

THE INDUSTRIAL DIET

THE DEGRADATION OF FOOD
AND THE STRUGGLE FOR HEALTHY EATING

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INTRODUCTION

THIS BOOK IS NOT SO MUCH about food as it is about what food has become. It is about the forces – socio-economic, technological, and ultimately political – that have reshaped food into edible commodities that too often subvert our well-being and promote disease instead of nourishing us. It seeks to appreciate how it is that the amorphous entity that is the “food industry” has been enormously successful not only in transforming food but also, more importantly, in constructing and diffusing an industrial mass diet. This diet is remarkably homogeneous in certain respects, and one can make a strong case that it impinges, to a greater or lesser degree, on the health of billions of human beings today.

The industrialization of food over the last 150 years or so has had a number of profound consequences. Among them, the nutritional degradation of food has been one of the most salient, if one of the least studied and understood. This book explores the key processes that have degraded food in the industrial era and the potent forces that have promoted an industrial mass diet that has come to supplant pre-existing diets in the developed, and now the developing, world. It also considers the variety of health consequences that are increasingly associated with this mass diet. Finally, this book considers the emerging resistance to the industrialization of food, in particular the incredibly promising struggle for healthy food environments, and the challenge it poses to “business as usual” in the food business.

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Using a term such as “industrial mass diet” is a matter that bears further examination, if only because some may balk at its usage. Do we not live in a world of incredible dietary diversity, where globalized markets have made the culinary delights and traditions of faraway places available to us whenever we desire? The obvious answer is, to some degree at least, yes: those with sufficient disposable income do appear to. But in today’s complicated world, answers are never so straightforward. There is a political-economic reality that stands between eaters and food. This reality must be examined carefully before we can begin to understand the food environments around us.

A diversity of foods certainly does exist, but for most this is a bit of a sham. Underlying this apparent diversity is an organized ensemble of edible commodities, typically processed to a greater or lesser extent, that are aggressively marketed now on a global basis to literally billions of eaters. These commodities are largely controlled by a remarkably small number of economic agents – corporations, to be more precise – that have a powerful vested interest in *not* letting what you or I eat for breakfast, lunch, supper, and snacks be simply a random act of the average human imagination. Far from it. But I am perhaps getting a bit ahead of myself. My arguments and evidence to win over skeptical readers, or at least challenge their cherished beliefs, shall unfold soon enough.

WHAT THIS BOOK DOES AND DOES NOT DO

A part of my agenda here is to explore, however briefly, some of the profound changes that have shaped human food environments and, in the process, changed diets and nutritional possibilities and, ultimately, health outcomes over long periods and in diverse places on the planet. I believe that the exploration of food environments must be grounded in the material reality of the times, and in the social structures and resultant power relationships that play their role in determining who will eat what, and how much.

Inevitably with such a vast topic, we will have to pick and choose where we focus our attention, in terms of both time and place. When I touch on the revolutionary change that occurred when humans embraced the domestication of plants and animals – the Neolithic Revolution – I consider evidence from diverse regions around the globe. However, given that my main emphasis is on more contemporary times and a preliminary exploration of what I term the “industrial diet,” much of the focus of this book is on the nation that gave birth to it, the United States, and the food business based there that

continues to promulgate this mass diet on an increasingly global level. The industrial diet could easily be termed the “American diet,” so powerful has the influence of the American food industry been in shaping it.

Other countries, notably Canada and other now developed nations, receive some attention as I cover the historical development of this mass diet. When I turn to the globalization of this diet in more recent years, I broaden the geographical scope of my analysis considerably. Numerous regions in the global South are brought into the discussion at this point to illustrate what I consider to be important dietary trends in that part of the world. It should be emphasized, nevertheless, that I do not pretend to have captured, in any comprehensive sense, the rich reality of food environments in the global South. Each country, and indeed many regions within countries, has rich culinary traditions that predate the contemporary onslaught of industrial foods. Careful local studies will ultimately be necessary to yield further insights into the outcome of the confrontation of traditional local diets and an imported mass diet shaped by corporate imperatives.

In my discussion, I also consider food environments and diets in the exceedingly long period in which the human species existed before recorded human history. This period before the Neolithic Revolution, dating back to our Paleolithic origins, is the topic of much controversy and research. Nevertheless, there is a good argument to be made that this long period of human existence provided the environmental contexts that shaped the unique genetic makeup humans have today. And part of this genetic inheritance presumably determines what foods we thrive upon and also, by extension, the kinds of foods we might ingest that will undermine our health and shorten our lives.

I begin with some broad questions. I consider, for example, whether there is a particular diet for which we are most suited given our evolutionary development. Most species have a very narrow dietary niche upon which they depend. Some, like humans, seem to survive on a fairly broad range of animal- and plant-based foods. Our omnivorous traits have no doubt helped us to become as incredibly numerous as we are. But does that mean we can achieve our optimal health by eating just about anything? Few, other than teenagers, would argue that. In fact, with chronic disease becoming so prevalent in developed countries, medical and nutritional scientists, among others, are becoming more and more critical of many of the so-called foods that we now eat, and some have advanced the thesis that our present-day diets are radically discordant with what we had evolved to thrive on over millennia.

Another question I consider is what the emergence of large human communities, with complex stratifications and multiple inequalities, meant for human food environments and our health and well-being. How have they changed over the millennia, and in particular, what are the more recent transformations, and their consequences, in the era of industrial capitalism? It is the latter to which I devote most of my attention, particularly what Eric Hobsbawm has termed the “long twentieth century,” when so many drastic shifts in the quality and quantity of food production, in the processing and technology of food, and in the distribution of food occurred.

WHAT INFLUENCED THE WRITING OF THIS BOOK?

The subject of food has become, in a sense, a crucible in which ideas, values, and political projects of varying provenance interact, and out of which exciting new intellectual orientations are emerging. Among the influences on this book are, of course, the often sparkling insights and wisdom of numerous authors who have sought to explore the intertwined worlds of agriculture, food, food processing and preparation, culinary arts, and the modern industry devoted to the selling of food. In years past, the slow food movement has encouraged us to think about what we are losing, from a cultural and culinary perspective, as we allow industrial foods free rein in our food environments.¹ At the same time, students of the food system have documented and critically analyzed the metamorphosis of the organic food movement to its present state, comprising a multi-billion-dollar sector of modern agriculture that is still rapidly expanding.² Concern with the fate of millions of small-holding farmers in the poorest countries of the world has galvanized activists to promote a fair trade system for an expanding number of foods produced there in an effort to inject an element of equity into an increasingly inequitable global economy. This phenomenon too has inspired careful scrutiny.³

More recently, the intense interest in relocalizing food systems has brought into focus questions of the sustainability of a food system built upon global sourcing that is so completely petroleum dependent and damaging to the environment.⁴ It has also spawned a growing “buy local” movement that is spreading well beyond the individual actions of citizen/consumers to encompass an ever larger number of independent restaurant operators and even the beginnings of a “buy in” on the part of large retail food chains. I would also note the important contributions of those seeking to bring to the fore the issue of animal welfare and the tragedy that factory farming represents for

several warm-blooded animal species upon which we choose to depend for our subsistence.⁵ To this upwelling of interest in what have been called alternative agricultural and food movements, I would add an incipient movement organized around the struggle for healthy eating. Underlying the latter is a phenomenon that is reaching global dimensions, and which has played an important role in propelling this book project forward: the crisis in what medical and nutritional scientists term “overweight and obesity.”

A CRISIS IN SEARCH OF AN EXPLANATION

Having a long-term interest in agriculture and food, and in the food business, I was both intrigued and disturbed by what was emerging as a veritable tectonic shift in the human physical condition. For the first time in the history of our species, the majority of adults in certain societies, and surprising proportions of children and youth there, was becoming what we have come to term “overweight” and “obese.” Up until fairly recent times, in most if not all societies, this condition was almost entirely the fate of a very small pampered elite. To be obese was a marker of high status, privilege, and, often, power and influence. Now, its sociological significance is more complicated, and it has emerged as a mass phenomenon. In any case, as Tim Lang and Michael Heasman have remarked in their prescient book *Food Wars*, “Obesity is the *leitmotif* for the modern food age.”⁶

By the late 1990s, if not before, medical and nutritional scientists were amassing ever more detailed evidence of the likely health outcomes this phenomenon would produce as well. As the US government’s recently released report on dietary guidelines for Americans points out, approximately one-third of Americans are now clinically obese, and when those simply overweight are included in the count, the numbers encompass some 72 percent of women and 64 percent of men. No longer attempting to sugar-coat this reality, the authorities behind these guidelines note starkly that “such a high prevalence ... leads to a much higher risk of premature death and many serious disorders.”⁷

One important aspect that spurred my desire to study this phenomenon was the contrast between the rigour with which medical and nutritional science could document overweight and obesity in society – and, increasingly, the negative health outcomes as well – and the rather pathetic analysis of the root causes of this situation – its etiology, to use the standard medical term. To be fair, scientists in these fields have played a leading role in bringing into

sharper focus, for both governments and the general public, the extent of population-wide weight gain that is occurring in one society after another. Such research has also mapped out the increasingly global dimensions of this issue. So too has it provided an expanding body of evidence that overweight and obesity has serious related-disease impacts, or co-morbidities, that dramatically affect one's quality of life in later years. Moreover, we now have more evidence than ever that obesity is correlated with early mortality.⁸ In addition to this research, studies in these fields have alerted us to the deleterious impacts of several core components of the contemporary industrial diet – notably, added sweeteners, sodium, and certain types of fats.

As for explaining the obesity crisis, I believe it is mistaken to expect the natural sciences to yield significant results. For some time, a popular medical explanation relied on what was basically a mechanical input/output model. One study in a prominent science journal some years ago was tellingly titled “Obesity in Britain: Gluttony or Sloth?” Too many nutrients going in and not enough energy expended. The result: the balance needed for stable weights was upset. The solution proposed was both remarkably simplistic and entirely focused on individual responsibility: eat less and/or move more. These kinds of explanations are still heard among prominent medical authorities.

Much was written about the so-called thrifty gene as well, the idea that with food scarcity and starvation over millennia, through the process of natural selection, nature had favoured humans, who had genetically evolved to rapidly put on weight when food was abundant. Now that food was abundant as never before, our genes were working against us.

These were interesting and satisfying explanations, as long as one did not think about the issue too deeply. What could not be easily accounted for by these kinds of explanations of why so many humans were rapidly getting larger was why this is happening only now – and so quickly. Certainly, this is what intrigued me. With a background in research on agriculture and the food-processing and retailing business, I gradually became convinced that the tools of the natural sciences – medical, nutritional, or otherwise – were not going to be the appropriate ones for understanding what is, at the most fundamental level, a social, economic, and political problem. A genuine understanding of the root causes of this issue and *real* solutions to what has become a first-order health problem, as opposed to damage-control measures, lie largely outside the realm of natural science. This is despite the never-ceasing interest of pharmaceutical corporations to find the magic bullet for obesity, and the willingness of authorities to funnel prodigious amounts of funding to natural scientists seeking remedies for it.

If the medical and nutritional sciences do not have the tools to understand the forces producing this crisis, nor the solutions needed to confront it, then who does? As a social scientist, I am strongly inclined to believe real understanding lies with the social, rather than natural, sciences. But have social science contributions made significant progress here? An answer to this inevitably gets somewhat complicated. Today, a good deal of the literature in this area is dominated by writers who see the obesity crisis as overblown and as, essentially, a social construct. Some have argued that the predominant measure of obesity, the body mass index (BMI), is flawed and not reliable. Although there is a small element of truth to this assertion,⁹ it hardly justifies dismissing population-wide weight gains out of hand. More significantly, some authors have argued that it is a crisis constructed largely by specific vested interests in society that benefit from the increasing medicalization of this condition and the prominence it has achieved in the mass media. Pharmaceutical companies and medical specialists are prime examples of benefactors in this view.

Aligned with, and often underpinning, some social science approaches to the contemporary phenomenon of obesity is the critique of nutritionism. Gyorgy Scrinis's essay "On the Ideology of Nutritionism" has been particularly influential in this regard, although the term predates it.¹⁰ Scrinis charges nutritional science with various kinds of reductionism with respect to food: the reduction of foods and diets to their effects on bodily health; the reductive focus on individual foods in isolation from other foods, diets, and broader factors; and (and most importantly for him) the reductive focus of nutritional science on nutrient composition as the principal means for evaluating the quality of foods and their relationship to physical health.¹¹ In addition, Scrinis argues that nutritionism, with this focus on health, undermines other equally important modes of understanding and engaging with food. Although it is not possible to treat this issue in real depth here, this critique does bear on my analysis.

I am in substantial agreement with the critique of nutritionism to the extent that the reductionist tendencies inherent in it are being exploited by the food industry to promote dubious claims about nutritionally enhanced "functional foods" and highly processed products with nutrients identified by nutritional science as beneficial. Moreover, its proponents argue that the ideology of nutritionism has promoted widespread confusion among the lay public about healthy eating more generally. There is no doubt considerable truth to this.

On the other hand, reductionist thinking, and practice, is hardly the sole domain of nutritional science. I would contend that other approaches that

arguably are a good deal more influential than nutritional science with the general public are even more reductionist. For example, the contemporary phenomenon of the celebrity chef and the food programs featuring them tend to be almost wholly focused on the *sensory* qualities of the meals being prepared, regardless of the fact that these meals very often use manifestly unhealthy ingredients and are prepared in unhealthy ways solely to maximize visual and sensory appeal, when they need not be (e.g., food is fried when it could be baked with much less fat). This sensory reductionism, in other words, reigns supreme in the hedonistic culture promoted in such widely viewed programs. Indeed, it is the exception (think Jamie Oliver) and not the rule that a celebrity chef pays attention to the health of the audience, even though it is perfectly possible to prepare delightful meals with ingredients that enhance, rather than damage, the health of those who consume them. Healthful cooking and sensory pleasure are incompatible only to those with a limited culinary imagination.

My fear about the critique of nutritionism is that those who embrace it may tend to throw out the baby with the bathwater, as the saying goes. Food should have sensory appeal, and it should serve as a catalyst for social engagement and cultural regeneration, to be sure, as Scrinis implies. But it is also meant to nurture us physically, and when it increasingly does not, we ought to pay attention to why this is so. In part, I tend to believe that we can better understand why what we eat is undoing our health by understanding something about the ways that whole foods have been degraded, why they have been degraded, and what the effects of this on our health are likely to be.

An overarching theme that orients this book is that between food producers and eaters lies a political-economic reality that shapes the food system and food environments within it. One of the main keys to understanding the contemporary crisis of obesity and elaborating effective strategies to overcome it is, therefore, understanding the forces that structure our food economy. This is the domain of political-economic analysis. Beyond this, however, is the need to better understand how people confront, adapt, or resist these forces as they go about their lives. These concerns with structure and agency lie at the heart of much social science today, of course, and I believe it is the tools of social science that hold the most promise for successfully understanding the global obesity crisis – and, I might add, that they are the most effective tools to aid those who might want to confront this crisis.

There is also one factor that may ultimately force society to finally undertake a genuinely critical appraisal of the causes of population-wide weight

gain and obesity, and also of a host of chronic diseases, some of which are closely related to obesity. This is the astounding cost to society that chronic disease represents, and the increasing evidence that diet is a key determining factor. Indeed, this cost threatens to financially debilitate the state and seriously drain resources from pressing societal needs other than health care. Obesity-related chronic diseases are going to become staggeringly expensive. Two examples from the United States are instructive. The cost of cardiovascular disease, now the leading cause of death in that country and elsewhere, is projected by the American Heart Association to triple by 2030 to \$800 billion annually. Type 2 diabetes, a largely preventable disease, is expected to afflict half of all Americans by 2020 and cost \$500 billion annually.¹² Yes, these almost unbelievable estimates refer to *annual* costs, hard as this may be to comprehend.

A MORE GLOBAL PERSPECTIVE

These are the concerns that initially inspired my interest in the subject matter of this book. Other factors have shaped my views and analysis over the longer term and have instilled an intense interest in the developing world. Some of my most salient experiences date back to the late 1970s and early 1980s, when I began my adult travels in Mexico, Central America, and South America. At a time when a one-star hotel was a rarely afforded luxury, the daily search for sustenance led me to many new culinary discoveries and, it must be added, the hard realization that pathogenic bacteria in food and drink are something to be taken very seriously.

As curiosity-driven wanderings turned into more focused and disciplined graduate and later postgraduate field research, I gained an appreciation for (what some call) “food environments” that radically departed from what had then become the North American norm – the procurement of food from supermarket chain stores filled with processed edible products, or from another type of chain store operation, the ubiquitous fast-food outlet.

The countries I travelled through and lived in at that time were, in fact, in the early transitional stage of what had become, in the developed world, a much more corporate-controlled food system. The early supermarkets I visited in Mexico and Costa Rica – for they did exist there some thirty years ago – were small, poorly organized affairs selling mostly canned and packaged foods that (to me at least) were largely unappealing. Produce sections were

largely stocked with a limited range of fruits and vegetables of questionable quality, usually much inferior to produce that could be had at the open-air market a few blocks away. The same was true of meat and fish. And yet, they were attracting a sizable and largely middle-class clientele, whether because of a perceived convenience (they were usually open at night, whereas markets were not, and some had ample free parking), or a desire to emulate a North American lifestyle, or likely both. As for fast food, it was also becoming established, attracting a small clientele that was drawn largely from the emerging middle class and was eager to emulate American ways. But outlets were few, and in Central America only to be found in the capital cities.

A stint of fieldwork in Nicaragua a few years later, during the early years of the Sandinista revolution, brought me into contact with the “popular kitchens” of that era. These were largely open-air eating establishments where, buffet style, one could select from a large variety of meats, fish, vegetables, and starches served from immense steaming cauldrons. Food was plentiful, notably varied, nutritious, and cheap enough to allow local people of modest means to afford a sizable noontime meal. Although there was one McDonald’s outlet in the capital city, Managua, it was expensive by local standards and attracted only those of some affluence, many of whom travelled, often frequently, to the United States.

Around the same time (mid-1980s), I visited a country somewhat larger and more prosperous, and more developed, than tiny Nicaragua. My sojourn in Ecuador, in the Andean region of South America, brought me into contact with researchers from various disciplines, including nutritionists examining the diets of urban workers. They talked about a rapid dietary transition they were witnessing among this group of urban working poor. I was both surprised and disturbed to hear that the prominent elements of this new diet were white bread and Coca-Cola.

In an important sense, these experiences challenged the prevalent “truths” of that time, truths that have stayed with us. By this I’m referring to the strongly held notion that part of the benefit coming from “development” is to leave behind an impoverished and meagre diet and embrace new opportunities of dietary variety and ample nutrition. In real terms, then, it was the promised shift from the monotony of rice and beans every day to a richer and more satisfying diet replete with meat on a regular basis and access to all the products of the modern food system. As with most received wisdom, there no doubt was some element of truth to it, but also a good deal of falsehood, and it involved the failure to understand something much more complex

that was happening. As diets were changing, there would be winners and losers – the losers in this case being the new impoverished urban working class. And as we shall see, even those we might call winners would find that the new diet offered by the industrial food system would have a definite downside for their health.

As we are better aware today, food environments have been transformed again and again, sometimes in incredibly profound ways. The food environments I encountered in my travels through Central and South America in the 1970s and 1980s had been shaped, in fact, by several centuries of colonial conquest, epidemic disease, plunder, and exploitation. Indeed, we know that the agricultural and dietary traditions predating the pre-colonial era had survived the shock of conquest in some forms. Then again, after 1850, upon achieving independence from colonial masters, these new nations found themselves reinserted into the expanding worldwide economy as landed elites, and wealthy *parvenus* began to invest heavily in export crops such as coffee for mass consumption in Europe, which was then being radically transformed by industrial capitalism. This momentous historical transition dramatically reshaped social structures in the countryside.¹³ I spent the first part of my academic career, in fact, documenting this process in parts of Central America and elsewhere. But this transition must have also had profound effects on local food environments and the dietary regimen of the mass of the labouring population. We know much more today about how this process changed agrarian social structure, however, than we know about its repercussions for the food environment, diet, and the nutritional outcomes for the populations affected.

Amid all this relatively recent attention to food, it is somewhat remarkable that so little attention has been given to the very essence of what makes food so important to us: its provision (but increasingly non-provision) of the very nutrients that sustain our existence. This book, with its focus on the degradation of diets and the emergent struggle for healthy eating, aims to encourage a reflection on the state of the food environments around us, as well as interest in and engagement with realistic and innovative strategies that can lead to a healthier future for the broad mass of the population.

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