



Food Facts Versus Fads

“...Science and opinion; the former begets knowledge, the later ignorance.”

--Hippocrates

Science does not tell us how to put a plate of food together. Facts are a work in progress. There will always be new data providing new insight into details we were previously unaware of. The new conclusions we draw from the data (new and old combined) allows us to use that data for making decisions in our life, such as how to eat. The data by itself tells us nothing and leaves us with no guidance until we interpret it and test that interpretation for ourselves. When new data changes our interpretation, the old data is still valid; the new data has simply been added to it. The previous data is still fact, and new data is new facts to add to the old ones. Opinions or interpretations were never fact and never will be. Interpretations are the models we create in our heads to create a story of what the data means. The model then guides our decisions. If the model does not work, we go back to the data to see if we missed something, and researchers go back to the lab to collect more data to fill a gap in the model, sometimes recording data that uncovers the possibility of a completely new model. Models are temporary since they are subjective. Data is permanent because it is objective. Since data by itself are not a model helping us to make better decisions, data and therefore facts are ultimately meaningless. Opinions, or interpretations, give the data meaning, or guidance we can actually use. But opinion not persistently looking at the data can stray into ignorance.

Who cares: You do. The fact that you are reading this means it has crossed your mind that nutrition can impact health and performance. But if you aren't going to just eat pizza and ice cream or whatever you want all the time, you should at least get some tiny fraction of the benefits you were expecting. You might just randomly choose the right diet and succeed brilliantly, but the massive disagreement with how to eat you find in conversations, books, the internet, and from experts, tells us there is more confusion than clarity. Some of that confusion comes from a lack of data, but much of it comes from not paying attention to what data already exists. Some examples:

- **Calorie balance is an over-simplified model:** There is significant data showing over-weight individuals live longer in the United States than normal-weight, and many studies showing that some individuals losing weight reducing their lifespan compared to gaining weight. Perhaps (just a guess) the lack of nutrients in modern foods requires us to over-eat in order to optimize our health. With more data, our model can evolve so that it helps everyone, instead of helping some and hurting others.
- **If a diet seems strange to you, it probably is:** To succeed with a book or as a guru, you need differentiation. A diet that just tells you to eat unprocessed foods is not likely to succeed unless it comes wrapped within a powerful story (think Michael Pollan). If someone is excited to bring you the news of a new diet, it is something other than salad, a bit of fats and protein, plus water. As you discover restrictions that conflict with your common sense, you might question whether these restrictions are based on science, or how the science is being interpreted. Since control groups asked to change nothing during a study generally get healthier (which is the reason for having control groups), we know that just paying attention to what we are doing (because we are going to be asked what we ate each week) improves health. The more restrictions in a diet the more you have to pay attention. Benefits might have nothing to do with the details of the restrictions, which explains why every diet works for someone, at least for a while. If the restriction is actually a need, then eventually the diet will backfire, forcing a shift to another diet, which in turn will likely work for a while.
- **Animal products:** Vilified for half a century, there is as much confusion now as there ever was. Cancer risk is highest from over-cooking or putting preservatives into animal products. Circulatory diseases are highest from oxidized cholesterol, which occurs mainly during processing or high-temperature cooking. The fat calories and quality in animal products varies dramatically based on how the animal lived and ate during its lifetime. A profound example is that pasture-fed cows have half the total fat and ten times the polyunsaturated fat as regular domesticated cows. Egg yolks, milk fat, cheese, butter, fish, and other animals have similar differences. These problems do not arise from the animals, but how we process them in life and after up until we eat the results.
- **Plant products:** The concept that plants are the healthiest thing we could ever put into our mouths seems so patently obvious and necessarily true that vegetable juices, smoothies, powders and supplements of myriad forms have filled our health food stores, gyms, and groceries. Plants do not want us to eat them (other than their fruit to transport their seeds), and high levels of the nutrients that make us healthy also shut down our digestion, becoming “anti-nutrients” in very high levels, reducing nutrient absorption. This does not happen when eating vegetables because they are so filling that they are self limiting. It is the belief in their super powers that leads to supplement use and damage from too much of what would otherwise be (in “fact”) the best for you.