

*The*  
**Omnivore's  
Dilemma**

A NATURAL HISTORY OF FOUR MEALS

"Thoughtful, engrossing... you're not likely to get a better explanation of exactly where food comes from." —*The New York Times Book Review*

**MICHAEL POLLAN**

*Author of*  
THE BOTANY OF DESIRE



**A TEACHER'S GUIDE**  
*to*

**The Omnivore's Dilemma:  
A Natural History of Four Meals**

**BY MICHAEL POLLAN**

PENGUIN GROUP (USA)



## I. INTRODUCTION

Pollan begins his book with a seemingly simple question — What should we have for dinner? — that he believes modern Americans have lost the ability to answer. Confused and anxious about what we should be eating, we rely on outside, “expert” advice, from food scientists, nutritionists, and investigative journalists, to decide what to put on the table each night. Pollan wants to know how we lost our way.

For him, America reached a new level of absurdity in 2002, when the Atkins diet saw a resurgence and, almost overnight, carbohydrates became dietary villains (replacing fat as our nutritional enemy number one). Pollan hypothesizes that any culture that could change its eating habits on a dime must have some sort of eating disorder because such a thing “never would have happened in a culture in possession of deeply rooted traditions surrounding food and eating.” (2) After all, why do Americans — unlike people in most other

countries in the world — rely on the government to come up with dietary goals to tell them what to eat? Why do we choose our meals on the “food pyramid” — which itself changes every few years and is often dependent more on politics than on science? Why do we pay more attention to the percentages of vitamins in our breakfast than we do to its taste, or substitute “nutrition bars” for meals? Pollan points out that Americans seem mystified by the “French paradox” — that is, the question of how a culture that consumes so much cheese, wine and croissants can possibly be healthier than we are. But he says that perhaps instead we should be examining the “American paradox”: “a notably unhealthy people obsessed by

the idea of living healthily.” (3)

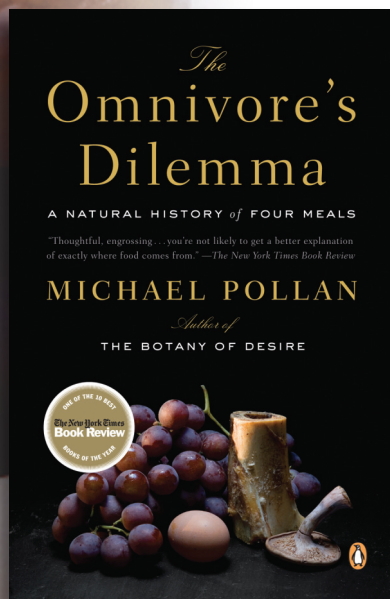
Pollan thinks that Americans are struggling with what he refers to as the “omnivore’s dilemma” — if you can eat anything (and, in the case of Americans, have an incredible abundance of available food), then what should you eat? Sure, nature gave us some basic guidelines: Toxic foods often taste bitter. Where there’s sugar, there are calories. And most cultures have traditions that surround food — like recipes, taboos and rituals — that help guide them toward what they’re sup-


posed to eat. But in America, Pollan says, we’ve lost this connection with the past. A nation of immigrants, we’ve never had a “single, strong culinary tradition” that tells us what to eat. (5) Worse, this cultural void has been filled with a cacophony of competing voices — food companies, politicians, nutritionists — telling us what we should eat, often with their profit (rather than our health) in mind. The result, says Pollan, is that the omnivore’s dilemma has come back with an “almost atavistic vengeance.” (4) We wander bewildered in the supermarket because we don’t know what to eat. And worse, we don’t know how to figure it out.

In order to determine how we got to this point, Pollan decided to go back to the beginning. Working on the premise that “humans take part in a food chain, and our place in that food chain, or web, determines to a considerable extent who we are,” (6) he decided to investigate three different modern food chains: the industrial, the organic, and the hunter-gatherer. He structured his investigation into four meals: a fast food meal eaten in the car, an organic meal from Whole Foods, an organic meal from a family run farm, and, lastly, a meal for which he gathered, grew or hunted all the ingredients himself.

By tracing each of these meals from its beginnings to his table (or, in the case of the industrial meal, his car), Pollan brings up several main themes. First is that many of the nutritional and health problems facing America today can be traced back to the farms that grow our food (and the government policies that dictate what happens on those farms). Pollan believes that America’s approach to food is driven by a desire to “oversimplify nature’s complexities, at both the growing and the eating ends of our food chain.” (9) In other words, we nearly always prioritize abundance — we want to produce as much food as possible at as cheap a price as we can — whereas nature prioritizes qualities like diversity, symbiosis and equilibrium. Pollan thinks that by creating and embracing the industrial food chain, which replaces solar energy with fossil fuel, raises animals in close confinement, feeds animals food they didn’t evolve to eat, and then produces new and bizarre foods that our grandparents wouldn’t have recognized as being edible, “we are taking risks with our health and the health of the natural world that are unprecedented.” (10)

Pollan’s second theme is that the act of eating is





the most direct connection we have with the natural world — after all, we are taking things created by nature and actually ingesting them. Eating, says Pollan, “puts us in touch with all that we share with the other animals, and all that sets us apart. It defines us.” (10) So it’s upsetting, then, that the industrial processing of food — the system that takes corn and turns it into Twinkies — has broken our connection between where our food comes from and what we actually eat. But Pollan also believes much of the food industry’s obfuscation of this chain is deliberate, since if we actually understood where and how much of our food is produced, we wouldn’t want to eat it.

To Pollan, eating is more than just putting food into our mouths. It is an agricultural act, an ecological act and a political act. Fully understanding where our food comes from makes us care about the conditions from which it came, which in turn can motivate us to change the way we eat. And most of all, says Pollan, understanding where your food comes from can help you enjoy it more. “This is a book about the pleasures of eating,” he writes, “the kinds of pleasure that are only deepened by knowing.” (11)

## QUESTIONS:

---

1. What does Pollan mean when he says that the question What should we have for dinner? (1) has gotten complicated? What are some reasons that it has become so confusing?
2. What does Pollan mean by the term “national eating disorder”? (2) Do you agree that America has one?
3. Why does Pollan think that America’s sudden “carbophobia” might mean that we have a national eating disorder? (1–2) What about America makes us more likely to be vulnerable to such a disorder?
4. Describe what Pollan means by the “American paradox.” (3) What’s the difference between it and the so-called “French paradox”?
5. What does it mean to be an omnivore?
6. What is the “omnivore’s dilemma”? (3) Why is it harder for humans to figure out what to eat than it is for, say, a koala?
7. What connection does Pollan think there might be between America’s eating disorder and the omnivore’s dilemma? What do our supermarkets have to do with it? (4)
8. What is the point of Pollan’s list of questions on page 5 (starting with “The organic apple or the conventional?”)?
9. Pollan quotes William Ralph Inge as saying that “The whole of nature is a conjugation of the verb to eat, in the active and passive.” (6) What does Inge mean?
10. What is a “food chain”?
11. What are some of the skills humans have learned or biological adaptations we’ve made as a result of our being omnivores? (6) What does Pollan mean when he says that humans have learned to “substantially modify the food chains we depend on” — and what are some examples of these modifications?
12. Pollan claims that “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” — and then says that “the implications of this last revolution, for our health and the health of the natural world, we are still struggling to grasp.” (7) What does he mean by this? What are some good and bad implications of the food industry’s ability to “reinvent the human food chain”?
13. What three food chains does Pollan decide to investigate in his book? Describe what he means by each of his three terms (industrial, pastoral and hunter-gatherer/neo-Paleolithic). (7)
14. What effect does Pollan think that the industrial revolution has had on the food chain? Does he think these effects are good or bad? What does he mean when he says that it’s “changed the fundamental rules of the game”? (7)
15. Why would Pollan say that the abundance of food in modern America actually makes the omnivore’s dilemma worse? (7)

16. What were some challenges Pollan faced when trying to put together his “perfect meal”? (9)
17. What does he mean when he says that “for once, [he] was able to pay the full karmic price of the meal”? (9)
18. What does Pollan mean when he says that “there exists a fundamental tension between the logic of nature and the logic of human industry, at least as it is presently organized”? (9)
19. How do you think we might be taking risks with our health and the health of the human world by being part of the industrial food chain? (10)
20. What does Pollan mean when he says that humans, plants and animals have “coevolved to the point where their fates are deeply entwined”? (10)
21. Why is it bad to lose a sense of connection to — and knowledge of — where your food comes from? (11) How do you think we might change what we eat if we better understood where our food came from?
22. What did Wendell Berry mean when he said that “Eating is an agricultural act”? (11) What do you think Pollan means when he says that it’s ecological and political, too?
23. Who is the audience of this book? Who isn’t? (11)

## CHAPTER 1: THE PLANT (CORN’S CONQUEST)

Pollan begins his journey down the industrial food chain in a seemingly mundane spot: a modern supermarket. He points out that from the point of a view of a naturalist, our grocery stores are astounding: where else could you ever find such a diversity of foods in such a small area? Since naturalists consider biodiversity to be a measure of a landscape’s health, presumably the variety of our foods should represent an “ecological vigor.”

However, for as impressive as the supermarket might be, there’s still something amiss — it’s very difficult to figure out what our food is made of and where it came from. Even the meat and produce sections — ostensibly the most straightforward areas of the modern supermarket — are not as transparent as you might think. Unless your supermarket specifically labels the origins of its meat, do you really know where your fish or steak, or for that matter, even your apple came from? And things get more confusing as soon as you enter the world of processed foods. There the connection between the food supply and the finished product is often impossible to ascertain, unless you’re well educated in translating ingredient labels.

Pollan discovered this when he started trying to answer the question of what to eat. It could no longer be addressed, he realized, without also answering two other questions: “What am I eating?” and “Where did it come from?” The fact that these two questions were so hard to answer suggested to him a definition of what industrial food


really means: “any food whose provenance is so complex or obscure that it requires expert help to ascertain.” (17) Playing the role of an ecological detective, Pollan decided to try to follow the industrial food chain to see if any of these seemingly discrete foods — coffee creamer, Twinkies, ketchup — actually had anything in common. To his surprise, they did: corn.

It turns out that corn (or some derivative of corn) exists, in one form or another, in nearly everything we eat. It’s shocking enough to realize that our salmon and cows — which have not evolved with a taste for maize — are being fed corn. (Corn, therefore, exists in our milk, cheese and yogurt, hamburgers and the eggs from corn-fed hens.) But with processed foods, things get even more complicated. Food scientists have figured out a way to transform corn into a virtual cornucopia, as it were, of additives. As such, corn pops up in everything from soda, beer and Cheez Whiz to canned fruit, gravy and hot sauce. It’s also in non-edible products like toothpaste and disposable diapers and the glossy cover of your magazine. Pollan points out that even the supermarket itself — its wallboard and fiberglass and adhesives, among other things — are all partially made from corn.

If so many of the products that we buy — and the structures that we live and shop in — come from corn, then what about us?

After water, carbon is the most common element in our bodies, and Pollan explains that the carbon atoms in our bodies actually came from the air. Plants grab these carbon atoms out of the





air during photosynthesis and then we eat the plants (or animals eat the plants and we eat the animals) — and thus gather the building blocks for our own flesh.

So what does this have to do with corn? Pollan says that when plants snatch carbon atoms out of the air, they normally do so in groups of three. The results are compounds referred to as “C-3” — that is, they each contain three carbon atoms. But corn, along with a couple of other very efficient plants, can gather its carbon atoms in bundles of four. Thus corn is referred to as a “C-4” plant. This is more efficient because every time a plant wants to grab molecules out of the air, it needs to open its stoma — the tiny orifices in its leaves — and in doing so, loses a little bit of water. (Pollan compares this to what it would be like if every time we ate something, we lost a bit of blood.) So the more carbon a plant can grab in each gulp, the better.

It turns out that plants gather two types of carbon — carbon 12 and the slightly heavier carbon 13 (the numbers refer to how many carbon atoms each molecule contains). C-3 plants prefer carbon 12, whereas C-4 plants aren't as picky and tend to take in more carbon 13. That means that the more carbon 13 you've got in your body, the more corn there's been in your diet (or in the diet of animals that you ate).

According to Pollan, most Americans would probably identify themselves as “wheat people” (if we chose to identify ourselves with a grain to begin with) and leave the corn to Mexicans, since approximately 40 percent of the calories in most Mexicans' diets come directly from corn (19). But if you analyze Americans' bodies, you'd find that we contain even more corn than Mexicans. As Berkeley biologist Todd Dawson told Pollan, “We North Americans look like corn chips with legs.”

Pollan provides a brief history of how corn came to America — or, rather, how it was embraced by the European settlers who came here. In his previous book, *The Botany of Desire*, Pollan used a “plant's eye view of the world” to explore how plants and animals could be thought to have manipulated and domesticated us, rather than the other way around. Using the same hypothesis, he claims that corn has succeeded in “domesticating us” — and that “agriculture,” which we usually claim to have invented, could also be regarded as a “brilliant (if unconscious) evolutionary strategy on the part of the plants and

animals involved to get us to advance their interests.” (23)

But corn benefited humans as well. Pollan points out that corn not only allowed white settlers to survive in the New World (once Squanto had taught them to plant it) — but enabled them to displace many of the native plants and animals and, eventually, the Native Americans themselves. After all, it provided growers with a ready-to-eat vegetable, a storable grain, a fiber source and animal feed, heating fuel and an intoxicant. Corn also is “the perfect commodity,” since its kernels can be dried, easily transported, and sold. Pollan even believes that corn has helped “many of the peasant communities that embraced it make the leap from a subsistence to a market economy.” It is, Pollan claims, “the protocapitalist plant.”

Unfortunately for modern corn, though, it requires human intervention to succeed, since its seeds, buried under thick husks and silk, can't get out without help. Pollan describes in detail how corn sex occurs, from the pollen produced by the male plants (20,000 for each potential kernel) to the sticky strands of silk that lead to the corn's ovaries (each of which has the potential to become a kernel). He then points out that the mechanics of this fertilization lend themselves well to human intervention — after all, it's not too difficult to interrupt the pollen before it reaches the silk. As a result, it has been relatively easy for humans to breed corn to our liking — or, to put it another way, for corn to quickly adapt to new climates. What's more, corn's reproductive process has made it relatively easy for us to breed corn to have certain physical characteristics that make it easy for us to use in industrial food — like uniform and stiff-stalked plants that are easy to process by machine. The fact that the first generation of corn's offspring is identical to its parents but the second is not (and is far less productive than the first generation) also created a financial incentive for humans to engineer corn: the fact that the offspring's seeds were basically worthless meant that corn had provided what Pollan refers to as “the biological equivalent of a patent.” As a result, corn was “showered with attention” — R&D, promotion and advertising — and the plant became even more productive. That's how, as Pollan puts it, “zea mays entered the industrial age and, in time, it brought the whole American food chain with it.”

## QUESTIONS

---

1. What does Pollan mean when he says that the produce section and the meat counter are the most “legible landscapes” in modern grocery stores? (15)
2. What are some examples of “supermarket euphemism”? (16) How would you define the term?
3. Why would a naturalist be astounded by a supermarket? (16)
4. What does Pollan see as the difference, roughly speaking, between the foods in the produce and meat departments and the food in the rest of the supermarket?
5. Pollan says that when he started contemplating the question “What should I eat?”, he realized there were two other questions he should be asking. What are they? Why are they particularly important now, as opposed to in the past? And why does Pollan say that they help suggest a working definition of industrial food? (17)
6. Speaking of industrial food, here’s Pollan’s working definition: “Any food whose provenance is so complex or obscure that it requires expert help to ascertain.” How would you explain this in your own words? (17)
7. Pollan says that when he started trying to follow the industrial food chain, he inevitably seemed to end up in almost exactly the same place. Where did he end up? Why? (18)
8. What connection does a piece of salmon or beef have with a cornfield? How about a Twinkie? Or a trash bag? (18–19)
9. Take a trip to your local supermarket. Pick up five different items — say, a cereal, a baked good, a box of frozen food, a beverage and a condiment. Using Pollan’s cheat sheet of ingredients made from corn (18–19, starting with modified starch), see how many of your products have ingredients that come from corn.
10. In Pollan’s long list of corn-based products, what did you find the most surprising?
11. Can you think of any possible problems with deriving so many products and ingredients from one crop?
12. Why do some descendants of the Mayans refer to themselves as the “corn people”? (19)
13. Pollan claims that for him as an American to “not think of himself as a corn person suggests either a failure of imagination or a triumph of capitalism. Or perhaps a little bit of both.” (20) What does he mean? Do you agree with him?
14. How can scientists figure out how much corn you eat?
15. What makes corn more efficient than other plants at gathering nutrients out of the air and soil? (20–21)
16. What does the term “C-4” mean? (21)
17. What is the difference, in terms of how it gathers carbon from the air, between corn and most other plants?
18. Why does the “C-4 trick” give corn an advantage over other plants?
19. Pollan compares a plant opening its stoma to admit carbon dioxide to humans losing blood every time they open their mouths to eat. What does he mean by this comparison? (21)
20. What’s the difference between carbon 12 and carbon 13 — and how do these different carbon types help scientists determine how much corn there is in your diet? (22)
21. What does Pollan mean when he says that these days it is now “we in the North who are the true people of corn”? Why would Todd Dawson compare Americans to “corn chips with legs”? (23)
22. Why does Pollan refer to corn’s prevalence as one of the plant world’s greatest success stories? (23) What does he mean when he says that corn has succeeded in domesticating us?
23. By teaching white settlers how to plant corn, how did Squanto inadvertently give them the means to “dispossess the Indian”? (26)
24. Pollan spends several pages describing how corn managed to manipulate humans into planting it. How is this different from how we usually view our relationships with animals and crops? Can you think of any other examples of species (plant or animal) for which the same argument could be made? (25)
25. What does Pollan mean when he claims that “corn is the protocapitalist plant”? (25)

26. Why does corn require human intervention in order to reproduce? (26–27) How is this arrangement beneficial to corn? How does it benefit humans?
27. Describe corn sex. Why does this system make it particularly easy for humans to intervene and breed new varieties of corn? (28) Why has this been an “excellent evolutionary strategy”? (29)
28. What does Pollan mean when he says that corn turned itself into “something never before seen in the plant world: a form of intellectual property”? (30)
29. What is an F-1 generation? From a capitalist perspective, what is the appeal of having a plant whose second generation’s offspring is less productive than its first? (31)
30. What does Pollan mean when he says that “hybrid corn now offered its breeders what no other plant at that time could: the biological equivalent of a patent”? How did that allow corn to enter the industrial age and “[bring] the whole American food chain with it”? (31)

## CHAPTER 2: THE FARM

Continuing his journey to discover how so much corn ends up in our supermarkets (and our bodies), Pollan visits the farm of George Naylor, a corn farmer in Iowa. Pollan claims that the story of the Naylor farm, which started in 1919 when George’s grandfather bought the land, “closely tracks the twentieth-century story of American agriculture, its achievements as well as its disasters.” The Naylor farm started off growing and keeping a variety of crops and animals — not just corn, but vegetables to feed the family and grains to feed the livestock. Back in those days, when one in four Americans lived on a farm, Naylor’s grandfather produced enough food to feed his family, with enough surplus to support twelve other Americans. Now, however, George Naylor only grows corn and soybeans (and these days fewer than 2 million Americans farm) — and yet produces so much of these two commodities that, mathematically at least, he’s feeding about 129 Americans.

So what’s the problem? Pollan explains that Naylor is basically going broke, surviving only on his wife’s paycheck and a subsidy payment from the government. What’s more, the crops he grows can’t actually be eaten — the corn and soybeans have to be processed or fed to livestock before they can feed anyone. And yet somehow, claims Pollan, this cornfield in Iowa (and others like it) is where most of our food comes from.


As Pollan takes the wheel of Naylor’s tractor and helps him plant his corn, he begins to think of the cornfield as being like a city. Modern hybrids have increased farmers’ yields not because they produce more kernels per cob or more cobs per

plant, but rather because they can be planted much closer together than old-fashioned non-hybrids — and the result is fields upon fields of tightly packed plants, the corn equivalent, Pollan says, of Manhattan. This is possible partially because of selective breeding — the hybrids have been bred for strong root systems and thick stalks — but also, the hybrid corn stalks are all first-generation plants, which means that they are all genetically identical. Therefore, no one plant has a competitive advantage over the other plants. “The true socialist utopia,” Pollan writes, “turns out to be a field of F-1 hybrid plants.”

Pollan also points out an economic paradox: as corn began to take over more and more farmland, its abundance made its price drop. But, counter-intuitively, this didn’t make farmers plant less of it. Rather, they grew ever more corn to try to make up the difference. The result, says Pollan, is that by the 1980s, “the diversified family farm was history in Iowa, and corn was king.” (39)

Of course, it would have been impossible for corn to take over America’s farmland without proper nourishment — which in this case means adequate nitrogen in the soil. As Pollan points out, all life relies on nitrogen — but while there is plenty of it in the air, relatively little has been “fixed” (that is, taken out of the air and attached to molecules that can be used by plants and animals). That’s why farmers traditionally rotate their crops — legumes like soybeans have bacteria on their roots that fix nitrogen, so if you alternate a nitrogen-depleting crop like corn with a nitrogen-producing plant like soybeans, you can keep your soil relatively fertile. However, this process takes time and patience, and produces





a limited amount of nitrogen. Luckily for the industrial food supply, though, in 1909 a German chemist named Fritz Haber figured out how to fix nitrogen by using fossil fuel as a catalyst. By instigating a reaction much quicker and more efficient than what could be done by the sun, Haber opened the door for synthetic fertilizers — and won the 1920 Nobel Prize for his work. These fertilizers began to catch on in the United States after World War II, when a huge munitions plant in Alabama switched over to making chemical fertilizer.

Today, most American farms rely heavily on synthetic fertilizer and, thus, fossil fuels. The system is far more efficient (from a production point of view), but Pollan believes it caused a negative consequence as well: “What had been a local, sun-driven cycle of fertility in which the legumes fed the corn which fed the livestock which in turn (with their manure) fed the corn, was now broken.” (45)

America’s economic policy also has helped spur the overproduction of corn. Pollan explains that at the time of his writing, a bushel of corn costs about a dollar more to produce than it does to buy — but that farmers still keep planting it, driven in part by government policy. Pollan explains that in order to keep crop prices relatively steady (after all, America would need its farmers during lean times, so it made sense to not let the price drop too much during good times, lest farmers be driven out of business), America’s New Deal farm programs involved a fair amount of government intervention. The government set a target price for corn, and if the price dropped below the target, the government gave farmers an alternative to putting their corn on the weak market (which might weaken the market further): farmers could take out loans from the government and use their corn as collateral. If

the price of corn rose, the farmers could sell the corn and pay back their loans. If it stayed low or fell, the farmers could let the government keep their corn, and pocket the money from the loan. The system, interventionist though it might have been, kept the price of corn relatively steady despite the explosion of its production — and since the government was able to sell its own corn when prices were high (and most loans were repaid), the system helped pay for itself.


However, this system has since been eroded by proponents of laissez-faire economics, food processors and grain exporters — and, most notably, Earl Butz, Richard Nixon’s second secretary of agriculture. When food prices began soaring in the 1970s, Nixon pressed Butz to do all he could to lower food prices and increase farmers’ output. Butz therefore began dismantling the New Deal system of price supports and changed the government’s system from one where the government gave farmers loans to one where the government paid the farmers directly for the corn they produced. This was more momentous than it sounds: it essentially meant that there was no floor beneath the price of corn, while at the same time guaranteed farmers that the government would make up the difference between the target price for corn and the price earned on the open market — which resulted in a surplus of corn for sale. Unfortunately for the farmers, though, the government consistently lowered its target price for corn, resulting in less money for the farmers, and — paradoxically — incentive to grow even more corn to make up the difference. After all, corn is the most efficient thing, energy-wise, that you can grow. “What am I going to grow here?” Naylor sarcastically asks Pollan when he asks why Naylor continues to plant corn. “Broccoli?”

## QUESTIONS

---

1. Why does Pollan say that the story of the Naylor farm “closely tracks the twentieth-century story of American agriculture, its achievements as well as its disasters”? (34)
2. What does Pollan mean when he says that Naylor’s farm is “basically a food desert”? Why does he use the expression “water, water everywhere and not a drop to drink” in reference to the Naylor farm? (34)
3. Think about what you ate for lunch today. How far back can you trace where your food came from? Can you get any further than “the supermarket” in identifying its origins? Do you think this is problematic? Why or why not?
4. What does Pollan mean when he says that “the true socialist utopia turns out to be a field of F-1 hybrid plants”? (37)



- 
5. How could Iowa be considered to be “more thoroughly developed than many cities”? (38)
  6. What are some potential benefits of growing a diversity of crops (and keeping a variety of animals) on a farm? (38)
  7. How has corn “pushed animals and their feed crops off the land”? (40)
  8. Why do some farmers in Iowa refer to corn as a “welfare queen”? (41)
  9. Why does Pollan consider one specific day in 1947 to be a “key turning point in the industrialization of our food”? (41)
  10. Pollan quotes the Indian farmer activist Vandana Shiva as saying that “We’re still eating the leftovers of World War II.” (41) Explain what she means by this.
  11. What does it mean to “fix” hydrogen? Why would Fritz Haber’s method for doing so be considered “the most important invention of the twentieth century”? (43)
  12. What does Pollan mean when he writes that “Haber’s story embodies the paradoxes of science: the double edge to our manipulations of nature, the good and evil that can flow not only from the same man but the same knowledge”? (44)
  13. How would you explain what Pollan refers to as a “local, sun-driven cycle of fertility”? (44)
  14. How does synthetic fertilizer open the way to monoculture? (45)
  15. Why does Pollan say that “from the standpoint of industrial efficiency, it’s too bad we can’t simply drink the petroleum directly”? (46)
  16. What’s the connection between our use of synthetic fertilizers and the “dead zone” in the Gulf of Mexico? (47)
  17. What effect could the use of synthetic fertilizers have on global warming?
  18. What does Pollan mean when he says that “during the Nixon administration, the government began supporting corn at the expense of farmers”? (48)
  19. What does Pollan mean when he claims the corn is the recipient of both biological and economic subsidies? (48)
  20. Why does Pollan claim that “when it comes to food, nature can make a mockery of the classical economics of supply and demand”? (49)
  21. Describe the basic idea behind how the New Deal farm programs worked. (49)
  22. Who were some of the opponents of this system? Why did they oppose it? (50)
  23. Who is Earl Butz? Why is he considered to have done “more than any other single individual to orchestrate George Naylor’s plague of cheap corn”? (51)
  24. How did America’s farm policy change in the 1970s? What effect did this have on how much corn America’s farmers produced — and why? (52)
  25. What is the “Naylor curve”? How does it explain farmers’ overproduction of corn? (53)
  26. Why does Naylor say that “the free market has never worked in agriculture and never will”? Do you agree or disagree with his assertion? Why? (54)
  27. Why does Pollan claim that through its policy “what the Treasury is really subsidizing are the buyers of all that cheap corn”? (55) What role do we consumers play in the continuation of America’s farm policy?
  28. Why does Pollan quote Thoreau’s line: “Men have become the tools of their own tools”? (55–56) What connection does this quote have with modern American farms?
  29. What do you think it would take to switch America’s agricultural economy away from corn? Do you think this is likely to happen? Why or why not?

## CHAPTER 3: THE ELEVATOR

After leaving Naylor’s farm, Pollan visits the grain elevator where George Naylor drops off his yearly crop of corn. At first Pollan is disturbed by the huge pyramid of corn built up on the ground outside the elevator — there’s so much corn that there’s no more room inside, and it seems sacri-

legious to leave it lying on the ground. But then Pollan realizes that the corn he’s looking at is very different from the corn we think of as food. Rather, this corn is a commodity — fungible and tradable, and for humans at least, inedible.



The idea of corn as a commodity was invented in Chicago in the 1850s. Before that, corn was bought and sold in burlap sacks, and one farmer's corn was distinguishable from the next. However, once corn became a commodity (with “number 2 field corn” as its lowest common denominator), its connection to individual farmers was broken. Instead, farmers now part ways with their corn at the grain elevator, and all of their corn is blended in with everyone else's. It's therefore no longer possible to connect an individual farmer's corn with the food it eventually becomes.

Pollan also continues his discussion of the economics behind America's corn — at the time of publication, nearly half of the average Iowa corn farmer's income was from government subsidies, and these subsidies made up about a quarter of the \$19 billion the United States government — and thus its taxpayers — spent on payments to farmers each year.

And yet even as these subsidies help ensure that farmers won't go out of business despite the low price for corn, they contribute to an arguably bigger problem: What are we supposed to do with all the corn? Pollan argues that “moving that mountain of cheap corn” — by which he means finding

people and animals to consume it, cars to burn it, new products to absorb it and nations to import it — “has become the principal task of the industrial food system, since the supply of corn vastly exceeds the demand.” In other words, now that we've created a system that creates so much corn, we have to figure out what to use it for.

There are two major companies involved in answering this question: Cargill and ADM, which together are estimated to buy about a third of the corn grown in America. But that's not all — Pollan points out that these two companies are now involved in every step of the process. They provide pesticide and fertilizer to farmers, they operate most of America's grain elevators, they broker and ship exports, feed and slaughter the livestock, distill the ethanol and manufacture the high fructose corn syrup — and other derivative products — that we consume. What's more, they have great lobbying power and help write the rules that govern them. In other words, they wield enormous influence over America's food supply, and yet neither company would grant Pollan access to their operations. But Pollan can still figure out where much of the corn ends up: his next stop is a factory farm.

## QUESTIONS

1. What is the difference between “corn-the-food” and “corn-the-commodity”? Why does Pollan think they are “two subtly but crucially different things”? (58)
2. What does it mean for something to be “fungible”?
3. How did the commodification of corn change farmers' attitude toward — and sense of connection with — their crop?
4. What does Pollan consider to be the “principal task of the industrial food system”? (62)
5. How does Pollan think corn can “contribute to obesity and to hunger both”? (63)
6. What do you think some potential consequences might be of the fact that Cargill and ADM “exert considerable influence over U.S. agricultural policies”? (63)
7. Why do you think that Cargill and ADM didn't allow Pollan access? (63)

## CHAPTER FOUR: THE FEEDLOT

Fascinated by the question of how America's corn supply becomes our hamburgers — or, put another way, how “so unlikely a creature — for the cow is an herbivore by nature — help[s] dispose of America's corn surplus” (66) — Pollan decides to buy himself a steer, so that he can follow its life from birth to slaughter. A year or so later, he travels to Poky Feeders, a feedlot in Kansas where his steer is being housed.

He explains that most of America's commodity corn — about 60 percent of it — goes to livestock, and much of that is used to feed America's beef cattle. These feedlots are so different from farms and ranches, says Pollan, that a new term was created: CAFO — Concentrated Animal Feeding Operations. And whereas farms create what Pollan calls “closed ecological loops” — that is, since animals eat farms' plants, and farms' plants use

the animals' wastes as fertilizer, they don't require much additional fertilizer or leave behind much waste — CAFOs create two entirely new problems: a fertility problem and a pollution problem. (Pollan says the first problem is solved by the use of chemical fertilizers; the second is “rarely remedied at all.”)

Pollan is also struck by a second absurdity in the way modern feedlots work: cows are ruminants, which is to say, they've evolved to exist on grass.

But cows in industrial feedlots are fed diets consisting of 75 percent corn. Corn is much more calorie-dense than grass (and requires much less land — cattle can be kept in small areas and be fed corn gathered from elsewhere). And when combined with protein and fat supplements, not to mention heavy doses of medications, this corn can help steers grow from 80 to 1,100 pounds in 14 months. So in one sense, this system is perfectly rational — it lowers the cost of meat and allows beef to become everyday fare. But Pollan can't help wondering if something about this “rational logic might not also be completely mad.” (71)

After all, since cows did not evolve to exist on corn, feeding them such grain-heavy diets can cause health problems like bloat and acidosis. To keep them healthy, modern cows receive high doses of antibiotics — a practice which has the potential to lower these medicines' future effectiveness by promoting the development of resis-


tant superbugs. Another potential health risk lies in the source of the cattle feed's fat: Much of it is simply rendered beef tallow — which means that we are feeding cows to cows. In 1997, driven by concerns over mad cow disease, the FDA forbade feedlots from feeding cow-derived protein (i.e., rendered bovine meat and bonemeal) to cows, but there are no similar restrictions on blood products and fat. What's more, while cows can't eat cow meat, they can eat protein from other livestock, like chickens — and vice versa. Pollan points out that some health experts worry about the consequences of feeding cows food derived from chickens (or pigs or fish) that were raised products made from cows.

When Pollan visits his steer in its pen at the feedlot, he begins to contemplate the absurdity, as he puts it, of the situation around him — and the many costs that aren't taken into account with his steer's \$1.60 daily fee: “the cost to the public health of antibiotic resistance or food poisoning by *E. coli* . . . the farm subsidies that keep Poky's raw materials cheap . . . [and] the many environmental costs incurred by cheap corn” — including the amount of fossil fuel it takes to raise a modern cow. By the time he leaves his steer, Pollan has lost his appetite, and concludes that “eating industrial meat takes an almost heroic act of not knowing or, now, forgetting.” As Pollan explains, the old saying “You are what you eat” is oversimplified: “you are what you eat eats, too.” (84)



## QUESTIONS

1. What did Pollan hope to learn by buying his own steer? (66)
2. What is a CAFO? How did corn contribute to their growth? (67)
3. What does Pollan mean when he says that “corn itself profited from the urbanization of livestock twice”? (67)
4. How have CAFOs enabled Americans to eat more meat? What are some of their more negative consequences? (67)
5. Why does Pollan say that “when animals live on farms the very idea of waste ceases to exist”? (68)
6. What “two new problems” are created by animal feedlots? (68)
7. Why did Pollan decide to follow a cow instead of a chicken or a pig?
8. What is a “cow-calf operation”? (68)
9. Why does Pollan think that his steer might look back on its time at the Blair Ranch as “the good old days”? (69)
10. How do cows convert grass into protein? Why aren't we able to do this? (70)
11. If cows evolved to survive on grass, why are we feeding them corn?
12. How have humans managed to raise steers that can grow from 80 to 1,100 pounds in 14 months? (71)

- 
13. What does Pollan mean when he says that the further you follow the “irresistible” logic of raising cows as efficiently as possible — after all, doing so lowers the price of meat — “the more likely you are to begin wondering if that rational logic might not also be completely mad”? (71)
  14. Why does Pollan compare the feedlot to a premodern city? (72)
  15. What does Pollan mean when he says that “if the modern CAFO is a city built upon commodity corn, it is a city afloat on an invisible sea of petroleum”? (73)
  16. Why might corn-fed beef be less healthy for us than grass-fed? (75)
  17. What are some of the risks of eating flesh from your own species? (76)
  18. What does Pollan mean when he says that we make animals “trade their instincts for antibiotics”? (76)
  19. What does Pollan mean by the term “strange new semi-circular food chain”? (76) What does he see as some of its risks?
  20. What are some of the different ways cattle can get sick from eating corn? (77–78)
  21. Why should we be worried about feeding antibiotics to cattle? (78–79)
  22. Why do neighboring farms refuse to use manure from the feedlots as fertilizer for their crops? (79)
  23. Why does chicken cost less than beef? (81)
  24. How is the health of Pollan’s steer related to our own health? (81)
  25. Why has *E. coli* become such a problem? What is one potential solution? Why aren’t we using it? What do we do instead? (82)
  26. Why does Pollan say that the \$1.60 a day he’s paying for his steer “is a bargain only by the narrowest of calculations”? (82)
  27. How is Pollan’s steer connected to the Persian Gulf? (83)
  28. Pollan claims that “eating industrial meat takes an almost heroic act of not knowing or, now, forgetting.” After reading this chapter, do you agree? (84)
  29. What is Pollan’s reasoning when he says “You are what you eat eats, too.” (84)

## CHAPTER FIVE: THE PROCESSING PLANT


One of the oddest things about the corn we produce, says Pollan, is how little of it we actually eat. The corn we consume as corn — in tortillas, chips, off the cob or in baked goods — only amounts to less than a bushel of corn per person a year. And yet, somehow each of us is individually responsible for consuming a ton of corn a year. How does this happen?

Part of the explanation can be found in the amazing technology used to break down number 2 corn — and the tremendous number of uses we have found (and created) for it. Although Pollan wasn’t allowed to see the inner workings at Cargill or ADM, he did get to visit the Center for Crops Utilization Research at Iowa State University in Ames, Iowa. There he got a guided tour learning how corn is turned from a recognizable (if barely edible) crop into countless derivative products, from corn starch to adhesive and plastics, gels and syrups. At the end of the process, there’s barely any waste — only dirty water, which can be recycled into an ingredient for animal feeds. From a distance, the process seems amazingly

efficient — but it prompts one huge question: what to do with all these corn-derived creations. This, Pollan says, is where we come in. He claims it takes a special kind of eater — an “industrial eater” — to consume all the substances we create from corn. Modern Americans have stepped up to the plate.

Of course, we wouldn’t be able to do so had we also not figured out a way to turn processed corn back into something recognizable as food. Pollan thinks that corn was a major beneficiary of what he considers to be the third age of food processing: improving on nature by not just preserving food, but by creating entirely new foodstuffs like Tang, Cheez-Whiz and Cool Whip. As a result, we omnivores now eat more of a single foodstuff — corn, in all its variations — than we ever would have thought possible.

That isn’t to say, though, that feeding us all this corn is without its challenges. First is the hurdle of figuring out new and inventive ways to get us to eat products that are all based on the same raw ingredients. Pollan considers breakfast to be



the prototypical processed food because of the way four cents' worth of commodity corn can be changed into four dollars' worth of processed food — but the weakness of this alchemy is that it requires fiercely protecting the “brand” of your product, since its ingredients are essentially the same as its competitors'. Hence what Pollan describes as General Mills' laughable secrecy surrounding the successor to Cocoa Puffs. (92)

Secondly, there's a limit to how much food each person can actually eat a year: about fifteen hundred pounds. In order to achieve an annual rate of growth greater than 1 percent (which is the annual growth rate of the American population), companies have to either convince us to eat more of their particular “food systems” — the industry term for processed foods — or charge us more money. Pollan claims that the food industry tries its best to do both.

One of the many benefits, from the food industry's perspective, of creating processed commodities like hydrogenated fat derived from corn and soy, is that you can substitute one for the other without the consumer knowing the difference. This means you can pick ingredients based on which version is cheaper. Also, processed foods tend to have longer shelf lives — another way to increase your profit margins. Pollan points out that while farmers tend to earn about 40 cents

per dollar charged for whole products like eggs, they only make about four cents on corn sweeteners. Processed foods make huge profits for the processors — in this case, companies like Coca Cola, ADM and General Mills.

But the challenge in coming up with novel food products is making sure that they always stay novel. If you don't stay ahead of the game, your product, created from commodified food, can itself become a commodity — witness what happened, for example, to whole wheat flour. In order to make your product special again, you need to enhance it. But again, if you don't watch out, your enhanced product becomes commonplace and you must enhance it again. It's a cycle, says Pollan, that relies on concepts like novelty, convenience, status, fortification, and lately (in the case of products brandishing health claims), even medication. Even organic food, says Pollan, is beginning to succumb to the “economic logic of processing.” And as we move forward into what Pollan terms the “fourth age of food processing,” (97) we're continuing, with increasing frequency, “to break plants and animals into their component parts and then reassemble them into high-value-added food systems” — which we are able to since we have adopted the philosophy that food “is nothing more than the sum of its nutrients.” (98)

## QUESTIONS

---

1. What are the three main parts of a corn kernel? (86)
2. What is “wet milling”? What makes it different from “dry milling”? (86–87)
3. Why does Pollan describe wet milling as an “energy-intensive way to make food”? (88)
4. What is high fructose corn syrup? How long has it been around? (89)
5. Pollan describes the “industrial digestion” of corn as producing barely any waste. (90) And yet he seems to question whether this system is ultimately a good thing. Why?
6. What does Pollan mean by the term “industrial eater”? (90) How have we become that “supremely adapted creature”?
7. What does Pollan mean when he says that “the dream of liberating food from nature is as old as eating”? (90)
8. What are the three stages of food processing as Pollan describes them? (90–91)
9. Why does Italian food historian Massimo Montanari consider fresh, local and seasonal food to have been — for most of human history — “a form of slavery”? (91)
10. Explain what Pollan means when he writes that along with the soybean, “corn has done more than any other species to help the food industry realize the dream of freeing food from nature's limitations and seducing the omnivore into eating more of a single plant than anyone would ever have thought possible”? (91)
11. Why is the cereal industry, as exemplified by General Mills, so secretive about its products? What does it fear? (92)
12. Why does Pollan consider breakfast cereal to be the “prototypical processed food”? (93)

13. What is a “food system,” as described by the food-processing industry? (93)
14. What is Pollan implying when he says that “no one was clamoring for synthetic cheese or a cereal shaped by a bowling pin”? (94)
15. What are food industry executives speaking of when they refer to the problem of the “fixed stomach”? (94)
16. What challenges does the food industry face in trying to achieve a rate of growth greater than 1 percent a year? (94) What strategies does Pollan describe? Why is “turning cheap corn into complex food systems . . . an excellent way to achieve both goals”? (95)
17. Why do ingredient labels often say things like “Contains one or more of the following: corn, soybean or sunflower oil”? (95)
18. What are some incentives to “complicate your product” (Pollan’s term) or “add value” to it (as the food industry likes to phrase things)? (95)
19. Why do farmers like to say that “There’s money to be made in food, unless you’re trying to grow it”? (95)
20. What makes Pollan say that even organic food “has succumbed to the economic logic of processing”? (96)
21. What does Pollan hypothesize the “fourth stage” of food processing will be? (97)

## CHAPTER SIX: THE CONSUMER

No doubt partially thanks to the incredible productivity of corn, American farmers are producing 500 extra calories per person, per day, than they were during the Nixon Administration. It’s an impressive feat, but it leaves food companies with a daunting challenge: how to get Americans to eat more food. As mentioned in the previous chapter, our “fixed stomachs” mean that each person is naturally set to consume about 1,500 pounds of food a year — which is probably good for our health, but bad for food companies’ profits.



Pollan explains some of the ways we’ve been manipulated into eating more food than we should. For example, most people will eat whatever is put in front of them — but often will not go for seconds, even if they want them, out of fear of being seen as gluttonous. Companies like McDonald’s, noticing this tendency, came up with a counterintuitive way to raise their profits: they lowered the price of their products per ounce, but sold them in bigger serving sizes. Bottles of Coke swelled from 8 ounces to today’s 22 — which was cheap for companies (and good for their profits) but quite expensive when it came to Americans’ health.

Pollan points out that a baby born in 2000 has a one third chance of developing Type 2 diabetes in his or her lifetime (for an African American kid, the chances are 2 in 5). Three out of five Americans are considered overweight, and Pollan says that diabetes and other obesity-related health problems might make today’s children the first generation of Americans whose life expectancy is shorter than their parents’.

One of the culprits for our health problems, Pollan says, is high fructose corn syrup. First invented only in 1980, high fructose corn syrup has added a major, cheap sweetener to the American food supply — and, unfortunately, hasn’t replaced sugar. Instead, we’re consuming more of both. HFCS is an example of how processed foods can take advantage of humans’ natural preference for sweet (and, for that matter, fatty) foods — we’re attracted to them, but our bodies are not equipped to deal with the concentration present in most processed foods. (For example, no piece of fruit is going to have as high a concentration of sugar as a soda.) As Pollan puts it, processed foods “[trick] a sensory apparatus that evolved to deal with markedly less dense whole foods.” (107) Eating them in large quantities overwhelms our bodies’ metabolisms — and problems like Type 2 diabetes are the result.

But despite the health risks from eating these processed foods, Americans continue to buy them. This is partially because we think they taste good, but also because they’re such bargains: Pollan refers to a study that found that a dollar spent in a typical American supermarket could buy 1,200 calories’ worth of potato chips, but only 250 calories’ worth of carrots. With processed foods, you get more energy — even if it comes with problems — for your money.

Ultimately, though, Pollan thinks much of the blame for our current health problems lies in our agricultural policies: as he puts it, “we subsidize high-fructose corn syrup in this country, but not carrots.” Until we change our policy, “the river of cheap corn will keep flowing.”

## QUESTIONS

1. Why does Pollan bring up the subject of Americans' overconsumption of corn whiskey in the early 19th century? What parallel is he encouraging us to draw? (100–101)
2. What does Pollan suggest is the underlying cause behind America's obesity epidemic? (102)
3. In the 1820s, what options were available for processing corn? How do they compare to today's options? (103)
4. Pollan says that "Corn sweetener is to the republic of fat what corn whiskey was to the alcoholic republic." Explain what he means. (104)
5. Who is David Wallerstein? What important observation did he make about the way humans eat? (105)
6. Why does Pollan say that "processing foods is . . . a good strategy for getting people to eat more of them"? (107)
7. What is Type 2 diabetes? Why would a diet high in refined starches and sugars potentially cause the disease? (107)
8. What is the advantage to spending a dollar on potato chips versus carrots? (108)
9. Why does Pollan think that "human choices" are to blame in creating such an oversupply of cheap, processed foods? (108)
10. Pollan claims that if we continue our current agricultural policies, "the cheapest calories in the supermarket will continue to be the unhealthiest." How could we change this? If you had to create a farm bill, how would you encourage farmers to change what they grow? (108)

## CHAPTER 7: THE MEAL

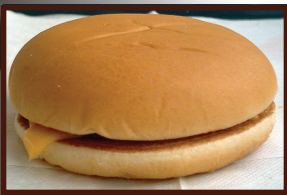
The final stop of Pollan's journey up the corn food chain is an actual meal: He and his family buy lunch at McDonald's and eat it as they drive down the highway. As they digest their chicken nuggets and cheeseburgers, Pollan digests all that he's learned about where this meal has come from — which is, overwhelmingly, from corn.

What you think of our abundance of corn-derived foods depends on your vantage point: for poor Americans, the plentiful, inexpensive food seems positive (that is, of course, until you add in the price of the health consequences). But for the world, our corn monoculture is undoubtedly bad, since we use corn's calories very inefficiently. Rather than eating the corn directly, we feed it to our animals, or process it into other foods, losing up to 90 percent of its energy in the process. What that means, says Pollan, is that "the amount of food energy lost in the making of something like a Chicken McNugget could feed a great many more children than just mine." (118)

Another disturbing philosophical consequence of our embrace of processed foods is that it

breaks our connection to where our foods actually come from — so if you ask an American where his chicken McNugget comes from, he'll likely just respond, "McDonald's," with no conception of the sources and forces that brought his meal to Micky D's. (115)

Among the many ingenious technologies and marketing techniques that it has taken to turn a surplus of commodity corn into a McDonald's meal, Pollan is particularly struck by the way that fast food itself is, as he puts it, "more schematic" than actual food. "The more you concentrate on how it tastes, the less like anything it tastes," he writes. He previously claimed that McDonald's served modern-day "comfort food" — after all, what American brought up since the 80s doesn't have childhood memories involving the distinct smell of a chicken nugget? But, he says, if you think about it, fast food is more like a "signifier of comfort food." And you, the eater, are left "hoping somehow to catch up to the original idea of a cheeseburger as it retreats over the horizon." (119) The result? We eat more and more — and are left not satisfied, but "simply, regrettably, full." (119)



## QUESTIONS

1. What do food marketers mean by the term “denying the denier”? (110)
2. Why does Pollan describe sharing a fast food meal with his family by saying, “Together we would be eating alone together.” And why would this make them likely to eat more? (110)
3. What is the “genius of the chicken nugget”? (110)
4. What point do you think Pollan is trying to make when he says that “well-designed fast food has a fragrance and flavor all its own, a fragrance and flavor only nominally connected to hamburgers or French fries or for that matter to any particular food”? (111)
5. What is TBHQ? (113) Are you concerned by its presence in our food? Why or why not?
6. Why does Pollan say that his “cheeseburger’s relationship to beef seemed nearly as metaphorical as the nugget’s relationship to a chicken”? (114)
7. Pollan asserts that if you asked an American where his chicken nugget came from, he would respond, “From McDonald’s.” Why does Pollan think this is an inadequate answer? What role did the industrial food chain play in prompting us to answer this way? (115)
8. Why does Pollan claim that the industrial eater has become “corn’s koala”? (117)
9. To quote Pollan’s own question, “Why should it matter that we have become a race of corn eaters such as the world has never seen? Is this necessarily a bad thing?” (117)
10. What are some of the negative consequences of producing so much corn? What are some of the positive effects? (118)
11. When Pollan says that, like the Aztecs once did, we “make extraordinary sacrifices” to corn, what is he referring to? (119)
12. What does Pollan mean when he asserts that fast food isn’t really “comfort food,” but rather “a signifier of comfort food”? What effect might that have on how we eat it? (119)

## II. PASTORAL

### CHAPTER 8: ALL FLESH IS GRASS

For his second section of the book, Pollan decides to visit a farm that is virtually the opposite of Naylor’s. This farm, Polyface, is run by an eccentric farmer named Joel Salatin, and is home to a wide variety of crops and livestock: chicken, beef, turkeys, eggs, rabbits, pigs, tomatoes, sweet corn and berries. But if you ask Salatin what kind of farmer he is, he’ll respond, “I’m a grass farmer.”

This is because everything on Salatin’s farm relies on grass: the cows eat it, the chickens eat the cows’ manure, and the chickens’ manure fertilizes the soil, helping more grass to grow. If it weren’t for grass, this closed-loop circuit could not exist. But thanks to Salatin’s careful choreography, his farm is proving that feeding ourselves from nature “need not be a zero-sum proposition, one in which if there is more for us at the end of the season then there must be less for nature.” (127) Instead, if humans go back to this grass-rooted

farming cycle, it might be possible to create the agricultural equivalent of “the proverbially unattainable free lunch.” (127)

And yet, surprisingly, Salatin does not refer to his farm as “organic.” He tells Pollan that the government has co-opted the term, which was originally meant to refer to food produced from a model based on nature, not machines. Now there are organic farms, says Salatin, that are part of the same sort of food chain as George Naylor’s. Instead, he prefers the term “beyond organic.” At first Pollan is skeptical — considering all that’s wrong with America’s non-organic food supply, did it really make sense to go after Whole Foods? But since Salatin seemed convinced that the term “industrial organic” was a contradiction in terms, Pollan decided he had to find out whether Salatin was right. (133)



## QUESTIONS

1. What immediate differences do you see between Naylor's farm and Salatin's?
2. Why does Joel Salatin refer to himself as a "grass farmer"? (125)
3. What techniques does Salatin use to achieve what Pollan calls an "intensive rotational dance on the theme of symbiosis"? (126)
4. What does Pollan mean when he says that Salatin's farm might be a real-life achievement of the "proverbially unattainable free lunch"? (127)
5. Why does Salatin call soil "the earth's stomach"? (127)
6. Why does the Old Testament claim that "All flesh is grass"? (127)
7. What are the two phases of the human-grass alliance, as Pollan describes them? (128–129) How do the two work symbiotically together?
8. Why does Pollan call the term "the invention of agriculture" a "self-congratulatory term"? (129)
9. Why does Pollan claim that compared to Salatin, Naylor participates in an agricultural system that is "infinitely more complex"? (130)
10. Give an example of each of the contrasts Pollan sets out in his list on page 130.
11. What was the original definition of "organic" food? (131)
12. What does Salatin mean when he says that "the way I produce a chicken is an extension of my world view"? (132)
13. Why does Salatin consider "industrial organic" to be a contradiction in terms? (133)

## CHAPTER 9: BIG ORGANIC


Pollan's investigation into the world of Big Organic begins at his local Whole Foods supermarket — a place he claims to enjoy visiting almost as much as he does his local bookstore. After all, the two both have a lot of stories: Whole Foods has one of the largest collections of what Pollan refers to as "grocery lit," part of a genre he dubs "Supermarket Pastoral." (137) But as Pollan reads the labels on his milk — each competing with each other to prove whose cows' existence is the most rustically wholesome — he starts to wonder how much truth there is behind the labels' words. Or, rather, how much of the labels' content refers to reality, and how much is clever wording meant to inspire him to imagine where he wants his food to be coming from. He thinks that part of Supermarket Pastoral's seductive power stems from its ability to gratify some of our "deepest, oldest longings . . . for a connection to the earth." (137) Unfortunately, though, reading a well-worded brochure about where your steak came from is "an imperfect substitute for direct observation of how a food is produced." (137)

Of course, Whole Foods itself faces a huge challenge: how to balance the "pastoral ideals on which the industry has been built" with the inevitable industrialization that is required to produce "organic" food (or any food, for that mat-

ter) on a large scale. (138) Part of the problem, Pollan says, is our own expectations: we want to feel good about where our food comes from, sure (hence the grocery lit) — but we also want it to be inexpensive, and we want to have access to all sorts of food, all the time, regardless of seasonality. It's impossible to achieve all of these things without some sort of compromise.

Pollan refuses to accept the premise that industrial organic is "necessarily a bad thing" (139), but a little investigating does remove some of Supermarket Pastoral's sheen: by tracing some of his purchases back to their sources, he discovers that there are organic feedlots (where the cows are fed organic corn, but otherwise raised just like regular feedlot cattle), organic dairy cows whose lives are not much nicer than their non-organic counterparts, and organic "free-range" chickens whose only access to the outside world is a small door in their overcrowded shed, which is only open for about two weeks of their seven-week lives.

Starting with Berkeley, California's "People's Park," Pollan explains how the organic food movement took root in America. Its early proponents wanted not just chemical-free farms, but co-ops (i.e., anticapitalist alternative distribution systems) and a "counter cuisine" based on whole grains and unprocessed organic ingredi-



ents. They based much of their philosophy toward farming on the work of an English agronomist named Sir Albert Howard, whose book *An Agricultural Testament* Pollan says could be considered the organic movement's bible.

One of the most successful organic farmers to emerge out of this culture was Gene Kahn, founder of Cascadian Farm — the company responsible for a microwaveable organic TV dinner Pollan finds in Whole Foods. Kahn started off running a quasi-communal hippie farm but — thanks to his own evolution and an overexpansion that forced him to sell part of his company to Welch's — eventually embarked on what he calls his “corporate adventure.” “We're part of the food industry now,” he tells Pollan. But Kahn, whom Pollan describes as a realist and a businessman with a payroll to meet, doesn't lament the change. He did what he needed to do to stay afloat, he says, and had to come to terms with the fact that for as sacred as the organic community holds food to be, for most people, “it's just lunch.” (153)

The contrast between Kahn's origins and where he is now represents the two main sides of the modern-day organic movement. Those two sides clashed in the 1990s when the USDA decided to finally create a definition — and set of standards — for organic food. In the end, “Little Organic” won tougher standards than those that were originally proposed, but “Big Organic” triumphed by determining that there were ways to create factory farms, non-pasture-raised cows and microwaveable TV dinners that were all “organic.” Thus, says Pollan, the mainstream organic movement began to give up its ideal of creating a “counter cuisine.” And since then, the standards have been further watered down by rules allowing synthetic additives (necessary, Kahn argues, if we want organic

processed food). These watered-down rules are partially responsible for living conditions for organic livestock that go against most people's conception of what the term should mean. The image of the pastured cow on our carton of organic milk might, it turns out, be nothing more than a supermarket fairy tale.


But is industrial organic all bad? Gene Kahn certainly doesn't think so, and while Pollan is shocked to see the similarities between conventional farms and large-scale organic farms (both use similar equipment, face similar challenges, and experience a similar push toward monoculture), he does concede that the environmental benefits of the processes used by companies like Kahn's “cannot be overestimated.”

What is definitely true is that at least two different definitions of “organic” have developed: “Big Organic” — or “industrial organic” — which uses far more environmentally friendly growing practices than conventional farms but still employs many of the same distribution technologies — and encourages the same monocultures — as industrial agriculture. And then there's “Small Organic,” people like Joel Salatin, who are often so frustrated by industrial organic's cooption of the term “organic” that they call themselves “beyond organic” — or reject the term completely. And indeed when Pollan sits down to his own industrial organic dinner (featuring Rosie the chicken, South American asparagus in January, and a variety of California industrial-organic produce), he finds himself struggling to define the term — not to mention answer the question of whether (industrial) organic food is “better,” and whether it's worth the extra cost, especially given the fact that it is unsustainable, “floating,” as he puts it, “on a sinking sea of petroleum.”

## QUESTIONS

---

1. What does Pollan mean when he says that shopping at Whole Foods can be a “literary experience”? (134)
2. Take a trip to an upscale supermarket with an emphasis on organic food. Try to find the longest label you can. Try to separate what the label actually tells you about your food's origins from what its wording or graphics make you assume. What part of your attraction to the food is based on fact, and what part is based on emotion?
3. What is “grocery lit”? (135) “Supermarket Pastoral”? (137)
4. What does Pollan mean when he says, “This is how a cheap food economy reinforces itself”? (136) How does Whole Foods (and stores of its kind) try to reinvent this economy?
5. Why does Pollan think the organic label “is really just an imperfect substitute for direct observation of how a food is produced”? (137)
6. Why does Pollan think that Supermarket Pastoral is so seductive? (137)
7. How does a microwaveable organic TV dinner represent our desire to “have it both ways”? (138)

- 
8. What challenges does Whole Foods face in trying to retain its connections to its organic, pastoral ideals and the realities of trying to produce and supply huge quantities of food?
  9. Why does Pollan say that he is “not prepared to accept the premise that industrial organic is necessarily a bad thing”? (139)
  10. What are some examples Pollan discovers of where the image of organic food conjured by its labels does not match the reality of where the food has come from? (139–140)
  11. What is People’s Park? What connection does it have to the modern organic movement? (141)
  12. Why does Pollan say that during Vietnam, “eating organic . . . married the personal to the political”? (143)
  13. Who is Gene Kahn? How has he helped move organic food into the mainstream? (144–145)
  14. Why does Pollan think Sir Albert Howard’s *An Agricultural Testament* is an important philosophical work? (145)
  15. What is the “NPK mentality”? (146)
  16. What’s the problem with “treating soil as a machine”? (147)
  17. What was the “great humus controversy”? (148)
  18. What does Pollan mean when he says that “a healthy sense of all we don’t know — even a sense of mystery — keeps us from reaching for oversimplifications and technological silver bullets”? (150)
  19. What is the “Alar episode”? (152) Why is it a watershed in the history of the organic movement?
  20. Why does Kahn say that “This is just lunch for most people. Just lunch”? (153)
  21. What was surprising about the organic industry’s reactions to the USDA’s proposed 1997 organic standards? (154)
  22. What was Joan Dye Gussow’s point in her 1996 article, “Can an Organic Twinkie Be Certified?” Do you agree or disagree? (156)
  23. What does Kahn mean when he says that “Organic is not your mother”? (156)
  24. What are some examples of how the word “organic” “has been stretched and twisted to admit the very sort of industrial practices for which it once offered a critique and an alternative”? (156)
  25. What are some of the differences between “Big” and “Small” organic?
  26. How did Pollan’s experience on industrial organic farms differ from his expectations? (158)
  27. What are some of the negative consequences of industrial organic farming techniques, in terms of soil health? (160)
  28. Throughout the book so far, Pollan continues to repeat the phrase “everything’s connected.” What does he mean by this? Why does he repeat it? (161)
  29. Why would baby lettuce be easier to grow organically than conventionally? (165)
  30. Why does Pollan claim that bags of pre-washed baby lettuce represent “a truly stupendous amount of energy”? (167)
  31. What is Pollan getting at when he asks in “what sense can that box of salad on sale in a Whole Foods three thousand miles and five days away from this place truly be said to be organic?” (168)
  32. Pollan continues to repeat a quote from Gene Kahn: “Everything eventually morphs into the way the world is.” (168) Why does he repeat this quote? What does he mean? Do you agree? How much agency do you think we have over this process?
  33. What is “beyond organic”? (169)
  34. What does Pollan find surprising about his visit to “Rosie” the chicken? (171–172)
  35. Why does Pollan say that growing organic food in an industrial system is “even more precarious than a conventional industrial system”? How do the lives of Petaluma Farms’ chickens show this vulnerability? (172)
  36. Why does Pollan say that Rosie’s chicken-house lawn is “an empty pastoral conceit”? (173)
  37. Why does Pollan say that eating organic South American asparagus in January carried “ethical implications” that are “almost too numerous and knotty to sort out”? (175) Do you think he’s being too dramatic? Why or why not?
  38. What is Pollan getting at when he continues to repeat the question “Better than what?” (177)
  39. What are some of the positive consequences of large-scale organic farming? What are some of the negative effects?
  40. If you had to write a realistic definition of what organic food should be, what would it say?

41. Do you think that the term “industrial organic” really is a contradiction in terms? Why or why not? (183)

42. Why does Pollan say that in the case of the organic food industry, “nature’s logic has proven no match for the logic of capitalism”? (184)

## CHAPTER 10: GRASS

Back at the Salatin farm, Pollan devotes a chapter to grass. He begins by explaining what Joel Salatin means when he says that he is a “grass farmer” — which is to say, while grass farmers do grow animals for meat, milk, eggs and wool, they “regard [these animals] as part of a food chain in which grass is the keystone species, the nexus between the solar energy that powers every food chain and the animals we eat.” (188)

But it turns out that managing grass is more difficult than it might at first appear, as evidenced by Salatin’s multi-variable system for determining when a pasture is fit for cows to graze. Allow the cows to eat too early and you risk killing the grass by not giving it enough of a chance to recover; wait too long and the grass will become too fibrous and the cows won’t want to eat it. There are enough variables involved in this “management intensive” form of farming that Pollan claims it’s the opposite of the “one-size-fits-all universal intelligence represented by agrochemicals and machines.” (191) And yet Salatin claims his farm is a “postindustrial enterprise.” (191)

Pollan is worried when Salatin tells him they have to move the cows to a different pasture —

it’s been a long day, and usually moving cattle takes a lot of work. But Salatin has figured out a way to rig up temporary electric fences that he can rearrange to create new pastures. And his cows, aware that they’re about to get access to a brand new salad bar of lush grasses, are happy to oblige. Before long, they’re busy chomping on a fresh new pasture, their manure fertilizing the earth and spreading grass seeds as they go.

As he watches Salatin’s cows eat their dinner, Pollan wonders why we turned away from this system of agriculture to begin with. It turns out that it’s not a matter of energy efficiency — an acre of well-managed pasture can actually produce more food energy than an acre of field corn. But corn-fed cows produce meat more quickly than grass-fed and result in a more reliable product (since different grasses from different regions can affect the quality of the meat). And, of course, corn is cheap. Feeding cattle commodity corn takes a lot less work than managing grassland. But the underlying reason Pollan believes we made the switch is that “our civilization and, increasingly, our food system are strictly organized on industrial lines” that prize consistency, mechanization, predictability, interchangeability and economies of scale. Corn works within this system; grass does not.



## QUESTIONS

1. What’s the difference between what grass looks like to most people, and what grass looks like to Joel Salatin — or, for that matter, to a cow? (186)
2. Why do you think that hearing sheep ranchers refer to themselves as “grass farmers” would make “something click” in Allan Nation’s mind? How might this change in term — from cow or chicken farmer to grass farmer — make someone regard food in a different light? (187)
3. What variables does Salatin need to take into account before allowing his cows to graze? (190)
4. What are some of the differences between what it’s like to see Salatin’s cows eat dinner

and what it was like to observe dinnertime at Poky Feeders? (194)

5. What does Pollan mean when he says that “what makes this pasture’s complexity so much harder for us to comprehend is that it is not a complexity of our making”? (195)
6. How does grazing ruminants “build new soil from the bottom up”? (196)
7. What are some of the problems that occur when land is “overgrazed”? (197)
8. If it’s true that 9 out of 10 calories are wasted when an animal eats another animal, then how can Pollan possibly claim that eating Salatin’s cow Budger would be “as close to a free lunch as we can hope to get”? (199)

9. Why does he say that the ninety-nine cent price of a fast-food hamburger “simply doesn’t take account of that meal’s true cost”? (200)
10. Why does Pollan think we moved from grass-fed meat to corn-fed? (201)
11. Why does he say that even the most carefully grazed pasture “meshes poorly with the logic of industry”? (202)

## CHAPTER 11: THE ANIMALS

The next morning, Pollan wakes up late — even though it’s only 6 a.m., the Salatins are already out in the field. He rushes to join them, and spends a day learning how Salatin runs the farm.



First are the chickens. Salatin keeps his broilers in movable pens that he shifts around the farm every day, allowing the chickens 24 hours to eat the grass left behind by the cows and fertilize the soil with their poop — but moving them before their waste, which is very high in nitrogen, can harm the soil. His laying hens, on the other hand, live in a contraption called the Eggmobile, what Pollan describes as a covered wagon with “hinged nesting boxes lined up like saddlebags on either side.” (210) The laying hens are rotated as well — it’s Salatin’s way of imitating what he sees as the natural tendency for birds to follow herbivores, feeding on the larvae and parasites in the manure and helping fertilize the soil in the process.

He uses similar principles for his rabbits, cows and pigs. The rabbits live in a “Raken” (a blend between “rabbit” and “chicken”) where their cages are suspended over a deep bedding of woodchips that the chickens get to mine for earthworms. Salatin’s cattle live in an open-faced barn on a bed made of woodchips, straw, and their own manure. Salatin discovered that by allowing the manure to compost in the barn itself, he could save on heating costs (the compost produces heat). What’s more, by sprinkling corn kernels into the compost and allowing them to ferment, he could create tasty treats for his pigs to find. In the spring, once the cows are out to pasture, Salatin lets his pigs loose in the barn. They root around in search of the corn kernels and in doing so, aerate the compost. The result? Happy pigs and fantastic soil.

It’s an amazing closed-loop system, one which Pollan finds difficult to describe since every element relies on so many other variables (what would the chickens eat if the cows weren’t in the pasture? What would motivate the pigs if it weren’t for the corn kernels?). Part of its success relies, somewhat counterintuitively, on allowing each animal to do what it naturally wants to do: chickens like to scratch, pigs like to root, and cows like to graze.

Salatin’s farm makes Pollan contemplate the various definitions of “efficiency.” In an industrial system, “efficiency” is often defined by the “yield of one chosen species per acre of land or farmer” and stems from simplification — simple processes that depend on simple sources (hence the appeal of monoculture). The more variables you can eliminate, the better. But in Salatin’s world, the opposite is true. Each of his crops and animals rely on one another — if you take one variable away, the whole system will be affected, and the system’s complexity and interdependence is exactly what makes it thrive. In order to count this system’s efficiency, says Pollan, “you need to count not only all the products it produces . . . but also all the costs it eliminates: antibiotics, wormers, paraciticides, and fertilizers.” (214) And, especially, its positive effect on the animals’ health.

So why don’t more farmers practice complexity? Because as Pollan discovers while helping Salatin bale hay, it takes a lot of hard work. It’s far easier to rely on machines and antibiotics than it is to get up at 6 a.m. every day to move around a chicken pen and tie your daily schedule to “the life cycle of fly larvae and the nitrogen load of chicken manure.” (220)

## QUESTIONS

---

1. What does Pollan mean when he says that restoring damaged land to health by intensive farming “is not the environmentalist’s standard prescription”? (209)
2. Describe Salatin’s method for raising broiler chickens. (209) What is the Eggmobile? (210)
3. What does Salatin mean when he says that “In nature you’ll always find birds following herbivores”? (211) How does he use this natural tendency for his benefit?
4. Why does Salatin call his layers his “sanitation crew”? (211)
5. Why does Salatin wait three or four days before allowing his chickens onto the pastures after the cows? (211)
6. Give some examples of what Salatin means when he says he’s the “orchestra conductor.” (212)
7. What is a “holon”? What are some examples of holons on the Salatin farm? (213)
8. What does Pollan see as the difference between “efficiency,” as defined in industrial farming, and efficiency on Salatin’s farm? (214)
9. What do Pollan and Salatin mean when they say that Polyface “honors — and exploits — ‘the innate distinctive desires of a chicken’”? (215)
10. How do the lives of Salatin’s pigs differ from those that live in factory farms? (218)
11. Given all of its benefits, why do you think so few farmers choose to farm like Salatin? (220)
12. What does Salatin mean when he writes that “one of the greatest assets of a farm is the sheer ecstasy of life”? (225)

## CHAPTER 12: SLAUGHTER

---

Of course, even on Polyface farm, the animals ultimately are slaughtered. Wanting to get a better sense of how Salatin’s chickens become his dinner, Pollan participates in “processing” Salatin’s broilers — that is, killing them.

Salatin and his crew show Pollan how to round up the chickens into boxes and then slip them into upside-down killing cones, so that their throats can be slit. Pollan is nervous about killing his first chicken, but the assembly line — or deassembly line, as he calls it — moves too quickly to allow much reflection. Before long he has killed about a dozen chickens, and while he hasn’t grown numb to the feeling of slitting their throats, he still finds it discomfiting how quickly he got used to the slaughtering. But it’s far from senseless killing: by the time the morning’s over,

more than 300 broilers have been processed, and customers are picking them up from their post-slaughter ice water bath.

Pollan points out the irony that while Salatin’s ramshackle processing shed makes USDA inspectors nervous, it is actually a far cleaner place to process chickens than a typical factory slaughterhouse. This is partially because of accountability — Salatin’s customers can see their dinners being killed, which means that if he wants to stay in business, Salatin had better make that process as clean and humane as possible. “It is a compelling idea,” writes Pollan. “Imagine if the walls of every slaughterhouse and animal factory were as transparent as Polyface’s. . . . So much of what happens behind those walls — the cruelty, the carelessness, the filth — would simply have to stop.” (235)

## QUESTIONS

---

1. Pollan says that to hear Joel Salatin describe it, “what we were about to do — kill a bunch of chickens in the backyard — was nothing less than a political act.” (228) What is Salatin’s logic?
2. What does Salatin see as the problem with current food-safety regulations? (229)
3. Why doesn’t the USDA set thresholds for food-borne pathogens? (229)
4. Pollan says that he decided to kill a chicken in part because it seemed “not too much to ask of a meat eater . . . that at least once in his life he take some direct responsibility for the killing on which his meat-eating depends.” (231) Do you agree with him? Do you think that you personally could kill a chicken? Why or why not?

5. What does Pollan mean when he says that “the most morally troubling thing about killing chickens is that after a while it is no longer morally troubling”? (233)
6. Why does Pollan think the open-air abattoir is such a morally powerful idea? How much might it change the way we slaughter and process animals? (235)

## CHAPTER 13: THE MARKET

Luckily, tracing the path of food grown on Polyface Farm is a lot easier than trying to track corn: Pollan already saw the food being grown and processed, so now all he has to do is follow it to market. So early on a Thursday morning, Pollan accompanies Salatin’s brother Art as he delivers food to local restaurants and tries to get additional sales. He also meets Bev, Salatin’s marketer, who has built a humane, small-scale slaughterhouse but now is having problems getting the USDA’s approval — an example, Pollan says, about how difficult, if not impossible, it is for local artisanal foodmakers to fit into the industrial template.




Watching Salatin distribute his food makes Pollan question the stereotype of whether the market for local, organic food is made up of the elite. Rather, the people who show up at Salatin’s farm for chickens are a motley crew that Pollan says are more likely to drive Chevrolets than Volvos. He and Salatin also both take issue with the idea that Salatin’s food — and the food produced by other farmers like him — is expensive. Salatin responds that if you take into account all the hidden costs of industrialized food, the stuff at Walmart is not cheap; it’s “irresponsibly priced.”

Pollan also points out that these days Americans spend about 10 percent of their income on food — as opposed to about 20 percent in the 1950s — and have found ways to pay for less vital things, like cell phones. “So is the unwillingness to pay more for food really a matter of affordability,” he asks, “or priority?” (243)

Salatin firmly believes that the healthiest food systems are those where the consumer is directly linked to the producer — and food, ideally, is exchanged directly between the two. It’s a nice idea, but it doesn’t take into account, Pollan realizes, the fact that so many Americans now live in cities. It’d be impossible for every Manhattanite to know their farmer by name. And yet, some options exist: CSAs, for example (an acronym for Community Supported Agriculture, these are organizations where consumers put up money up front in exchange for regular boxes of whatever is being grown on the farm). And eventually Pollan realizes that Salatin is not proposing that the entire American food system as we know it be dismantled. Rather, he wants there to be other options — almost like offshoots of a religion — that people can opt into (and, in doing so, opt out of the industrial food chain).

## QUESTIONS

1. Salatin asks Pollan, “Don’t you find it odd that people will put more work into choosing their mechanic or house contractor than they will into choosing the person who grows their food?” Do you agree with him that it’s strange? Why or why not? (240)
2. What sort of people would you stereotypically assume to be the market for Salatin’s food? How does this stereotype match up with reality? (241)
3. What is Salatin’s response when people claim that the price of his food makes it elitist? (242)
4. What does Salatin mean when he tells people that “you can buy honestly priced food or you can buy irresponsibly priced food”? (243)
5. Why does Pollan think the fact that we spend such a small percentage of our money on food is a bad thing? (243)
6. Pollan asks whether our unwillingness to pay more for food is “really a matter of affordability or priority.” What do you think? (243)

- 
7. Do you think you are paying a fair price — by Salatin’s logic — for the food that you eat? Can you think of any non-essential products or services that you regularly spend money on that take away from your potential budget for food? Are there any you think you’d be willing to give up in order to afford to change the way you eat?
  8. Salatin likes to point out to skeptical customers that they’re willing to pay for quality when it comes to cars, but seem to forget that you get what you pay for when you it comes to food. How do you think America’s food chain might be different if more people adopted Salatin’s mentality? (244)
  9. What is a CSA? What is a metropolitan buying club? (248)
  10. What does it mean to “opt out”? (248)
  11. What are the keys, according to Allan Nation, to an artisanal producer’s success? (249)
  12. What are some of the reasons you think we have become so out of touch with the seasonality of our food? (252) How could we re-discover it?
  13. Why does Pollan think that food “feels different” than things we usually think of as outside of our control, like prices at the gas stations or what happens to our jobs? (257)
  14. Describe the “new eater” that Pollan mentions on page 259.
  15. Why does Pollan compare the potential future of food with Protestantism? (260)

## CHAPTER 14: THE MEAL

Although he originally considered bringing some of Salatin’s meat back to California to share with his family, Pollan decides that carrying his meat across the country would go against Salatin’s principles. So instead he visits some friends and offers to cook them dinner: roasted chicken,

fresh corn, local wine, and a chocolate soufflé made from Salatin’s eggs. Pollan writes that while nothing about the meal was “particularly subtle,” “everything about it tasted completely in character” — no doubt in large part because he knew exactly where it had come from. (271)

### QUESTIONS

1. Besides taste, why does Pollan decide to brine the chicken? (264)
2. How does Pollan think this meal might be nutritionally different from a similar meal grown on a conventional farm? (266)
3. What are omega 3 fatty acids? What are omega 6 fatty acids? Why does Pollan think they’re important? (267–268)
4. Why does Pollan say that he felt the “karmic debts” of this meal “more keenly than usual”? (270)


## III. PERSONAL

## CHAPTER 15: THE FORAGER

Pollan is not a natural outdoorsman; he has never shot anything bigger than a BB gun, and once suffered a childhood injury when a seagull bit his nose. Nonetheless, he decides that there is still one more food chain that he must explore: the hunter-gatherer. To experience it, he sets off to try to create a meal that he has hunted, gathered or grown entirely on his own, and which includes plant, animal, fungi and, he hopes, mineral.

It’s somewhat of a strange quest, given, as Pollan point out, that the hunter-gatherer food chain no longer represents a viable way for us to eat — there are simply too many humans and too little land. But he still thinks the exercise can teach him — and us — “something about who we are beneath the crust of our civilized, practical, grown-up lives.” (280) And it’s a lesson, he claims, that we can’t learn from a supermarket, a





fast-food chain, or even a farm. In fact, the more he meditates on this particular food chain, the more he realizes it's the point of his entire project: He wants "to look as far into the food chains that support us as [he can] look, and recover the fundamental biological realities that the complexities of modern industrialized eating keep from our view." (281)

Given that he himself doesn't have the skills necessary to put together this meal, though, he has to enlist outside help: in this case, a food-loving

Sicilian named Angelo Garro. Angelo instructs Pollan to register for a hunting license (a surprisingly long process, given how easy it is to buy a gun), and Pollan anticipates his future as a forager by preemptively plucking a mushroom from the forest that he thinks is a chanterelle. But is it really? As he contemplates whether or not the mushroom is safe to eat (he eventually discards it), Pollan is, as he later realizes, "impaling" himself "on the horns of the omnivore's dilemma." (286)

## QUESTIONS

---

1. Why does Pollan say that the hunter-gatherer food chain is no longer able to support us? Do you think he's right? How close do you think it would be possible for Americans to come to returning to that food chain? (278)
2. If foraging is not a practical way to supply ourselves with food, why does Pollan decide to do it? (280)
3. Pollan says that he wanted to hunt in order to take a more "direct, conscious responsibility for the killing of the animals [he ate]." (281) Otherwise, he says he felt he really shouldn't be eating them. Do you agree? Do you think that having to personally kill the animals you eat would change your diet?
4. What does Pollan mean when he says that the hunter "is alone in the woods with his conscience"? (281)
5. What did Thoreau mean when he wrote that "We cannot but pity the boy who has never fired a gun. He is no more humane, while his education has been sadly neglected"? (281)
6. Who is Angelo Garro? How did Pollan find him?
7. Why does Pollan say that in trying to figure out whether his mushroom was safe to eat, he was impaling himself on the horns of the omnivore's dilemma? (286)

## CHAPTER 16: THE OMNIVORE'S DILEMMA


---

As Pollan previously described, omnivores face a peculiar challenge compared to animals who only eat one thing: we can eat many different types of food — and, thus, can exist in a wide range of locations and climates. However, unlike koalas, who are evolutionarily primed to eat nothing but eucalyptus, omnivores must constantly evaluate which of the substances they encounter are safe for them to eat.

In some ways, we've benefited from this constant uncertainty — our brains are much bigger, relatively speaking, than koalas', for example, and we probably owe some of our cognitive abilities to the fact that we needed to be able to remember safe foods and create rubrics for evaluating potential new ones. We've also evolved with several innate taste preferences that no doubt have helped us to survive: we like sweet things, which usually contain relatively high amounts of ener-

gy, and we dislike bitter — which makes sense, since that's how many plant toxins taste. We also have evolved with a sense of disgust — which spoils our appetite toward things like bodily fluids, rotting flesh and feces, all of which have the potential, if consumed, to make us sick.

For most of history there existed a constant battle between the defenses of species that didn't want to be eaten, and the ability of their predators to overcome those defenses. But when humans figured out how to cook, which breaks down inedible foods and sometimes neutralizes toxins, we gained the upper hand. Ever since then, humans have been on top. However, while this may sound like a good thing, it also has contributed to our overall anxiety about food — as you remove more and more barriers of what is possible to eat, the question still remains of what you should be eating. That's where culture steps in — food tra-



ditions (not just in terms of the foods themselves but the rituals and rules that surround their consumption) help to keep things straight for the omnivore. The collective memory of the group helps dictate what should be eaten.

That's where Pollan sees a problem with America: We simply haven't been around long enough to develop a strong culture around food — and the fact that we are such a melting pot means that while an amazing variety of individual food cultures exist, we don't have any unifying theme. That's why, Pollan believes, Americans are uniquely susceptible to the “national eating disorders” he mentioned at the beginning of the book. Since we don't have strong roots to tether us to a particular culture of food, it's easy for fad diets spurred by forces as small as a single magazine article to dramatically alter the way our entire country eats. So we vacillate between extremes, always eager to vilify one category of food as we sanctify another (witness our long-term distrust of fat that was supplanted in the early 2000s by our national carbophobia).

Americans' lack of consensus about “what and how and where and when to eat” is beneficial

to the food companies, says Pollan, because it leaves an opening for them to step in and tell us what to do — it's much easier to dig up a patch of seedlings, after all, than a field of firmly rooted grass. Not only can companies convince us to change our nutritional thinking on a dime (e.g., our 180 on carbs) but they're also able to market new processed food products (like microwaveable, one-handed cups of soup meant to fit into the cup holder in a car) that would be much more difficult to sell in a culture with more deeply rooted traditions around food. Part of the cost of the food processors' success, Pollan says, is that “getting us to change what we eat over and over again tends to undermine the various social structures that surround and steady our eating, institutions like the family dinner, for example, or taboos on snacking between meals and eating alone.” (301–302) The result of all this, he says, is that modern Americans have somehow ended up in a modern version of where our ancestors started: “on a perplexing, nutritionally perilous landscape deeply shadowed again by the omnivore's dilemma.” (303)

## QUESTIONS

---

1. What is the blessing and the curse of the omnivore, as Pollan sees it? (287)
2. What did Claude Lévi-Strauss mean when he said that food must be “not only good to eat, but also good to think”? (289)
3. How do our bodies reflect the fact that we are omnivores? (289)
4. Why would pregnant women be particularly sensitive to bitter tastes? (291)
5. Why would Steven Pinker say that “Disgust is intuitive microbiology”? (292)
6. Why was learning to cook our food such an important development? (293)
7. Why does Pollan say that “the immigrant's refrigerator is the very last place to look for signs of assimilation”? (295)
8. How would you paraphrase the quote on page 297?
9. Why does Pollan think that America is particularly vulnerable to fad diets?
10. What point is Pollan trying to make on page 300 when he follows Levenstein's quote by saying that “the power of any orthodoxy resides in its ability not to seem like one and, at least to a 1906 or 2006 genus American, these beliefs don't seem in the least bit strange or controversial”? (300)
11. What are some of the differences between how Americans and the French eat? (301)
12. Why does he say that the omnivore's dilemma has returned to America with an “almost atavistic force”? (301)
13. Why does Pollan say that America's lack of food traditions suits the food industry just fine? (301)
14. What does he think are some of the dangers of changing our eating habits so rapidly, so many times? (302)
15. What does Pollan mean when he writes that “Such has been the genius of capitalism, to re-create something akin to a state of nature in the modern supermarket or fast-food outlet, throwing us back on a perplexing, nutritionally perilous landscape deeply shadowed again by the omnivore's dilemma”? (303)

## CHAPTER 17: THE ETHICS OF EATING ANIMALS

Before Pollan can shoot his own dinner, he decides he needs to more firmly grapple with the ethics of eating meat. So he takes a copy of Peter Singer's *Animal Liberation* and orders a steak at the Palm.

Singer's argument, says Pollan, is disarmingly simple: "If possessing a higher degree of intelligence does not entitle one human to use another for his or her own ends, how can it entitle humans to exploit non-humans for the same purpose?" (307) In other words, if intelligent humans are not allowed to eat less intelligent humans — we assume, instead, that all humans are equal in their right not to be eaten — then how can we use intelligence as a reason for our decision to eat animals? Singer claims that to use the explanation "because we're humans and they're animals!" labels you as a "speciesist."

As Pollan continues to read *Animal Liberation*, he's impressed by how Singer and his colleagues are able to refute his arguments. He's particularly struck by Singer's point that no one who eats meat can really take an unbiased look at whether or not the animals he eats are suffering — after all, meat eaters have a strong interest in convincing themselves that they don't have to stop eating meat. So Pollan decides that — temporarily, he hopes — he must try being a vegetarian.

Unfortunately, being a vegetarian comes with more consequences than just having to forgo bacon. Pollan feels isolated from many of the social interactions and rituals that he loves — it's now harder to eat dinner with friends, for example, and he can't take part in holiday traditions like his mother's Passover beef brisket. He also realizes that by not eating meat, he's going against his own evolutionary desires — because contrary to what animal rightists might argue, our taste for meat is not just a gastronomic preference.

Now that he's off meat, Pollan has some room to examine the issue from a somewhat less biased perspective. The first question is whether or not the animals we eat "suffer." While Pollan thinks there's a difference between "pain" and "suffering" (normally humans alone are able to do the latter), modern Concentrated Animal Feeding Operations blur that line. To allow such places to exist requires going back to the 17th-century view that animals are "production units" unable to feel pain — which requires a certain suspension of disbelief. And considering that CAFOs do not allow most animals to exhibit any of their natural tendencies (pigs rooting in the ground, for example),


an argument can be made that they also suffer.

At the same time, though, Pollan argues that animals destined to be eaten needn't necessarily live horrible lives. Take, for example, the pigs at Polyface farm, happily rooting around in the barn in search of the alcohol-soaked corn. Pollan decides that perhaps there's a middle ground — one where animals are treated well during their lives (which Pollan defines as being allowed to exhibit their natural tendencies — in other words, let a chicken be a chicken) and then are humanely slaughtered. After all, assuming that all animals would be happier and healthier if humans were extinct requires ignoring the fact that for domesticated animals, humans are vital. To forget that is to show a "deep ignorance about the workings of nature" (320) and to disregard that what is bad for one individual (i.e., a weak deer culled by a predator) might actually be good for the species as a whole.

What's more, Pollan argues, if you look at the animal rights movement from the vantage point of a farm, it starts to seem very parochial and urban. (325) After all, it requires living in a world where animals are no longer a threat to humans. Also, even vegans aren't blameless when it comes to causing animals pain — think of the field mice killed by the grain combine or birds killed by pesticides. If we were to choose a food source that killed the fewest animals in its production, Pollan argues, it probably would be grass-fed steak. And when you consider all the positive contributions animals make to the land at a place like Polyface farm, you can start to wonder whether eating animals "may sometimes be the most ethical thing to do." (327)

Pollan begins to lean towards abandoning vegetarianism in favor of eating sustainably, humanely raised meat — but decides first to track down Singer himself to see what he thinks. In an email exchange, Singer does concede (as Pollan interprets it) that "what's wrong with eating animals is the practice, not the principle." (328) For Pollan, meat is back on the menu.

Assuming that the problem with our modern industrial system is the practice, Pollan tries to witness his steer's slaughter. Since the meat company, unsurprisingly, won't allow him to visit its "kill floor," he relies on Temple Grandin, an animal-handling expert who helped design the ramp and killing machinery at the National Beef Plant, to describe what happens when animals are slaughtered. Her description is somewhat




comforting (she at least designed the system to be humane) but the margin of error is high enough to still be discomfiting. It's disturbing enough that Pollan reasserts his idea that all kill

floors be built with glass walls, giving us what he argues might be the new right we most need to establish: the right to look. (332)

## QUESTIONS

---

1. Why do you think the meat company didn't let Pollan see his steer get slaughtered? (304)
2. Why does Pollan keep repeating the question of whether the food is "good to eat and good to think"? What does he mean? (305)
3. Pollan writes that "It may be that our moral enlightenment has advanced to the point where the practice of eating animals . . . can now be seen for the barbarity it is, a relic of an ignorant past that very soon will fill us with shame." (305) Do you agree with this assertion? Why or why not?
4. What are some of the possible reasons Pollan puts forth to explain the rise of vegetarianism? Which do you think are most likely? (306)
5. Why does Pollan claim that there's a "schizoid quality to our relationship with animals today"? (306)
6. How would you paraphrase Peter Singer's main argument? (307)
7. What does it mean to be "speciesist"? (308)
8. What do you think of the morality of eating meat? How would you defend your stance?
9. What did Benjamin Franklin mean when he wrote that "The great advantage of being a 'reasonable creature' is that you can find a reason for whatever you want to do"? (310) Describe some examples of what Franklin is referring to.
10. Why does Pollan decide to become a vegetarian (albeit a reluctant one)? (313) Do you agree that it'd be impossible to have an unbiased view toward the ethics of eating meat if you're a meat-eater yourself?
11. What does Pollan mean when he says that not eating meat alienates him "from a whole dimension of human experience"? (314)
12. Why does Pollan think that not eating meat requires sacrificing "a part of our identity . . . our own animality"? (315)
13. Why does Pollan compare our taste for meat with sex? (315)
14. What's the difference, as Pollan describes it, between pain and suffering? (316)
15. How could language make pain more bearable? (316)
16. Why does Pollan say that modern Concentrated Animal Feeding Operations are "designed on seventeenth-century Cartesian principles"? (317)
17. What is life like for the modern laying hen? (317) Why would Pollan claim that it's worse than that of a feedlot cow?
18. Pollan says that scientists are at work trying to breed the "stress gene" out of modern livestock. Do you think this is a reasonable solution? Why or why not? (318)
19. Is there a compromise? Must raising animals for food always be inhumane? (319)
20. What does Pollan mean when he says that domestication is "an evolutionary, rather than a political, development"? (320)
21. Do you think that humans should try to prevent animals from killing one another? Why or why not? How is this different from humans killing animals? (321)
22. What does Pollan mean when he writes that perhaps animal rightists' quarrel "isn't really with nature itself"? (322)
23. What's the difference between the "pig" and the "Pig," as Pollan sees it? (323)
24. Do you agree that species have interests "just as a nation or a community or a corporation can"? (323)
25. What does Pollan mean when he writes that it might be "anthropocentric of us to assume that our moral system offers an adequate guide for what should happen in nature"? (325)
26. Do you agree that when viewed from the vantage point of a farm, animal rights is a "parochial and urban" concept? Why or why not? What does Pollan mean by this? (325)
27. Why would a vegan still have a "serious clash of interests with nature"? (326)
28. Why would Pollan say that sometimes eating animals "may be the most ethical thing to do"? (327)

- 
29. What was Peter Singer's response to Polyface farm? (327)
  30. Why did Pollan find Temple Grandin's description of the slaughterhouse "both reassuring and troubling"? (330)
  31. Why does Pollan believe that giving people the "right to look" in slaughterhouses would help clarify our feelings toward eating meat and begin to redeem animal agriculture? (332)

## CHAPTER 18: HUNTING

But even if Pollan feels that he has justified his meat eating to himself, he still hasn't taken the most difficult step in producing this meal: He still needs to hunt. So he heads out with Angelo and a few other people in search of wild pig — and is immediately struck by how walking in the woods as a hunter is completely different from walking those same woods when a gun isn't in his hand. Although he's embarrassed to admit it, he finds the experience of heightened senses pleasant — similar, he says, to the state caused by marijuana — and wonders whether hunting might be "one of those experiences that appear utterly different from the inside than from the outside." (337)

Unfortunately for Pollan, his first hunting expedition is unsuccessful — when he finally catches sight of a pig, his gun isn't ready, and he sacrifices the first shot to his companion. At first he hopes that this might get him off the hook (after all, he went hunting) but ultimately decides that it's a cop-out unless he kills his meal himself.

On his next expedition, he is better prepared, and it doesn't take long before he's found a cluster of pigs. Pollan takes a shot (closely followed by Angelo) and a sow is downed. As he looks at the dead pig on the ground, Pollan's first emotional response surprises him — he doesn't feel

ashamed or guilty; he feels grateful and happy.

However, it doesn't take long for his emotions to change. As Pollan helps Angelo dress the pig, he begins to be hit with other emotions about what he's done. One of the most powerful is a sense of disgust — no doubt inspired at least partially by the sight and smell of the pig's guts. (Pollan explains that some of this disgust may arise from realizing the "reality of our own animal nature." (357) But when he later sees a picture of himself gloating over his kill, he also feels a sense of shame, and can't believe that he is the same person posing in glory over the sow's dead body.

Pollan is left questioning which view of himself as a hunter is the right one: "the shame at the photograph or the joy of the man in it, the outside gaze or the inside one." (361) Ultimately he decides that, for as morally uncomfortable as it was — and continues to be — for him to have personally killed an animal, he'd prefer facing that reality than looking away (by, for example, becoming a vegetarian). Having decided to continue to eat meat, he thinks it was important to have tracked down his own dinner, looked it in the eye, and killed it himself. Doing so, he thinks, has given him the chance to regard his pig with a sort of reverence, and eat it with gratitude.

## QUESTIONS

1. What does Pollan mean when he says that hunting might be "one of those experiences that appear utterly different from the inside than from the outside"? (337)
2. Why did he decide to hunt for pig instead of for some other sort of animal? (338)
3. Why does Pollan refer to hunting as a "cannabinoid moment"? (342)
4. Why might the cannabinoid network be a particularly useful brain system for hunters? (342)
5. Ortega y Gasset states that "hunting is the generic way of being a man." What does he mean? Why does Pollan include this quote? (343)
6. After his initial hunting trip, why does Pollan feel the need to go hunting again? (349)
7. What is Pollan's initial emotional reaction to killing the pig? Why is he surprised? (353)
8. How do Pollan's feelings toward killing the pig change as he and Angelo "dress" it? (356)
9. What does Pollan think is one of the "signal virtues of hunting"? (358)

10. Why does Pollan start feeling a sense of shame when he sees the picture of himself and the pig? (359)
11. What is Pollan referring to when he says there might be a “more generous light in which to regard the hunter’s joy”? (361)
12. Why does hunting make Pollan pity the vegetarian? (362)
13. What does Pollan see as the significance of the final photograph that he describes? (362–363)

## CHAPTER 19: THE FUNGI

Pollan’s next step is to go mushroom hunting so that he can gather the “fungi” part of his self-gathered meal. While used to gardening, Pollan doesn’t know how to search for mushrooms (witness his anxiety over his supposed chanterelle) and so he’s lucky when Angelo invites him to join him to forage. (Mushroom hunters are notoriously secretive about their foraging spots.)



Out in the forest, he’s amazed at the difficulty of finding the mushrooms — chanterelles are bright yellow, but since they often grow beneath a soft cover of leaves, can be hard to spot until their caps are revealed. Nonetheless, Angelo has no trouble finding them, and Pollan struggles to learn how to “get his eyes on” — mycophile lingo for learning to spot mushrooms. At the end of the day he rushes home to cook his chanterelles, and realizes that the mushroom he found on his own was indeed a chanterelle.

But for some reason, he feels far more comfortable eating the mushrooms that Angelo identified than he did eating the mushroom that he found on his own and identified with help from a field guide (that’s why he ended up throwing it away). Pollan postulates that this is one of the signatures of omnivores — they’ll “happily follow the lead of a fellow omnivore who has eaten the same food and lived to talk about it.” (372)

Unlike photosynthetic plants, mushrooms don’t get their energy from the sun. Instead they rely on a complex underground network of delicate mycelia. (374) What’s more, they feed not on sunlight but on organic material — most mushrooms we eat either get their energy either by decomposing dead vegetable matter or by associating with the roots of living plants. (375) That’s part of the reason that Pollan describes them as being like “hinges in nature, now turning toward death, now turning toward new life.” (388)

## QUESTIONS

1. Why does Pollan say that the gardener is a “confirmed dualist”? (365)
2. Why are mushroom hunters so secretive? (367)
3. What do the hunters mean when they say you need to “get your eyes on”? (368)
4. Why is Pollan comfortable eating the mushrooms that Angelo points out to him but not comfortable identifying mushrooms out of a book?
5. How does following the lead of a fellow omnivore represent a method of dealing with the omnivore’s dilemma? (371)
6. Why does Pollan think that “the social contract is a great boon to omnivores in general, and to mushroom eaters in particular”? (372)
7. What are some of the basic things we don’t know about mushrooms? (374)
8. How do mushrooms get their energy? How is this different from plants? (374–375)
9. What does Pollan mean when he writes that “if soil is the earth’s stomach, fungi supply its digestive enzymes”? (375–376)
10. Why does Pollan describe mushroom hunting as feeling “like a form of meditation”? (384)
11. How is hunting for mushrooms different from growing food in a garden? (386)
12. Why would you never say “gotcha!” to an apple? (386–387)
13. Why does Pollan compare mushrooms to “hinges in nature”? (388)

## CHAPTER 20: THE PERFECT MEAL

It's finally time for Pollan to make his dinner, and so he invites over the friends who served as his guides to share in the meal they've helped him to create.

After setting out his list of rules for himself (392) Pollan explains some of the exceptions he had to make. For example, the salt he collected from the San Francisco Bay tasted so horrible it made him gag, and he relied on Angelo for several of his ingredients. He then settles on a menu: wild pig cooked two ways, fava bean toasts, bread made from wild yeast, pasta with morels, salad, Angelo's salami, a cherry galette, tea and wine. After spending his week rounding up the ingredients, Pollan then spends a frantic day in the kitchen trying to prepare his meal for what he realizes is a very discriminating audience, made up entirely of gourmands.

The meal goes well, though, despite his anxiety. Pollan's one regret is that he did not elaborate on saying grace by going beyond just thanking the people at his table and offering gratitude to the foods themselves. (He decides it would have been too cheesy.) But then he realizes that this second form of grace is implicit — by gathering together these people and cooking the meal with such care, he had created a “wordless way of saying grace.” (407)

Pollan concedes that a meal like the one he's prepared is not a practical option for most family dinners. But nonetheless, he feels like “as a sometimes thing, as a kind of ritual, a meal that is eaten in full consciousness of what it took to make is worth preparing every now and again, if only as a way to remind us of the true costs of the things we take for granted.” (410)

As the meal concludes, so does the book. Recalling the McDonald's lunch his family ate in the car, he says that it is at the opposite end of the spectrum of human eating from the meal he created himself — as he puts it, “the pleasures of one are based on a nearly perfect knowledge; the pleasures of the other on an equally perfect ignorance.” (410)

Both, he says, are equally unsustainable — but should be preserved as a “sort of ritual for the lessons they have to teach us about the different uses to which the world can be put.” As for Pollan's own aspirations for the future of America's eating habits, he hopes for a world where we once again know a few “unremarkable” things: “What it is we're eating. Where it came from. How it found its way to our table. And what, in a true accounting, it really cost.” (411) His bet is that if we really tried to answer these questions, it would change the way we eat.

### QUESTIONS

1. Why does Pollan say that a “great” meal and a “perfect” meal are not the same thing — and that his dinner was likely to be the latter? (391)
2. What does Pollan mean when he writes that “little if anything about this meal was what anyone would call ‘realistic.’ And yet no meal I've ever prepared or eaten has ever been more real”? (392)
3. What is “usufruct”? Where does the term come from? (398)
4. How does Pollan describe the difference between the sources of calories in most of our normal food and the sources of calories in the meal that he has hunted and foraged? (399)
5. Why does eating ragout with Angelo make Pollan feel “suddenly okay” about his pig? (401) How does he define what it means to “do right by [his] pig”? (404)
6. Why did Pollan conclude that he'd decided to make his meal so complicated? Why not just serve a bowl of cherries? (403)
7. How does cooking honor the things you eat? (404)
8. How does the rhythm of cooking imitate the rhythm that governs all eating in nature? (405)
9. Pollan says that the meal had become “a wordless way of saying grace.” How so? (407)
10. What does Pollan mean when he says that “eating's not a bad way to get to know a place”? (408)



11. What does he mean when he writes that “every single story about the food on that table could be told in the first person”? (409) How is that different from most meals that we eat?
12. Why does Pollan think that “as a sometimes thing, as a kind of ritual, a meal that is eaten in full consciousness of what it took to make is worth preparing every now and again, if only as a way to remind us of the true costs of the things we take for granted.” (410)
13. What does he mean when he says that such a meal is “more ritual than realistic”? (410)
14. What does Pollan mean when he writes that the meal he created himself and the McDonald’s meal are at “the far extreme ends of the spectrum of human eating” and that “the pleasures of one are based on a nearly perfect knowledge; the pleasures of the other on an equally perfect ignorance”? (410)
15. Why are both “equally unsustainable”? (411)
16. Why does Pollan think he may have felt such a need to start a meal from scratch? (411)
17. What are the “few unremarkable things” Pollan wishes we were once again aware of? (411)
18. Has reading this book had any effect on the way you think about food, or what you choose to eat? If so, how? If not, why? (411)