves be able to cook what they see cooked on television that is the source of their viewing pleasure, and concluding, drawing on the work of Pierre Bourdieu (1984), that this has something to do with the urge for social distinction, the audience for these shows enjoys the fantasy of the cultural capital the culinary skills and the lifestyles they promise might afford it. Different work in this vein has explored the phenomenon of the celebrity chef in increasing depth (De Solier 2005; D. B. Goldstein 2005; Hansen 2008; Hollows 2003; Hollows and Jones 2010a,b; Ray 2007b), some taking a broader, contextualizing television studies approach to try to explain their popularity and assess their significance (Adema 2000; J. Bennett 2010a; K. Collins 2009; Inness 2005; Ketchum 2005; Meister 2000). The analysis of food in these and other

specific media forms—lifestyle programs and magazines, for example (Hollows 2006, 2008)—draws attention to the representation of female roles and femininity, ethnicity, gender identities, social class, and domesticity. Perhaps rather more here than in the sociological work on food, the media in these studies are at the same time assumed to be directive and determining influences. Their role is, however, an uncertain, often unexplained, and undertheorized one with accounts of imagined (and sometimes imaginary) impacts and influences offered alongside the textual analysis and culture critique.

Academic work in marketing and consumer research (see Brembeck, Chapter 16, this volume) has been heavily influenced by cultural studies and the intellectual traditions that underpin it. In this context it represents what can be thought of as the extreme end of the textual analytic spectrum. Studies here are less about media forms as reflections of contemporary consumer culture but are readings of, for example, cookery books as "artefacts of cultural life in the making" (Brownlie, Hewer, and Horne 2005: 7) or certain features discernible in television advertising for fast food, considered "in terms of their wider relations to the systemic and cultural vicissitudes of contemporary global capitalism" (Brewis and Jack 2005: 51) Often highly speculative and impressionistic, such work does not aim overtly to provide definitive interpretations of either what producers intend their messages to mean or what viewers or readers make of them. These authors do, nevertheless, sometimes make implied claims about the significance of their analyses for the understanding of the media's influence on domestic cooking and eating.[5]

Elsewhere, the question of media influence is sometimes not so much explained as simply explained away. In an account of a study of food advertising in a popular Australian women's magazine, the authors describe their focus on the advertisements themselves as follows:

> In looking for evidence of the systematic construction of meaning and instructions on ways of consuming, one could look to consumers [*sic*] responses; however, individual variations and a lack of consensus is almost inevitable in taking this perspective. Thus it may make more methodological sense to explore evidence created and manifested by the institutions of the time. Documentary evidence in this instance may provide better insights into the phenomenon than speaking to consumers or directly to the "producers," such as the manufacturers. (Schneider and Davis 2010: 33–34)

The point seems to be that the challenge of exploring the meanings created by representations of food in the media is too great to overcome. This is a surprising conclusion because for several years cultural studies researchers working in the wider field of media and communication have acknowledged the need to explore not only the ordered meanings in media texts but to investigate the ways those meanings are or are not incorporated into people's views, beliefs, and social practices, and have developed methods to help them do so. Yet it seems that most if not all cultural studies work on food has narrowed its focus onto texts. The problem with this is that it is difficult to explain textual meanings without at the same time investigating production and reception processes.

Discourse analysis that remains text based cannot examine where those texts come from and how they were arrived at, what other texts might have been possible, how external factors shaped their production, and what meanings different parts of the audience derive from the texts in question. As I explain later in this chapter, this is more than a problem of method.

THE PROMISE OF A CULTURAL SOCIOLOGY OF FOOD AND THE MEDIA

The work of North American sociologists Johnston and Baumann (2007, 2010) represents a rapidly developing strand of scholarship in cultural sociology that attempts to bring together sociological concerns in the study of food and the tools of cultural analysis to assess the meaning and significance of food and incorporate a study of media discourses into a study of social practices. This work is worth describing in detail to highlight the benefits of blending the traditions of empirical social science with those of cultural studies.

Johnston and Baumann identify a social category they call "foodies"—people with a special interest or, perhaps, a devotion to food. They use the concept of "the foodscape" as the basis for a discussion of how food preferences and patterns of food consumption can be seen as expressions of class identity and cultural distinction. Their interest is, again, in social and cultural change and the way older distinctions between the social practices of cultural elites and those of the working class have become eroded. They argue that the old divide is being blurred and that the response to this among cultural elites can be illustrated in the social practices, values, and mores of foodies "and the phenomenon [*sic*] that surrounds the label: the food television, the obsession with celebrity chefs, the glossy food-porn, the food blogs, and the general obsession with culinary pursuits" (2010: 2) so that new markers of distinction emerge as sources of status for those with high levels of economic and cultural capital. The practices of foodies that make distinctions between good and bad foods reveal how cultural consumption creates and maintains status in American society.

Unlike previous sociological studies on food, Johnston and Baumann's account of the contemporary American foodscape therefore credits the media with considerable significance. Journalism is especially important. In the 1960s, restaurant reviewers began to take a critical stance on the European-influenced gourmet culture promoted by Julia Child's television programs and acted to demythologize the goings-on in the kitchens of top restaurants. This and the success of restaurants in California with a more direct connection with farming, the influence of Elizabeth David's celebration of Mediterranean peasant cuisine, and the politics of the 1960s counterculture (see Belasco 2006) further weakened the division between gourmet and ordinary food.

The foodscape is structured by class and race: programs on the Food Network, for example, are dominated by the white middle class. Where ethnicity is present it is confined to ethnic cuisine and tokenism. Foodies occupy a small part of the American

foodscape where concerns over obesity, health, class and racial inequalities, sustainability, and the domination of corporate interests in the food industry are central. The gourmet foodscape, on the other hand, is exclusive, affluent, and white.

Apart from the detailed historical-cultural analysis, Johnston and Baumann studied food discourse produced by food experts—gourmet magazines, restaurant columns, and food sections in U.S. newspapers—and interviewed foodies to discover the distinctive features of the ways they talked about food. The key assumption here is that media sources are influential in defining worthy food choices—identifying dishes and foods, spotting culinary trends, providing a repertoire of legitimate and desirable choices. It is in this that Johnston and Baumann's work represents a departure from that belonging to the cultural studies tradition and, at the same time, takes a step beyond the work of Warde and Mennell discussed earlier: they want to assert a relationship between media representations of food and the audiences who consume them.

This is a welcome and promising advance, although this work is not without shortcomings. One is that, in common with discourse analytic studies in general, Johnston and Baumann's analysis of media content tends toward the impressionistic: it lacks the precision of more focused, systematic analyses charting specific media forms and genres coupled with a strong sense of the broader context of media representation. Another difficulty is that a focus on individual media texts isolates them from the complex of commercial nonmedia and internal media production processes that help to shape them. These are matters to which the chapter now turns.

FOOD SCARES, THE MEDIA, AND THE POLITICS OF FOOD

Between the late 1980s and 2001, a number of food scares occurred in Britain that had dramatic effects on food sales.[6] These were triggered by media reports of widespread food contamination. In 1988, salmonella in the British egg supply led to a collapse in that market. Shortly afterward, listeria bacteria were found in pâté and soft cheese sold in many British supermarkets. The incidence of Bovine Spongiform Encephalopathy (BSE), colloquially known as "mad cow disease," though detected some years before, began to receive increasing publicity in the early 1990s. This reporting drew public attention to farming methods and speculation over the risks to human health. Despite attempts by the government and the Ministry of Agriculture Fisheries and Food (MAFF) to reassure the public, one effect of the media coverage was to dramatically lower sales of British beef. In 1996, when the British government announced evidence of a possible link between BSE and recent cases of Creutzfeldt-Jakob disease (CJD)—the human form of the condition—sales fell again. The European Union's embargo on British beef products inflicted even further damage. Toward the end of the 1990s, the media began to report on growing public disquiet, as well as activist campaigns about—and food industry defense of—genetically modified (GM) foods. Finally, in 2001, the outbreak of foot-and-mouth disease generated more criticism and negative publicity about the

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food supply, farming methods, food industry regulation, and the links between them and public health.

Beardsworth (1990) was one of the first to investigate the phenomenon of food scares and the media's part in them. Following much earlier work in the sociology of deviance that had described the process of "deviancy amplification" (J. Young 1981), Beardsworth suggested that a spiraling process occurs in which preexisting public anxieties about food and health become heightened by media reports of incidents relating to the food supply. These anxieties, in turn, are amplified by the media and this causes further anxiety, which leads to changes in patterns of consumer purchasing. Beardsworth points out that several factors—not least the role of experts from the scientific community expressing scientific uncertainty—interact in this process. Whether this analysis adequately accounts for all cases remains an empirical question.

Freidberg (2004b) confidently suggests that one cause of public alarm during this period was in each case the knowledge that the risks associated with the rise in the industrialization and globalization of the food supply were imperfectly understood by the scientific community (Wynne 2001) and poorly regulated by government. However, it was common during this period for food scares to be accounted for in terms of public ignorance and gullibility, media sensationalism, irresponsible journalism, and scientists' failure to communicate effectively (e.g., D. Anderson 1996; W. A. Anderson 2000). In doing so, attention was drawn to both the production and the consumption of media meanings about food.

On the consumption side, the question of public understanding and the so-called knowledge deficit hypothesis was addressed in research by Macintyre and colleagues (1998), who investigated how media messages about BSE, food, and health were interpreted by the public. They found that people receive a lot of information about food and diet from the media and are highly knowledgeable about it but that this information did not necessarily lead people to alter their eating habits. This is partly because they were skeptical about expert views. Skepticism stemmed from an awareness that clear messages amplified in the mass media about this or that foodstuff on one day could very likely be contradicted the next, and because, from a lay perspective, experts expressed their views with a level of certainty that seemed, in light of apparently changing scientific opinion, unwarranted. Macintyre and colleagues' informants were active in negotiating their understandings of health and food safety issues, influenced by the media in terms of the issues they considered important, but influenced also by their own views of food production and marketing, and by their own social networks and personal and material circumstances (Macintyre et al. 1998: 249).

Related research (D. Miller 1999; Reilly and Miller 1997) turned attention away from consumers of media coverage of BSE toward matters of production. Here media-source relationships were the main focus with researchers examining the interactions between scientists, government policy makers, lobbyists, and journalists—a relatively neglected research topic but one clearly essential for a complete understanding of the phenomena in question (see Murcott 1999). Reilly and Miller identified "definitional struggles" between scientists and medical experts, public policy officials, and pressure

groups over the way the underlying issues about food and risk should be understood and therefore presented in the media. It is a complex picture, but it is clear that the assumption that scientists had failed to communicate effectively in these episodes is unjustified.

Miller shows that if the public does indeed receive a distorted view of risk from media representations it is in large part because of the corporate and political forces that shape them, concluding that the reasons food scares occur, how they are managed, and how they progress cannot be grasped until it is recognized that the material interests of all the participants involved in producing media reports are central to these processes. Policy makers make decisions about the funding of scientific research and the information they release to the public according to the way a food scare story has already been covered, the way the public has already responded, and in response to scientific opinion. Understanding the dynamics of these interrelations in terms of the "production of definitions," Miller argues, might lead to improvements in the management of risk (1999: 1253). In more recent work on the food and alcoholic drinks industries, Miller comes to similar conclusions (Miller 2007; Miller and Harkins 2010).

Research of this sort is rare, but its importance is obvious. Not only does it help to explain the social and political significance of media representations of food, it also deepens understanding of the social processes that give rise to them. In the next section the discussion turns to the other end of the communication process and more narrowly focused research on the media's influence on eating.

MEDIA INFLUENCES ON FOOD CONSUMPTION—FROM EFFECTS TO PERFORMANCE

Several studies suggest that food advertising is one of the most significant factors influencing food consumption, preventing the uptake of healthier diets in the population at large and among young people (e.g., Lewis and Hill 1998; Story and French 2004). A topic of growing research interest is the influence of the media on eating disorders and here too, the emphasis is on advertising and marketing (see Levine and Harrison 2009 for a review of this work and see Lien and Jacobsen, Chapter 14, this volume).

Public and official concern about harmful media effects has a long history, and is renewed at intervals as the media themselves evolve.[7] Those making claims about the media's negative influence often make reference to what they regard as strong supporting research evidence. However, in the wider field of media and communication research, the question of media effects is the subject of continuing academic debate and dispute. The communication research tradition dominant in the United States contrasts quite sharply with approaches that tend to be more widely accepted in Europe. It is common for U.S. researchers to assert that the media can, and frequently do, have direct effects on behavior. The majority of the U.S. research on television advertising and children has adopted experimental or quasi-experimental designs, these being most suited to a search for evidence of a causal relationship. In European communication and media research, interpretive and critical perspectives are more common and claims of powerful

advertising effects are often questioned on theoretical and methodological grounds (e.g., Gauntlett 1998). From a European perspective, the dominant U.S. approach to the topic can be criticized for employing methods that have doubtful external validity, confuse causality with correlation, and take an individualistic approach that neglects the social context of media use. Against the certainties asserted by effects research are claims for indirect effects mediated by a range of social factors.

One of the main difficulties for those trying to establish a link between specific types of media output and audience behavior lies in the complexity of the contemporary communications environment. The multiple channels of promotional and nonpromotional output and their mutual interactions are very difficult to investigate simultaneously. That being the case, evidence from research designed to show that promotional media have direct effects on human behavior is unlikely to be conclusive. As Livingstone notes, the effects of food promotion in all its forms are therefore most likely to be more indirect than direct (2004: 13).

Advertising is just one component of the sum total of television output, made up of nonfiction as well as fiction program formats, most of which may not carry such clear or overt persuasive messages as advertisements, but which nonetheless contain messages audiences will interpret according to their own specific views and demographically and materially variegated social contexts. A handful of studies have analyzed the food-related content of television programs or attempted to link data about television content in general to data about viewers (Kaufman 1980; Korr 2008; Murphy, Hether, and Rideout 2008; Radnitz et al. 2009; Signorielli and Staples 1997; Story and Faulkner 1990). All these studies found that foods in television programs were most likely to be low in nutritional content and that characters in television fiction commonly exhibited what some authors describe as "poor nutritional practices" (Story and Faulkner 1990: 740), even though they were likely to be portrayed as healthy individuals of normal weight. Where they contain evidence about the television audience—this is relatively rare[8]—the authors of these studies want to suggest a causal link between television program content about food and eating behavior, but, because of the theoretical foundations on which much of this research has been based, these findings are again open to doubt.

Researchers working in the media cultivation tradition have criticized media effects researchers for ignoring the way people watch television. They argue that media influence occurs indirectly over long periods of time. Television, the main source of information for most people in Western societies, can be thought of as a socializing agent that helps to cultivate beliefs and worldviews (see Morgan, Shanahan, and Signorielli 2009 for a summary of this work). A key finding is that, especially among those who watch a lot of television, viewing tends to be continuous and indiscriminate.[9] In other words, habitual viewers watch television for continuous periods rather than interspersing their viewing with other activities or choosing to watch certain programs. Cultivation researchers argue that it is the whole message system of television that shapes viewer beliefs; singling out advertisements, programs, or program genres for scrutiny (as does much of the research in question here) distorts what viewers actually experience.

Other researchers have shown that the different formats and genres of television require varying degrees of audience involvement and audience identification (Katz and Liebes 1986). This can result in varying audience interpretations of content. Audience involvement in advertising, for example, seems to be at a low level compared with, say, audience involvement in television soap operas.

Turning to the question of food-related behavior, another difficulty for those searching for evidence of media effects is that eating patterns and preferences are dynamic. One of the assumptions in much of the discussion about the media's impact is that it influences the food *choices* people make, yet the concept of choice in this context is problematic. As Murphy, Parker, and Phipps (1998) point out, it may not always be appropriate to conceptualize eating practices as being the result of choices, for decisions about food are not choices in a simple sense. These sorts of social practices have a processual nature—decisions may be altered over time in light of changing material conditions and cultural contexts and increasing knowledge and experience. To the extent that decisions about eating can be characterized as choices, they are, as it were, moving targets.

Researchers intent on establishing a direct relationship between media messages and eating behavior therefore set themselves a major conceptual and methodological challenge. These difficulties and the differences between European and American research approaches can sometimes create problems for policy making and media regulation. In Britain in the early 2000s, the part television advertising plays in food selection and levels of consumption was the focus of policy debate between consumer health lobbyists (Ashton, Morton, and Mithen 2003), the British government's Food Standards Agency (FSA), the advertising industry, and Ofcom, the media regulator. The perception that food advertising has the effect of persuading children to eat less healthily and that there is a link between food advertising on television and the rise of childhood obesity led to calls for increased restrictions on the advertising of certain foods at times when children might be watching. A perception of growing public concern prompted the FSA to commission a review of research to guide the policy-making process (Hastings et al. 2003). The advertising industry commissioned its own reviews (Paliwoda and Crawford 2003; B. Young 2003), which drew contrasting conclusions as to the strength of the evidence of a link between television advertising and food choice (see Ambler 2006 for a discussion). To a large extent the contrasts reflected those between U.S. and European research traditions. A detailed commentary commissioned to help resolve the issue concluded that:

> there is a modest body of fairly consistent evidence demonstrating the direct effect of food promotion (in the main, television advertising) on children's food preferences, knowledge and behaviour. (Livingstone 2004: 28)

In the event, this evidence was felt by policy makers to be sufficiently strong to support regulatory change and new controls came into effect during 2007 and 2008 banning the advertising of food and drink products high in fat, salt, and sugar during and around

programs for children under the age of sixteen. This was, by global standards, a significant tightening of advertising regulation in this area.

TOWARD A SOCIALLY SITUATED UNDERSTANDING OF THE ROLE OF THE MEDIA

Dickinson (1997, 1998, 2000) attempted to address the difficulties of studying the influence of television on eating by conducting a quantitative and qualitative content analysis of British commercial and noncommercial television output and an exploratory qualitative study of household viewing. The findings present a complex picture in which the low nutritional content of foods in advertisements was balanced with programs containing fewer images of low-nutrition foods and more images of healthy foods. Qualitative content analysis revealed different interpretive frames in the media coverage of food, each representing a distinct way of thinking about the topic of food and eating, emphasizing different issues and ideals. The findings from the research with households suggested that television may be an important source of images and information about food, but different sorts of output seem to be filtered and assessed by viewers (a) one with another and (b) against other, nonmedia sources of information. Household members were able to decode television's food frames to provide explanations and justifications for their own or other household members' eating habits, even when they were contradictory. Audience engagement with food images on television was thus as disordered as the television content itself. Television's contribution to eating may be understood therefore as a repository of different frameworks of understanding, different ideas and prescriptions about food use that give shape to the patterns of food consumption in the home. Television images of food can be thought of as resources on which members of the household draw to help them make, and make sense of, decisions about food.

These findings represent the beginnings of a socially situated understanding of the media's contribution to food-related behavior. An important shortcoming in this work is that it is limited in its scope with regard to the media—television, despite its dominance as a source of information and entertainment, contains only part of the myriad media channels containing constructions and representations of food and eating that most people encounter as a matter of routine, a point noted earlier. Research that goes further to uncover the complex and changing interdependencies between the personal experiences of people in different social groups and contexts and their subjective readings of media output will make some important inroads into the more complete understanding of food and the media that is required.

FUTURE DIRECTIONS FOR RESEARCH ON THE MEDIA AND FOOD

Much more research is needed to examine the nature and extent of the relationship between media use and cooking/eating habits. A small amount of research has already given

some indication of the types of resources the medium of television offers in helping to shape the decisions made about food and eating (Dickinson et al. 2001), but further understanding of the role of the media more generally as a resource for people's thoughts and actions over food is necessary. For this, examination at close quarters is needed of day-to-day food and media consumption, recognizing that domestic food use is a complex of classificatory, physiological, aesthetic, and sensory processes. This makes the home, which can be taken to be the main site of food consumption, and the household, which can be taken to be the central social and cultural context in which decisions about food are made, the key units of analysis. Charting the strategies individuals and households adopt in their consumption practices and the resources that one consumption practice affords another in this way will help to disentangle and make sense of the many factors involved. There are encouraging signs that such an objective would find common ground with developments in the theorization of domestic food practices (Van Huylenbroeck et al. 2009).

Abercrombie and Longhurst (1998) argue that the process of "audiencing" and the creation of what they call the "diffused audience" means that issues prominent in the media become increasingly significant in everyday life. Social life and media meanings have an interrelationship. Meanings people make when they consume media of any kind contribute to social life and social processes. They do so unevenly, profoundly on some occasions, much less so on others. It remains to be understood fully how meanings made between people and the media ebb and flow in the course of daily life, but it seems likely that the media's significance in contemporary society lies in their providing a subject and vocabulary for social interaction. The resulting model of media consumption characterizes audiencehood as essentially performative, the media providing resources for the performance of daily life (Abercrombie and Longhurst 1998). Everyday performances will, in turn, involve, among other things, consumption of other kinds. People will on some occasions use the resources provided by the media to make decisions and adopt and incorporate patterns and routines of behavior that bear some relationship to those resources into the styles and strategies of daily life. The challenge for research on the media and food is to capture those occasions empirically so that they can be more fully understood. The subtle and complex links between culture, social class, ethnicity, age, and the reception of media texts are only beginning to be addressed by studies examining both media content and audience interpretations. The task is to disentangle the web of interrelationships between media representation, social structure, and personal experience from a perspective that recognizes the embeddedness of media in everyday life and their importance as resources for its performance.

NOTES

1. In May 2011, BBC1, BBC2, ITV1, Channel 4, and Channel 5 together accounted for over half the total amount of television viewing in the United Kingdom (BARB 2011).
2. This seems not to be a global phenomenon. Over the same period, cookery books appeared rarely on Amazon's other country website best-seller lists. They were absent from the lists

on the sites for Amazon's customers in China; France (apart from a brief surge in the popularity of books promoting the Dukan diet around 2007 to 2009); Germany (although the German translation of British celebrity chef Jamie Oliver's *The Naked Chef* reached number seventeen in 2003); Italy (one Dukan diet book appeared in the top ten in 2011 and 2012); Japan (two weight loss recipe books reached the top ten in 2010 and 2011); Spain (only one cookbook in the top 100in early 2012); and the United States (excepting the odd weight loss cookbook hovering around the foot of the table in some years). The global pattern of cookery book sales would repay closer investigation.

3. Baron (2006) reviews a wide range of research on film and food and shows that, while there is similar work in film studies, it has more aesthetic preoccupations (see, for example, the contributors to Bower 2004; Keller 2006). While some film scholars have explored the symbolic work food does in films to develop characters, narrative structures, and emotional tone, and there is also research on the way food consumption is related to the film-going experience (Lyons 2004), the majority of research on food and film, unsurprisingly perhaps, takes a text-focused approach. Baron detects signs of a change of emphasis in some food/film research that might find useful synergies with food studies—Dana Polan's (2011) study of Julia Child's U.S. television series *The French Chef* would be one example. The dominant perspective in film studies, as in some cultural studies explorations of various popular media discussed in this section, is that this medium is simply a reflection of social mores, trends, and social values, not a factor that might be implicated in their formation.
4. Discourse theory has also been an important influence on scholarship in that branch of communication studies that arises from the humanities that is concerned with the creation and transmission of meaning. Research on food discourse has recently begun to emerge from this wider field to examine not only discourse in popular film and television, but also in the discourse of other social practices, institutions, and cultural forms such as household mealtimes, gardening, types of restaurant and cuisine, and convenience foods. The volume edited by Cramer, Greene, and Walters (2011) contains a valuable collection of this work.
5. For example, Brewis and Jack add, in a footnote to their article, the caveat that "although we do not place any empirically grounded store by our reading of the advertisements, it is perhaps worth pointing out that the fast food industry relies much more heavily on television advertising than it does on other media . . . , and that the British consumer is also notable for their high consumption of convenience food especially as compared to their counterparts in mainland Europe . . . Even our quasi-journalistic analysis of British television advertisements may therefore be instructive with regard to the marketing uses of time, and their wider implications, in this context" (2005: 65).
6. These were not the first events of this sort. See D. F. Smith (2007).
7. One of the more recent concerns is over food product marketing via the Internet and the phenomenon of "advergaming"—the use of web-based games that revolve around food brands and products that, it is claimed, are in effect extended advertisements that encourage deep involvement and prolonged exposure (see Kelly et al. 2008; E. S. Moore 2006).
8. Even rarer in this type of study is the attempt to analyze the demographic and material variations that exist across television audiences and the extent to which they might intervene in the process of influence.
9. In Western countries, the average number of viewing hours per week ranges from twenty-five to thirty. Weekly television viewing hours tend to be highest in the United States.

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Eating Disorders and Obesity: Symptoms of a Modern World

JANE OGDEN

INTRODUCTION

Over the past forty years, there has been an increased prevalence of diet-related problems in the Western world. For example, reports show that in the United Kingdom, obesity rates have risen from six percent of men and eight percent of women in 1980 to twenty-two percent of men and twenty-four percent of women in 2009 (WHO 2012). Similar increases have also been documented for rates of childhood obesity (Chinn and Rona 2001), and estimates for the United States suggest that roughly half of American adults are overweight, that a third are obese, that women have grown particularly heavy in recent years, and that the prevalence of overweight children has doubled in the past twenty years (Ogden et al. 1997). Furthermore, the World Health Organization (WHO 2012) estimates that 1.5 billion adults worldwide are overweight and 400 million are obese, with the highest rates in Tunisia, the United States, Saudi Arabia, and Canada, and the lowest rates in China, Mali, Japan, Sweden, and Brazil; the United Kingdom, Australia, and New Zealand fall in the middle of the range (WHO 2012). Similarly, rates of anorexia and bulimia nervosa have increased in the West (Disordered eating statistics 2012; Russell 1995), and research also illustrates a parallel increase in body dissatisfaction and attempts to lose weight through dieting with estimates suggesting that up to seventy percent of women diet and that the majority of women are dissatisfied with their weight and shape to some degree (e.g., see Ogden 2010 for a review). In addition, there has been an apparent increase in a range of other food-related problems such as irritable bowel syndrome and food intolerance (Young et al. 1994). In parallel, there has also been a proliferation of research and literature describing and analyzing food-related issues, as diet provides a focus for dieticians, nutritionists, endocrinologists, geneticists, psychiatrists, psychologists, sociologists, philosophers, historians, those involved

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in gender studies, and anthropologists, resulting in a burgeoning numbers of books, journals, and papers offering food-related coverage (see Dovey 2010; Gordon 2000; Mennell, Murcott, and Van Otterloo 1992; Ogden 2010 for comprehensive reviews).

In the West, we live in a very contradictory world where the shops are full of foods sold as low-fat, low-calorie, and healthy options, yet as a population we are getting heavier. Eating disorders in which people undereat are increasing, and yet so is obesity (Russell 1995; WHO 2012). More and more people are dieting and yet not getting any thinner (Ogden 2010; WHO 2009). And the television broadcasts programs about how to cook, but people may be cooking less and eating more unhealthily. Yet, while these changes remain an issue for the Western world, much of the developing world still shows high levels of underweight and malnutrition where food remains at the level of a necessity.

These changes in prevalence can be understood from a number of different perspectives, including biological arguments with a focus on genetic, physiological, and biochemical factors; sociological arguments with a focus on social class, ethnicity, and culture; and ones that locate the individual at the core of their analysis, which tend to be the focus of psychology. This chapter is derived from a more psychological perspective and in line with this describes four key explanations central to a psychological understanding of eating and its related problems. First, it highlights the ways the individual is influenced by his or her outside world with a focus on the role of the obesogenic environment and the media. Second, it addresses more individualistic perspectives in terms of a focus on cognitions, learning, and the impact of dieting. Third, it addresses the meaning of symptoms and childhood that are the core constructs derived from a psychotherapeutic approach; and fourth, it explores research that has argued that eating-related problems can be understood as culture-bound syndromes that arise as ethnic disorders within a specific space and time. The chapter then argues that these four key perspectives are limited both in terms of what they include and what they omit. In particular, it is suggested that they neglect either cultural variability or individual variability and that to account for why eating has increasingly become a problem for many (but not all) of those in the West a broader integrated model is needed. To this end, the chapter presents a new model of eating-related problems that addresses cultural and individual variability and includes a role for both the environment and the individual. Furthermore, this model highlights the role of a socially sanctioned pathway that, it is argued, is offered up by the contemporary meanings of food and weight as a socially legitimate outlet for any tensions individuals may experience as they interface with their social world. From this new and broader perspective, eating problems are neither just a reaction to a changing world nor the result of an individual's psychological state but symptoms of a modern world expressed in a socially meaningful way that can be read and understood by others.

LOCATING THE INDIVIDUAL IN THE ENVIRONMENT

Although psychological models of eating, obesity, and eating disorders center on individualistic factors, these are located to varying degrees within the individual's social

world. In particular, research within the psychological literature draws upon the influences of the obesogenic environment and the impact of the media to explain the increasing prevalence of eating-related problems.

The Obesogenic Environment

To explain the increase in obesity, researchers have turned their attention to the role of the external world, which has been labeled an *obesogenic environment* (Hill and Peters 1998). For example, the food industry with its food advertising, food labeling, and easy availability of energy-dense foods such as fast foods and takeaways has been targeted as playing a central role in the aetiology and maintenance of weight gain. Environmental factors that encourage people to live an increasingly sedentary lifestyle have also been highlighted, such as a reduction in manual labor, the use of cars, computers, and television, and the design of towns whereby walking is prohibited through the absence of street lights, pavements, and large distances between residential areas and places of entertainment or shops. And studies have focused on factors that make it increasingly difficult to eat well and be active such as the frequent use of cars, the presence of lifts and escalators that detract from stair use, and the low cost of prepared foods and foods to take away, which discourage food shopping and cooking. Accordingly, this obesogenic environment creates a world in which it is easy to gain weight and requires effort to remain thin. Environmental factors are therefore key to understanding obesity and in line with this, government strategies aim to change the environment through initiatives such as providing subsidies for leisure centers, local campaigns to encourage stair climbing by putting prompts near lifts and stairwells, and legislation to modify and limit food advertising. Furthermore, some companies encourage their staffs to be active in lunch breaks by organizing walking groups and offering gym facilities, and school and work canteens are supported in their attempts to offer healthier meals. In the same way that many governments have now finally responded to the knowledge that smoking kills by banning it in public places, steps are being made to intervene at an environmental and policy level to control the obesity epidemic.

The Impact of the Media

Responsibility for the increasing rates of eating-related problems has also been attributed to the environment with a focus on the media (Dittmar 2005; Nasser 2009). The mass media are arguably the most powerful conveyer of social norms because of their pervasiveness, and they not only act as the interface between the food industry and the general public, but also perpetuate the notion that thinness is the most desirable state (Tiggemann and McGill 2004). For example, thin models are used in the media to represent the beauty ideal and it is widely accepted in the advertising industry that skinny sells (Halliwell and Dittmar 2004). In line with this, an American survey found that seventy percent of over 500 adolescent girls stated that magazine images determined their ideas

of the beauty ideal and forty-seven percent wanted to lose weight as a result (Field et al. 1999). Body dissatisfaction has also been found to increase through adolescence concurrently with an awareness of sociocultural attitudes and social comparison with media models (Clay, Vignoles, and Dittmar 2005).

Research has therefore explored the association between media presentations of women and experiences of body dissatisfaction and eating-related problems. For example, correlational design studies show an association between the frequency of viewing popular magazines, the importance placed on the images used in such magazines, and factors such as body dissatisfaction, drive for thinness, and pathological eating (Harrison and Cantor 1997; Tiggemann 2003). Other studies have used an experimental design to explore the impact of showing women magazine images of the ideal body shape. Such research suggests that acute exposure to media images of thin women for only a few minutes increases body size distortion in those with anorexia nervosa, bulimia nervosa, and pregnant women compared to neutral images (Hamilton and Waller 1993; Sumner et al. 1993; Waller, Hamilton, and Shaw 1992). This short-term exposure can also result in a significant increase in women's body dissatisfaction (Halliwell and Dittmar 2004; Ogden and Mundray 1996; see Groesz, Levine, and Murnen 2002 for a review). Bell, Lawton, and Dittmar (2007) also concluded that watching music videos resulted in greater levels of body dissatisfaction in teen-aged girls compared to listening to the song on its own or learning a list of neutral words. Similarly, Becker and colleagues (2002) explored the impact of the introduction of television and associated Western images in Fiji and reported a corresponding increase in disordered eating patterns, eating-related attitudes, and body dissatisfaction.

As a means to identify the mechanisms behind the links between media images and body dissatisfaction, research has drawn upon two key theoretical frameworks. First, social comparison theory has been used, which argues that upward social comparisons occur when an individual compares himself or herself to someone perceived as socially better (Festinger 1962). If a discrepancy is perceived between the individual and the comparison figure, the individual will be motivated to make personal alterations to progress toward the comparison standard (Martin and Kennedy 1993). Accordingly, models in the media signify the societal ideal, so are subsequently used as comparison figures. Upward social comparisons reveal a discrepancy between their selves and the media, causing a self-discrepancy, which in turn may increase body dissatisfaction (Harrison and Cantor 1997; Posavac and Posavac 2002). Second, researchers have identified the role of internalization (Thompson and Stice 2001). In line with this, Graff-Low and colleagues (2003) investigated attitudes toward appearance and strive for thinness, and found that internalization of thin ideals was associated with concerns about weight. Accordingly, body dissatisfaction may only be exacerbated by the media if a woman internalizes these ideals and makes favorable upward comparisons to the images she views. Furthermore, research indicates that interventions can ameliorate the impact of the media by reducing social comparisons and internalization via information regarding strategies such as airbrushing, the use of makeup and lighting, and making the implicit biases of the media explicit (Ogden and Sherwood 2008; Ogden et al. 2011).

Therefore, although psychological research tends to focus on the individual, much research locates this individual within his or her environment and explores the ways in which the contemporary world facilitates the development of eating-related problems with a focus on changing technology, the changing ways we work and live, and the social norms of attractiveness presented through the media. In an alternative approach to the changing prevalence of such problems, some theorists have taken a more individualistic perspective and have focused on the role of cognitions, learning, and childhood experiences and the impact of dieting.

A MORE INDIVIDUALISTIC PERSPECTIVE

An individualistic perspective tends to be the domain of much psychological literature and emphasizes the role of cognitions, development, and dieting.

The Role of Cognitions

Most research using a cognitive approach has drawn upon social cognition models to predict eating behavior. For example, attitudes have been found to predict fat intake, table salt use, eating in fast-food restaurants, consuming low-fat milk, and healthy eating conceptualized as high levels of fiber and fruit and vegetables and low levels of fat (e.g., Povey et al. 2000). A cognitive approach to eating behavior explores how these cognitions predict what we eat. From this perspective, we eat food because we have positive thoughts about it, conceptualizing it as a pleasure, treat, celebration, or necessity (Ogden et al. 2011). Furthermore, we may avoid food in response to more negative schema reflecting notions of guilt, disgust, shame, or the need for denial (Ogden et al. 2011). Accordingly, from a cognitive perspective, the obese may overeat because they have positive thoughts about foods that are translated into behavior. Similarly, individuals may develop eating-related problems concerning food due to the negative food-related schema they have established.

A Developmental Approach

In contrast, a developmental approach to eating-related problems emphasizes the importance of learning in terms of social and associative learning and focuses on the development of food preferences in childhood (Birch 1999). Social learning describes the impact of observation on one's own behavior and is sometimes referred to as *modeling* or *observational learning* (e.g., Birch and Anzman 2010). In one study, peer modeling was used to change children's preference for vegetables (Birch 1980). The target children were placed at lunch for four consecutive days next to other children who preferred a different vegetable to themselves (peas versus carrots). By the end of the study the children showed a shift in their vegetable preference that persisted at a follow-up assessment several weeks later. The impact of social learning has also been shown in an intervention study designed to

change children's eating behavior using video-based peer modeling (Lowe, Downey, and Horne 1998). Food preferences therefore change through watching relevant others eat. In terms of obesity, some people overeat or eat more unhealthily because they have watched others close to them doing so. Likewise, eating-related problems can be passed through families as children watch their parents struggle with food. Parental attitudes to food and eating behaviors are also central to the process of social learning. For example, Olivera and colleagues (1992) reported a correlation between mother and children's food intakes for most nutrients in preschool children. Contento, Basch, and Shea (1993) found a relationship between mothers' health motivation and the quality of children's diets, and eating-related problems including obesity and eating disorders clearly run in families. This may reflect the transmission of eating-related attitudes and behaviors from parent to child.

Associative learning refers to the impact of contingent factors on behavior. Some research has examined the effect of rewarding eating behavior, as in "if you eat your vegetables I will be pleased with you." For example, Birch, Zimmerman, and Hind (1980) showed that if food was given to children in association with positive adult attention the preference for the food increased. Other research has explored the impact of using food as a reward. For these studies gaining access to the food is contingent upon another behavior, as in "if you are well behaved you can have a biscuit." Birch, Zimmerman, and Hind (1980) presented children with foods as a reward, as a snack, or in a nonsocial situation (the control). The results showed that food acceptance increased if the foods were presented as a reward but that the more neutral conditions had no effect. This suggests that using food as a reward increases the preference for that food. The relationship between food and rewards, however, appears to be more complicated than this. In an early study, Lepper and colleagues (1982) told children stories about children eating imaginary foods called "hupe" and "hule" in which the child in the story could only eat one if he/she had finished the other. The results showed that the children reported a preference for the imaginary food offered as the reward. This is analogous to saying, "if you eat your vegetables you can eat your pudding." Although parents use this approach to encourage their children to eat vegetables, the evidence indicates that this may increase their children's preference for pudding even further as pairing two foods results in the reward food being seen as more positive than the access food. Furthermore, studies indicate that different forms of parental control over children's diet may be detrimental. For example, research has concluded that parental pressure is associated with the development of dietary restraint and overeating in young girls (Carper, Fisher, and Birch 2000), and that parental restriction is associated with higher levels of body fat in children (Sprunijt-Metz et al. 2002). Similarly, studies indicate that restricting feeding practices increase children's preference for the restricted food (Birch, Zimmerman, and Hind 1980) and promote overeating when restricted foods are freely available (Fisher and Birch 1999; Fisher et al. 2000). Furthermore, Ogden, Reynolds, and Smith (2006) concluded from their study that higher covert control was related to decreased intake of unhealthy snacks. Similarly, although restricting chocolate coins and Easter eggs resulted in lower intake, preoccupation with chocolate increased over the course of the studies (Ogden

et al. 2012). In terms of obesity, people may overeat and become obese because they have learned that higher-fat, unhealthier foods are more rewarding than others and/or because their parents used unhealthier foods as rewards for eating the healthier foods. In contrast, eating-related problems may arise from negative associations with food such as guilt, regret, or disapproval.

The Role of Dieting

The final component of a more individualistic perspective emphasizes dieting and the ways body dissatisfaction translates into changes in eating behavior (see Ogden 2010). Dieting is the conscious attempt to cognitively limit food intake. Many people who are already obese diet as a means to lose weight. Dieting, however, may not only be a consequence of obesity but also a cause as there is evidence that dieting is often characterized by periods of overeating precipitated by factors such as lowered mood and eating a high-calorie food. From this perspective, it has been argued that attempting to eat less paradoxically causes overeating, as the process of denial and self-control makes food more attractive and creates a situation whereby the individual becomes increasingly preoccupied with eating (Boon et al. 2002; Heatherton, Polivy, and Herman 1991; Soetens et al. 2006). There is also evidence that overeating is reflected in weight gain, particularly in women. For example, French and colleagues (1994) reported the results from a cross-sectional and longitudinal study of 1,639 men and 1,913 women involved in a worksite intervention study for smoking cessation and weight control. The cross-sectional analysis showed that a history of dieting, current dieting, and previous involvement in a formal weight loss program were related to a higher body weight in both men and women. Similarly, the prospective analysis showed that baseline measures of involvement in a formal weight loss program and dieting predicted increases in body weight at follow up. However, this was for women only. In particular, women who were dieting or who had been involved in a formal weight loss program at baseline gained nearly two pounds more than those who had not. If dieters perceive themselves as overweight, but are not necessarily obese, and if dieting causes overeating and subsequent weight gain, then dieting could predictably play a causal role in the development of obesity. It is possible that dieting also results in the relative overconsumption of high-fat foods, as these are the foods dieters try to avoid. Furthermore, dieting may also contribute to the onset of other eating-related problems including eating disorders (Heatherton and Polivy 1991). For example, on one hand dieting can result in feelings of improved self-esteem and self-control if weight is lost, thereby promoting the desire to eat less and food abstinence. In contrast, failed dieting and weight gain may result in lowered self-esteem and a poorer sense of control, which itself may paradoxically also encourage food abstinence as the desire to lose weight as a form of control becomes even stronger (e.g., Ogden 2010).

Such an individualistic perspective emphasizes the role of variables such as cognitions, learning, and behavior and is the focus of much psychology theory and research.

In contrast, those from a more psychotherapeutic perspective tend to emphasize more iterative and dynamic processes.

PSYCHOTHERAPEUTIC EXPLANATIONS

There are many different psychotherapeutic models of eating-related problems deriving from a range of theoretical frameworks including psychoanalysis, psychodynamic models, and systems theory. Although diverse in some ways, such models have two factors in common. First, they emphasize the meanings attached to the individual's symptoms and the function and need for such symptoms. Second, they emphasize the role of infancy and childhood and the impact of the family on shaping the person.

The Meaning of Symptoms

The symptoms of eating-related problems have been analyzed as being meaningful for the sufferer. Some work in this field has explored the meaning of food and hunger with an emphasis on control (see Blundell, Dalton, and Finlayson, Chapter 17, this volume). For example, Dare and Crowther (1995a, 1995b) argued that hunger reflects greed to the anorexic and that hunger is seen as an "invincible intrusive force" that must be resisted and that the more it is resisted the more it becomes desired and subsequently the more it is feared. Research has also addressed the function of an eating problem and it has been argued that extreme food restriction functions to increase a sense of personal effectiveness by bringing about success in the area of food avoidance, and that weight loss functions to avoid the onset of sexuality by dieting away those aspects of the body associated with sexual functioning (Bruch 1985). In a similar vein, systems theory, which conceptualizes families as dynamic systems that function to maintain their homeostasis, argues that symptoms can be regarded as communicative acts among members of the system. Specifically, the symptoms are considered statements that something is wrong and are attempts to change any existing difficulty. Haley stated that a symptom appears when a person "is in an impossible situation and is trying to break out of it" (1973: 44). In parallel, from a psychoanalytic perspective, the avoidance of food or overconsumption can have two central meanings. First, it says, "This is an area in which I am in control." Second, it says, "I am only a little child, I cannot live by myself, I have to be looked after" (Dare and Crowther 1995b: 135). The symptom therefore replaces verbal language as a form of communication within the system.

The Role of Childhood

Most psychotherapeutic theories of eating problems also focus on the role of childhood. For example, Bruch (1985) argued that children brought up to feel ineffectual may develop eating problems as a way to reestablish power within the family. Bruch suggested that this ineffectiveness may be particularly apparent in children whose mothers

have anticipated their every need, understanding when the child was hungry, thirsty, or tired. Children brought up by apparently "perfect" mothers constantly aware of their child's needs may not be able to identify and understand their own internal states. Other research has argued that the binge/purge cycle shown by bulimics and some anorexics may represent a conflicting relationship between the sufferer and her mother, with the binge symbolizing the desire to be close to the mother and the purge reflecting a desire to reject her (Goodsitt 1997). However, while this analysis focuses on the individuals within the family, the family is also the focus of a more systemic approach to eating problems with its focus on the importance of equilibrium within the family system. In particular, from this systemic perspective the symptoms expressed by members of this system are regarded as mechanisms to maintain this balance (Eisler 1993; Minuchin, Rosman, and Baker 1978). The problem is not, therefore, the symptom per se, but the difficulties that have arisen within the family system, generating a need for the symptom to reestablish balance.

In summary, eating-related problems including obesity and eating disorders are on the increase. There are a multitude of possible explanations for this change that draw upon a number of different perspectives including biological, sociological, and psychological arguments. This chapter has so far explored those from a more psychological perspective and explored the ways individualistic factors such as cognitions, learning, and dieting, and those derived from psychotherapeutic analyses such as the meaning of symptoms and the role of childhood, are considered alongside the impact of the social world, particularly the obesogenic environment and the impact of the media. A fourth explanation analyzes this recent increase as reflecting cultural issues and conceptualizes eating-related problems as symptoms within the context of culture-bound disorders.

EATING PROBLEMS AS CULTURE-BOUND SYNDROMES

Research in cross-cultural psychology and psychiatry has highlighted how, similar to the eating-related problems considered earlier, psychiatric symptoms also vary across cultural and historical domains. For example, research has frequently shown that the diagnosis of schizophrenic disorders and major depression varies significantly by ethnic group, with the African Caribbean population in England and the African American population in the United States far more likely to be diagnosed as suffering from either schizophrenia or mania than their white counterparts (see Littlewood and Lipsedge 1982; Sharpley et al. 2001 for reviews). Diagnostic variation, however, may reflect more about the professionals making the diagnosis, their available diagnostic frameworks, and their expectations of treatment success than the symptoms themselves. Some research, however, has also shown cultural differences in symptom presentation that may be less contaminated by dominant paradigms of diagnosis and treatment. For example, Minsky and colleagues (2003) explored diagnostic patterns in Latino, African American, and European American psychiatric patients and reported that not only did the diagnoses of major depression and schizophrenic disorders vary by ethnic group, but so did symptom

presentation, with Latinos reporting a higher frequency of psychotic symptoms than the other groups. Similarly, a consensus statement by the International Consensus Group of Depression and Anxiety (Ballenger et al. 2001) concluded that there was wide cultural variation not only in the diagnosis and responsiveness to treatment for depression and anxiety, but also significant variation in symptom presentation. In addition, research reports cultural variation in less common psychiatric symptoms. For example, *amok* is a taste for homicidal violence only found in southeast Asia, *koro* is the term for the shrinking penis syndrome experienced by men in the Far East, *witiko psychosis* is a desire to kill and eat one's relatives found in native Canadians, *taijin kyofusho* is a fear of offending or hurting others through one's social behavior or imagined physical defect confined to Japan, and a specific paranoia has been defined that is experienced by British West Indians (Littlewood and Lipsedge 1982). These symptoms are highly culturally specific and appear to occur within individual cultures while remaining unknown in others. Furthermore, psychiatric symptoms have also been shown to vary across time. For example, hysterical paralysis was commonly reported in France and Vienna in the late nineteenth century and yet has now practically disappeared from clinical case books (Alexander and Selesnick 1967; Freud 1933). In contrast, while anorexia and bulimia nervosa are commonly found nowadays they were less common until about thirty years ago (Disordered eating statistics 2012; Russell 1995).

A similar pattern of variation can also be found for somatic symptoms such as headaches, fatigue, constipation, and back pain, although research in this area is less extensive. For example, epidemiological studies indicate that while headache is a common symptom in the United States and Western Europe, its prevalence remains much lower in China and in African and Asian populations (e.g., Wang et al. 1997). Similarly, large surveys of primary care attenders indicate that those from less developed countries and from Latin America tend to report more somatic symptoms in general (e.g., Piccinelli and Simon 1997).

Many psychiatric and somatic symptoms, including eating-related problems, therefore appear to vary by culture and across time. As a means to highlight and explain this variation, Yap (1951) focused on the role of culture and defined the concept of a *culture-bound syndrome* to describe collections of symptoms that seemed only to occur within specific cultures. In line with this, researchers and clinicians have described forms of psychopathology from different times and cultures including *amok, koro,* and *witiko psychosis* as described earlier. Although such symptoms may seem inexplicable to Western medicine, from the perspective of culture-bound syndromes, it has been argued that such "folk illnesses" do make sense to the peers of those who suffer them (e.g., Littlewood and Lipsedge 1982).

George Devereux built upon this work and described the concept of an ethnic disorder. He focused on schizophrenia and stated that patterns of psychopathology within a culture are patterns of misconduct that are socially understood. He argued that certain psychological problems express the unresolved problems within any given culture and that a culture says, "don't go crazy but if you do you must behave as follows" (1980: 42).

Gordon used this perspective to analyze anorexia and bulimia nervosa and argued that "the deviant behaviour patterns that become prevalent in a society tend to follow particular models or templates that are immediately and widely recognised by members of the culture" (2000: 166). This literature on culture-bound syndromes provided a theoretical framework for describing confusing collections of symptoms. It also encouraged a more relativistic approach to understanding psychological and psychiatric problems and offered a challenge to the dominant Western medical approach. Further, it emphasized the role of the cultural context to a predominantly culturally blind psychiatry movement (Littlewood and Lipsedge 1982; Simon and Hughes 1985). In addition, this approach can help explain why a number of eating-related problems are located within specific cultures and have become more common in Western cultures over recent years.

We live in a changing and contradictory world where contrasting problems such as obesity and anorexia nervosa are on the increase and in which concerns about food, weight, and shape are becoming the norm. To date this chapter has presented four frameworks as possible explanations for these phenomena that vary in what they include in their focus of analysis. In addition, they all also vary in what they neglect. For example, while an environmental model of eating-related problems focuses on the impact of the external world with its focus on changes in structure and the media, it neglects individual variability; not everyone living in an obesogenic environment becomes obese and not everyone exposed to media images of thin models develops an eating disorder. Similarly, while an individualistic model emphasizes cognitions and learning, it in turn neglects the role of the social system; where do these cognitions come from and what shapes how an individual learns? Further, although psychotherapeutic models emphasize the meaning of symptoms and the role of childhood, why these factors generate problems in eating and not other psychological domains such as depression or anxiety remains unclear. And finally, although the notion of culture-bound syndromes replaces previously culturally blind explanations, this approach ignores individual variability; why do some individuals in a particular culture experience some symptoms while others experience other symptoms or remain symptom free? A new model is therefore required that can explain both cultural and individual variation and that includes both environmental and individual factors. Such a model was first pulled together through a comprehensive analysis of the vast literature on eating-related problems (Ogden 2007b) and will be elaborated upon in the following section.

EATING PROBLEMS IN THE MODERN WORLD AND THE ROLE OF THE SOCIALLY SANCTIONED PATHWAY

In light of the limitations of the models described earlier, the aim of this new model was to provide a framework for understanding the recent increase in eating-related problems with a focus on both environmental and individual factors. To this end, the model addressed three key questions: Why do symptoms arise in the first place? What symptoms

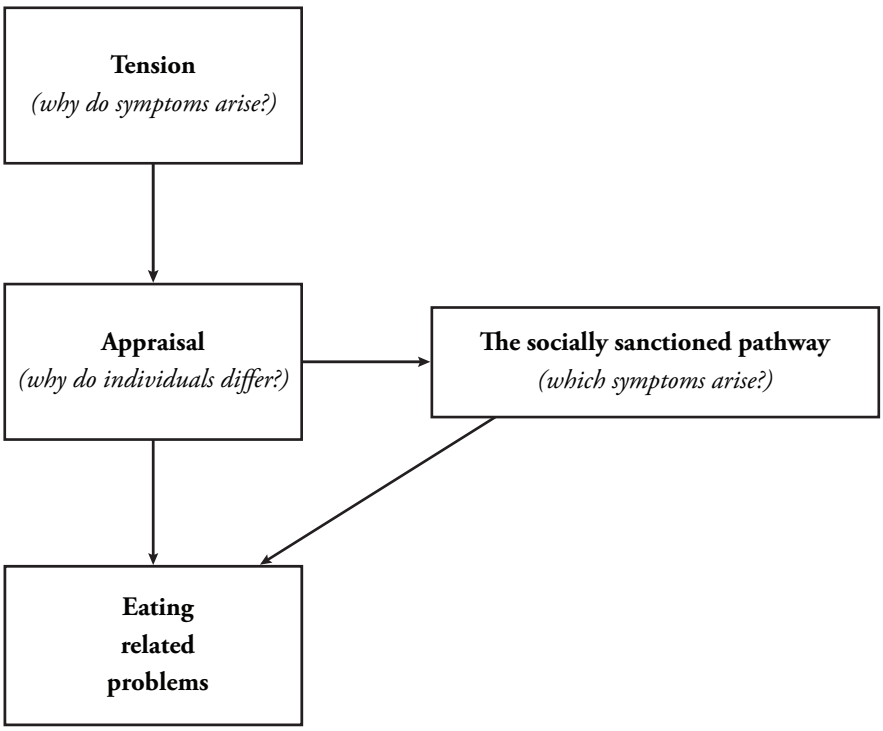


FIGURE 27.1 Eating problems as a symptom in the modern world

are experienced? Why do all people in the same culture *not* all have the same symptoms? This model is illustrated in Figure 27.1.

Why Do Symptoms Arise in the First Place?

An individual does not live in isolation but is located within a social world and both influences and is influenced by his or her context. This interface between the individual and the social world is not unproblematic and can create tensions as the individual negotiates where he or she ends and where the social context starts. Such conflict may arise interpersonally between couples or within families or friendship groups. It may occur as an individual struggles in the workplace, or it may be the result of an interaction between a person and his or her material world when the car runs out of petrol, the roof leaks, or the traffic piles up on the school run in the morning. These tensions could simply be absorbed or experienced by the individual. However, much research suggests that tension needs to be communicated and that symptoms are often a form of this communication. This finds reflection in the psychotherapeutic literature described earlier in which symptoms are conceptualized as a communicative act. For example, family systems theory suggests that a symptom appears when a person can no longer use language to express how unhappy they are (Haley 1973: 44), and psychoanalytic psychotherapy

describes an analysis of "the use the patient makes of the symptoms in current personal relations" (Dare and Crowther 1995a: 298). This analysis also finds reflection in a psychoanalytic understanding of psychosomatic illness (e.g., Eisler 1993) and is similar to work on somatization whereby symptoms are conceptualized as the unconscious expression of underlying psychological states (e.g., Minuchin, Rosman, and Baker 1978). In sum, symptoms arise as individuals need to communicate the tensions they experience.

What Type of Symptom is Experienced?

Tensions generated as an individual influences and is influenced by the social world need to find an outlet and symptoms can be conceptualized as a form of communication and an outlet for these tensions (e.g., Dare and Crowther 1995). But what determines the type of symptom experienced? Why are some symptoms common within one culture while inexplicable to others? Why do some people get headaches while others get stomach pain? Why are more people showing symptoms related to food and eating behavior? Symptoms show cultural variation and this has been analyzed from the perspective of culture-bound syndromes (Devereux 1980; Littlewood and Lipsedge 1982; Yap 1951). The present model suggests that tensions are communicated through symptoms offered up by a series of social meanings. Furthermore, such meanings offer a pathway that sanctions the expression of tension in culturally meaningful ways that can be read and understood by other members of that same culture group. This has been labeled the *socially sanctioned pathway* with the contemporary version in the Western world focusing on food and eating as a comprehendible form of communication (Ogden 2007b).

This socially sanctioned pathway is illustrated by the social meanings surrounding food and weight. For example, the sociological and anthropological literature emphasizes how such meanings are specific to both culture and time (Fiddes 1990; Mennell, Murcott, and Van Otterloo 1992). For example, food is associated with sexuality and advertisements reflect and encourage this association in their attempts to sell foods such as ice cream, chocolate bars, and other "forbidden fruits" (Mennell, Murcott, and Van Otterloo 1992). Likewise, rite of passage ceremonies often use food to symbolize the onset of puberty and to reflect the burgeoning of sexuality and celebratory meals are often used as a precursor to sexual encounters (Fiddes 1990). Food is also imbued with meanings of guilt (MacDiarmid and Hetherington 1995) and the psychoanalytic literature describes how food and eating is associated with self-loathing (Bruch 1985). In addition, some foods are conceptualized as a treat and pleasurable and as central to demonstrations of love and caring. For example, research indicates that portion size often reflects the power dynamics within a family with the men eating first, being given more food, and food of a higher quality than either women or children (Charles and Kerr 1986). In addition, food and eating have been read as expressing issues of control both in terms of the lack of control associated with binging and the degree of self-control illustrated by food avoidance and abstinence (Gordon 2000). To reflect this approach, in 2011, Ogden and colleagues developed a measure of the many meanings of food and argued that food in

the Western world is imbued with meanings relating to factors such as control, family love, sexuality, guilt, and social interaction. There are also many social meanings associated with body size. For example, quantitative research has highlighted how people consistently associate obesity and overweight with characteristics such as being unattractive, lacking self-discipline, lazy, unpopular, stupid, and unsuccessful (Tiggemann and Rothblum 1988). Further, qualitative and psychoanalytic work suggests that thinness is associated with control, freedom, and success. For example, Bordo argued that "the slender body codes the tantalising ideal of a well-managed self in which all is in order despite the contradictions of the consumer culture" (1990: 97).

Food and weight are therefore currently imbued with a range of social meanings. Such meanings offer up a socially sanctioned pathway for the expression of tension. For example, if tensions relate to feeling out of control or social interaction, then diet-related symptoms are an effective forum for expression. Similarly, if issues of sexuality, power, or guilt are the causes, then food avoidance or overeating could be useful symptoms to communicate such problems. This socially sanctioned pathway offers a culturally meaningful forum for communication and is revealed to the individual through the media, food industries, advertising, and an obesogenic environment (Field et al. 1999; Hill and Peters 1998). And as these meanings and food and weight have become increasingly salient so have the resulting eating-related problems.

But although symptoms show cultural variation, they also show individual variation, and members of a particular culture do not inevitably experience particular symptoms. Those living in the Western world may live under the umbrella of a socially sanctioned pathway offering eating and food as a forum to communicate any tension we are feeling, but not all follow this pattern. Why does one person who is feeling tense develop an eating disorder while another in the same culture becomes depressed? And why does one lose weight while another finds themselves obese? Not everyone in a contemporary culture experiences the same symptoms and therefore not everyone communicates tension in an identical way. Any model to explain the changing nature of eating-related problems needs to account for cultural variability. But it also needs to address individual variability within any given culture, and this new model argues that this can be accounted for through the process of appraisal and an individual's cognitions and emotions (Ogden 2007b).

Why Do All People in the Same Culture Not *All Have the Same Symptoms?*

If a person experiences tension as he or she interfaces with the social world *and* he or she is offered the socially sanctioned pathway relating to food and weight as a forum for expression, then this pathway will be followed *only* if it is appraised as personally relevant. If assessed as irrelevant, then an individual may follow an alternative pathway for communication. This process of appraisal finds reflection in the transactional theory of stress (Lazarus 2000) in which the experience of stress is conceptualized as a result of the appraisal of the both the external stressor and the individual's own coping mechanisms.

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Similarly, the process of coping is considered to consist of the regulation of both the external stressor and the internal emotional response (Cohen and Lazarus 1979). To date there are relatively few studies exploring the cognitive and emotional precursors to the onset of diet-related symptoms. However, it is hypothesized that those who develop eating-related problems hold the kind of cognitions and emotions that make the socially sanctioned pathway seem personally relevant. For example, those likely to become overweight may believe that food is a treat and a pleasure, that it is central to social interaction, that being thin is a desirable but unattainable state, and may have experienced a childhood in which food was offered as an acceptable way to manage their emotions. In contrast, those prone to problems of food avoidance may believe that undereating reflect aspects of control, that food generates feelings of guilt, that being thin is a desirable state, and may also have been brought up to use food for emotional regulation. For such people, the socially sanctioned pathway that offers food and weight as a forum for expression would be deemed suitably personally relevant and eating problems would seem the obvious outlet for their problems. It is also hypothesized that those who show a different set of cognitions and emotions would appraise the socially sanctioned pathway as irrelevant and that food and weight would not be their symptoms. Alternative symptoms may function more effectively. Such cognitive sets are in line with those highlighted by a cognitive and developmental model of eating behavior (Birch and Anzman 2010; Ogden et al. 2011; Povey et al. 2000) and reflect the importance placed on childhood and the family setting shown by more psychotherapeutic approaches (Bruch 1985). Thus the translation of the tension into symptoms requires both a socially sanctioned pathway and an appraisal of this pathway as personally relevant.

CONCLUDING OBSERVATIONS

Research illustrates an increased prevalence of a range of diet-related problems such as obesity, eating disorders, body dissatisfaction, and even irritable bowel syndrome and food intolerance. Psychological understandings of this change draw upon four key frameworks including an environmental approach with its focus on the world external to the individual, social norms, and the media; a more individualistic approach that emphasizes cognitions, learning, and beliefs; a psychotherapeutic model with its focus on symptoms as communicative acts and childhood; and a model derived from cross-cultural psychiatry that argues for culture-bound syndromes. This chapter has argued that these existing theories either neglect culture and the environment or fail to explain individual differences and that any explanation of the changing profile of eating-related problems needs to address why such problems are on the increase for many (but not all) and why this increase is specific to the Western world.

A new model is therefore proposed that aims to explain both cultural and individual variability. From this perspective, as individuals interface with their social world, tensions are generated that require a forum for communication. In terms of eating-related problems, the contemporary meanings of food and weight in the West offer a socially

sanctioned pathway currently appraised as personally relevant for large numbers of people. This results in problems ranging from eating disorders and obesity to food intolerance. Accordingly, such problems vary by culture as not all cultures offer up a food and weight-related socially sanctioned pathway. They also vary among individuals as not all individuals consider the pathway a relevant outlet for their problems. Eating problems are therefore neither just a response to a changing environment nor the result of an individual's psychological state. They are symptoms of a modern world that are expressed in a socially meaningful way that can be read and understood by others.

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Food Waste

CATHERINE ALEXANDER, NICKY GREGSON, AND ZSUZSA GILLE

Headlines about famine in the Global South are depressingly frequent. At the same time, accounts of the rising incidence of diabetes and obesity in the Global North, and, increasingly, in the developing world (Caballero and Popkin 2002) litter the media. In such a context, where food intake or eating is a political matter, any concern about food *waste* is perhaps startling. Yet food waste is also political, fueled, on one hand, by moral concerns over profligacy and excess in the face of famine and starvation and, on the other, by mounting concerns over food security and the resilience of global food supply chains. A recent report for the UN's Food and Agriculture Organization (FAO), *Global Food Losses and Food Waste* (FAO 2011b), is typical. It estimates that a third of the food produced globally every year for human consumption, approximately 1.3 billion tons, is lost or wasted (FAO 2011b: 4). Industrialized and developing countries lose almost the same amount of food, 670 and 630 million tons respectively (FAO 2011b: 5). The difference is that poor countries lose most at the start of the production and supply chain, whereas, in medium- and high-income countries, food is typically discarded while still suitable for human consumption (FAO 2011b: 4), that is, it is thrown away, by retailers or consumers, to become food waste.

To begin this chapter by juxtaposing famine and waste may seem strange, but this conjuncture is less surprising when social, political, economic, and cultural concerns are included. While poor weather undoubtedly blights harvests, studies of famines demonstrate that lack of organization, distribution, poor infrastructure, crop production, and political and economic structures are consistently the reasons for crops failing and food not being received and exchanged (Ellman 2005; Yang 1998). As this chapter discusses, these are also many of the reasons for food waste.

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Despite the vast quantities of crops that never make it to the plate or are thrown away, and despite the growing prominence of food waste in policy and activist circles (see Martindale 2010; Stuart 2009 on Freeganism), food waste is barely on the agenda in the field of food research.[1] There are a few exceptions to this generalization, notably the work of Cappellini (2009), David Evans (2011a,b, 2012), and Evans, Campbell, and Murcott (2013) who draw on a broader canon of work on consumption as disposal (Gregson 2007; Gregson et al. 2007a,b; Hetherington 2004) and on Munro (1995) to examine how UK households both generate and attempt to arrest food waste. This work provides an important counterpart to research on waste within domestic practices, of which Strasser's work (1998, 2000), with its emphasis on thrift, is exemplary; and to growing interest in the contemporary archaeology of rubbish (e.g., Nagle 2011; Rathje and Murphy 2001). Following Gregson and Hetherington, Evans' work draws attention to the importance of categories of surplus and excess in distinguishing between food *left-overs* (edible remains after a meal) and food *waste* (where edibility cannot be recovered). Further, he highlights how surplus (still edible) food heads inexorably to the linked conduits of the kitchen bin and wheelie bin (garbage or trash can), thereby becoming food waste. As such, contemporary household food waste ends up as matter for household waste collection systems—and thence for the waste management industry. It is this vanishing trick that renders food waste an afterthought in mainstream food research (Gregson and Crang 2010). As with work on global commodity chains, value chains, and production networks (Crang et al. (2013), the typical assumption is that food waste is simply the last point on the line of production, distribution, and consumption. It is tempting to regard this as uninteresting. In this chapter, we align ourselves with Evans, arguing that food waste is both interesting conceptually and crucial to understanding how we live in the world.

Given the limited amount of published research on food waste, this chapter differs slightly from others in the *Handbook.* We start with Lévi-Strauss' (1983) aphorism that food is "good to think", using the metaphor of nonedible raw food transformed into the edible through cooking as shorthand for describing how cultural webs of meaning are constructed. Cultural theorists have shown that waste is similarly productive for theorizing (Gabrys 2011; Hawkins 2006; Scanlan 2005). So bringing together food and waste offers a rich vein for thought. Just how rich is suggested by the anthropological literature, which is replete with instances that show how one person's delicacy is abhorrent and deemed inedible to another and thus likely to become food waste in that no attempt is even made to eat it. Take rotting, putrefying, or partially digested food. For some classes and societies, this renders it edible or enhances the flavor; for others, it becomes repellent or even abject: think of Roquefort cheese, Icelandic rotten shark meat, or Indonesian Kopi Luwak.[2] Animal fat is often considered delicious in cold climates where high calorific intake is needed. In other contexts, fat is trimmed from meat and thrown away, declared disgusting (or abject),[3] and categorized as waste. Similarly, piles of rotting vegetable matter may be caused by regulatory standards rejecting apparent imperfections; shifts in weather, which change demand; or a gift of food to demonstrate

a largesse that cannot be reciprocated. As Geertz observed, to distinguish between a wink and a twitch, we need to know more about the context that produced the action (1977: 6). That is certainly so with food waste.

How then might we think about food waste? To answer this, we position food waste within three of the canons that shape much social science and food research: political economy; the cultural turn; and posthumanism.[4] These three approaches to food waste comprise the chapter's kernel, even though not equivalent in terms of their visibility within food research. Political economy-derived approaches (e.g., global commodity chains, value chains, and production networks) are by far the commonest in food research. However, cultural readings are also beginning to come to prominence, as are more-than-human studies (e.g., Atkins 2010; Paxson 2008). Nonetheless (pace David Evans), food *waste* barely registers within this literature. Our task here, therefore, is to make it visible within these canons and to show what thinking about food waste might do to how food research is conceptualized.

We close the substantive part of the chapter with a section on new technologies for food waste disposal. This leads directly from our posthumanist section. We highlight that contemporary food waste in the developed world is not just managed, but *generated by* socio-technical networks that include people, companion animals, fridges and freezers, sell-by and use-by dates, electricity, sinks, the kitchen bin, wheelie bins, food waste caddies, biodegradable plastic bags, waste collection vehicles, drains, sewers, and landfills. The disposal of leftovers and food waste has evolved from largely local or community-based recycling networks in which animals (chiefly pigs and dogs) were enrolled as domestic scavengers (and, sometimes, could also become food), to ones where distributed municipal rubbish and waste collection systems link discarded food to large-scale sanitary landfills (particularly in North America, Australasia, and Europe). The latest food waste technologies, however, contest this evolutionary model by drawing on some of the oldest food waste technologies. The difference is that advanced forms of burning (pyrolysis) or rotting food waste (anaerobic digestion or AD) now emphasize food waste's conversion to valuable outputs: as energy (biogas) and fertilizer. Such is the enthusiasm for these new scavengers that food waste can become simply a feedstock. In a potentially bizarre reversal of end-of-pipe technologies, we argue that when food waste's disposal becomes productive (i.e., value creating), it demands that *more* food becomes wasted. The chapter ends with reflections on the future for food waste research.

THE POLITICAL ECONOMY OF FOOD WASTE

In this section, *food waste* refers to the failure to use potentially edible items to satisfy *human* hunger, as well as to the inefficient use of plants' energy content and nutrients for human purposes. This is based on the assumption that food is for humans, reflecting the positioning and power of humans at the top of the food chain. This definition is generally informed by a political economy approach: value chain thinking (see Pritchard, Chapter 9, this volume). Typically wastes are absent from research on food

supply chains. Incorporating waste, however, requires recognition that wastes occur throughout the value chain and beyond into consumption and disposal.

Recognizing that food waste arises in different locations and for different reasons, scholars and policy makers have provided different classifications and definitions of food waste. The commonest distinction is between food loss and food waste: *losses* refer to postharvest but preconsumption waste, while *waste* only refers to wastes arising in the consumption stage. *The Encyclopedia of Food and Culture* (2002) suggests the following stages of food production: pre- and postharvest, processing, distribution, preparation, consumption, and digestion. Here, however, we follow Parfitt, Barthel, and MacNaughton in including all food loss in the concept of food waste and using their classification of food wastes according to the eleven stages of what they call *food supply chains* (FSCs) (2010: 3066).

1. harvesting
2. threshing
3. drying
4. storage
5. primary processing[5]
6. secondary processing[6]
7. product evaluation
8. packaging
9. marketing and distribution
10. postconsumer
11. end of life.

Parfitt, Barthel, and MacNaughton link particular forms of waste to each of these stages. Thus, for example, pests in storage facilities will cause food to be spoiled. The more detailed the staging, the more nuanced the explanation that can be provided for waste generation, which has analytical and policy advantages. However, some foods (such as frozen tamales) have longer chains than others (such as bananas eaten raw), and, as in other cases, nuance has to be balanced with the parsimony of classification. In other words, a model that takes account of fine distinctions tends to be less powerful, as it is less easily applied across a range of domains, or in this instance, food types. The most significant problem, however, is that such models often conflate *location* with the *causes* of food waste. Even Parfitt, Barthel, and MacNaughton (2010), along with most policy interventions, for example, ignore the fact that not all wastage *in* households is caused *by* the individual consumer. The consequence of this elision is that many responsibilities for dealing with food waste are passed on to the consumer, even if the cause is earlier in the food chain. For example, food waste can result from excessively large portion sizes provided by the food industry, especially if the food spoils quickly after the packaging has been opened. We therefore propose a conceptualization that distinguishes food waste not only in the locations where it arises, but along two dimensions: a) the

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main place where the reasons for different kinds of food waste come into play; and b) the nature of the cause, which may be structural/systemic, economic, material, environmental, and/or cultural.

On farms, weather and pests are major causes of spoilage: these factors are highest in developing countries. Additional structural causes include economic and cultural considerations that influence whether land is used for producing plants for human consumption, for feed, industrial uses, or fuel. Such factors are located in the preharvest category because they affect what is grown and how much plant food is lost from satisfying human needs even before seeds are planted.[7] Waste at the *harvest stage* can arise from not harvesting otherwise edible produce or inadequate harvesting technology. It can happen everywhere that, because of noncompliance with standards or overproduction, edible food remains unharvested. This has more to do with structural economic and regulatory causes than environmental factors (Bloom 2010). Increasingly, most of these causes originate at the global level. Such food standards range from prescriptions about size, shape, and color to the texture of produce. One example is EU regulation (EC 2257/94) concerning the curvature of bananas and cucumbers, which has only recently been loosened. Supermarket chains have their own standards; for example, crustless sandwiches mean that part of the loaf is automatically wasted (Stuart 2009). Large retailers also set standards for producers elsewhere in the world. One well-known example from the 1990s was the UK supermarket Tesco's control over how a farm in Zimbabwe should grow its mange tout peas and what it would accept. Since the company's demands were so high, approximately half the mange tout were "considered unfit and had to be fed to animals or thrown away" (Madeley 1999: 68). The production of food waste from the local-global relations arising from food standards and the negotiating power of global retail chains has been well documented in the literature (see Busch 2004; Dunn 2005; Freidberg 2004a, 2004b; Stuart 2009).

The ways food processors and retailers maintain the good reputation of their brands play a significant part in the production of food waste, whether at the point of rejecting foods for not being of adequate or appropriate standard or ensuring that food past its sell-by date is disposed of rather than risk negative publicity or, in some countries, legal liability from possible food poisoning. While such brand control is less stringent for fresh fruit and vegetables, the trend for wrapping fresh food in branded packaging means that more food is not redirected to other channels, such as charities, once it has passed its sell-by date but is still fit for purpose, either for human or animal nutrition (Alexander and Smaje 2008).

Losses in the immediate postharvest period are primarily connected with insufficient *distributional* infrastructure, such as bad roads and lack of storage, that results in spoilage, especially for more perishable goods (FAO 2011). However, lack of demand can lead to food waste here: food is left in storage if supply exceeds demand and, if the food is perishable, this may reduce the nutritional content (Smil 2001), even leading to decay and turning to waste (Thurow and Kilman 2008).

Processing[8] can result in food waste due to inefficient technology. Standards of size, ripeness, and so forth may still cause food to be rejected. At the same time, efficient

processing can have unintended consequences. The Advanced Meat Recovery systems introduced in the meat packing industry have been identified as a key means by which bone marrow or other central nervous system tissue gets into packed beef, thus potentially spreading BSE to human consumers of such products (Moss, Oppel, and Romero 2004). Contamination in Britain in 1986 and 2004 led to the mass slaughter of cattle: clearly, a waste of food as well as of animal life and animal food.

Post-processing distribution can lead to waste from the same causes as postharvest distribution: again structural causes include overproduction. There are, of course, unintended causes such as the failure of packaging that results in spillage or the actual or potential contamination of the packaged food. Furthermore, many food safety scandals show how possibly contaminated food will be thrown out before reaching the retailer. For example, the e-coli scare in northern Europe in 2011 led to the waste of the cucumber harvest of entire countries (BBC 2011).

So far in social scientific scholarship, waste arising at the *consumption* stage has received the most attention. There is some debate here about what the historical trends have been. Some argue that waste volume has not increased (O'Brien 2007); others question the profligate consumer thesis by pointing to the amount of perishable food saved because of increased packaging and storage (primarily refrigeration) and demonstrating the extent to which individuals try to avoid discarding food (Evans, Campbell, and Murcott 2013). Others emphasize the structural incentives for wasting food, such as giant portion sizes, advertising, and two-for-one deals at supermarkets (Stuart 2009; Wells 2009).

At the stage of *waste treatment,* food is mainly wasted through being discarded rather than reprocessed.[9] This is largely because most municipal waste collection schemes, until recently, could not deal with food waste; the onus therefore fell on the householder. The British government launched a campaign to teach citizens how to reuse leftovers (discussed later in this chapter), rendering food waste the responsibility of the consumer rather than the food industry. Increasingly, however, there are moves toward urban food waste collection and treatment that extract energy and soil nutrients from discarded food.

Drawing on the long tradition of political activism and work on new social movements, social scientific scholarship also is paying increasing attention to individuals or collectives who secure their nutritional needs by taking food from retailers' bins (Ernst 2010). They are sometimes referred to as *freegans* in the United Kingdom, *skip divers* in Australia, or *dumpster divers* in the United States (Schantz 2005). This practice that some engage in for economic or political reasons reduces retail food waste.

While in most places, there have long been arrangements for donating or discounting expired food or goods close to the expiration date, more organized, regular practices have only recently emerged whereby supermarkets donate excess groceries to the needy via community projects and NGOs.[10] However, in places such as Britain, where property rights and obligations in respect of waste are unclear (Thomas 2010), continuing liability for waste, plus concerns with maintaining control over brands, means that

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retailers can be unwilling to allow food activists or charities to take their food. It is worth noting that *waste* here becomes a contentious definition. For retailers, once monetary value can no longer be extracted from food, it becomes waste. For those who wish to redirect such food items, they are surplus but still fit for purpose (Alexander and Smaje 2008). In the United States and Canada, this practice has long been in place because legal regulation[11] exempts retailers from liability for potential harm caused by donated food (Edwards and Mercer 2007; Morenoff 2002).

CULTURES AND IDEOLOGIES OF CONSUMPTION: WASTE, EXCESS, AND RUINOUS FEASTS

While an anatomy of food supply chains from a political economy perspective reveals multiple reasons for food waste, Western policy makers tend to focus on overconsumption, specifically householder food waste.[12] There are two reasons for this. The first, in Europe, is policy (Barr and Gilg 2005). The 1999 EU Landfill Directive targets the reduction of biodegradable matter sent to landfills, with penalties for noncompliance. In response, the UK government established a Waste and Resources Action Programme (WRAP) in 2001 to meet policy commitments. A major emphasis, mirrored by the U.S. Environmental Protection Agency, has been on the municipal food waste stream, and the households and small and medium enterprises that contribute to this. The second cause is the broader ideological shift away from state regulation of private business toward the rights and responsibilities of the "empowered" consumer citizen. It is therefore necessary not only to consider reasons for food waste, but also to ask why some are foregrounded in policy to the exclusion of others. This also helps us understand why certain solutions to food wastes are privileged over others.

Typically, overconsumption is positioned as a symptom of the feckless consumerism of late modernity, and features large in WRAP's 2010 Food Waste Report, where the headline that UK households waste a third of purchased food resonates strongly with the 2011 FAO report's findings. Apparent loss of social knowledge (WRAP 2008) about how to purchase, store, and cook food properly, together with unhealthy lifestyles, is chastised and remedies provided. WRAP's webpage, for example, has "Great Recipes for Leftovers" and "Simple tips for reducing food waste at home." Overconsumption is carefully dissected: bought fresh food decays before it is eaten (see WRAP's influential 2004 "Soggy Lettuce Report"); portions are too large, leading to plate waste or obesity if consumed; preparation waste (such as peelings) is excessive and not used to feed animals or humans or as compost. WRAP's solution to British food waste, therefore, is largely to attend to deficits in consumer knowledge; rectifying knowledge deficiencies, rather than structural causes, is one of the means to the policy fix.

It is important, however, not to lose sight of the stronger ideological critique of the body social here. Families that do not prepare and cook food and eat together, it sometimes seems, are taken to manifest the breakdown of both the social and biological body (Murcott 1997). There is a distinctly Protestant and class flavor to these didactic

reproofs (see Coveney 2006, 2011). Arguably this is part of broader attempts to discipline consumers: a recasting of Marx and Engel's (1972) castigation of the lumpen proletariat, which elides waste, people, places, and activities. The modern underclass, replacing productive activity with profligate consumption, apparently fails to understand the significance of and take responsibility for its food waste generation practices.

However, overconsumption is neither new nor characteristic of a decadent modernity. As Kant (2006) first observed, commensality is central to social relations; by the same token, deliberate wasting of food may be best understood as a demonstration of power/sociocultural norms. The gift of food, particularly when tied to display and abundance, is intimately linked to social status and power. As Malinowski (1984: 45) first noted in the Trobriand islands, gifts of vast quantities of yams left to rot in front of the recipient's long house were an agonistic display of power: unable to reciprocate, the recipient remained in a debtor relationship to the giver. As Douglas notes (2002: 49), it makes no sense, contra political economy approaches, to distinguish between physical and psychic needs met by food, which is as much a carrier of meaning as it is sustenance. We might say the same for moments of excess food production, seeing these as ethnographic moments that illuminate social relations and mores.

Such mores are not just characteristic of the societies that feature in classic anthropological research. Political shifts in early modern England saw the rise of feasting as a display of power. Clarendon (quoted in Trevor-Roper 1951) says of the reign of Charles I that "the highest excess of feasting was then introduced, or at least carried to a height it had never been before." Veblen's (1994) account of the conspicuous display of goods and practices surplus to need serves to explain the "ruinous feasts" (Trevor-Roper 1951) of the status-conscious Elizabethan nouveaux riches as much of those in more recent times.[13] Such ruinous feasts were not intended to satisfy physiological needs: the conscious production of excess and food waste, to the point of financial ruin for the giver, was a public demonstration of the donor's wealth, power, honor, and status.

These instances clearly suggest that food waste cannot simply be understood in terms of essentialist understandings of what is/is not physically edible, of nutrition gained or lost (to humans), and related moralizing (often ascetic) discourses. These kinds of food waste-generating extravagances serve a purpose. They constitute identities and social relations. Deliberate wasting of food, in other words, is a manifestation of social power and community (Dietler and Hayden 2001; Farb and Armelagos 1980). Thus, we suggest, where there are human societies and cultures there will always be forms of food waste, for varying reasons and to varying degrees.

POSTHUMANISM AND FOOD WASTE

Thus far, we have positioned food waste within political economy perspectives and through cultures of consumption. Yet another way of thinking about food waste aligns food research with what might be characterized as posthumanist.[14] Here food becomes that which is both eaten *and* lively, sentient, more-than-human matter. So food's

boundaries blur to become a network of animals produced for food; the by-products of husbandry;[15] crops; parasitic life;[16] and other things such as farms, machinery, packaging, freight trains, the container box, supermarkets, domestic fridges, microwaves, and bins. What might such perspectives contribute to thinking about food waste rather than food per se? We suggest three points. Inevitably, given the lack of work on this topic and the limited space available, our arguments here are programmatic.

First, we highlight edible matter's agency. Seen thus, food waste is not generated solely by human practices. Food is not dead matter produced by what humans do or do not do with it; rather, it is lively. Thinking of food as edible, lively matter means that it is always in a process of becoming. This has transformed understandings of food. Generally, such approaches follow Bruno Latour in paying attention to microbial life in food's production (Atkins 2010, Chapter 5, this volume; Paxson 2008). Such attention also illuminates food loss and decay, as well as food's passage to matter categorized as inedible. Microbial life need not be physically manifest—such as mold on tomatoes—but may also be an absent presence. An example here would be risk cultures and use-by dates, which enable parasitic microbial life such as e-coli and salmonella to haunt certain forms of edible matter and turn potential food to waste through anticipated food poisoning.

Second, following Bennett (2010), we suggest all organisms are animated by a life force that constitutes edibility as a property of organic matter. Edibility is not simply a human property. As Bennett argues, it is a two-way street in which bodies (human and nonhuman) meet, and coexist, often in affective ways, through eating, ingestion, and digestion and the *legacies* of ingestion and digestion in bodies: body fat is the classic example (Bennett 2007). Seen thus, food waste can be both that which refuses ingestion as well as that which is eaten and/or digested. It is no longer, as in the political economy and cultural traditions, stuff discarded from a prior practice but has multiple coexistences; food waste is ingested *and* outside bodies.

What might this move do to studying food waste in social scientific food research? As well as signaling the importance of taking the emotive and affective turn into account, it highlights the centrality of bodies and shit for food research. Modernity's separation and management of excrement (as waste) through distancing, engineered technologies that connect the lavatory and kitchen sink to drains and sewage/waste water treatment plants has removed everyday connections between eating food and human waste (Abbott Miller and Lupton 1996; see Marvin and Medd 2006). Historically, those connections were visible (Laporte 2002) and closed loops by turning edibility's material products into fertilizer for further food production. In food research, though, as in modernity, food waste remains recognizably lost human food, not dung, and absolutely not human excrement.[17]

Our third point goes beyond Bennett's positioning of edibility as an encounter between human and nonhuman to include encounters between nonhumans. This is to think through ecosystems, where the capacity to eat the leftovers of other species and what they have eaten is critical to survival. Within ecological thinking, species that live off others' food waste are known as scavengers, but along with hyenas and carrion

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crows we need to include fungi, bacteria, and other parasitic organisms. This chapter's introduction made the point that, historically, the remains of human eating were consumed by domesticated animals. Regulation introduced after the UK's 2001 foot and mouth disease epidemic, however, meant that pigs could no longer be fed restaurant food waste. Pigswill, like many food wastes, is political (Law and Mol 2008). By contrast, the politics of companion animal food is indicative of the growing commercial pet food industry (Grier 2006; Nestle 2008). Like humans, today's companion animals in the United States and Europe (and their food supply chains) generate food waste in the form of matter deemed (by both) inedible. When we think ecologically, we see that humans have made quasi-humans of our scavengers, through regulation and the commodification of animal food. Animals also make food waste.

Thinking through edibility means that food waste becomes matter where the capacity to be ingested and digested has become lost. That may be because of the liveliness of organic matter itself. But equally, it may be because networks of food matter are now brought together differently. An effect of current forms of globalization, in which stretched supply chains and distribution networks are the norm, is that when the network falls apart, through say transport disruption or failed freezer technologies, perishable food turns to waste. The transformation of companion and scavenger animals to quasi-humans means that edible matter now leaves the food network more readily. This may be through regulatory interventions[18] where potentially edible matter is declared food waste.

In the final section, we show how a posthumanist reading of food waste connects with the political economy of food waste through the rise of new food waste management technologies, principally the rise of bio-machinic scavengers: anaerobic digesters that often rely on food waste as a feedstock. It is to an overview of how these newly emerging technologies have been theorized, and their connection to waste policy, that we now turn, to highlight that the future for food waste is increasingly bound up with (the politics and economics of) waste management technologies.

TECHNOLOGIES FOR FOOD WASTE DISPOSAL

This section returns us to the opening proposition that food waste, as well as famine, is political. Strasser (1998, 2000) describes how the intersection of household and urban food scrap economies changed in the twentieth century. She notes the effect of new discourses of hygiene and efficiency together with the new technology of household waste disposal units in the mid-twentieth century: leftover food that had been fed to pigs and dogs was now disposed of via the garbage disposal unit. The last two decades have seen efforts made, particularly in the United States and Europe, to reduce biodegradable waste sent to landfills via municipal waste technologies. Until recently, except for householders who had gardens and chose to compost food scraps, UK municipal food waste was landfilled or incinerated. Alongside this is an increasing emphasis on recovering as much value as possible from food waste. The main technologies now being championed

have a long history in China, India, and Africa, where their use is further promoted (Ahring 2003).

The main European driver for stopping the burial of food waste is the 1999 EU Landfill Directive and the waste hierarchy. Broadly speaking, the *waste hierarchy* is a ranked series of preferential measures for dealing with waste moving down from reducing waste tout court, through varying degrees of value recovery to landfill which only produces methane (Alexander 2005). Recovered value, in the case of food waste treatments, is soil nutrients or energy. There are few alternatives to burying food waste once it has gone beyond the stage of recovery for animal or human food. It can be burned (incineration) or rotted (compost or anaerobic digestion). From one point of view, disposal technologies are just extreme versions of cooking food through heat or decay.

However effective food waste conversion technologies are at the point of treatment, they require effective collection systems that necessarily make further disciplinary demands on households, particularly urban households, to separate and store this waste. Transport costs for food waste are crucial in ascertaining the full costs of food waste treatment. Again, the cost of connecting plants to local housing for heating or to larger energy grids requires substantial capital investment. While vehicles running on bioethanol need little modification, biogas vehicles demand technological system change (see Shindo 2008: 22). In other words, these new technologies for treating food waste depend on the creation and coordination of a complex assemblage of legislation, capital mobilization, infrastructure, households, and additional technologies.

One last point emerging from attempts to foster these food waste technologies is that food, along with other wastes, is increasingly rebranded as a resource or feedstock for energy. Britain's 2011 Anaerobic Digestion Strategy noted that the technology relied on a continuous feedstock supply for efficient processing. Other factors drive the need to maintain deliveries of food waste. Private contracts with commercial waste managers are typically based on income streams related to quantities processed and energy produced. There is no incentive here to reduce food waste production but to *increase* the generation of food waste. These technologies could demand that more potentially edible matter becomes food waste. Arguably, the role of pigs, dogs, and birds as erstwhile scavengers integrated into the domestic food chain has been replaced by biomechanical scavengers equally hungry for waste.

DIRECTIONS FOR FUTURE RESEARCH

The priority for future research is to ensure that food waste research is neither invisible in food research nor positioned as the end of the line, just waste. Rather, as we have shown, food waste disrupts much of what is taken for granted in contemporary food research, such as what food and food production is.

In the chapter we have staked out three different approaches to show how we might think food research through food waste. These take research on food in very different, challenging directions. For political economy approaches, the challenge is to address

waste's relation to agri-food production. The emphasis moves to what is left behind at all stages and what happens to such remainders. The example of Zimbabwean mange tout suggests where this might lead: to underresearched animal food supply chains. But we can go further than excess vegetable matter which can become animal feed. One largely unexplored site (pace Vialles 1994) that haunts food research is the abattoir. This is where animals are transformed to meat while other animal parts are extracted as both edible matter (for other animals) and by-products for industrial processing (leather, glue).

The abattoir connects animal bodies and the volatile (but always human) bodies that figure in much posthumanist-inspired food research. Here, attention has focused on humans consuming vegetable matter or the by-products of living animal production. So the challenge to posthumanist-inspired food research is to engage with animal killing and the inequalities of bodies in food production: to explore how food—particularly meat production—troubles posthumanist politics, in which the equivalence of life forms is often assumed.

In the Global North, where meat's connection to killing is obscured, the political imperative is to minimize food waste. This ignores the work of the surplus and excess in cultures of food consumption. More work is needed to confirm Evans' pathbreaking work on how domestic food becomes surplus and thence moves to excess. This is vital for the BRIC countries, where changing patterns of food consumption are fast emerging in rapidly urbanizing societies. These tendencies need to be linked to socio-technical systems of waste management. Food research typically fails to acknowledge the connections between these technologies and food waste's generation, because it stops at the plate. Research into food waste needs to go beyond the plate and even the bin. Only when we link kitchen bins to waste management systems can lines of connection be drawn that enable us to understand how and if new technologies of food waste management mean that more food will become food waste. It is through those connections that we can show how the politics of food waste and famine are interwoven.

NOTES

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1. Tristram Stuart, for example, is an activist whose work on food waste has reached a wide public, while much social scientific research in the same area is arguably lagging behind.
2. Partly digested coffee beans extracted from civet feces.
3. In some contexts, intake of fat is framed as nutritionally ill advised—that is, part of the recommendation to reduce saturated fat intake.
4. Posthumanism or more-than-human approaches emerged out of actor-network theory.
5. For example, cleaning, dehulling, pounding, grinding, soaking, winnowing, milling.
6. For example, mixing, cooking, frying, molding, cutting, extrusion.

7. These decisions are affected by supply and demand and the economic prowess and location of farms in local, national, or global food supply chains. This potentially expands understandings of food waste to include deliberations over whether arable land and food crops should be used for feed, human food, or fuel. Thus, a developing country's obligation to pay back loans may result in using arable lands for animal feed for foreign markets, rather than growing staples for locals. Corn for fuel rather than for food has been identified as the cause of sudden increases in food prices and malnutrition and riots in Mexico a few years ago (Tenenbaum 2008).
8. For example, canning, freezing, cooking, baking, and so forth.
9. That is, cooking with leftovers, feeding it to animals, or composting it.
10. See Alexander and Smaje 2008 for an account of a British scheme, FareShare; Poppendieck 1999 for the problems in such endeavors in an American context.
11. The U.S. 1996 Bill Emerson Good Samaritan Food Donation Act.
12. The Environment, Food and Rural Affairs Committee's report of England's 2007 Waste Strategy noted that it focused "disproportionately on domestic waste which contributes less than 10 per cent of all waste" (2010: 3).
13. To a lesser extent, these customs continue, shown by increased household expenditure on food for Christmas (Pitts, Pattie, and Dorling 2007).
14. This tradition is explored more fully in the chapters in Part Three.
15. For example, milk, milk products, and eggs.
16. Such as the rare caterpillars devouring vines in northern Italy as we finalize this chapter.
17. A more radical take is that human excrement is not just an absent presence for food research but also the stuff of life (Hawkins 2006).
18. For example, BSE in the United Kingdom, which led to tighter controls on what edible matter could enter the bovine food chain.

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line spacing needs attention

sociology and social science NOT together

sociology should not be with social science - they are NOT the same

delete '/social science' and amend accordingly as separate entry

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