

How to Eat: A Review of Three of Michael Pollan's Books

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In **Omnivore's Dilemma: A Natural History of Four Meals**, Michael Pollan sets out to make three meals, varying the food sources. In doing so, he researches the origin of the meals' food to the extreme. His first meal, called Fast Food, could be called the Corn meal. He divulges more information about corn, its agriculture and uses, than you could possibly want or need to know. In fact the low point of the book is his discussion of the sex life of corn, near the beginning, where he almost lost me as a reader. He didn't trust his entertaining writing style to hold the reader and had to resort to gratuitous sexual imagery. Thankfully, the fluff evolves to credible reading.

We learn that the calorie source for most U.S. beef is corn, force fed to cows packed into CAFOs (Confined Animal Feeding Operations) to balloon them into the half-ton behemoths that make burgers an American food staple. He buys a cow, steer #534, still at pasture, and follows the doomed beast to the CAFO feedlot and meat packing plant. He doesn't end up eating steer #534, since that would not be consistent with the 'industrial' food concept, but his ownership makes for better reading.

He extensively analyzes high-fructose corn syrup's (HFCS) origins and its infiltration of manufactured food and beverages. We can thank German and Japanese scientists for the technology that converts 100% glucose corn sugar into HFCS. How could they have known that fructose would be much worse than glucose for people genetically prone to metabolic syndrome?

The Fast Food, corn based, "industrial" meal was prepared by McDonald's and consumed by his family in a moving car. How fitting. He attempts, only partially successfully, to analyze how much of each family member's meal derives from corn.

The next section, which he calls "pastoral" food, might also be termed organic, local or 'slow food.' Organic may originate in Argentina or your neighbor's backyard

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garden. He ends up with two meals, one of organic foods from far-away places (purchased from Whole Foods Market), and the other locally grown at a Virginia farm. He eloquently maps out a strong argument for the "local food" movement. Pollan argues that local food has better taste, delivers superior nutritional quality and reduces transportation cost, pollution and fuel consumption. The first two are debatable. The third might impact global warming and Middle East policy.

His last meal, which he calls "Perfect," was not, but was the most entertaining – made of food he grew, hunted and gathered. He served to his admiring guests fava bean toasts, wild boar paté, egg fettuccine with morel mushrooms in butter, bread made with wild East Bay yeast, wild Sonoma pig leg and loin, garden lettuce salad and cherry galette. We follow him to each of these places, where he learns to hunt and gather.

The charm of Pollan's books lies in his writing style. He is a journalist by trade, backyard gardener by upbringing and lacto-ovo-vegetarian by inclination, without any special nutrition training. He gets away with writing nutrition-oriented best sellers by engaging in extensive research of agriculture, food biology and food manufacturing. Entertaining prose, coupled with real information, make for good reading and incidental education, if you can excuse the relatively biased research focus (see below) and occasional error.

I'll skip to Pollan's third food book, **Food Rules, An Eaters Manual**, before I slash and burn his second. **Food Rules** mixes one part cutesy rules to live by, one part blistering concise commentary and one part middle-finger to voluminous, gimmicky, diet books. It's the book I've always wanted to write, but knew I wasn't a good enough writer. Just-plain-common-sense usually bombs at the bookstore... unless you are Michael Pollan.

After reading the table of contents:

Part I - What should I eat? (Eat food);

Part II - What kind of food should I eat? (Mostly plants)

Part III - How should I eat? (Not too much),

you almost don't need to read the book. If you stopped there, however, you'd miss the humor and a few details, most of which he has explained ad nauseum in previous books. With this book you can cut to the chase.

Each section presents about 20 rules, none of which last longer than two partial pages. Rules like Number 19: "If it came from a plant, eat it; if it was made in a plant, don't" and Number 20 "It's not food if it arrived through the window of your car" include no discussion, and move right on to the next page. Those, and ones like Number 7 "Avoid food products containing ingredients that a third-grader cannot pronounce" and Number 36 "Don't eat breakfast cereals that change the color of the milk" have tongue-in-cheek points, but don't beat you over the head.

The rules' catchy flavor takes the preachiness out of the book's overall message, which may be "Don't Eat Like a Typical American." He's not a food-Nazi though. Pollan acknowledges that humans are omnivores, and suggests that we try new foods, enjoy treats, and eat meat from healthy animals. The last rule, "Break the rules once in a while" speaks to food's happiness factor, recognizing that strict dietary regimentation makes for miserable lives.

In Defense of Food: An Eater's Manifesto is Pollan's attempt to scientifically justify his food rules. The vast majority of Pollan's readers are not trained to critically analyze scientific data. Neither is Pollan. He's a writer. While his books are reasonably well referenced, for lay-person diet books, he necessarily picks and chooses studies that make his point. It made reading the book a chore for me. I was irritated a few too many times as I read his clearly biased, and at times misleading, "scientific" analysis.

For example, he quotes Bruce Ames, famous for devising a test for carcinogen-induced mutations in bacteria, saying that numerous vitamin and mineral deficiencies mimic DNA radiation damage. While this is at best a stretch, Pollan stretches it further, asserting that this may be the reason that people who eat more fruits and vegetables seem to contract less cancer. He ignores the facts that the best sources for half of the implicated nutrients are not fruits and vegetables, and that most of these nutrients have been tested in randomized, controlled trials (RCTs), and don't, by themselves, prevent cancer.

The book progresses something like this: Nutrition research is flawed and deconstructs food into individual nutrients, which enables public health officials to make

simplistic recommendations. These give food manufacturers impetus to refine out naturally healthy food components and add back the fashionable nutrient du jour. "Western" chronic diseases, like heart attacks and metabolic syndrome, are rampant, in part because of changes in the food supply and dietary patterns. If we stop deconstructing food, and instead eat non-manufactured food based mostly on plants, we would be healthier.

I don't disagree with any of these assertions. The path he lays out to justify them, however, is a little too sensationalist, using selective analysis of nutrition science to spew a non-selective path of destruction. Along with ridiculing public health recommendations, media and food manufacturers, he castigates scientists for just being scientists.

Pollan does a reasonable job of explaining the inherent difficulties of nutritional science, but then calls it "bad science." Research is research, and it is the nature of scientists to try to figure out why and how things work. To do this, one designs studies that reduce variables to one, in order to be able to make a conclusion. He criticizes this as "reductionism," but Pollan's really criticizing the scientific method itself.

He criticizes the fact that we study the nutrients we know. Duh. Yes, there are as-yet-unidentified nutrients, evidenced by the fact that food is better for you than a pile of macronutrients, 13 vitamins and a few minerals. The history of devising a formula to provide nutrition by vein proved that to us: As nutrition knowledge evolved, essential fatty acid free, biotin free, and selenium free formulae all caused deficiency symptoms, teaching us that they are essential.

It's not often that an Albert Szent-Gyorgyi (the discoverer of vitamin C) comes along to discover another vitamin. Bioflavonoids are the latest addition to the nutrition cadre. We have to ask questions of the science we know to discover the nuances, vagaries and substances we don't know. Who knows which blip on a chromatography print-out will be the next important nutrient?

He, and every nutrition scientist, criticizes the facts that, in nutrition research, 1) one variable necessarily changes another; 2) people lie (to themselves and/or the investigator) on their food-frequency surveys; and 3) people don't follow exactly the dietary changes expected of them. That's the way it is and all of us who have ever done nutrition research rue those realities. Reducing dietary fat either reduces total calories or increases

another calorie source (carbs, protein or alcohol), making two variables in the study. How many can remember what they ate last week, let alone arrive at an accurate estimate of how often they ate cruciferous vegetables last year? How many will admit to regularly devouring large bags of chips? Who of you, or anyone trying to follow a diet, can give up foods you like or whole food groups for more than a few weeks?

Rather than criticizing the research itself, he should limit himself to criticizing the over-reaching conclusions, premature publicity and overly zealous public health recommendations which result from it. He does these things exceedingly well, and, if he had stuck to these issues, it would be a much better book. He spends whole chapters, with cute titles like *The Melting of the Lipid Hypothesis* (which unfortunately has some erroneous statements), *Eat Right Get Fatter*, and *The Elephant in the Room*, bemoaning the fact that scientists, food manufacturers and public health officials attempt to change whole cultural dietary patterns based on incomplete data. There is nothing wrong with eating oat bran instead of Krispy Kreme donuts, but should it be in every food we eat? Should we eschew it just because it didn't lower cholesterol the already normal levels of a few healthy dietitians?

People embrace the concept of snake oil: Eat this one nutrient and you can compensate for your crappy lifestyle without having to change, reductionism in a nutshell. If you can buy it in a bottle, or get that marvel mineral in your sugar cereal, it's much easier than a balanced variety of wholesome foods every day. News media feed into the snake-oil mentality. They don't want to hire scientists to help them sort through the literature or critique the science. They jump on single articles, giving the glowing author undue credit for breakthrough science, choosing to forget the studies that came before. The formula for a nutrition "news" article is to make an absurd population-wide pronouncement, briefly summarize the conclusions without giving the limitations of study group and methods, interview the lead author and one other person in the field, and call it a wrap. Thus one out of millions of studies gets the circulation sufficient to either change people's buying and eating habits or convince them that scientists can't make up their minds about what's right.

I have no problem with his criticism of the "reigning nutritional orthodoxy," which determines, for example, whether avocados are healthy (new school) or verboten high-fat balls of death (old school). We have suffered (or enjoyed, depending on your taste) cultural food shifts, with 'experts' pushing low-fat, low carb, high

fiber, fish oil, flax seed, walnuts, red wine, no-dairy, high-dairy and on and on.

In the end, in spite of the less than perfect journey, his advice is good. We really should eat real food, mostly plants and not too much.