

**Global Environmental History**  
**Summer Assignment**

Read: James E. McWilliams, *Just Food*, Introduction  
& Michael Pollan, *The Omnivore's Dilemma*, Introduction  
(see attached doc)

Prompt:

Write a 350-500 word response that completes the below instructions. Write a thesis statement that answers the question: which author's main argument do you find more convincing? Your thesis statement should take a stand on the question and include a brief explanation of why you do. Compare & contrast the arguments made in both readings and use specific evidence from each to explain why you agree with one author and not the other. Make sure to clearly state the positions of both authors and to directly cite the readings when you reference specific ideas or moments in the text.

Formatting Instructions:

- Response should be 350-500 words.
- Include your thesis statement at the beginning of your response – as its own paragraph. The write the rest of your responses as supporting paragraphs with their own topic sentences.
- Insert footnotes to cite quotes and paraphrasing according to the Chicago Manual of Style.
- Text should be double spaced, Times New Roman, Size 12, 1-inch margins.
- Put your name on your paper!

Your paper is due the first day of class and will be uploaded to Turnitin. This is **individual work**. **No late papers** will be accepted. It will be graded.

*The*  
Omnivore's  
Dilemma

A NATURAL HISTORY *of* FOUR MEALS

MICHAEL POLLAN

*Author of*  
THE BOTANY OF DESIRE



INTRODUCTION

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OUR NATIONAL  
EATING DISORDER

*What should we have for dinner?*

This book is a long and fairly involved answer to this seemingly simple question. Along the way, it also tries to figure out how such a simple question could ever have gotten so complicated. As a culture we seem to have arrived at a place where whatever native wisdom we may once have possessed about eating has been replaced by confusion and anxiety. Somehow this most elemental of activities—figuring out what to eat—has come to require a remarkable amount of expert help. How did we ever get to a point where we need investigative journalists to tell us where our food comes from and nutritionists to determine the dinner menu?

For me the absurdity of the situation became inescapable in the fall of 2002, when one of the most ancient and venerable staples of human life abruptly disappeared from the American dinner table. I'm talking of course about bread. Virtually overnight, Americans changed the way they eat. A collective spasm of what can only be described as carbopho-

bia seized the country, supplanting an era of national lipophobia dating to the Carter administration. That was when, in 1977, a Senate committee had issued a set of “dietary goals” warning beef-loving Americans to lay off the red meat. And so we dutifully had done, until now.

What set off the sea change? It appears to have been a perfect media storm of diet books, scientific studies, and one timely magazine article. The new diet books, many of them inspired by the formerly discredited Dr. Robert C. Atkins, brought Americans the welcome news that they could eat more meat and lose weight just so long as they laid off the bread and pasta. These high-protein, low-carb diets found support in a handful of new epidemiological studies suggesting that the nutritional orthodoxy that had held sway in America since the 1970s might be wrong. It was not, as official opinion claimed, fat that made us fat, but the carbohydrates we’d been eating precisely in order to stay slim. So conditions were ripe for a swing of the dietary pendulum when, in the summer of 2002, the *New York Times Magazine* published a cover story on the new research entitled “What if Fat Doesn’t Make You Fat?” Within months, supermarket shelves were restocked and restaurant menus rewritten to reflect the new nutritional wisdom. The blamelessness of steak restored, two of the most wholesome and uncontroversial foods known to man—bread and pasta—acquired a moral stain that promptly bankrupted dozens of bakeries and noodle firms and ruined an untold number of perfectly good meals.

So violent a change in a culture’s eating habits is surely the sign of a national eating disorder. Certainly it would never have happened in a culture in possession of deeply rooted traditions surrounding food and eating. But then, such a culture would not feel the need for its most august legislative body to ever deliberate the nation’s “dietary goals”—or, for that matter, to wage political battle every few years over the precise design of an official government graphic called the “food pyramid.” A country with a stable culture of food would not shell out millions for the quackery (or common sense) of a new diet book every January. It would not be susceptible to the pendulum swings of food scares or fads, to the apotheosis every few years of one newly discovered nutri-

ent and the demonization of another. It would not be apt to confuse protein bars and food supplements with meals or breakfast cereals with medicines. It probably would not eat a fifth of its meals in cars or feed fully a third of its children at a fast-food outlet every day. And it surely would not be nearly so fat.

Nor would such a culture be shocked to discover that there are other countries, such as Italy and France, that decide their dinner questions on the basis of such quaint and unscientific criteria as pleasure and tradition, eat all manner of “unhealthy” foods, and, lo and behold, wind up actually healthier and happier in their eating than we are. We show our surprise at this by speaking of something called the “French paradox,” for how could a people who eat such demonstrably toxic substances as foie gras and triple crème cheese actually be slimmer and healthier than we are? Yet I wonder if it doesn’t make more sense to speak in terms of an American paradox—that is, a notably unhealthy people obsessed by the idea of eating healthily.

TO ONE DEGREE or another, the question of what to have for dinner assails every omnivore, and always has. When you can eat just about anything nature has to offer, deciding what you *should* eat will inevitably stir anxiety, especially when some of the potential foods on offer are liable to sicken or kill you. This is the omnivore’s dilemma, noted long ago by writers like Rousseau and Brillat-Savarin and first given that name thirty years ago by a University of Pennsylvania research psychologist named Paul Rozin. I’ve borrowed his phrase for the title of this book because the omnivore’s dilemma turns out to be a particularly sharp tool for understanding our present predicaments surrounding food.

In a 1976 paper called “The Selection of Foods by Rats, Humans, and Other Animals” Rozin contrasted the omnivore’s existential situation with that of the specialized eater, for whom the dinner question could not be simpler. The koala bear doesn’t worry about what to eat: If it looks and smells and tastes like a eucalyptus leaf, it must be dinner. The koala’s culinary preferences are hardwired in its genes. But for

omnivores like us (and the rat) a vast amount of brain space and time must be devoted to figuring out which of all the many potential dishes nature lays on are safe to eat. We rely on our prodigious powers of recognition and memory to guide us away from poisons (*Isn't that the mushroom that made me sick last week?*) and toward nutritious plants (*The red berries are the juicier, sweeter ones*). Our taste buds help too, predisposing us toward sweetness, which signals carbohydrate energy in nature, and away from bitterness, which is how many of the toxic alkaloids produced by plants taste. Our inborn sense of disgust keeps us from ingesting things that might infect us, such as rotten meat. Many anthropologists believe that the reason we evolved such big and intricate brains was precisely to help us deal with the omnivore's dilemma.

Being a generalist is of course a great boon as well as a challenge; it is what allows humans to successfully inhabit virtually every terrestrial environment on the planet. Omnivory offers the pleasures of variety, too. But the surfeit of choice brings with it a lot of stress and leads to a kind of Manichaean view of food, a division of nature into The Good Things to Eat, and The Bad.

The rat must make this all-important distinction more or less on its own, each individual figuring out for itself—and then remembering—which things will nourish and which will poison. The human omnivore has, in addition to his senses and memory, the incalculable advantage of a culture, which stores the experience and accumulated wisdom of countless human tasters before us. I don't need to experiment with the mushroom now called, rather helpfully, the "death cap," and it is common knowledge that that first intrepid lobster eater was on to something very good. Our culture codifies the rules of wise eating in an elaborate structure of taboos, rituals, recipes, manners, and culinary traditions that keep us from having to reenact the omnivore's dilemma at every meal.

One way to think about America's national eating disorder is as the return, with an almost atavistic vengeance, of the omnivore's dilemma. The cornucopia of the American supermarket has thrown us back on a bewildering food landscape where we once again have to worry that some of

those tasty-looking morsels might kill us. (Perhaps not as quickly as a poisonous mushroom, but just as surely.) Certainly the extraordinary abundance of food in America complicates the whole problem of choice. At the same time, many of the tools with which people historically managed the omnivore's dilemma have lost their sharpness here—or simply failed. As a relatively new nation drawn from many different immigrant populations, each with its own culture of food, Americans have never had a single, strong, stable culinary tradition to guide us.

The lack of a steadying culture of food leaves us especially vulnerable to the blandishments of the food scientist and the marketer, for whom the omnivore's dilemma is not so much a dilemma as an opportunity. It is very much in the interest of the food industry to exacerbate our anxieties about what to eat, the better to then assuage them with new products. Our bewilderment in the supermarket is no accident; the return of the omnivore's dilemma has deep roots in the modern food industry, roots that, I found, reach all the way back to fields of corn growing in places like Iowa.

And so we find ourselves where we do, confronting in the supermarket or at the dinner table the dilemmas of omnivorousness, some of them ancient and others never before imagined. The organic apple or the conventional? And if the organic, the local one or the imported? The wild fish or the farmed? The transfats or the butter or the “not butter”? Shall I be a carnivore or a vegetarian? And if a vegetarian, a lacto-vegetarian or a vegan? Like the hunter-gatherer picking a novel mushroom off the forest floor and consulting his sense memory to determine its edibility, we pick up the package in the supermarket and, no longer so confident of our senses, scrutinize the label, scratching our heads over the meaning of phrases like “heart healthy,” “no transfats,” “cage-free,” or “range-fed.” What is “natural grill flavor” or TBHQ or xanthan gum? What is all this stuff, anyway, and where in the world did it come from?

MY WAGER in writing *The Omnivore's Dilemma* was that the best way to answer the questions we face about what to eat was to go back to the very

beginning, to follow the food chains that sustain us, all the way from the earth to the plate—to a small number of actual meals. I wanted to look at the getting and eating of food at its most fundamental, which is to say, as a transaction between species in nature, eaters and eaten. (“The whole of nature,” wrote the English author William Ralph Inge, “is a conjugation of the verb to eat, in the active and passive.”) What I try to do in this book is approach the dinner question as a naturalist might, using the long lenses of ecology and anthropology, as well as the shorter, more intimate lens of personal experience.

My premise is that like every other creature on earth, humans take part in a food chain, and our place in that food chain, or web, determines to a considerable extent what kind of creature we are. The fact of our omnivorousness has done much to shape our nature, both body (we possess the omnicompetent teeth and jaws of the omnivore, equally well suited to tearing meat and grinding seeds) and soul. Our prodigious powers of observation and memory, as well as our curious and experimental stance toward the natural world, owe much to the biological fact of omnivorousness. So do the various adaptations we’ve evolved to defeat the defenses of other creatures so that we might eat them, including our skills at hunting and cooking with fire. Some philosophers have argued that the very open-endedness of human appetite is responsible for both our savagery and civility, since a creature that could conceive of eating anything (including, notably, other humans) stands in particular need of ethical rules, manners, and rituals. We are not only what we eat, but how we eat, too.

Yet we are also different from most of nature’s other eaters—markedly so. For one thing, we’ve acquired the ability to substantially modify the food chains we depend on, by means of such revolutionary technologies as cooking with fire, hunting with tools, farming, and food preservation. Cooking opened up whole new vistas of edibility by rendering various plants and animals more digestible, and overcoming many of the chemical defenses other species deploy against being eaten. Agriculture allowed us to vastly multiply the populations of a few favored food species, and therefore in turn our own. And, most recently,



industry has allowed us to reinvent the human food chain, from the synthetic fertility of the soil to the microwaveable can of soup designed to fit into a car's cup holder. The implications of this last revolution, for our health and the health of the natural world, we are still struggling to grasp.

*The Omnivore's Dilemma* is about the three principal food chains that sustain us today: the industrial, the organic, and the hunter-gatherer. Different as they are, all three food chains are systems for doing more or less the same thing: linking us, through what we eat, to the fertility of the earth and the energy of the sun. It might be hard to see how, but even a Twinkie does this—constitutes an engagement with the natural world. As ecology teaches, and this book tries to show, it's all connected, even the Twinkie.

Ecology also teaches that all life on earth can be viewed as a competition among species for the solar energy captured by green plants and stored in the form of complex carbon molecules. A food chain is a system for passing those calories on to species that lack the plant's unique ability to synthesize them from sunlight. One of the themes of this book is that the industrial revolution of the food chain, dating to the close of World War II, has actually changed the fundamental rules of this game. Industrial agriculture has supplanted a complete reliance on the sun for our calories with something new under the sun: a food chain that draws much of its energy from fossil fuels instead. (Of course, even that energy originally came from the sun, but unlike sunlight it is finite and irreplaceable.) The result of this innovation has been a vast increase in the amount of food energy available to our species; this has been a boon to humanity (allowing us to multiply our numbers), but not an unalloyed one. We've discovered that an abundance of food does not render the omnivore's dilemma obsolete. To the contrary, abundance seems only to deepen it, giving us all sorts of new problems and things to worry about.

Each of this book's three parts follows one of the principal human food chains from beginning to end: from a plant, or group of plants, photosynthesizing calories in the sun, all the way to a meal at the din-

ner end of that food chain. Reversing the chronological order, I start with the industrial food chain, since that is the one that today involves and concerns us the most. It is also by far the biggest and longest. Since monoculture is the hallmark of the industrial food chain, this section focuses on a single plant: *Zea mays*, the giant tropical grass we call corn, which has become the keystone species of the industrial food chain, and so in turn of the modern diet. This section follows a bushel of commodity corn from the field in Iowa where it grew on its long, strange journey to its ultimate destination in a fast-food meal, eaten in a moving car on a highway in Marin County, California.

The book's second part follows what I call—to distinguish it from the industrial—the pastoral food chain. This section explores some of the alternatives to industrial food and farming that have sprung up in recent years (variously called “organic,” “local,” “biological,” and “beyond organic”), food chains that might appear to be preindustrial but in surprising ways turn out in fact to be postindustrial. I set out thinking I could follow one such food chain, from a radically innovative farm in Virginia that I worked on one recent summer to an extremely local meal prepared from animals raised on its pastures. But I promptly discovered that no single farm or meal could do justice to the complex, branching story of alternative agriculture right now, and that I needed also to reckon with the food chain I call, oxymoronically, the “industrial organic.” So the book's pastoral section serves up the natural history of two very different “organic” meals: one whose ingredients came from my local Whole Foods supermarket (gathered there from as far away as Argentina), and the other tracing its origins to a single polyculture of grasses growing at Polyface Farm in Swoope, Virginia.

The last section, titled Personal, follows a kind of neo-Paleolithic food chain from the forests of Northern California to a meal I prepared (almost) exclusively from ingredients I hunted, gathered, and grew myself. Though we twenty-first-century eaters still eat a handful of hunted and gathered food (notably fish and wild mushrooms), my interest in this food chain was less practical than philosophical: I hoped to shed fresh light on the way we eat now by immersing myself in the

way we ate then. In order to make this meal I had to learn how to do some unfamiliar things, including hunting game and foraging for wild mushrooms and urban tree fruit. In doing so I was forced to confront some of the most elemental questions—and dilemmas—faced by the human omnivore: What are the moral and psychological implications of killing, preparing, and eating a wild animal? How does one distinguish between the delicious and the deadly when foraging in the woods? How do the alchemies of the kitchen transform the raw stuffs of nature into some of the great delights of human culture?

The end result of this adventure was what I came to think of as the Perfect Meal, not because it turned out so well (though in my humble opinion it did), but because this labor- and thought-intensive dinner, enjoyed in the company of fellow foragers, gave me the opportunity, so rare in modern life, to eat in full consciousness of everything involved in feeding myself: For once, I was able to pay the full karmic price of a meal.

Yet as different as these three journeys (and four meals) turned out to be, a few themes kept cropping up. One is that there exists a fundamental tension between the logic of nature and the logic of human industry, at least as it is presently organized. Our ingenuity in feeding ourselves is prodigious, but at various points our technologies come into conflict with nature's ways of doing things, as when we seek to maximize efficiency by planting crops or raising animals in vast monocultures. This is something nature never does, always and for good reasons practicing diversity instead. A great many of the health and environmental problems created by our food system owe to our attempts to oversimplify nature's complexities, at both the growing and the eating ends of our food chain. At either end of any food chain you find a biological system—a patch of soil, a human body—and the health of one is connected—literally—to the health of the other. Many of the problems of health and nutrition we face today trace back to things that happen on the farm, and behind those things stand specific government policies few of us know anything about.

I don't mean to suggest that human food chains have only recently

come into conflict with the logic of biology; early agriculture and, long before that, human hunting proved enormously destructive. Indeed, we might never have needed agriculture had earlier generations of hunters not eliminated the species they depended upon. Folly in the getting of our food is nothing new. And yet the new follies we are perpetrating in our industrial food chain today are of a different order. By replacing solar energy with fossil fuel, by raising millions of food animals in close confinement, by feeding those animals foods they never evolved to eat, and by feeding ourselves foods far more novel than we even realize, we are taking risks with our health and the health of the natural world that are unprecedented.

Another theme, or premise really, is that the way we eat represents our most profound engagement with the natural world. Daily, our eating turns nature into culture, transforming the body of the world into our bodies and minds. Agriculture has done more to reshape the natural world than anything else we humans do, both its landscapes and the composition of its flora and fauna. Our eating also constitutes a relationship with dozens of other species—plants, animals, and fungi—with which we have coevolved to the point where our fates are deeply entwined. Many of these species have evolved expressly to gratify our desires, in the intricate dance of domestication that has allowed us and them to prosper together as we could never have prospered apart. But our relationships with the wild species we eat—from the mushrooms we pick in the forest to the yeasts that leaven our bread—are no less compelling, and far more mysterious. Eating puts us in touch with all that we share with the other animals, and all that sets us apart. It defines us.

What is perhaps most troubling, and sad, about industrial eating is how thoroughly it obscures all these relationships and connections. To go from the chicken (*Gallus gallus*) to the Chicken McNugget is to leave this world in a journey of forgetting that could hardly be more costly, not only in terms of the animal's pain but in our pleasure, too. But forgetting, or not knowing in the first place, is what the industrial food chain is all about, the principal reason it is so opaque, for if we could

see what lies on the far side of the increasingly high walls of our industrial agriculture, we would surely change the way we eat.

“Eating is an agricultural act,” as Wendell Berry famously said. It is also an ecological act, and a political act, too. Though much has been done to obscure this simple fact, how and what we eat determines to a great extent the use we make of the world—and what is to become of it. To eat with a fuller consciousness of all that is at stake might sound like a burden, but in practice few things in life can afford quite as much satisfaction. By comparison, the pleasures of eating industrially, which is to say eating in ignorance, are fleeting. Many people today seem perfectly content eating at the end of an industrial food chain, without a thought in the world; this book is probably not for them. There are things in it that will ruin their appetites. But in the end this is a book about the pleasures of eating, the kinds of pleasure that are only deepened by knowing.

HOW LOCAVORES ARE ENDANGERING THE FUTURE OF FOOD  
AND HOW WE CAN TRULY EAT RESPONSIBLY



# JUST FOOD

JAMES E. MCWILLIAMS

## Introduction: From the Golden Age to the Golden Mean of Food Production

*He who has food has many problems.*—BYZANTINE PROVERB

Approximately 500 million years ago large clumps of sand and mud formed sedimentary rocks that trapped microscopic plants and animals. This geologic mash eventually decomposed into fossil fuels. For better or worse, these fuels would later serve the endlessly proliferating wants and needs of advanced human civilization. About fifty years ago scientists began to document the environmental problems caused by burning these fuels to power modern life, global warming being the most notable of them. At the turn of the twenty-first century, environmentalists tied this vast history into a tight knot by showing how conventional food production was responsible for a large portion of the greenhouse gas fouling today's atmosphere. Omnivores, the developed world learned, had a dilemma. We were killing the environment, and thus ourselves and our future, with a diet addicted to fossil fuels.

The most powerful response to this problem has been to produce and consume locally grown food, in other words, to become a "locavore." What has happened since this locavore revolution started has been nothing short of spectacular. Millions of consumers in advanced societies the world over now demand that their food be locally sourced. The phrases "food miles" and "local farmers' market" fall off the environmentalist's tongue as inspired pearls of environmental wisdom. Organizations of environmentally concerned members eating "100-mile diets" have bloomed across North America and Europe. "Slow food" is gaining on fast food as a conventional culinary ethic. In a matter of years, the idea of eating locally produced food has come to seem so indisputably

sensible that it's almost a moral obligation to book a seat on the bandwagon headed for the closest sustainable farm.

This revolution—brimming with buzzwords such as “sustainability,” “agroecology,” “foodshed,” and “carbon footprint”—has resonated far and wide. Best-selling locavore writers have accomplished the seemingly impossible task of getting Americans to ponder where their food comes from, an achievement that must be celebrated. After all, we recently couldn't have cared less about the source of our food, but today Alice Waters is a household name. Michael Pollan is our unofficial farmer-in-chief. Wendell Berry is the agricultural romantic's poet laureate. Many consumers now turn up their noses at tomatoes that are not heirloom, cows that do not eat native grass, and pigs that do not frolic across a verdant free range. The Golden Arches are the avatar of evil, and chicken nuggets are on par with crack cocaine as a substance to avoid. All in all, it's very real progress. Locavores, and their ceaseless emphasis on fresh, local, sustainable food, are to be thanked for fueling an upsurge in ecological awareness about food and the more hopeful facets of its production.

But for all the deserved accolades, the locavore approach to reforming our broken food system has serious limits—limits that our exuberant acceptance of eating local has obscured. Although these limitations are many, the one I'm particularly concerned with is this: *Eating local is not, in and of itself, a viable answer to sustainable food production on a global level.* In fact, it's a relatively small step toward that critically important goal. As an environmental historian and the author of several books dealing with agriculture, I've become increasingly convinced (somewhat against my will) of this point.

Current popular assessments of our food issues repeatedly and passionately insist that the problem of sustainable production can be solved through a primary emphasis on localism. The underlying premise is that agribusiness has undermined the environmental balance of small-scale food production and all we have to do is restore it by “relocalizing” the food system—that is, taking it back to the way it once was. Most of my friends, as well as many of the writers, thinkers, and activists I most admire, strongly advocate this position.

My own research, however, has taught me something different. In the most general terms, it's taught me that “the omnivore's dilemma” is too complicated to be managed through a primary reliance on food grown in proximity to where we live. Such an emphasis, in fact, can in many cases be detrimental to the environment. By no means do I deny that localism has benefits, nor do I deny that agribusiness is generally irresponsible. But I am nonetheless insisting that there are more productive, creative, and global ways to think about the



there are more productive, creative, and global ways to think about the complicated problem of eating an ethical diet. There are alternatives to the local alternative.

My goal here is not to write a reactionary tract against the locavore movement. Instead, it is to step back, survey the broader landscape of food production and consumption, and—with all due respect to the locavore ethos (and I have a lot of it)—grapple honestly with questions that locavores have yet sufficiently to confront: How can we, both collectively and as individual consumers, achieve a sustainable *global* diet? How can the world keep growing in population, feed itself, and at the same time preserve its natural resources for future generations? How can we produce an abundance of safe food while minimizing dangerous environmental costs?

Too often environmentalists brush aside such “feed the world” questions as traps intended to promote the productive strengths of factory farming. They point to that infamous agricultural experiment undertaken between 1945 and the 1980s called the Green Revolution and, with justification, highlight the environmental degradation and corporate consolidation that the revolution required to feed the masses a steady diet of rice and wheat. But who ever said that farmers growing food for the world should abandon the quest for—as the agricultural ecologist Gordon Conway puts it—a *doubly* Green Revolution? Who ever said that agribusiness, at least as it currently operates, has a monopoly on the quest to feed the world? For that matter, who ever said local was necessarily equivalent to sustainable, much less the only antidote to the excesses of the Green Revolution? [1](#)

These kinds of questions have driven my research. I’ve tackled them knowing full well that my answers will inevitably generate controversy. It hasn’t taken me long to learn that challenging ideas about food is not unlike challenging ideas about religion. A systematic examination of what’s required to produce food responsibly for billions of people necessarily demands that we confront issues which elicit emotional responses. Regrettably, our current culinary discourse has been pushed to extreme ends of the spectrum. There’s agribusiness on the one hand and there’s the local farmer on the other. But somewhere in the middle there’s a golden mean of producing food that allows the conscientious consumer to eat an ethical diet in a globalizing world. Ambitious as the goal may be, the golden mean is what I’m seeking to pin down in the chapters ahead.

When it comes to food, there are plenty of big issues for environmentally concerned consumers to explore. In addition to the concept of food miles, there are genetically modified foods, farm-raised fish (aquaculture), a reassessment of

organic crops, liberalized but regulated trade policies, and sustainable ranching—all key issues that remain central to taking environmentally responsible food production beyond the local context. These issues are thoroughly discussed in the pages ahead and, I hope, productively reconceptualized to offer a vision of global food production that makes sustainability and commercial viability overriding and complementary priorities.

The track record for rationally discussing controversial matters of food and agriculture isn't encouraging. As a rule these issues have been cynically politicized before being explored as legitimate responses to our broken food system. Because the food wars, like any war, need their weapons, these very general ways of thinking about food production and consumption have entered the court of public opinion as cannon shots of contention rather than opportunities to find common ground. Something about food fosters radical dichotomies. We instinctively feel an overwhelming desire to take sides: organic or conventional, fair or free trade, "pure" or genetically engineered food, wild or farm-raised fish. Like most things in life, though, the sensible answer lies somewhere between the extremes, somewhere in that dull but respectable place called the pragmatic center. To be a centrist when it comes to food is, unfortunately, to be a radical.

The fact that we've avoided that center—short-changed complexity for extremism—is unfortunate for the cause of sustainable food production and ethical consumption. It's my sincere hope that this book can expand the dialogue about sustainable food without causing yet another tawdry food fight between radicalized perspectives and opposing interest groups, for if there's one thing conspicuously missing from our public discussion of food and the environment, it's nuance.

In the most general terms, then, my mission in the following pages is to transform what have been culinary-ideological weapons into building blocks for a model of sustainable global food production. What emerges will hardly offer a pat or complete answer to one of the twenty-first century's defining challenges. Nevertheless, through a balanced presentation of the most recent and thoughtful work on food production and the environment, as well as a much-needed historical perspective gutted of myth and nostalgia, I will make a case. This case, if all goes well, will help the omnivore, herbivore, and locavore make food choices that are environmentally just while at the same time reminding us that until we help make basic changes in how the world approaches food, our options are, somewhat tragically, limited in scope.

THE FACT THAT I aim to offer a balanced account should not imply that my analysis lacks passion or conviction. Underscoring every proposal I highlight in the following pages are precise, and surely controversial, views about nature and agriculture that I should make clear from the start.

The more I thought, read, and wrote about such divisive matters as biotechnology, aquaculture, factory farming, and the organic revolution, the more it became clear to me that each issue, in one way or another, has been distorted by a popular misunderstanding of agriculture. This misunderstanding ultimately boils down to the misleading allure of a lost golden age of food production—a golden age of ecological purity, in which the earth was in balance, humans collectively respected the environment, biodiversity flourished, family farms nurtured morality, and ecological harmony prevailed.

Thing is, there was no golden age. The perpetuation of this myth is a cheap but very powerful rhetorical strategy to burden the modern environmentalist with a false standard of pastoral innocence. Our contemporary failings as producers and consumers are routinely dramatized as a shameful fall from grace. The problem with this scenario is that we humans have always abused the environment, often without mercy. Romantics can bellow into the wilderness for an enormous shift in human perspective, but the genie of exploitation is out of the bottle. For over 10,000 years humans have systematically manipulated nature to our advantage by making plants and animals do our bidding. I honestly don't believe that this basic relationship will ever change. My proposals will, for better or worse, reflect this opinion.

I'm not being cynical on this point, just realistic. Writers who insist otherwise, who believe that achieving truly responsible food production requires rediscovering some long-lost harmonious environmental relationship, are agricultural idealists who do not know their history. These agrarian populists are complicit in what Julie Guthman, the author of the incisive book *Agrarian Dreams*, aptly calls a "stunning erasure" of the past. A hopeless romance with some wilderness of the imagination has shielded them (and us) from the harsh essence that's at the core of agricultural practice. The inspiring poet Wendell Berry can declare himself bound "for ground of my own where I have planted vines and orchard trees" that in "the heat of the day climbed up into the healing shadow of the woods." But staunch opponents have another take on that healing shadow. [2](#)

Speaking of agriculture per se—all agriculture—the prominent plant geneticist and microbiologist Nina Fedoroff told me that "agriculture is more devastating

ecologically than anything else we could do except pouring concrete on the land.” Although obviously overstated, her underlying point makes considerable sense. Her thoughts have been echoed by other scientists, who, drawing on the history of how humans have enslaved nature to satisfy hunger, rightly note that “domestication reinvents the rules of nature,” that “cultivated plants are nature’s misfits,” and that farming is, at its historical essence, the art of strategizing against the natural world. [3](#)

The opinions of another school of prominent agricultural writers similarly counter the agrarian idealists who labor under the misguided assumption that nature is “the supreme farmer.” Richard Manning, the author of *Against the Grain: How Agriculture Has Hijacked Civilization*, is refreshingly candid on this matter. Manning, who writes especially well about preindustrial agriculture, argues that “agriculture created poverty,” that “agriculture was simply opportunism,” and that “grain is the foundation of civilization, and so, by extension, catastrophe.” “I have come to think of agriculture,” he explains, “not as farming, but as a dangerous and consuming beast of a social system.” Again, Manning is writing not about factory farming but of the essence of farming in general. Victor Davis Hanson, an angry but eloquent former raisin farmer in California, quakes in rage at the notion of romantic agrarianism, insisting that “the quaint family farmstead, the focus for such fantasy, is becoming a caricature, not a reality, in the here and now.” His advice is advice I’ve taken to heart: “Any book about farming must not be romantic or naïve, but brutally honest.” [4](#)

As someone whose agricultural experience consists of gardening, I prefer to take my cues from voices like Hanson’s, because not only are their hands dirty with the biology and business of farming, but history bears out their perspective. Indeed, they work and write in the vein of an agricultural history that is shot through with the accounts of hard-bitten men who have yoked their own oxen, dredged their own plows, and balanced their own books, leaving behind not the slightest legacy of romanticism but instead a considerable dose of venom. Frankly, their accounts of agriculture are simply more plausible.

Sober agrarian assessments, perhaps because they’re not especially marketable, have gone unappreciated. The new agrarians—those who conceptualize agriculture as a countercultural ideal to industrial modes of production—write often about how we must return to the land and let nature do our farming. But they slight the history underlying their idealism. They ignore those who ran from farming, got out at the first chance, took a job in another

sector, never, not for a moment, looked back. The results of sidestepping this bitter view of agriculture would be insignificant if the stakes were not so high. The quest for sustainable methods of global food production cannot wait. What worries me is that well-meaning locavores who have the power to influence thousands of consumers down the primrose path of localism will come to realize that their dreams were unrealistic after it's too late to regroup and pursue more achievable approaches.

The history of agriculture provides ample warning against such a perspective. Too often, however, we're asked to erase the actual history of agricultural practice and the relentless press of population and listen to the disembodied wisdom of the ages. But no matter how rhapsodic one waxes about the process of wresting edible plants and tamed animals from the sprawling vagaries of nature, there's a timeless, unwavering truth espoused by those who worked the land for ages: no matter how responsible agriculture is, it is essentially about achieving the lesser of evils. To work the land is to change the land, to shape it to benefit one species over another, and thus necessarily to tame what is wild. Our task should be to deliver our blows gently. Not very sexy, perhaps not very heartwarming, but this is my view.

I suppose it would have been a lot more fun to have written a book on the sublime virtues of slow food, Chez Panisse, Berkshire pork, or the gustatory pleasures of an heirloom tomato. For sure, it would have been a pleasure to indulge my research abilities in something sensual and fulfilling. But such concerns, given the challenges we face as socially aware consumers, strike me as overly precious. Such idealization of the luxurious—a staple of food writing today—distracts us from the reality of the concrete. So I've chosen to save the romantic rhetoric for the parlors of hobby farmers and seminar rooms of the chattering culinary class.

After all, regular consumers have already been duly flogged, with one sermon after another telling us that we have sinned, that we must repent and restore our agrarian innocence, that we should go back to the land, repair our environmental souls, seek ecological redemption, and do everything but start foraging for nuts and berries and hunting wild boar for sustenance. How else to save humanity? How else to eat a responsible diet? How else to go green? It's an entirely false, if not melodramatic, premise. Real people living and eating in a real world deserve a more sophisticated answer to these myriad questions, all of which make up our shared dilemma.

WHAT FOLLOWS IS in many ways a very personal book. Intensifying my interest in sustainable food is the fact that achieving a responsible diet has long been an ongoing quest for me as an individual. I care deeply about food, and I care even more deeply about the environment. Indeed, I spent a couple of very earnest years riding the locavore bandwagon myself. My conversion to being an emotional and intellectual locavore was the only activist decision I'd made in my life. As my passion started to stir, I could be found haunting local farmers' markets around my hometown, Austin, Texas, bashing "big industrial" and "Frankenfood" at every opportunity, investigating like a Checkpoint Charlie the groceries that crossed the threshold of my kitchen, becoming a tiresome dinner companion, and once, after teaching two history classes on a balmy Texas afternoon, slaughtering my own locally raised, scrap-fed chicken on an oak stump in a friend's backyard. Sure enough, as my knife scored the chicken's fibrous neck, I rejoiced that a genuine movement was afoot and that I, with blood on my oxford shirt, was present at the creation. I had found my cause: saving the environment through the way I ate. Empowerment!

Turns out I wasn't much of an acolyte. I'm a skeptic and a pragmatist at heart, so in less enthralled moments my doubts simmered and eventually boiled over. Something about the "eat local" ethic, heady as it was, began to hit me as not only pragmatically unachievable but simplistically smug. I started to ask questions that got me funny looks down on the chicken farm. Was this all it took to make for an environmentally virtuous diet? A biweekly bike ride to Boggy Creek—a wonderful farm near my home—to buy a box of strawberries? A pound of grass-fed beef handed over the counter by Russ, my butcher at Whole Foods? A quick jerk of the knife across a chicken's carotid artery?

The problems of global warming and environmental degradation were so widespread and complex—so global—that it felt mildly disingenuous to believe that my little noble acts of locavore heroism were anything more than symbolic gestures. Really, wasn't this just checkbook environmentalism (however well intentioned), with me doing little more than salving my conscience by buying overpriced tomatoes and cooking with parsnips when the weather got chilly? The premise of it all began to feel thin.

It's hard to identify exactly when my skepticism became committed doubt, but several random observations nudged me down the path of crankiness. Maybe it was watching one too many times the pretentious woman with the hemp shopping bag declaring "This bag is not plastic!" make her way to market in an SUV the size of my house. Or maybe it was the baffling association between

buying local food and dressing as if it were Haight-Ashbury circa 1968 that got me thinking that my sacred farmers' market was a stage set more for posturing than for environmental activism. Maybe it was reading yet another predictable introduction to yet another glossy coffee-table cookbook written by some hotshot chef telling me that I was part of the problem when I purchased food at—gasp—*a supermarket*. Granted, minor disturbances all, but they pushed me to take a closer look at the emperor's clothes.

Self-righteousness might have gotten under my skin, but there were also these sobering numbers I kept reading about. When Christopher Columbus landed in Hispaniola, the world's population stood at 450 million. By the late nineteenth century it had grown to 1.5 billion. Today there are almost 7 billion souls on the face of the earth, and frightening as it is to contemplate, by 2050 there will be 9.5 billion. In the past fifty years the world's population has doubled. We all need food. Not only that, but the populations of India and China—the bulk of the world—are on the verge of being able to eat a modern diet regularly consisting of meat, vegetables, and grain. This is an irrepressible component of globalization—one with potentially severe environmental consequences—that we can no longer afford to ignore.

Nowhere in the locavore canon has there been a serious discussion about this looming demographic catastrophe. You can reliably hear advocates insist that “organic can feed the world,” but there is no blueprint for that transition. The conservation biologists Paul and Anne Ehrlich sum up the current relationship between exploding population and shrinking resources in these terms: “The projected 2.5 billion further increase in the human population will almost certainly have a much greater environmental impact than the last 2.5 billion added since 1975. Our species has already plucked the low-hanging resource fruit and converted the richest land to human uses.” This fact is, in essence, the elephant in the locavores' room. The world's productive land has already been turned over to exploitation. The low-hanging fruit is gone. Going local, in light of it all, is akin to making sure that everything is fine in our own neighborhood and then turning ourselves into a gated community. [5](#)

It's little wonder that the manifestos of local production and consumption almost never confront these hard numbers. After all, the figures, so unyielding and alarming, plead with us in their urgency to think beyond an exclusively local perspective. At the least, the diet we strive for must take us beyond the local food activist Vandana Shiva's mantra that “all rules... should promote local production by local farmers, using local resources for local production.” But is it

viable to feed 9 or 10 billion people through local modes of agricultural production, without long-distance trade? And what if, by some crazy miracle, it were? [6](#)

What would happen to local traffic patterns if every consumer in Austin made daily trips in their SUVs to visit small local farms to buy locally produced food? What would happen to the nation's water supply if the entire American Southwest insisted upon preindustrial, locally produced food? What would happen, for that matter, in New Delhi, New York, Casablanca, Mexico City, or Beijing? And how the hell would I get my daily fixes of wine and coffee? The problem and the solution—local, slow, nonindustrial food—eventually struck me as fundamentally incompatible with these logistical (and sensual) concerns. I realize that most locavores are much more flexible when it comes to obeying their founding premise. But still, it is by taking the ideology to its logical extreme that we make its inherent weaknesses most visible.

When I asked myself the demographic questions, no matter how imaginative my answers, no matter how doggedly I pursued alternative options, I kept slamming into realities—the reality of 10 billion people scattered across the globe, of declining soil quality, of limited arable land, of shrinking fresh water supplies, of the Ehrlichs' "already plucked... low-hanging resource fruit." Considering these inescapable global facts, I remained steadfastly unable to envision anything but a food dystopia arising from the universalization of the movement that I had once embraced with religious passion. It might have worked in 1492, but not today. Not on the eve of 10 billion. We need bigger systems.

This is not to dash the hopes of the locavore. It's only to point to what's heretofore been hidden in plain sight: there are very real limits to the locavore vision, limits that cannot realistically be overcome. When I left the locavore bandwagon, I did not completely leave behind its ethic. I simply want to place it in a new perspective, one that acknowledges that there's a world of consumers out there whose concerns about food have little to do with anything that Chez Panisse, Berkeley, or the slow-food movement happens to be celebrating.

Rest assured, I'll control my antielitism. I say this in part because I am pretty much a member of the food elite. For those of us fortunate enough to spend our leisure time fretting over heirloom tomatoes, the world is not just our oyster, it's our Malbec, our Blue Point, and our cave-aged Manchego. And good for us. If you have the leisure time to ponder the subtleties of taste, and if you can afford to travel the world and eat a diet that hews to the earthy wonders of *terroir*, well



then, be glad and rejoice. But let's be honest with ourselves: it's a narrow perspective. Most of the world wants food, just food, and if we don't figure out how to produce that food in a sensible and sustainable manner, one that honors future generations, our localized boutique obsessions are going to appear comically misguided (if not downright tragic) to future historians.

And so my journey as a locavore fizzled out on the shoals of common sense and healthy skepticism. Radical locavores continue to brook little deviation from the sacred commandment that local food is virtuous while imported food is irresponsible. But nowadays, the more I talk with advocates of localism, the more I sense their own doubts and frustrations with the idealistic agrarian worldview. Even those located firmly within the locavore movement feel alienated by its expectations. How could they not? The demand that we eat exclusively locally produced, preferably organic food poses an unrealistic hurdle for even the most dedicated, activist-minded foodies. Dreams can be grand, but at some point we must admit their limitations and seek their spirit in more realistic endeavors.

What follows is a mass of information delivered with doses of humor, humility, objectivity, and even a little anger, but it's ultimately the story of how I came to terms with the locavore's dilemma. Readers hoping for a journalistic travelogue of eating adventures had best close the book now. Despite my opinion that food miles are the least of our concerns, I did not circumnavigate the globe to investigate the topics that I'm writing about directly. Instead, I settled in behind my desk in Austin, Texas, made the requisite phone calls, sent the critical e-mails, read the relevant reports, learned the scientific lexicons, did the hard research, and threw down my cards when I thought my hand was good. Thus, what follows is my own answer to what I once took to be my own problem. I'd like to think it's a valid, if imperfect, answer based on a rational vision of the future rather than a romantic obsession with the past. I'd also like to think it has relevance for anyone who cares about the environment and the precarious future of food.

THE FIRST PART of an ancient Byzantine proverb reminds us, "He who has food has many problems." And these problems, I would add, are problems for a reason—they're difficult to solve. What follows is thus not a rigid prescription for sustainable eating. Instead, it's a broader framework for developing an environmentally sensible diet. The most general premises I work from are these:

first, sustainability means meeting our present-day needs without denying future generations the right to do the same, and second, the key benchmarks of measuring sustainability involve soil quality, water usage, biodiversity, global warming, chemical emissions, and the conservation of natural space.

I do not provide a top-ten list on how to eat a green diet. I'm no fan of books that reduce everything to a few pat answers for achieving a goal as elusive and complicated as environmentally sustainable food production. And so, rather than insult readers with simplistically prescriptive answers, I instead offer a vision of sustainability that assumes that, as socially conscious consumers, we're prepared to take on more complexity in the quest to achieve an environmentally responsible diet.

As nice as it would be to sum up the essence of what follows in a bumper sticker ("Eat Local!"), I pursue a more varied "portfolio solution." Like any portfolio, there will always be room for improvement, some aspects that perform better than others, maybe even a few superior performers and a couple of duds. But ultimately, as immodest as the goal might be, I hope to provide a new baseline from which environmentally conscious consumers can begin as they refine the endlessly complex act we're too often told should be simple: eating responsibly.