

In Defense of Food Summary

By Michael Pollan

How many food fads and diets have you heard about recently? All of them purport to be the best. But, to be honest, most of them are highly complex and intimidating.

The premise of *In Defence of Food* is a simple seven-word summary; 'Eat food, not a lot, mostly plants.' The rise of nutritionism and industrialization, means the Western diet has changed for the worse. We're suffering from over-nutrition, so we need to stand up for "real food," and reclaim good health and natural ingredients.

The problem with the current Western diet is that it includes so many food substitutes. And, so much of it is packaged and processed. Look around your kitchen and see how much of the food in your refrigerator and cupboards are pre-packaged, and full of ingredients that you can't pronounce. So many of these scientifically formulated ingredients are alien to us, and most of us are unaware of how these compounds affect our health.

Michael Pollan, a UC Berkeley Graduate School of Journalism professor, is one of the world's leading thinkers on nutrition. This field tends to have dogmatic, and often contradictory beliefs around how, and what to eat. Pollan however, provides an objective and accessible view of nutrition. His work was recognized by *Time* magazine in 2010, and he was acknowledged as one of the 100 most influential people in the world.

We'll briefly go through the three concepts highlighted in *In Defence of Food*.

Firstly, it explores the age of nutritionism, and asks how we went from eating food to consuming nutrients, and why this is a problem. Then it looks at why a typical Western diet has damaged our health and made us more overweight than ever before. And finally, it provides basic food rules on eating better, and with more enjoyment.

'In Defence of Food': Why We Need to Defend

Food and How We Eat

Why do we need to defend food and how we eat? Pollan argues that nutrition science and the food industry have needlessly complicated what we eat, and how we eat it. The \$32 billion food-marketing industry benefits significantly from the constant changes in the Western diet. Not only are dietary guidelines constantly shifting, but food-labeling rules are also in a constant state of flux. Furthermore, nutrition science's shifting ground is perceived in one of two ways. Either it can be seen as advancing the frontiers of diet and health, or it can be seen as a need for change because of flawed science. Both these forces contribute to unprecedented change in the American diet, where the approach to food is changing more than once in a generation.

If we think about it, mothers have lost most of their authority when it comes to what's for dinner. How many of us eat what our parents ate when they were young? And, have any of us continued to eat the kind of food that was put on the table when we were growing up? The introduction to Pollan's book helps us understand how we arrived at our present nutritional confusion, and how our focus shifted from food to nutrients. And, Pollan argues that this shift is highly problematic.

Nutritionism Is an Ideology, Not a Science

How do you describe your diet to other people, and how do you hear other people talking about their own diets? You may hear phrases such as, "low carb," "high protein," or "low-fat." The truth is that we tend to express the details of our diets in the language of nutrients, as opposed to foods. Nutritionism is a powerful ideology that tries to understand food by looking at it in a reductionist way - nutrient by nutrient. Nutritionism focuses on identifying certain nutrients, such as proteins, carbs, fats, and antioxidants, as causing good or bad health.

But, this seemingly scientific way of thinking about food, creates a host of problems. We sacrifice the benefits of whole-foods, and the pleasure of eating, for a scientific approach that doesn't seem to offer any proven health benefits.

Here are three problems that arise from the age of nutritionism and its scientific approach to eating. Firstly, from a manufacturing standpoint, scientists began developing food imitations in the form of food-like substances. These substances aren't as healthy as they claim to be, which makes it hard for consumers, to know what's actually healthy. Secondly, scientific experiments can be flawed. Therefore, we could be basing our food choices on inaccurate information. Thirdly, our thinking changed, into a dualistic 'either-or' mindset, like carbs vs. fat, animal protein vs. plant protein, and so on, which robs us of the enjoyable ritual of eating.

Nutritionism and Its Assumptions About Food

Nutritionism is based on the assumption that science can correctly simulate real foods' benefits, without any consequences. This can't be further from the truth. Intuitively we all know that the most beneficial foods in the supermarket sit quietly in the produce section. Yet we often find ourselves staring at food labels that boast about their newfound whole-grain goodness. It's easier to attach a so-called "health benefit" label to a sugar-laden cereal box, than it is to attach it to a potato or carrot.

Food scientists throw nutrients together, and argue that what they have done is better than what nature can produce. This is simply just not true. Take for example the early baby formula developed by German scientist Justus von Liebig. Von Liebig just took the three macronutrients - fat, protein, and carbs. He then broke those down further into a handful of micronutrients, which he claimed were solely responsible for digestion and growth. Following this logic, he created the first baby formula to concentrate these vital nutrients. Over time though, doctors found that babies fed on von Liebig's formula were not thriving. So, while there's a place for formula, breastfed babies do tend to be healthier overall.

Nutritionism gave rise to a Western diet dominated by processed foods, stripped of original nutrients, and repackaged as healthy alternatives. This has led to a kind of false consciousness where we think that we're eating healthily, but the science we trust may be deeply flawed.

A Significant Scientific Failure in the 1970s

The Lipid-hypothesis famously stated that fat and cholesterol, mostly from meat and dairy, led to increased heart disease rates. The first problem with this was that the research supporting this hypothesis was

minimal. The second problem is the fact that 60% of the human brain is made up of fat. Fat is also the foundation of our body's cell walls, which helps with the absorption of essential vitamins and minerals.

Despite limited evidence, the food industry jumped on the low-fat lifestyle. There was a huge move towards removing fats from food. The unhealthy ingredients that remained, such as refined sugar and high-fructose corn syrup, were thought to be of little consequence. For the first time, products like margarine, started outselling their more natural counterparts such as butter. Policy guidelines supported these claims, and the public was told to 'eat more low-fat food.'

Low-fat became the newest buzzword, but interestingly, despite moving to low-fat diets, fats remained a major part of the American way of eating. Saturated fats might have been removed, but unhealthy polyunsaturated fat and trans fat, took their place. And, despite the inadequate evidence linking saturated fat to heart disease, the evidence linking trans fat to heart disease is vast. Trans fat negatively affects the body because it raises bad cholesterol, promotes inflammation, blood clotting, and increases triglycerides - a risk factor for heart disease.

Many believe that the current obesity and diabetes epidemics that we see today, began in the 1970s, with the rise of low-fat foods. Ironically, the focus on low-fat foods resulted in a fatter America. This failed experiment came to be known as the fat-fiasco and is a classic example of bad science.

The Trouble With Cause and Effect, and Applying a Scientific Approach to Food

What we think of as basic food, is actually extremely complicated. Food contains a vast array of chemical compounds, many of which exist in complex and dynamic relation to one another. They can also combine to change from one state to another, which makes it difficult for nutritional scientists to factor in the impact of these complex interactions.

Pollan points out that nutritionism tends to take a mechanistic view, which purports that if you put in a certain nutrient you'll get out a certain physiological result. The problem with this supposition is that people don't eat nutrients, they eat foods, and foods can behave very differently to nutrients.

To add to this complexity, we know that people differ in important ways. For example, some people are able to metabolize sugars better than others. And, depending on your genes, some people are unable to digest lactose. The specific ecology of your gut, also determines how efficiently you digest what you eat. There's nothing machine-like about humans when it comes to eating, so it's wrong of us to view food as mere fuel.

There's nothing wrong with applying science to food per se, but nutritionism has reduced the pleasure of eating. Pollan says that while no study exists to back this up, he bets that there's an inverse correlation between the amount of time people spend worrying about nutrition, and their overall health and happiness.

After all, that's the implicit lesson of the so-called French paradox. American nutritionists can't fathom how the French are so healthy and well. The French show a real love for food and happily eat many nutrients that are deemed toxic. Yet, they have substantially lower heart disease rates than Americans, who follow elaborately engineered low-fat diets.

Pollan notes that no people on earth worry more about the health consequences of their food choices than Americans do. Yet, Americans suffer the most from diet-related health problems. According to Pollan, Americans are becoming a nation of orthorexics: people with an unhealthy obsession with healthy eating. Maybe it's time we confronted the American paradox: a notably unhealthy population, who are preoccupied with nutrition and healthy diets.

A Standard Western Diet is Detrimental to One's Health

Most chronic diseases such as diabetes, obesity, heart disease, and cancer, can all be traced back to the food we eat. Our health suffers when we eat meat, processed foods, lots of fat and sugar. It also suffers when we eat insufficient amounts of vegetables, fruits, and whole grains.

Interestingly, many traditional cultures follow diets that are vastly different from a nutritional standpoint. Eskimo Inuits eat high-fat foods, African Masai live off high protein, and South American Indians have high carb diets. If nutritionism had a strong basis, these differences would have had health impacts, but they generally do not. None suffer more than those who stick to a modern Western way of eating. It's no secret that when cultures shift from their traditional way of eating, and adopt a

Western diet, they tend to get sick. This shift is soon followed by a predictable series of Western diseases.

What is hopeful, is that if we return to our roots, these health ailments can reverse. For example, in 1982, a study of ten Aborigines in Australia showed that, after adopting a Western diet and lifestyle, they all developed Type 2 diabetes, and were at high risk for heart disease. They also had a disorder where they were unable to metabolize carbohydrates and fats properly. Researcher Kerin O'Dea asked these previously bush-dwelling Aborigines to return to their former lives as hunters and gatherers. She did this in order to see whether their health would improve.

After seven weeks, tests revealed that every aspect of their health had actually improved. They lost weight, their blood pressure decreased, their triglyceride levels normalized, and they had more minerals, healthy oils, and micronutrients in their systems. This indicates that adverse health outcomes can reduce by changing what we eat. But the focus of this study wasn't just on nutrients, but rather on overall dietary patterns and lifestyle.

The Importance of Connecting to the Food We Consume

What we eat, and how we eat it, has drastically changed in our contemporary lives. The rise of industrialization caused a disconnect between humans and real food, and reduced eating pleasure. Furthermore, it also dramatically changed what we've done with food. We've moved from whole-foods, to refined foods.

Refined sugar and carbohydrates, will spike our blood sugar and also have little nutritional value. Research indicates that, for the average American, 20% of their total calories come from sugar and 40% from refined grains. This means the American diet consists of approximately 50% sugar, in one form or another.

This can lead to numerous metabolic disorders such as Type 2 diabetes, as well as obesity. Fiber from unrefined foods not only mitigates the quick release of sugar, but it also helps us feel full. When we remove fiber, we may still feel hungry, even after eating a large meal of refined carbs. So many of us get caught in a vicious cycle of overeating, but never feeling satisfied.

We've also moved from complex diets, to simple diets. For example, despite the seemingly endless variety of food available today, only four different crops account for most of our caloric intake. These are corn, soy, wheat, and rice. There has been a massive shift from quality to quantity. This means that we're overfed but undernourished. Chemical fertilizers make plants grow faster, but when plants grow at a quick rate, there's less gestation time, meaning less time to absorb nutrients from the soil. For example, in today's world, we need to eat three apples to meet the equivalent iron levels present in just one apple in 1940.

We also went from eating lots of greens, to more seeds. We now rely on a handful of durable seeds, with a long shelf life, from which corn, soybeans, wheat, and rice derive. This shift away from leafy vegetables, led to a move away from micronutrients to macronutrients. Finally, we shifted to a food culture where family members no longer decide what's on the menu. Rather, food scientists are dictating what we eat. What's more is that we tend to eat while sitting in our cars or in front of the television, instead of around the table with our families. In other words,

we've moved away from our traditions and adopted nutritionism.

What's the Solution?

It comes full circle to what Pollan has learned in the seven magic words: Eat food, not a lot, and mostly plants.

But, food is a broad term. So what exactly does Pollan mean by food? Well, put simply, it's what your great-grandmother would regard as food. This means vegetables, fruits, whole grains, and, yes, even animal protein.

Pollan suggests that we avoid edible food-like substances such as meal substitutes, or health shakes. He also says that, if you're concerned about your health, you should probably avoid products that make grandiose health claims. Why? Because a health claim on a food product, is a strong indication that it's not really food, and food is what you want to eat.

When you're in the supermarket, avoid food products containing unfamiliar, unpronounceable ingredients, or that include high-fructose corn syrup. When you pick up a tub of sweetened yogurt or eat something with a list of ingredients you can't pronounce, it's worth questioning why they're there in the first place. Pollan's strategy for shopping is to stay away from the middle sections and shop on the perimeters. Real food tends to be on the store's outer edge near the loading docks, where it can be replaced quickly with fresh foods.

And remember, It isn't just what you eat, but how you eat it. Mindful eating is key. Pollan suggests that we try to finish our meal while we're still feeling a little bit hungry. Many cultures have sayings that help us to

stop eating before feeling full. In Japan, the idea is to eat until you're only four-fifths full.

In times gone by, families ate together around a table at regular meal times. It's a good tradition. Enjoy meals with the people you love. In the U.S., 20% of food is eaten in the car. So, make it a rule not to buy food when filling the gas tank. Lastly, eat mostly plants. Think of meat as a side dish or garnish rather than the central component on your plate. Make fresh natural ingredients the focus of your meal.

In Conclusion

Michael Pollan reveals that nutritionism is an ideology, not an actual branch of science. As we know, ideology is all about power, and this book gives us back the power to decide how we view food and our own nutrition. So, block out all of the noise around diet-related choices, food fads, and what nutritionism is telling us.

Through reading this book and engaging with the research, one thing is abundantly clear. The standard Western diet isn't good for our health. Furthermore, all of us need to change our attitude towards food, and to be more critical of scientific health claims. The food industry's influence on what we eat, is extensive. And, what they're telling us isn't simple.

On the other hand, Pollan's advice around diet is incredibly simple; it's seven easy to understand words. Eat food, not a lot, mostly plants.