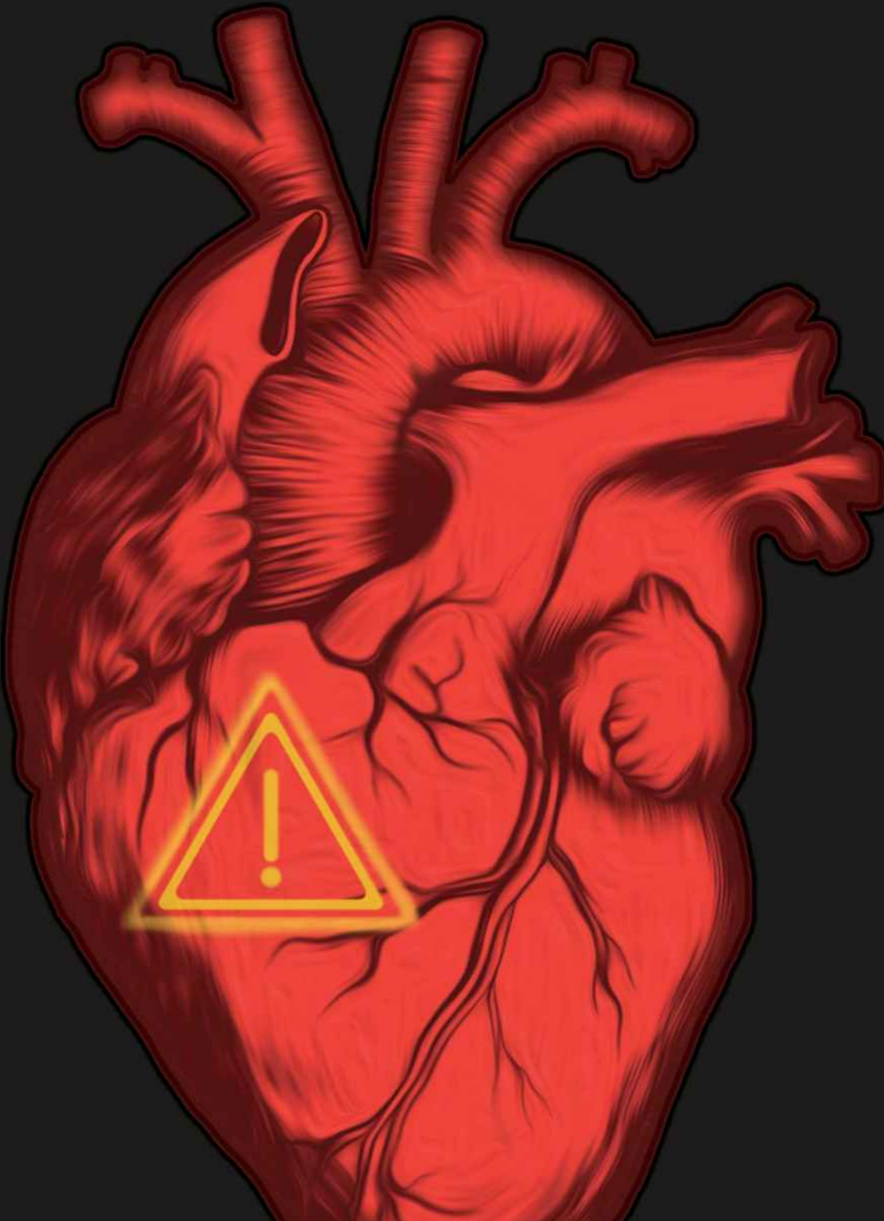
Contraindicated



A closer look and revision of mainstream health axioms that have perpetuated illness, disorder and disease for over a century

Edward A. Goeke

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Contraindicated | con·tra·in·di·cat·ed | ˌkäntrəˈindəˌkātəd |
adjective • not advised as a course of treatment or procedure.

PROLOGUE

IT SEEMS LIKE THE WORLD is falling apart in many ways. I could go on and on talking about the political and cultural reasons for this, but there are hundreds of books and podcasts that have taken care of that for me. What I will delve into instead is another reason that has gained some traction, but not enough (by my estimation), that being the divergence away from our roots as a species—where we came from, and how we used to act in every way, particularly with regard to our diet and lifestyle. This reason is much different than the other types because this hasn't simply resulted in the destruction or near destruction of societies, governments, relationships, and other social structures—it's resulting in a more serious threat to the existence of our species as a whole: An extinction.

This may sound implausible and even comical initially, however I assure you that it is a very real, pressing threat, and the proof has been right out there in the open for quite some time, just not in an aggregated, combined fashion to show the severity of the whole picture. We have been the apex predators of the world for millions of years, but in the last couple of thousand, we have started to decline rapidly. With the introduction of new ideas and philosophies about lifestyle, health, and diet especially, we've introduced new scientific "axioms" —supposedly self-evident truths and myths that have been allowed to pervade by charlatans, crackpots, and arrogant laymen due to ignorance, rapaciousness/predatory greed, and/or outright misanthropy, and, consequently, have introduced a slew of new contraindications into our lives.

Disease rates have increased exponentially, most notably obesity, diabetes (type 1 and type 2), heart disease, autism, and autoimmune disorders, as common as these are to list off, albeit incredibly serious (approximately 96 million Americans are pre-diabetic, 70% of which will be diabetic in under a decade[1, 2]), and that's not to mention the 148% increase in incidents of Alzheimer's disease since 1990, the 67% increase in ADHD diagnoses since 1997-1998, the 4,525% increase in autism since 1966, the 40 fold increase in the prevalence of bipolar disorder amongst adolescents from 1994-2003 *alone*, among many other things[3, 4, 5, 6].

Our average life expectancy has decreased for the second time in decades despite having discovered the top level of technological and medical advancements in world history, with that lifespan being 73.11 years in the United States, when studies have been conducted that have demonstrated that, genetically, humans should be living up to 120-150 years of age[7, 8, 9].

This is why we will be taking a closer look at these mainstream health axioms that have perpetuated illness, disorder, and death for over a century, exposing them, and revising them so that you have the knowledge to avoid these and live a happier, healthier, more indicated life as a human being. Because if you still believe these axioms to be true, let me tell you this:

When ideology and its accompanied propaganda has pervaded a society for decades upon decades; when it's taught in schools around the globe for just as long, and the promulgation and implementation of such principles and strictures and its proclaimed "axioms" have not improved the human race at all, but rather have, ostensibly, done the precise opposite when you competently observe health statistics, you must start asking yourself if what we have been taught for that amount of time is truly robust, or if it's fallacious and entirely erroneous, bereft of any hint of veracity. And, yes, when someone turns to the 99% of people, points to them, and says, "you're wrong," it will be contentious and inflammatory; it will look like they're inane and ignorant. But, at some point, someone has to, and then, once one person does, others tend to conform. I encourage you to be that person like I, and many others, are. Don't fall for people who say that millions of people are

doing or saying "x," and therefore you must be wrong—don't fall prey to the appeal to consensus fallacy. Do you want to be normal if normal looks like a slow extinction? And do you think that the facts being perpetuated are really true if they're leading to such extinction, or, at the very least, aren't helping stave it off to any degree? I don't think so.

Throughout this book, I'll be adding a "Timeline of Health" where I'll be adding each change that occurred in our history in a chronological fashion that contributes to our incessant downfall in order to put everything in excellent order. I will also be adding "Toxicity Hierarchies" which will be located at the end of the book, which are pyramids that rank all of these contraindications in terms of severity, with the bottom of the pyramid being the most contraindicated, and the top being the least. I'm trying to prevent your eyes from glazing over too much, so I'm making things as fun as I can!

Something I need to clear up immediately, however, before I proceed to expound upon and talk about anything in a “fun” way, is why someone should listen to someone like me, with no administered "credentials" as I write this, about anything regarding health and lifestyle in the first place. To make a brief note here, one can speak upon a topic without having had credence administered to them by an institution—you don't need to be a physicist in order to have the ability to acknowledge the existence of gravity. What truly matters, in this regard, is whether what is said is unequivocal and unassailable, or not.

Keep in mind as well that on average, US medical schools offer only 19.6 hours of nutrition education across four years of medical school, according to a 2010 report in Academic Medicine[10], with other professionals even stating that doctors get only *one* hour taught in 4 years of medical school[11]. In a 2016 study, researchers at Case Western Reserve University examined data from 25 family medicine, internal medicine, and OB-GYN medical residency programs throughout Ohio and found that these programs averaged 2.8 hours of instruction on obesity, nutrition, and physical activity counseling, and only 42% of them taught the residents techniques for how to perform health behavior counseling[12]. However, even then, the information espoused by these institutions is flat out incorrect, so even if they received more time being taught such information, it would be complete rubbish, possibly indoctrinating the so-called "experts" even more. As Hippocrates once said, "If you are not your own doctor, you are a fool." The axioms that are promulgated in institutions nowadays have effectively made it to where people enter them smarter than they become after their attendance, so the credibility of institutions and the veracity of their information isn't very robust anymore. If anything, now, when someone announces they are attending (or have already attended an institution for studying in a given field), they are, apparently, much less credible. It shouldn't take too long to understand why in this upside down, backwards world we live in today. Think about it—when have the "experts" not failed us in the last 10 years (and, later on, you'll actually come to find that it hasn't simply been in the last 10 years—it's been the last 140)?

Given the fact that experts nowadays are completely indoctrinated ideologues and/or shills (with all due respect to the ones that aren't, of course), I think it's about time we look elsewhere for answers. I mean, if people will listen to Greta Thunberg about climate science, then I think people can give me a shot too. I am completely aware that I'm really putting myself out there; there is a lot more pressure and scrutiny on me than there is on others that are doing exactly what I'm doing given my age and lack of experience, but I welcome and indeed encourage all criticism to these espousals and citations. After all, I am accountable for what I say, reference, and publish.

Without further ado, let's start this, shall we?

CHAPTER 1

LOOKING AT SCIENCE ~~DIFFERENTLY~~ PROPERLY

BEFORE WE GET INTO TRULY exposing and dispelling the promulgated myths and contraindications in human life, we first have to touch on what the best approach is to assessing that. And, in order to do that, we have to appreciate how we've been looking in the wrong place for answers for almost 80 years—in the field of human nutrition science.

Yes, it sounds ironic, considering that this is a field of science specifically designed to responsibly and accurately determine what is most indicated for human health in terms of diet and lifestyle in a very disciplined fashion (right?). However, it has done nothing of the sort. We will get into the fraud and corruption that's always been involved (and remains even now) that contributes to this lack of results later on in this book, but even putting that aside, human nutrition science still cannot determine how humans should eat and live for their utmost robust health and longevity because of one simple reason: *Human nutrition science is not a hard science.*

Everyone seems to overlook this fact. Science can be split up into two types—observational, and “hard,” let's say. A hard science unequivocally establishes cause-and-effect between factors and the associated results. Observational science exclusively establishes associations, which indicate possible or potential causes and consequential associated results, and never a causal relationship.

Human nutrition science (as we know it to be today) has only been around for about 75 years, and is only observational, unless you are looking at studies such as test tube studies that can establish a cause-and-effect, but with findings that cannot be extrapolated to human beings as a whole, as these studies were not experiments done directly on human beings, therefore rendering those studies only useful for making some (potentially) judicious inferences at most.

What this means is that there are no studies that inform us on the risk of any disease process or hard health outcomes as that relates to any aspect of human nutrition over any given period of time throughout the entire time human nutrition science has existed—there never has been, and there never will be. The word "risk" implies a cause-and-effect relationship, and that cannot be established in human nutrition science. In order to achieve that, you need to do an experiment on human beings. In order to do that, you have to take two genetically identical twins (both phenotypically and genotypically identical), separate them at birth into two separate metabolic ward lock-in rooms, control every variable, including the time they wake up, the time they eat, their stress levels, etc, and observe them over their entire lives if you're trying to infer life-long health outcomes, 40 years for 40-year health outcomes, etc. This is completely implausible, and, even if it weren't, would be too expensive, and also would not get past an ethics committee. Therefore, we use observational data, which cannot, under any circumstances, establish cause-and-effect. Sometimes we also rely on poorly randomized and uncontrolled trials/interventional studies that call themselves "randomized controlled trials (RCTs)" in order to sound scientific, and usually those also have appalling statistical power (and yes, this means that any study—any—that claims that it is a "randomized controlled trial" or "clinical" trial is misleading you).

This may come as a surprise for many of you, because perhaps your doctor has talked about the "science" and "evidence" behind engaging in certain diets and lifestyles, but the studies cited are always from this field, and therefore hold no veracity (understand as well that doctors and any other physicians are absolutely *not* trained in the interpretation of science, so their abilities to interpret science are the exact same as a high school graduate's ability to do the same. Remember this next time you visit your doctor and want to ask them about anything at all regarding diet and lifestyle).

So, yes, you read it correctly—no studies show a cause-and-effect relationship between a food (for example) and a hard health outcome in human beings. So when you see or hear the WHO stating that red meat, for example, is a type II carcinogen, you can safely disregard this, as that is based off of observational data only, and cannot establish a causal relationship. There are other words besides "risk" that imply cause-and-effect as well that are therefore inappropriately used to explain results or findings of a study. Here is a list of a few of them:

- Protective
- Preventative
- Hazard/Hazardous
- "Linked to" (sometimes can be used to describe associations, but not often)
- Cause
- Effect
- Anti-_____ (cancer, for example; the prefix "anti-" implies a causal relationship)
- Pro-_____
- Atherogenic (the suffix "-genic" implies something causes the generation of something else)
- Chance ("Chance of developing _____")
- Likelihood
- Without a doubt many, many more

Other responsible words to use instead would be words/phrases such as:

- Incidence (as opposed to "increased 'risk' of," you replace with "incidents" or "incidence")
- X is/was associated/correlated with Y

Funnily enough, it's that simple, and yet scientists still don't do this, and instead insist on using the irresponsible language you saw on the first list.

I'm not mentioning this for the purpose of being captious either. I'm shining light on this because this is genuinely extremely dangerous and irresponsible to be doing. To take a hypothetical example, let's say an "RCT" comes out in the BMJ that says that eating seed oils in small amounts every day increases my risk of having a heart attack by 45%. The word “risk” implies that if I reduce my consumption of seed oils (which increases my so-called “risk” of a heart attack), I will, without a doubt, unequivocally, reduce that chance of me having one by a degree proportional to the amount I decrease my consumption by. This *may* be correct, but the study cannot under any circumstances at any point make that conclusion. This pseudoscience is brought upon primarily by extreme laziness and dishonesty from the medical community. Most scientists nowadays are so careless, and do not care as much as they should about the supposedly insignificant matters that, in many ways, are really the most significant. For many scientists, however, it's not entirely their fault—they're just using the common phrasing that they were taught and that they hear perpetuated without criticism in their daily lives. But it doesn't change the fact that these words should stop being used to describe results that demonstrably show no cause-and-effect relationships within the studies.

The next piece of science we need to expound upon is nutritional epidemiology. It's ironic that I call it science, because it barely is. Epidemiology's role in the entire scientific field in a nutshell is to discover associations between variables, assess the strength of those associations, identify any confounders and covariates in the process (variables whose presence affects the variables being studied so that the results do not reflect the actual relationship), and then assess whether or not the association is significant enough to perform an experiment on to attempt further to discover if there is a causal relationship between the variables. To be sparing here, epidemiology itself isn't what should be used to determine whether something is indicated or not—it's a precursor to performing and undergoing actual scientific experimentation. But, we live in a backwards, irresponsible, careless world at the moment, and so that's exactly what scientists do. Since that's the case, let's break down all of the flaws in nutrition epidemiology so that you can understand just how unscientific it really is, and hopefully think twice about trusting it ever again the next time you encounter it.

The first flaw with epidemiology is that it only establishes associations, and never causality, which was already mentioned. The ironic part, however, is that despite how obvious this sounds (and is), scientists insist on still using the language I listed previously, such as “risk” and “hazardous” to describe the results of such studies. The first thing you're ever told in science classes—especially statistics—emphatically—is **“association does not equal causation.”** This means that just because sunburns are positively associated with ice cream sales on a beach, for example, does not mean that in order to reduce the sunburns, you halt the sales of ice cream on said beach, because the sun is clearly the phenomenon causing the burns, and not the ice cream.

It's one of the most trite, overly familiar points, and yet it still continues to be the most neglected scientific axiom (right next to “do no harm”).

The second flaw with epidemiology is that there is a complete and total lack of control, with the results being adjusted for at the end of the study through a process called multivariate regression. What does this mean? Well, let's break it down.

When a scientist says that a study has no control, that's simple—it just means that the variables were not controlled, such as activity levels, sunlight exposure, stress levels, work hours, and many others. But what does it mean when results are "adjusted for" at the end of a study? This is the best part. It means that after a completely uncontrolled study has been conducted, and the results have been calculated, the scientists change the results into ones they think they *would* have seen if they had controlled the study. In other words, they turn the study into fiction, as scientists report what they observed, not what they think they would have observed if they had done the study differently in an ideal world. They typically do this via a process called multivariate regression, which involves producing a trend line with much lower residuals and much less error around them, inflating the power of the result, but also, possibly, changing the entire result, which leads to a phenomenon that is typically referred to as something else—*fabrication*.

Another problem with epidemiology is that it is all based on respondent data, in which people—like you and I—are the ones supplying the answers for what we eat and don't eat through an administered questionnaire. I think we can all see the first problem with this. People lie, first of all, but also, how would you know how much meat you've had this year? These questionnaires typically ask vague questions such as this. The questions are incredibly vague, and therefore lead to even more inaccuracy, and even misclassifications. For example, a questionnaire may prompt you with a question such as "how much pizza have you had in the last year?" This administer expects you to know the exact amount, or, at the very least, an accurate estimate, which is unrealistic, but even putting that aside, they may classify "pizza" under "red meat," and, later on, stake blame for potential positive associations between (*reported*) pizza consumption and disease outcomes on red meat due to the lack of specificity in these questionnaires, and the consequential room for manipulation and meticulous wordplay. This phenomenon skews the entire picture, and this factor *alone* renders epidemiology a poor reference for healthy eating and lifestyle behaviors to emulate.

It doesn't help epidemiology's case that the respondent data it depends on has many biases, the most notable of which are healthy user bias and unhealthy user bias, which are self explanatory. Healthy user bias is a bias in which people who exhibit a myriad of other healthy living behaviors, such as walking regularly, not smoking, being integrated tightly with community, regularly exercising, etc, are reported as healthy, with that result being attributed to one factor alone entirely, such as their diet, which, typically, with most health conscious people, is plant-based, disregarding the presence of the multitude of other confounders that played potentially very significant roles in their results. Therefore, these studies will lead people to infer that since most healthy, long-living people consume a plant-based diet, this must be the reason that they live so long and healthily, which is completely unfounded due to this reductionary bias. Unhealthy user bias is the exact opposite, where people who exhibit very *unhealthy* behaviors, such as smoking, eating lots of sugar, and never exercising, for instance, don't live as long because of their careless and rebellious nature (or due to ignorance), with authors of these studies concluding that the reason for the death was due to how much red meat they may have been consuming, for example. Typically, people who eat lots of red meat are not health conscious, since we have been told that red meat is bad for you for so long, and therefore they don't care what they eat—they just care if it tastes good. But is it really appropriate to stake all blame on one factor, or, in this case, one factor *of* a factor (the *red meat* within the *entire diet*, with diet being one of the *many* other factors)? I don't think so.

And then there is the phenomenon of arbitrary selection criteria. To put it simply, authors of epidemiological studies have the privilege of deciding which studies they include in their meta analyses and which studies they exclude from them based on any criteria they like, such as men only, English only, etc. Of course, they will choose the criterion that conveniently supports whichever bias they side with personally, but you're just supposed to ignore that. Okay?

That's not the only bias you have to worry about, unfortunately—you have to look out for publication bias as well. This is the interesting rule with regard to epidemiological journals that—get this—disallows epidemiologists from publishing studies that disprove their hypothesis within them. Forget the fact that there may have been 10 conductions of your study with results that disprove your hypothesis—if there are just 3 that prove it, they'll take 'em!

Perhaps the most misleading element of these types of studies, however, is with reference to the reporting of relative outcome statistics, as opposed to absolute outcome statistics. To be sparing, what this means is that if, for example, there are two populations being studied, each with 1,000,000 people within them, and after the study is over, the results were that one person died in Population 1, and 2 people died in Population 2, this would equate to a 100% relative increase in deaths in Population 2 as compared to Population 1. Do you see how misleading this is? In reality, there was one more death in the second population compared to the first, and yet you can still get away with saying 100% of an increase in death occurred. Epidemiology should always report absolute outcome statistics alongside relative, as relative outcome statistics are effectively useless. What's interesting as well is that typically, in nutritional epidemiology, the differences between the "controlled" populations and experimental populations, when converting the outcome statistics into absolute outcome statistics, are somewhere in the range of tenths—or hundredths—of thousandths of chances of death (or whichever the outcome is in the study) per person per year of follow-up. If you were to multiply this by 100 (for 100 years of follow-up for a 100 year lifespan, for example), the utility of this is much, much less than nothing at all.

The last primary problem with epidemiology is the problem of extrapolation. The findings of epidemiological studies cannot be extrapolated to any group not studied. Most epidemiological studies are done on very aged populations in order to ensure the occurrence of deaths in the studies, so extrapolating the findings to anyone that is a different age will not work.

You also cannot extrapolate to anyone of a different race/ethnicity, gender, etc. At the end of the day, nutrition epidemiology is just as bad—if not worse—than interventional studies that I eviscerated earlier.

The main takeaway is that **Human Nutrition Science as a whole is bread and circuses from the mainstream medical establishment, with the intended audience being we, the people.**

So then what do we do? If we can't use nutrition science at all to even remotely accurately determine what is indicated behavior for human beings, then how are we supposed to figure this out?

Well, it's just as I said before—human nutrition science is not a hard science, and neither is epidemiology. So, the solution would be to analyze the hard sciences. What are those, you might ask? The most relevant ones that I'lI be dissecting throughout this book will be biochemistry, anatomy, anthropology, and even some physics later on. When delving into these fields of science, the answer becomes abundantly clear as to how human beings should be living in every respect, and we can finally say goodbye to this never-ending mystery.

CHAPTER 2

OUR REGRESSIVE PROGRESSION (A REINVESTIGATION)

IN OUR SOCIETY, YOU HEAR many individuals claiming that we have made such great strides in every aspect of health, such as disease prevention and mortality rates from diseases, along with availability and quality of food compared to the last thousand years, and especially since an amount of time like 20,000 years ago, for example. The problem with this claim is that, in reality, when scrutinizing the data in practically every field, as a species, we've been regressing for about the past 13,000, with that decline having markedly increased in the last 120.

I mentioned just a short while ago about how human beings are not simply facing a threat to social structures such as just governments, relationships, and others, but rather a threat of extinction. For the people who still may scoff in their heads while reading that, allow me to elaborate why I am saying this, and why phrasing this phenomenon any other way is discounting the severity of it.

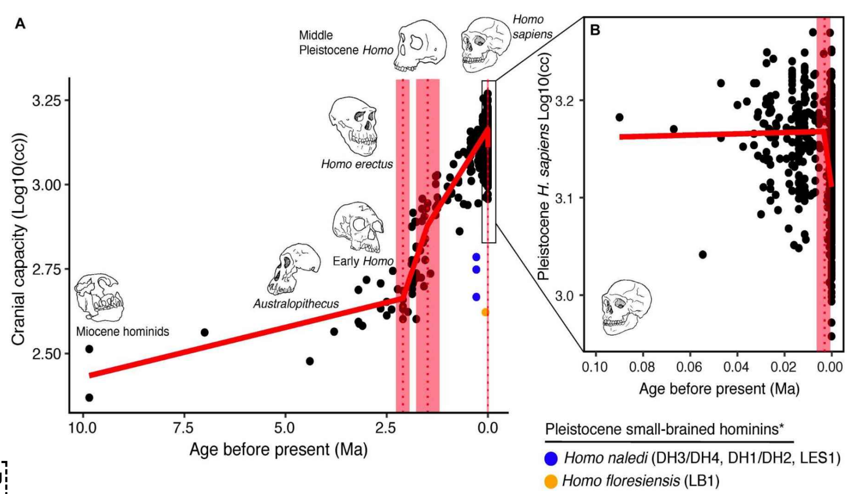
Throughout this chapter, we will be maneuvering through the sciences one by one, first starting with anthropology, then moving to biochemistry, and finally arriving at anatomy at the end.

• PALEOANTHROPOLOGY

We, as a species, have existed for 4.5 million years if you include all proto-humans that came before our current speciation, that being homosapien-sapien (if you count just our current speciation, it's been 350,000). This is a very long time, as one can clearly see. During almost the entirety of this time, our robustness was only ever increasing, albeit slowly, but that's how evolution works (if you believe in that, of course). When attempting to observe where our decline started, you of course should delve into the field of anthropology/paleoanthropology.

When doing so, you will start to see that the decline of our robustness started about 40,000 years ago, picking up pace at about 12,000-13,000 years ago. But what do I mean by “robustness,” exactly?

I'm referring particularly to brain size, height, jaw size, teeth formation and integrity, and bone integrity; these are the first attributes that start to decline in human history. Let's start with diving deeper into brain size.



This is a graph showing the trends in our brain size from the last few million years (measured in cubic centimeters), with the x-axis listing out the first 10 million years up to our present time period explicitly, which is the part we will be focusing on primarily. Since scientists can't measure actual brains in human remains, they measure the amount of space within the skull, which is known as the endocranial volume. As you can see, from Singe Anthropoide (our first primate ancestors) to Australopithecus africanus, we had some slow increase in brain size, but not too significant, and from Australopithecus africanus to Homo habilis, the same can be said.

However, from Homo habilis to Homo erectus, the brain size increases by what seems to be 80%. This makes sense, as we started hunting, and the nutrition we were getting allowed us to support bigger brains, but, also, demanded that we had bigger brains in order to develop strategies for hunting behavior. Then, from Homo erectus to Homo sapiens Neanderthalensis, it increases by an even greater amount, which is what seems to be a 110% increase between that time. With the introduction of Homo sapiens sapiens, our brains increased in size again, but very slightly. What is interesting, however, is that there is a stark decrease following this by what seems to be about 10% or slightly more, leaving us with about 1,300-1,350 cc in terms of our current brain size when referring to this graph.

Fortunately, this phenomenon is not unknown, and has been discussed often (but, again, not often enough by my estimation), with multiple different theories as to not only why it has occurred in the first place, but also why it has occurred so quickly. Let's take a look at some of them.

Some scientists say that since this decline most definitely started to happen when the Ice Age ended, that the vast change in climate led to a decrease in body size (since bigger bodies were more useful during times of extreme cold and food scarcity), and, consequently, a decrease in brain size[2]. However, other scientists, like John Hawks, have dispelled this by stating that the brain size reduction is “too great to be explained by simply having slightly smaller bodies[3].”

Another proposal, however, is that since the human brain takes up so much of our energy, we needed them to be quite big, but with the introduction of different ways to store information (like writing, artwork, and, now, modern technology), we could afford to sacrifice some of it.

Looking at this claim objectively, it does make quite a bit of sense—the more we need to use our brains, the bigger they need to be in order to store as much information. But does this explain the precipitous decrease of the brain size in such a short amount of time? Many, including I, do not think so.

Another convincing theory is that we, as humans, domesticated ourselves, just as we've done to other animals historically. This changes our appearances into adulthood (appearing more childlike), body size into adulthood, and being more tame and less threatening, along with, of course, decreased brain size. As an article in Discover points out:

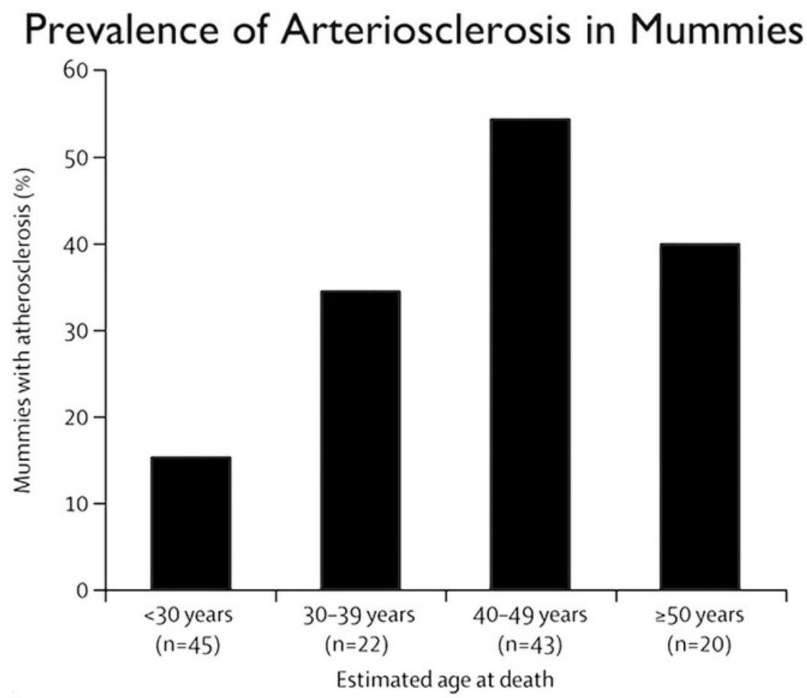
The idea is, within Stone Age societies, cooperative, level-headed individuals were more likely to survive and reproduce than combative, aggressive ones. Those pro- or anti-social inclinations were influenced by genes regulating hormones, which also affected physical traits, including body and brain size. Over time, "survival of the friendliest" led to humans with slightly smaller builds and brains on average[4].

Basically, the thought is that as societies began to cooperate more as a result of this domestication, even if our brains were smaller, this was still an advantage for the human race because societies became more socially intelligent. These last two theories that I've included do make sense, but there is another theory that has started to gain long overdue traction, and the one that I will be focusing on the most during this book, that being the extinction of the megafauna, and the occurrence of the agricultural revolution a few millennia ago.

When scientists start to observe the changes in brain size in humans, they often observe that this started to occur 40,000-50,000 years ago. In reality, this is actually quite a large range, but it's nobody's fault—we only have so many remaining records and remains/evidence. However, this leads very conveniently to this final, most relevant theory to the cause of this deleterious phenomenon, that being that the stark decrease in the size of the human brain is, in reality, due to the extinction of the megafauna, and the introduction of the subsistence of plant foods around 13,000 years ago. Most of our existence as a species has been during an ice age (the Pleistocene Epoch, which began 2.6 million years ago and ended around 11,700 years ago[5]), with our main food source coming from the flesh and associated fat of large ruminant animals, particularly, during this time coming from the megafauna we hunted down, as there were hardly any plants that were growing during this time (and even if there were, we would not have been eating them, which will be explained soon as well). On top of this, for decades and decades and only until very recently (the last 5-10 years), it's been unanimously agreed upon that most of our marked increase in brain size throughout our species' history is attributable to the consumption of animals when we began to be scavengers, and then even more animal consumption when we became hunters[6].

It would make sense that this trend would continue the more we ate other animals and acquired their unique nutrient content that is known for enhancing brain size, among other benefits as well. Unfortunately, however, once the ice age ended, both the vast climate change and the incessant hunting of the megafauna by humans led to their imminent extinction, leading us to a critical, life-threatening problem of starvation if we didn't do anything about this[7, 8]. Therefore, using our innovative and intelligent minds at the time, we decided to start to cultivate and treat plants for consumption and for nutritional purposes until we could find more animals to hunt. Just for fun, I'lI throw in that this period was also the time that we started to domesticate animals, which led to the discovery and first consumption of dairy as well, which does play a role in dietary change in human beings during this time too[9]. What came to be a subsistence method, however, ended up becoming the norm, and we only ever started to increase our consumption of plant foods, along with eating meat when it was available. Some scientists state that this was very fortunate for us because we finally started to eat healthier and started to get more adequate nutrition, when this could not be further from the truth, as many scientists nowadays are starting to come to realize. The most significant example of this not being the case, and one that is now very often cited, is the health of the ancient Egyptian population.

The primary diet of ancient Egypt (circa 3150 B.C) consisted of bread, fruits, vegetables, honey, olive oil, flaxseed oil, safflower oil, sesame oil, fish, waterfowl, and occasional red meat that they would boil, particularly[10, 11, 12]. Primarily, however, it consisted predominantly of grains and boiled meat, with the Egyptians at the upper echelons being the ones who got the meat, and the slaves/peasants being the ones that had most of the grains relegated to them[13, 14]. What's interesting about the ancient Egyptians, however, is that they had quite a significant prevalence of arteriosclerosis (heart disease) within their population. This is found when researching their mummified remains, which uncovers arterial scarring and plaque buildup within the vascular system[15].



The ancient Egyptians did not live too long either, which may be in part due to this new change. Other photos of ancient Egyptians also show relatively skinny people with large, bloated, inflated abdomens as well, along with others who were skinny, but destitute of any muscle mass (the latter group typically being the slaves who subsisted off of grains only).

The point is that it doesn't seem like this new way of eating was in any way optimal. It doesn't seem to have simply led to a decrease in brain size, however. As I previously alluded to, there have been other attributes of humans that have eroded over the last couple thousand years.

For example, something not often mentioned or brought to light is the fact that when scientists are attempting to determine whether skeletal remains of a human are from before or after the agrarian revolution, they assess the teeth; if the teeth are crooked and jagged, with some of them potentially missing or partially decayed, the remains are from after the agricultural revolution, and if they are entirely straight and have maintained their integrity, with no signs of decay, they are almost always from before the agricultural revolution.

This change in teeth integrity and their malformation is mainly caused by the decreasing jaw size that occurred during this time as well, which is also heavily associated with nutrient deficiency in some cases (for example, Vitamin D deficiency affects 50% of the world population[17]. Rickets is the bent formation of the legs in children due to Vitamin D deficiency, and Vitamin D deficiency affects sex hormones[18], which affects jaw growth[19]). The decrease in jaw size has caused some major issues, like malocclusion, the loss of adequate space for all teeth to grow, most notably, our wisdom teeth, and a higher propensity for the development of other oral diseases. In other words, crooked teeth are not a genetic problem—there is an argument to make about crooked teeth actually being a nutrient deficiency. In fact, Kevin Stock, a pediatric dentist who highlights this problem extensively, has made the argument that if there are no gaps in between children's teeth when they're growing in, then the jaws aren't developing properly, and is therefore a sign of very probable dental complications in the future[20].

Now, I have to say, this does make sense, because, last I checked, I don't see any animals in the wild prying their teeth out because they can't all fit in their mouths. Why are we the only animals in which this phenomenon is “normal?” Later on, you'll see that many, many things have been normalized within our species that aren't normal for any other animal.

To explore deeper, this decrease in jaw size can be attributed to a lack of a sufficient nutrient profile, but also to the cessation of the consumption of tougher foods like meat, and towards softer foods like beans and cereals, atrophying the jaw muscles[21]. Something else these smaller jaws have led to is “bags” under the eyes. Yes, you heard that correctly. Almost all bags under the eyes are not the result of a skin issue, but actually have a structural underpinning, which does indeed tend to get worse with age. The darker side to this, however, is how this decrease in jaw size affects tongue posture, which, in turn, affects one's breathing and digestion—especially with infants and toddlers. I unfortunately do not have all of the specifics on this, but I can refer you to Dr. Steven Lin's and Dr. Kevin Stock's work for that.

Take a look at these pictures of Africans from the past and the modern day:

You'll notice a complete lack of crooked, missing, and decaying teeth, with large, strong jaws that are able to harbor all of their teeth, all having happened without any dental care. These populations are not nearly as modern as the western world is, and therefore have not “progressively regressed.” Also, if you listen particularly to the people who speak Khoisan languages in southern Africa, which are languages that incorporate many tongue clicks, they are observed to have very well-developed jaws and pallets, which can be partly attributed to the tongue pressure required to make as loud of clicks as they do—the pressure and strength of the tongue click against the palate physically widens the roof of the mouth.

It's important to also appreciate the change in structural integrity throughout the entire body as well, and not strictly the jaw. According to one comparative study, "skeletal analysis suggests that [the] Neolithic peoples experienced greater physiological stress due to under nutrition and infectious disease[22, 23]." There are also signs that point to nutritional deficiencies causing decreased structural integrity, which are found in skeletal samples of Neolithic people in the form of hyperostosis (excessive growth of bone) and cribra orbitalia, which refers to active or healing lesions localized to the orbital roof, or the skull[22, 24]. There seems to have been stunted growth during this time as a consequence of these new nutrient deficiencies, and a continued decrease in height and structural integrity; our average height as a species has gone down markedly since pre-agricultural times, and differs greatly between still existent tribal African populations, for example, who are much taller than would be expected based on their income[25], and, unlike the rest of the world, have not succumbed to most of the agricultural changes that happened 12,000 years ago. Height has always been one of the main determining factors for assessing the health of a population with anthropological methods[26], so the fact that ours is slowly decreasing is not as trivial as others (or even you) may have thought before. All of these effects of the agrarian revolution on humanity start to make a lot more sense when observing the results of nitrogen and carbon isotope analyses. That sounds quite confusing, so let's dissect that.

Stable isotope tests aid in understanding past human diets. When it comes to diet, isotopes are stable, which means that when you eat anything, the signature of that meal in terms of its isotopes is kept and remains the same after it reaches your bodily tissues. Because bone tissue is constantly rebuilt, the signature of the consumed foods will last for as long as it takes for that bone to be entirely replaced, which is around 10 years. Teeth, on the other hand, develop in layers all the way down to the root. As a result, looking at the tooth root will reveal what someone's diet was like during the time that tooth was forming (the first 0-10 years of life in the case of the first molar, for example).

Stable isotope testing precisely examines the protein in bones. To do so, scientists first dissolve the solid component of the bone (the mineral), and then filter the protein to make certain that it is isolated. It is then weighed into tiny tin capsules and burned in a mass spectrometer, which releases it as a gas and allows the isotope ratios to be measured (an isotope is a type of molecule that has the same number of protons and electrons as another element but a different number of neutrons, resulting in a different mass compared to the original element). The scientists then examine carbon and nitrogen. If the results are low carbon and low nitrogen, the individual was most likely eating a plant-based diet with some animal foods, while high carbon and high nitrogen levels indicate that the person was most likely consuming a high seafood diet.

When isotope analyses were performed on ancient human bones prior to the spread of agriculture, it was shown that humans and our predecessors had very high carnivore ratings—even higher than other carnivores at the time, such as lions, wolves, foxes, and hyenas[27, 28]. Now, it's one thing to say that, but let me put it into greater perspective for you: The fact that we had higher carnivore ratings than those animals doesn't simply mean we ate more meat than them—it means we were eating them.

It's true—human beings have a long and rich anthropological history of eating meat, and basically nothing else[29, 30, 31]. Take a look:

Cavemen’s diet really did just consist of eating meat, researchers claim

Comment

Jeff Parsons
Friday 22 Mar 2019 3:29 pm

LIVE UPDATE / FROM THE LIVEBLOG OF SUNDAY, APRIL 4, 2021

Israeli study: Humans were hyper-carnivorous apex predators for 2 million years

4 Apr 2021, 3:01 pm |

Meet the meat mongers

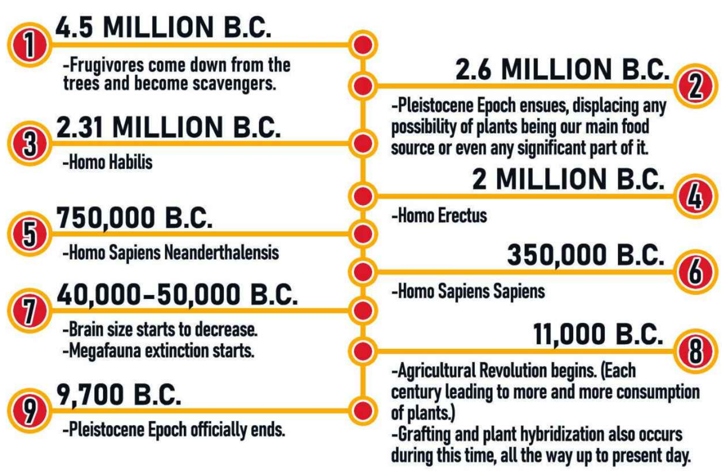
- The Inuit of the Canadian Arctic thrived on fish, seal, walrus and whale meat.
- The Chukotka of the Russian Arctic lived on caribou meat, marine animals and fish.
- The Masai, Samburu, and Rendille warriors of East Africa survived on diets consisting primarily of milk and meat.
- The steppe nomads of Mongolia ate mostly meat and dairy products.
- The Sioux of South Dakota enjoyed a diet of buffalo meat.
- The Brazilian Gauchos nourished themselves with beef.

Throughout the entire existence of human beings (4.5 million years), we have been eating the flesh and associated fat of large ruminant animals, and almost nothing else. It turns out that the only plants we ever ate seem to be large fibrous tubers like sweet potato, which were absolutely nothing like what they are today (starchy and loaded with carbohydrates), and we would only consume these when hunts were unsuccessful and we were starting to enter a starvation episode. A huge part of this is common sense as well. I mean, cave paintings almost exclusively show cavemen hunting megafauna, not gathering crops and making salads. This also makes sense because this would explain all of these regressions in humans' integrity and structural health as well, and how and why it continues even today.

It's also important to address the fact that these isotope analyses are done on all animals to determine what they are designed to eat all across the board. For some reason, our current society believes that there's not one diet for everyone and that everyone thrives better on a different diet.

What makes anyone think that we are different from any other animal in that respect? I challenge anyone to identify two animals of the same species that can demonstrate they are eating two different diets. It won't happen! And it's the same with humans. We will touch on this again and in more depth later in the upcoming chapters.

So the next time someone says that it's simply "common sense" that human beings are omnivores, refer them here, or, just show them the analyses referenced at the end of this book.



One more thing that deserves an acknowledgement is what I like to call the "fruit & honey" conundrum. I'lI make this very quick and straight to the point—we did not have year round, big, juicy, ripe fruit and copious amounts of honey and maple syrup around to eat with our meat that we hunted, and neither did we not suffer physiological damage from eating sugar when it truly was available; the sugar was (and is) not magically harmless because it comes in a naturally grown plant. This is not an attack on individuals who choose to eat what is called "animal based," but it is still a point that needs to be addressed. This is covered far more granularly in Chapters 3 and 6.

With all of this information now at the forefront, I think it's pretty safe to say that the agrarian revolution has resulted in far more deleterious results than beneficial ones for the human race. Now let's look at some other sciences that will allow us to further uncover why we have been regressing as a species, and will allow us to make more specific inferences as to what is indicated and contraindicated for human beings along the way.

• BIOCHEMISTRY

Here is where we move to the science that is the most effective at determining what behavior is indicated and contraindicated for humans—biochemistry, or, as others like to refer to it as, physiology. As useful as anthropology is, it's mainly used to make inferences, and still not to make cause-and-effect relationships. Biochemistry, on the other hand, is different; this is a science that actually *can* objectively establish a cause-and-effect relationship between variables within the body, such as how cyanide will react with the cells of the body, and how water reacts within the body; at the end of the day, the human body (and all other animals' bodies) are just massive, perpetual series of chemical reactions. When looking at this field of science, you aren't simply *inferring* anymore as to what humans should be eating and how they should and should not behave—you're actually proving it.

There are 5 biochemical phenomena that point us further in the direction of what is indicated for humans. The first thing to start off with is a biochemical process within the body called The Randle Cycle.

1. The Randle Cycle

The Randle Cycle is a biochemical process in humans that is important in the role of energy utilization in the cell membranes. Originally called the glucose fatty acid cycle, the Randle Cycle was discovered by Philip John Randle, a metabolism and diabetes researcher, and published in 1965, which described the methods in which fat and glucose operate in conjunction with one another in the body[32].

It's well-known that there are two main fuel sources for mitochondrial function, which are fat, and carbohydrate, or sugar. When a cell fluid, or the cell cytosol, fills up with nutrients, it becomes rich in either fat or sugar, or a combination of the two. The mitochondria in your body have a maximum rate of respiration, or the maximum rate at which they can utilize the available energy in the cell fluid to create ATP per unit time. It will be more if you are active, and less if you are resting, but there is an absolute limit nonetheless. When the mitochondria reach that limit, fat, glucose, or a combination of both will be disallowed entry into the cell.

First, when a cell is full of fat, it will refuse admission from both fat and sugar, because there is a large amount of energy stored within that cell that is not needed at the time, and because, most importantly, **sugar inside your cells is extremely harmful.** As a result, access is prohibited in order to protect the inner workings of vital cells such as muscle cells, organ cells, and so on. No more fat may enter because it is no longer required. As a result, it remains in the blood. We don't need any more sugar either, thus its admittance into the cell is also prohibited. That extra sugar subsequently accumulates in the blood and begins to pool, causing an increase in your fasting blood glucose level, leading to an excessive amount of **insulin** being released.

I'm assuming most of you know what insulin is if you are reading this book right now. But, for the people who don't, let me give a quick rundown. Insulin is the feeding and storage hormone, which makes it an anabolic (or "building") hormone that affects every cell in the body (meaning every cell has an insulin receptor). Insulin is completely anabolic at the muscle, promoting muscle synthesis and glycogenesis (the storage of glucose in the muscle for later use), and it also tells the liver to make lipids/fats (lipogenesis) and/or glycogen (glycogenesis), and thus is involved in both fat storage and glucose storage, which is relevant to this section—the only way to have elevated insulin is to have elevated blood sugar. The take-home message is that insulin is the hormone required to transfer glucose into your cells; without it, your body cannot utilize glucose (unless the cells possess a Glut I, II, or III transporter, but that's for another day).

The issue in this scenario, however, is that the insulin will not be able to transport the sugar into the cells, because the cells are purposely disallowing entry. Most doctors, as a result of this increase in insulin—which is often seen as an increase in their fasting insulin level on a fasting insulin test—will diagnose this or report this as “insulin resistance,” when it is actually nothing of the sort. Overall, the Randle Cycle is a method in which the body protects itself from damage, as excess sugar in a cell is vastly toxic.

As one might expect, this does not come without a cost. The red blood cells, which are destroyed by glucose, the cells lining the vascular tree, the epithelial cells of the arteries, and, to a lesser extent, the veins, are the sacrificial lambs of this high blood sugar scenario, because these cells can be replaced much more frequently. As long as you don't overburden your body with carbohydrates, it shouldn't be a huge issue for your health in the long run. If, on the other hand, you consume carbohydrates every day, numerous times a day, you are asking for trouble. The Randle Cycle will always be up-regulated for a number of hours following every meal, and if that happens multiple times a day, you will have multiple sets of multiple hours of the cycle being up-regulated, resulting in some of the excess sugar in the bloodstream being transmuted directly into fat at the liver, thus to be stored, to somewhat reduce the amount of sugar in the blood to reduce the toxicity. You can already see the problem here.

Now, as to be expected, many people have misinterpreted and misrepresented the findings of the Randle Cycle. Some critics have purported that what is happening during this high blood sugar event is called glucose “sparing,” where glucose is being “spared” to be used later, and therefore fat is the enemy in this scenario, and not glucose[33]. Even Wikipedia says this[34]. This is wrong. Your body has an excess of glucose in the bloodstream, which is toxic, mainly due to the glycation that occurs, and your body is trying desperately to rid itself of it—*not* trying to spare it. This is why your body uses glucose first when fat and glucose are consumed simultaneously, and this is why when glucose cannot enter the cell, it is transported to the liver to be converted to fat, thus to be stored. The notion of “sparing” glucose indicates that glucose is a limited resource and requires protection against utilization, which is not true, as we can create all of the glucose that is necessary via a demand-driven process known as gluconeogenesis as long as we have adequate protein and fat intake (if we couldn’t, I, and many others, would be dead)[35]. It is often purported that this glucose “sparing” occurs during times of “excess fat oxidation” (which is also a misrepresentation and a misunderstanding, as your body oxidizes fat at the rate that is required at any given time), which is completely false. The people saying this, of course, are people who favor carbohydrates, and therefore tell half the story, which is no surprise.

People often wonder how much time to wait after consuming fat to have carbohydrates in order to not up-regulate the cycle and therefore not cause any damage to their cells. Well, the inertia of the Randle Cycle seems to be about 72 hours. This means that if you have a steak for dinner, and you’d like to have some mashed potatoes afterwards, in order to not up-regulate the Randle Cycle to at least a certain extent, you would have to wait 72 hours without any food in order to do so. This is consistent with evolutionary theory, as carbohydrates have been shown to always have been a secondary, non-optimal food source during times of unsuccessful hunts and/or food scarcity.

To summarize, a cell rich in fat will prevent fat and sugar from entering the cell, and a cell rich in sugar will do the same. The cell will not allow energy to enter again until the energy level in the cell falls below the appropriate level and more energy from outside the cell is required. The moral of the story?

Fat and carbohydrates cross-inhibit one another.

To go a bit deeper, when this happens, the cell's “oxidative potential” decreases as a result of the mitochondrial oxidative potential, resulting in an increase in what is called “inorganic phosphate” inside the mitochondria. This causes the same to happen in the cell cytoplasm. **Increased inorganic phosphate concentrations in cells are found to directly trigger pro-inflammatory cytokines**[36]. This is why energy storage is invariably related to inflammation; if you are unable to oxidize the energy for ATP in the cell because both substrates are prevented from entering the cell, you will be chronically inflamed as a result of your chronic fat storage. As a result, you will become increasingly obese and chronically and systemically inflamed over time, eventually leading to obesity, type 2 diabetes, heart disease, cerebrovascular disease, numerous forms of dementia, and, eventually, premature death[37].

Now, it’s one thing to mention the word “inflammation—” everyone has heard of it, and we know it’s a bad thing. But what actually *is* inflammation?

Inflammation is a pre-programmed reaction of the body when it recognizes tissue injury or a possible invading pathogen. It manifests itself in a variety of ways, one of which is pain. Inflammatory conditions of the body also produce chemical reactions that make nerve cells more sensitive to pain, so an inflammatory state does not just increase pain. Redness is another symptom of inflammation caused by vasodilation, which occurs in order to deliver more cytokines, macrophages, and other immune cells to the wounded area as quickly and effectively as possible. Swelling occurs as well, and gap junctions between epithelial cells weaken, allowing cytokines to enter. Swelling also happens to act as a splint, preventing movement to heal. Heat is also felt as a result of increased blood and core fluid flow, and all of these manifestations result in reduced function, including the mental fatigue that follows.

Here's the big thing though (this gets technical, but bear with me): The chemical energy of an ATP molecule is stored between the adenosine molecule's second and third phosphate groups. When the third one is joined, there is a lot of energy in that last bond, so when that energy is needed for other processes in the body, the third bond is freed, and an ADP molecule is left in that cell, with a Pi (phosphate group). Mitochondria produce ATP from ADP + Pi utilizing the energy released by the reaction $4H^+ + 4e^- + O_2 \longrightarrow 2H_2O$ + energy. If energy is constant, optimal mitochondrial function necessitates a stable Pi; if mitochondrial activity is hindered, the Pi rises. Well, It just so happens that Pi is the compound required to activate the pro-inflammatory cytokines, resulting in an accumulation of inorganic phosphate within the mitochondria, impairing their function because they can't use that phosphate group to resynthesize ATP, as it's being used to activate the cytokines.

Anything that reduces mitochondrial function causes an increase in inorganic phosphate content, which *causes* inflammation—this is what I meant previously. If this is chronic, so is the inflammation. This is not indicated because persistent systemic inflammation is essential for atherosclerosis, obesity/overfatness, cancers, autoimmune diseases, and a variety of other negative health effects. Overall, impaired mitochondrial function is contraindicated, and mitigating this occurrence is very important to ensure you live optimally and ensure you increase your healthspan and lifespan.

For the full granular breakdown of what inflammation is and how it's initiated, refer to the "Deeper Science" bonus section at the end of this

book.

Interestingly, there is only *one* food that occurs in nature (and therefore is not processed or prepared) that has a moderate to high amount of both fat and carbohydrates, and that is milk, which only babies drink due to their rapid growth process that allows them to utilize both carbohydrates and fat for energy without an issue, until they are eventually weaned off and no longer need to drink the milk.

The only other time throughout the majority of our 4.5 million year existence that we would up-regulate the Randle Cycle was during fruit season, which occurred during late summer and early fall, and this was the only time we would have had access to carbohydrates that we would eat with our fat from the animals we hunted and killed. This allowed us to up-regulate the cycle, and help us store fat for the upcoming winter when food was scarce in order to keep us warm and also provide us with another source of fuel for efficient oxidation.

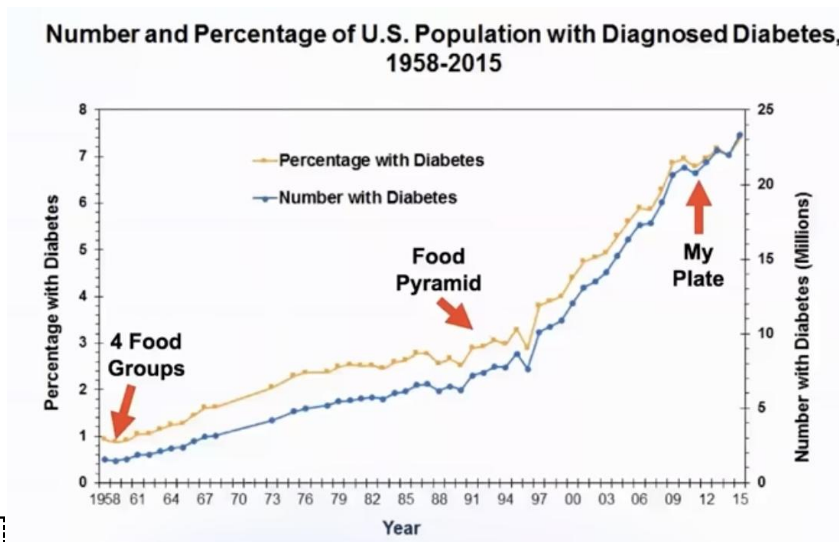
Oddly enough, even though this mechanism was discovered in 1963, very few people have talked about this; very few doctors know about this, and most people are unaware of its existence overall. However, people that are now aware of its existence cannot deny this as a mechanism; this is not an opinion, this is a matter of fact. Carbohydrates and fat cross-inhibit one another, and therefore cause a slew of adverse effects in the body when consumed together.

So what is the answer?

The solution, of course, is to eat a diet low in carbohydrates and high in fats, or low in fats and high in carbohydrates. Which one should you pick?

This question will be addressed again later, although I assume some of you may already know the answer.

With this information, we can confidently state that a "mixed diet," "balanced diet," or "mixed macro" diet is *contraindicated*. Since the 1950s, government dietary recommendations have promoted a mixed macronutrient diet, beginning with the four food groups, then the food pyramid, and most recently, the "MyPlate" recommendations. These diets have been promoted as the healthiest of all. However, here's an intriguing connection:



Around the time that each new guideline came out (4 Food Groups in 1958, the USDA Food Pyramid in 1992, and MyPlate in 2012), there seems to have been a stark increase in diabetes rates in America, a disease characterized by chronically elevated blood glucose, and nothing else[38]. Of course, we should understand that this cannot establish a causal relationship, however we can definitely say that these guidelines do not seem to be helping, and it's up for the individual to decide the reason for that. But, the overall message?

We have never been designed to run on fat *and* glucose. End of story.

Now, that may have shattered your world a little bit, and, honestly, I hope it did. Something like that is not taught in universities or any institution, and yet it's one of the most important pieces of the puzzle of how humans should be living. You'll soon realize that this is the case for almost every mainstream health axiom out there, which is precisely why I decided to write this book. There's more to this biochemistry section though —*a lot* more. The next piece that needs to be highlighted is something that is hidden in plain sight, which is the existence of a biochemical process called gluconeogenesis.

2. Gluconeogenesis

I briefly mentioned this process in the Randle Cycle section, but it deserves its own brief section. Gluconeogenesis is one of the first things you learn about in biochemistry, and it's very straightforward. Gluconeogenesis is a demand-driven process (most of the time) by which the human body makes glucose endogenously, meaning within the body, through the transmutation of non-glucose precursors, such as a few amino acids, and, primarily, the glycerol backbones of odd chain fatty acids, which all occurs in the liver. That may have sounded a little technical, but just understand that the human body is capable of making glucose itself, given an adequate fat and protein intake, and that the process is almost always demand-driven, meaning that the body will only create the glucose in the exact amount that it requires at any given instance in time (the only time it isn't is when one consumes a *vast* amount of protein at one time, but I challenge anyone to do that—with real food—comfortably 😉)

In most classrooms, however, this is said to primarily occur when the body is "starving." The notion is that our primary fuel source (and our preferred fuel source) is glucose, and therefore the only time our bodies will use fat for its energy source is when it runs out, implying that our bodies *want* glucose for energy, and would not like to have fat for its main energy supply. The only problem with this notion is that not one bit of it is true.

3. Sugar vs. Fat Metabolism

First of all, we've already established that human beings have been eating exclusively meat for millions of years, so fat had to have been our primary energy source during this time.

On the surface then, it can't be too likely that carbohydrates were our preferred source of fuel, given that they also only were available during one season of the year, that being fruit season. Further, looking at it from a biochemical perspective, glycolysis (the oxidation of sugar for fuel) is a ten step process that grants us 38 net ATP per glucose molecule (when converting all pyruvate and NADHs that are yielded into ATP as well), while beta oxidation (the oxidation of long chain fatty acids for fuel), is a *four* step process which grants us 129 ATP per 16-carbon fat molecule, which, if we were to only oxidize 6 of those carbon chains, so as to theoretically equate the amount of carbons between the two molecules (since glucose has 6 carbons), would result in the production of 51 ATP, which is just slightly higher than 34% more in terms of ATP yield compared to one entire glucose molecule during glycolysis—and that's with only 37.5% of the entire fatty acid; when calculating how much more ATP is generated from the *entire* fatty acid chain compared to glucose, the result is 339% more—more than triple the energy derived from one glucose molecule. On top of that, if the fatty acid is an odd-chain fatty acid particularly, it can help in producing hemoglobin, glucose, or more ATP. Some people may be led to believe, then, that since fat is a more concentrated form of energy, it is more fattening as a result, which is *also* not true. To understand this, we must take a look at ketones and uncoupled vs coupled mitochondria very briefly.

As we know, mitochondria use oxygen to take in fuel in the form of glucose and/or fat and catabolize it. Heat is one of the substances emitted, but so is ATP. The mitochondria only use as much food energy as is required to make chemical energy in the form of ATP; the ratio is 1:1. The mitochondria are "coupled" in this state. This also generates relatively little heat, as heat is an indication of chemical inefficiency. When mitochondria are uncoupled, they do something different: they spend more energy than is required to produce ATP, which results in more heat, because, once again, heat is caused by chemical inefficiency. This is an example of *mitochondrial* "inefficiency," in which they have become "uncoupled." This occurs in fat cells over long periods of time during ketosis, when the mitochondria transform into brown adipose tissue from white adipose tissue, which tends to release greater heat and "waste" more energy per unit of time.

What all of this means is that if you are eating fat, sure, it's a more concentrated source of energy, but, since fat does not raise your insulin, you will be in a ketotic state for much, much more lengths of time throughout the day, which will lead to an uncoupling of your mitochondria, which expend more energy, leading to even less of a propensity to store fat (and this is not to mention the satiety signals you receive when eating fat compared to when one consumes carbohydrates). The uncoupling of one's mitochondria is a very beneficial phenomenon today. Historically, this would not have been beneficial, because it used to be a very great thing to store fat whenever your body had the chance to. However, now, we don't need to worry about harsh winters, and we can safely abstain from carbohydrates and from living with coupled mitochondria.

The other thing to mention in this section alongside the mitochondrial changes is about how much better your body operates on ketones themselves as compared to sugar. When fat catabolism is extremely high for an extended period of time, we begin to create ketones. When a person is in active ketogenesis or ketosis, the creation of ketones accounts for nearly

50% of total fat oxidation. This can only happen when insulin levels are low, which implies no (or very few) carbohydrates should be consumed. When fat oxidation is high (when insulin is low), an abundance of AcetylCoA accumulates, which can enter a variety of biochemical pathways. However, because insulin levels are low, it cannot commence lipogenesis (fat formation), and because AcetylCoA levels are high, it prevents its own entry into the citrate/krebs cycle, resulting in no gluconeogenesis and no additional energy production. Therefore, the only thing left to occur is ketogenesis.

The benefit of being in systemic ketosis is that mitochondria are much more responsive during beta hydroxybutyrate metabolism, and there is less H_2O_2 production during βHB metabolism, which is one of the main reactive oxidative species generated in the body[39]. Also, when ketones are fed to muscle mitochondria, they are very well "coupled;" there is very little change in oxygen flux[40], there is increased mitochondrial "health," increased cell viability (meaning muscles grew better and were more resistant to injury)[40], reduced ROS (reactive oxidative species) production, and the mitochondria maintained ATP production[39]. Ketones also slightly increase muscle oxygen usage; even the heart (a muscle) within someone who has succumbed to heart failure starts to rely more on ketones, and in doing so increases ATP production[41].

On top of *all* of this, glucose within a cell destroys lipid rafts, destroys cell organelles, binds to DNA and causes mutations to it, and, in a high enough concentration, glucose will kill a cell outright, unlike what the process of fat oxidation induces.

So, let's get this straight—beta-oxidation gives us more than triple the net ATP yield compared to glycolysis, is 6 steps shorter, the fat being oxidized doesn't inherently damage our cells, contrary to glucose, and, if the chain of fat is an odd-chain fatty acid, can be used to assist in the creation of hemoglobin, *and* we have a process by which our body makes glucose itself? This seems like a pretty clear indicator as to what process is the one we are designed to be using throughout our lives.

I mean, think about it—can you name me one animal (terrestrial *or* aquatic) that uses glucose as their primary energy source? I'm guessing not. Even herbivores don't derive their effective energy from plants *themselves*; they derive their energy from the breaking down of those plants into short chain ***fatty acids*** through the digestive tract (i.e. cows and other ruminants, as well as primates like gorillas).

There are only two reasons scientists came to the conclusion that glucose is our primary energy source. The first one is because when we finally discovered the methods of analyzing what our cells were using for energy, we were, at that point, eating primarily glucose. They then inferred consequently that glucose must've been our primary energy source. The second one is one that is most often espoused, which is that when consuming a mixed meal of fat and carbohydrates together, the sugar is utilized by your cells first, therefore supposedly indicating that sugar is what your cells want the most.

Except this is a complete misinterpretation of what is actually happening in this situation, as I have already explained in the Randle Cycle section. But, to explain once more, what is really happening is that your body recognizes that glucose is *vastly toxic, and is therefore trying to expend it as quickly as possible*. If it can't do it fast enough (or if the cells are disallowing entry via the Randle Cycle upregulation as a consequence of consuming a mixed meal), then de novo lipogenesis ensues, which simply translates to the creation of fat, in which the sugar is transmuted in the liver to fat, thus to be stored for later use (side note—isn't it interesting how the form of energy stored in our body is fat, not sugar, further indicating that fat is our preferred energy source? Add that to the list in the last paragraph too).

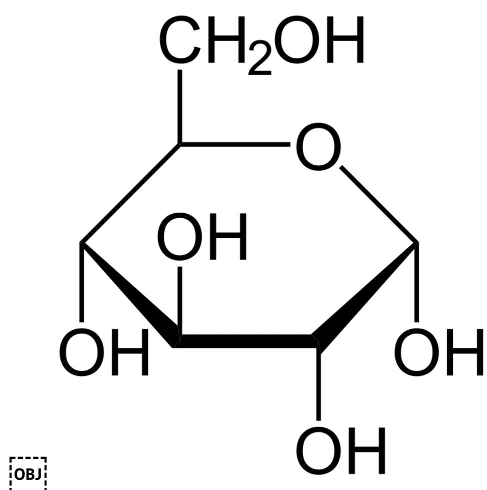
Overall, the sheer existence of gluconeogenesis as a mechanism within our body tells us all we need to know—we don't need (nor want) exogenous glucose in our body.

Despite this, there are still some arguments that are espoused by influencers about depending on gluconeogenesis as our source of glucose in the body, the main one being that gluconeogenesis is “stressful” on the body, and increases cortisol levels. To put it simply, gluconeogenesis is just as stressful on the body as your pancreas secreting digestive enzymes is stressful on the body. There is no evidence to suggest that gluconeogenesis is distressing the body in any way, and there’s *definitely* evidence showing that exogenous glucose is *far* more “stressful” than gluconeogenesis ever could be.

In fact, carbohydrates even prolong and exacerbate cancer—causally. Because their mitochondria are damaged, cancer cells are unable to produce energy effectively. They require up to 400 times more glucose than normal cells do as a result of this and their increased energy needs. After its discovery by Nobel Prize winner Otto Warburg, this phenomenon is known as the Warburg effect. Since the 1920s, we have known that limiting carbohydrates lowers the energy available to cancer cells [42, 43, 44, 45, 46, 47,]. *Glutamine is a different possible source of energy for cancer cells, something that Dr. Warburg was unaware of, but that Dr. Seyfried learned more recently. This explains why ketogenic metabolic therapy alone doesn't work as effectively for some malignancies as it does for others. Unfortunately, most tumors are not approved for the use of drugs that can stop glutamine metabolism, and since these drugs are already no longer under patent, pharmaceutical companies are not investing in research into them.*

I’ve mentioned a few times now that exogenous sugar is extremely damaging due to its propensity to destroy and alter parts of cells, and can kill cells in high enough concentrations. I want to expound upon that more, because this is something that people desperately try to dispel or discount the severity of because of, frankly, whether they like it or not, their addiction to this substance.

First of all, there are three main sugars, or monosaccharides, those being glucose, fructose, and galactose. Then, there are two other main sugars that we come in contact with that are actually an exact 50/50 combination of two of these monosaccharides, those being the disaccharides sucrose (table sugar; glucose and fructose), and lactose (milk sugar; glucose and galactose). It's important to understand that no matter the form the sugar comes in, it is toxic. However, some of these sugars are more damaging than the others, and are also, in some cases, far more sneaky in terms of the damage they cause.



This is glucose. Glucose is the form of sugar your body produces itself, which is why it is known as the prototypical sugar. It's less sweet than any of the sugars (except galactose), and, interestingly enough, causes the least damage to cells as any of the other sugars do. How do we know this? Physicians measure the damage cells within our body suffer from sugar with a test that you almost undoubtedly have heard of—the HbA1c test. This test measures how much of one's cells—particularly hemoglobin—have been damaged by sugar—particularly glucose—via a process known as glycation.

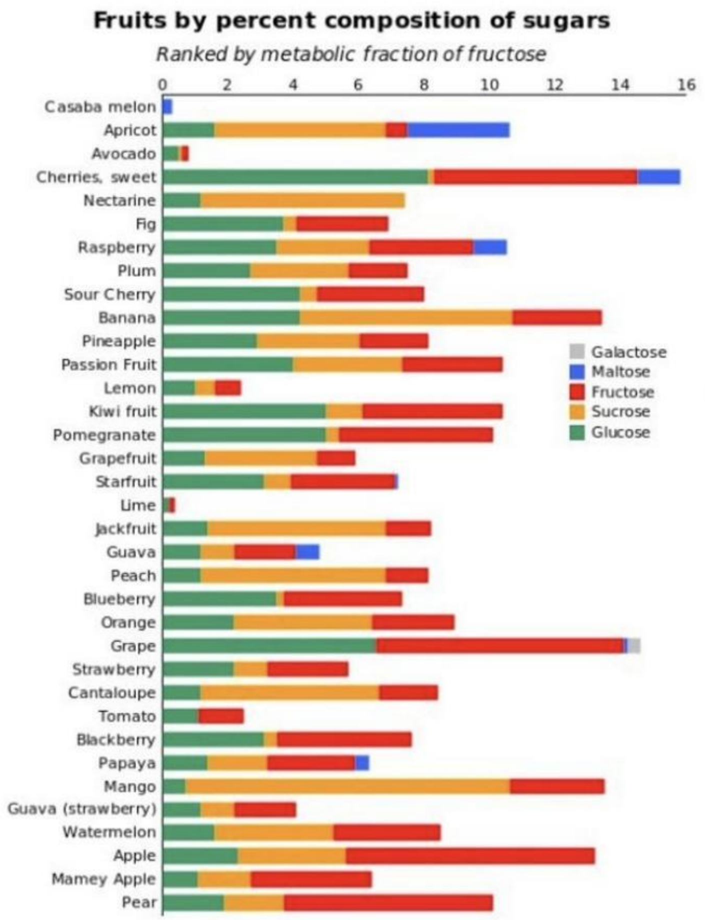
To take a slight pause here, I need to explain what glycation is, which I haven't yet done. Glycation is a process by which a glucose molecule adheres, or binds, to a protein or another molecule within the body, and either makes it work improperly, or not work at all. This can happen with your albumin, which is the primary form of protein in one's blood, or it can happen to lipoprotein particles, such as LDL (remember the latter example for later, as it's particularly important). But understand that glucose can damage *every* cell of the body via glycation.

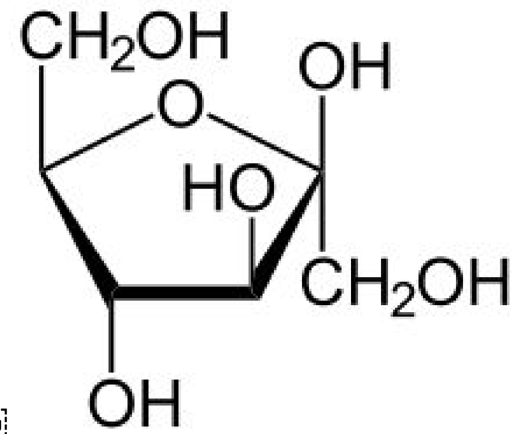
What the A1c test does is measure how much "glycative" damage your red blood cells have withstood in the last 60-120 days, roughly; it's an estimate of your average blood glucose level over 2-4 months. If your A1c level reaches 6.5%, which translates to an average blood glucose level of 139.85 mg/dL, you're considered diabetic by the mainstream medical institutions (I have a bone to pick with that assertion; I think that, in reality, an optimal A1c is 5.0%/96.8 mg/dL, that number, by the way, typically growing slightly higher in carnivores slowly over time due to their red blood cells living longer, not due to excessive glycative damage. The blood glucose formula is ***28.7 x A1C - 46.7 = eAG mg/dL****,* just for fun).

There's a slight weakness with this test, however, that has only gotten recognition in the past 8 months (as I write this), which is that the A1c test is *highly* insensitive to glycation caused by fructose and galactose, therefore potentially underrepresenting the "true" A1c, misleading people into thinking the damage they suffer from glycation is very low, when, in reality, it may still be quite high[48, 49, 50, 51]. Unfortunately, however, this statement is incredibly contentious today, and instills quite a bit of controversy, most notably from a health influencer many have heard of at least once, Paul Saladino. Paul Saladino, also known as CarnivoreMD online, is someone that first brought the "Fruit & Honey" conundrum, as aforementioned, to the forefront of the mainstream health community discussion. If you don't know who Paul is, to be sparing, he is a "sort-of mainstream" health commentator and influencer present on YouTube, TikTok, Instagram, and Twitter who started out his online career as an advocate for a no-carb, "nose-to-tail" Carnivore diet, stressing the consumption of organ meats. He did this for about 2 years, and then problems started to manifest for him, most notably muscle cramps, palpitations, constantly feeling cold, and headaches. He decided to perform a few blood tests, being a physician himself, and found that he had low testosterone as well, along with low SHBG levels (sex hormone binding globulin). He then decided to introduce a small bit of carbohydrates back into his diet in the form of 20 grams of honey, which started to fix the issue for him. Later on, very quickly, the number of grams of carbohydrates he began to eat increased exponentially, from 50 grams, to 100, then to 200, and then 300, all the way to a maximum level of 400 that he could potentially be eating today. To play it safe, we will say that Paul is eating 320 grams of carbohydrates per day in the form of local, seasonal fruit, and local, raw honey and maple syrup from local farms in Costa Rica, stating that these sources of carbohydrates are the "least toxic" compared to any other, alongside the food he used to eat when doing carnivore as well.

He has gained exorbitant levels of traction on his social media platforms as a result of this change, and now spends his time producing content that primarily calls out the promotion of seed oils, *processed* sugar, and refined foods that are being sold and promoted today, while also promoting animal foods (particularly organs), as well as assuring people that sugar from fruit and honey and other "natural" sources are harmless, and processed, refined sugar is what is truly the enemy. Later on, we will discuss what the problems were that Paul was experiencing, and why carbohydrates helped him bounce back into normal functionality. For now, just understand that Paul is a staunch advocate for fruit and honey, and natural sugar as a whole, and has even stated that you cannot live optimally if you eliminate carbohydrates from your diet.

Everyone knows that fruit is high in sugar; fruit consists of glucose, fructose, and sucrose (which is 50% glucose and 50% fructose). However, fructose is really only found in fruit, which is why it's known as the "fruit sugar."





Fructose is the sweetest sugar of all of the sugars (including the disaccharides), which is why fruit tends to be as sweet as it is. Fructose is particularly interesting for a few reasons. Number one, fructose is not metabolized the same as the other sugars; fructose is immediately ushered to the liver to be converted into fat[52]. Yes, the primary role of fructose in the diet is to upregulate fat creation and storage. Anthropologically, this makes complete sense. Fruit season always comes before winter, and lasts between the periods of late Summer and early Fall. During this time was when carbohydrates really *were* available. I'll say once more that these carbohydrates that we gathered and ate alongside our fat (Randle Cycle!) allowed us to store fat for the upcoming winter to keep us warm and to simultaneously function as a backup source of fuel since food was scarce during the Winter months (of course this is referring to the time before the Ice Age, as, during that time, it was already a constant state of Winter).

But, the other interesting aspect of fructose is how much more damaging it is than any other sugar in the body. Fructose has a *7-10x higher propensity to glycate bodily tissues* (so does galactose, but it is not immediately transmuted to fat)[53]. This doesn't make it any better that it is not identified hardly at all on an A1c test.

All of this being said, when Paul—a staunch fructose advocate—heard the clamorous uproar from people that heard the news about the A1c test, he decided to respond. He released a video entitled "There are No Hidden Dangers in Fruit and Honey," a video in which he tried to explain that fructose, when administered to rats, did show an increase in their A1c levels, and said that, therefore, you don't have to worry about any "hidden dangers" because they will appear on an HbA1c test.

There's only one problem with this—it's a complete misinterpretation and misrepresentation of what the study actually said. I could get into specifics, but it will not only be tangential, but completely unnecessary. That is because the authors of the study stated "these data indicate that neither assay can accurately detect in vivo fructation. These assays were developed for the detection of glucose Amadori products (ketones) of hemoglobin and albumin, whereas fructose Amadori products are aldehydes and would be expected to react differently (Ahmed and Furth 1992)[54]." Putting aside the other big problem with this study, such as the fact that the rats were given different types of sugar to eat ad libitum, meaning "at one's pleasure," and not in a controlled fashion, this claim pretty much sums up what the competent scientists have been trying to say this entire time.

The truth is, just because sugar is found in natural sources does not mean that sugar is harmless; sugar is sugar. The molecules are the exact same, and they react the same way biochemically within the body—there's no magic within the "food matrix" that makes it innocuous or harmless to humans. Processed sugar may really be worse, due to the fact that it enters our bloodstream faster and possibly has more toxins in it, but they are all, at the end of the day, the *Exact. Same. Molecule.*

Paul's passion for defending sugar, however, is, conveniently, the perfect segway into the next biochemical phenomenon that needs to be discussed regarding the differences between fat and sugar metabolism, which is the addictive nature of sugar.

We've all heard the phrase "addicted to sugar," but most people don't really think of that as anything more than a metaphor. In reality, sugar follows the addiction model to a T.

As I've already elucidated, all types and sources of sugar are inherently, innately damaging to human cells. This is the first element of addictive substances that is similar to sugar. However, sugar is also more dopaminergic than cocaine[55, 56]. That's two points for sugar following the addiction model. The other thing that happens when you eat sugar is it causes a spike—rather than a slow, subtle rise—in your blood sugar levels, which will result in a sudden boost of energy, similar to how other stimulants react with the body to excite it (3 points for sugar), before leading to a crash just a few hours later. This crash leads to a *hypo*glycemic state in the body, which causes hunger, lightheadedness, drowsiness, and, in some cases, can even cause shakiness and cold sweats, as if one were sick, *just like the after-effects of other drugs.*

This makes 4 points for sugar. Also, the same amount of sugar will not have the same effect on someone the next few times they consume it; it will take more sugar to get the same satisfaction as it did just a few days ago, perhaps, leading some people to overeating and becoming sick (analogous to an overdose). This is point 5 for sugar. This seesaw effect of blood sugar spiking and falling will then cause people to continuously eat carbohydrates every few hours, repeating the "spike and dip" phenomenon each time for days–weeks–*years* on end, leading to diabetes, and then eventually early death, typically from heart disease. This is the final 6th point for sugar. The moral of the story is that ***sugar is a drug*. This is meant in the absolute literal sense.** The only reasons more people aren't talking about it as such are because it's been so normalized, even being taught as being food and our primary source of energy, is so readily available, is entirely legal for all ages, and, most importantly, because people are addicted to it, and therefore defend it/downplay it, subconsciously or consciously.

Also, it shouldn't come as a surprise that sugar is a drug. Have you noticed that *all* drugs come from plants if they are holistically created?

Heroin is derived from poppy seeds, cocaine from a leaf, marijuana from cannabis plants, nicotine, caffeine, you name it; you will not find drugs created from animal products, because they are not biochemical engineers/geniuses like plants are.

4. Cholesterol

This note is incredibly short, as I will be giving every last iota of information regarding this topic very soon in the upcoming chapter. But, to touch on this very, very briefly, cholesterol is an extremely important molecule in the body that is only found, dietarily speaking, in animal products—it is not found in even a slight amount in plants. Cholesterol is a small molecular weight alcohol and a lipid that makes up 40-50% of every cell membrane in the body—that's *every* one of the *trillions* of cells that make up your body[57]. That alone should tell us that maybe it would be quite beneficial for us to at least have animal products in our diet, and not doing so is contraindicated in the extreme.

5. Plant Toxins

Reason number 5 is finally here, which is the incredibly important biochemical response we as humans have to plants—specifically, their *toxicity*.

Yeah, I know. I'm used to the scoffing. It sounds ridiculous. I mean, humans may have been eating meat exclusively for millions of years, sure. And, that lack of meat that started to occur may have been the reason for our decline structurally as a species. But to say that plants were and are actively *causing* us harm? Forget it!

Until you really start to think about it. Human beings can eat 99% of all animal products, the main exception being seafood for some. But, human beings *cannot* eat 99% of plants, because they will kill us. That alone should make you reconsider whether or not you should still be eating plants. But, don't worry, because I'll be going much deeper than that right now. You'll remember that 13,000 years ago was when we made the sudden change to our eating behavior by eating plants due to the megafauna having become more and more scarce due to overhunting and vast environmental change after the ice age. So, using our amazing problem solving skills, we developed a subsistence method in terms of food, and this was through the growing of plants, specifically grains, beans and seeds.

You'll also remember that this was a very good decision because it allowed us to have a food source, which could withstand cold temperatures through the winter, and could stave off hunger through famines due to their extensive "shelf life." Very quickly, however, this became a problem. It became a problem when we didn't stop eating the plants when they weren't needed to be subsisted on any longer. For decades we ate plants, and then centuries, and then millenia. What seems to have happened is that we had forgotten why we started eating these plants in the first place. Think about it—if you're doing something for hundreds of years, it becomes habitual; you won't remember why you started doing that certain thing, nor will you question it—you'll just continue doing it. Over the course of the next dozens of centuries, we found ways to prepare the plants better, how to enhance their taste with spices (more plants), how to integrate them into mixed meals, and how to make them less perishable, along with finding more efficient ways to grow these plants on a mass scale. Unfortunately, we have not only forgotten that we didn't eat plants for over 95% of our existence, but we have also adopted the mentality that plants are indicated for human beings; that plants are healthy for us—*even more-so than meat.* Let's talk more about how plants are actively harmful to the human species. Let's first start off with a basic fact, which, unfortunately, but understandably, people fail to juxtapose ubiquitously: **Plants are toxic.** Yes, *all plants are toxic to some degree.* Initially, this may seem ridiculous, but think about it—when you go out into the woods and find a bush of berries, are you going to eat it?

Hopefully not. Have you ever asked yourself why we shouldn't do that? Well, duh, they're toxic! The reason for this is simple: The plants can't run or hide, and therefore have to find other ways of defending themselves, so they've produced chemicals to discourage predators from eating them. In fact, 99% of the pesticides found in plants are ones that the plant made themselves, and not ones that we sprayed on them[58, 59]. We, however, have made the incorrect assumption that because certain plants don't kill us immediately or within minutes upon consumption, that those ones are completely safe to eat. As much as I truly do wish this were true, it is not; we are not immune to the effects that plants stimulate in human beings. There are a myriad of toxins plants produce; hundreds, if not thousands of plant-produced pesticides and chemicals exist. It would take way too long to cover all of them, so we're only going to cover the most common and prevalent ones that occur in plants, and just happen to be the most damaging to us as a species, mechanistically and anecdotally.

1. Lectins

Let's start off with lectins. Lectins are plant proteins that bind to polysaccharides (complex carbohydrates), lining the cells of other organisms —particularly fungi, insects and us[60]. These molecules line your blood vessels, your nerves, your joints, and basically every cell in your body. This is part of the glycobiome. These proteins do a few things when they've infiltrated. First, they pry apart the tight junctions between the cells of your gut lining[61] (which is one cell thick[62]), by attaching themselves to certain cell receptors, creating zonulin. Zonulin opens up these tight junctions, allowing lectins to enter the bloodstream, which normally should not happen[63]. Once this happens, they confuse the immune system with a strategy called molecular mimicry[64]. This is a process by which lectins, after binding with the sugar molecules in your body after being leaked out of the gut, will mimic the surrounding proteins. What does this do? Well, your immune system will recognize that there are foreign proteins (the lectins) that have infiltrated the body, and will launch an immune response on them to kill them. However, the immune system cannot distinguish between the lectins and the cells the lectins are mimicking, and therefore have the tendency to kill them too in the process. Again, this can happen to nerve cells, in your joints, and the sugar cells on the lining of blood vessels. Neuropathy, anyone? Arthritis, anyone[65]? Heart disease, anyone[66]?

Lectins also have the propensity to mimic and/or block hormones as well, which, of course, will cause imbalances. WGA, or wheat germ agglutinin, a lectin found in wheat, for example, tends to mimic insulin, and therefore attaches to docking ports that insulin is supposed to insert itself into, which is not indicated, as this is activating cellular mechanisms at inappropriate times and for inappropriate periods of time, but they also tend to never let go either[67]. Excessively elevated insulin causes you to be in an excessive anabolic state, that being a fat-storing mode, as aforementioned, and therefore this lectin in particular (but others as well) will tend to cause hormonal imbalances on top of an autoimmune response.

There's also some fairly compelling evidence to suggest that lectins are one cause of Parkinson's disease and forms of dementia due to their inclination to travel up the vagus nerve into the brain[68]. That's probably not a good thing. Ricin, a lectin in castor beans, also touted as the most dangerous lectin known to man, kills people within a matter of hours by inhibiting your cells' abilities to form proteins[69]. People who have eaten undercooked kidney beans, which have lectins in them that haven't quite been killed by the cooking process (PHA, or phytohemagglutinin, in particular) have reported nausea, vomiting, and diarrhea, and had, in effect, succumbed to food poisoning from this occurrence[70].

Celiac disease is a disease characterized by extreme gluten intolerance. Take a guess at what gluten is. Yes, it's a lectin. If you still had any doubt about lectins being a problem, understand that gluten intolerance is a very real thing, and it doesn't seem to be a very astute assertion to assume that gluten is the only lectin causing problems within human beings, *even if you yourself don't feel pain or too much discomfort after you eat.* Type 1 diabetes is a disease characterized by the inability of the beta cells on your pancreas to secrete sufficient insulin into the bloodstream at the appropriate or indicated times. There are many theories as to why this happens, but one quite compelling one posits that it seems to be caused by leaky gut, which lectins have been shown to lead to. The theory states that these lectins will attach to these beta cells, and engage in molecular mimicry, and launch an immune response on the beta cells, over time leading to type 1 diabetes. Other lectins such as PNA, or peanut agglutinin, seem to damage the mucus lining in the rectum, potentially leading to pre-cancerous lesions, and a lectin found in potatoes, called Solanum Tuberosum (STA), seems to inappropriately cause a histamine response and activate the immune system.

Unfortunately, you can even get lectins in animal foods if the animals ate foods with lectins in them, such as corn and soy and other grains. This is more probable if you are eating monogastric animals like pigs, any birds like chicken, etc, because the compounds in the food they eat (if it's of a species inappropriate and unspecific nature) will end up in their tissues and fat cells, but not ruminant animals, like cows, as they have 4 stomachs that help them ferment and digest and filter out any harmful compounds in those plants. However, if you are drinking their *milk*, this could still cause some problems.

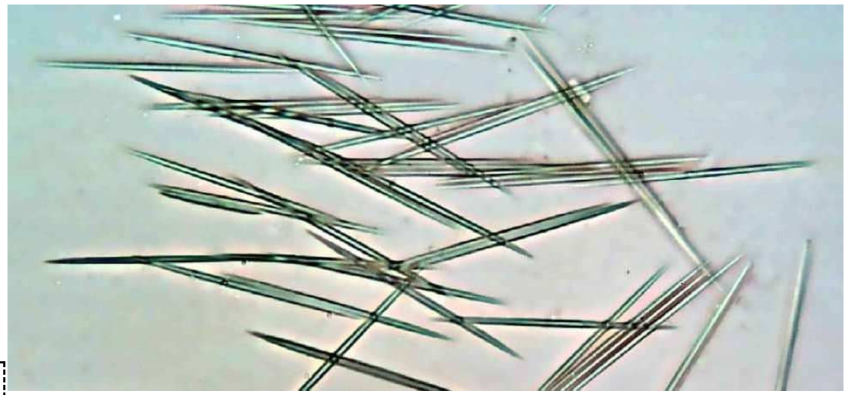
It turns out, just a few thousand years ago, a genetic mutation occurred that caused some cows to start producing milk with the protein casein A1, instead of casein A2, which all throughout time, they had produced. These are slightly different from each other, as casein A1, when metabolized, is turned into beta-casomorphin-7[71], which can function as a lectin that initiates an immune attack on the beta cells on the pancreas, which typically trends—once again—to type 1 diabetes[72]. It turns out that a lot of people actually are not *lactose* intolerant, but *A1* intolerant, and can actually tolerate milk produced by an A2 cow, which they do, in fact, sell in stores, albeit at a far more expensive price, as these cows are harder to come by now, as it's cheaper to raise A1 producing cows, and they supply more milk.

To avoid the lectins in animal meat, you need to find pasture raised/pastured meat. However, if you're in a commercial grocery store, you will not find pastured pork or chicken, but you can find pastured eggs and grass-fed and grass-finished (GFGF) beef (grass-fed is the term used for pastured beef, as cows eat grass, and the other animals like chickens do not). It is important to note, however, that grass-fed does not always mean grass-finished, meaning the cow could've eaten grass for less than half their life, and still legally be referred to as grass-fed. Also, avoid the terms "free-range" and "organic" on meat products, which are not even close to being better. "Organic" simply means that the animals were fed "organic" corn and soy, and "free-range" means they had access to the outdoors, but, often times, for less than 10 minutes a day, and the rest of the time is spent in a cage getting fattened up on corn and soy again (spoiler—corn and soy do the same thing to us too).

Bottom line—you do not want to be eating lectins, or anything that behaves like them either. These are very harmful plant compounds, which, again, in one particular study, have even been shown to be a probable cause of heart disease[66]. It's best to stay away from these.

2. Oxalates

The next major set of plant compounds are called oxalates. Most foods touted as being the healthiest foods actually have some of the highest oxalate concentrations out of all commercially available produce around the world. To be more technical, oxalic acid is the actual name for this concerned compound found in plants. When ingested, the oxalic acid will bind to certain minerals, mainly magnesium, calcium, and zinc, and then will form oxalates[73]. When this happens, they crystallize and form what are called "raphides[74]," which will deposit in many areas of the body, one of which is the kidneys.



Do you see where this is going yet? 80%---if not more—of all kidney stones are calcium-oxalate crystals[75]. When you go to your doctor, however, they'll most likely tell you to restrict your calcium intake, a vital nutrient (yes *that* makes sense. Let's restrict calcium, an essential nutrient, and keep dumping oxalic acid into our bodies which is completely non-essential and deleterious in its effects). Obviously, this is ridiculous. Uric acid is actually not the cause of gout, but, in many cases, is the combination of uric acid and oxalate crystals (gout is characterized as an inflammatory condition that involves uric acid's assistance in attempting to alleviate)[76]. If you are eating foods that have the propensity to raise uric acid levels in the body, and you have pain as a result, it's probably not that food, but other foods in your diet that you eat alongside the meat. What foods contain high amounts of oxalic acid? Some include, from highest concentrations to lowest, turmeric powder (22 mg/g), spinach (7.6 mg/g), rhubarb (5.4mg/g), rice bran (2.8 mg/g), almonds (1.2 mg/g), baked potato (1 mg/g), beets (0.7 mg/g), cocoa powder (chocolate in general) (0.67 mg/g), cashews (0.49 mg/g), raspberries (0.48 mg/g), and yams (0.4 mg/g). To put this into perspective, our body creates only about 10-30 mg of oxalates per day as a waste product from the breakdown of the amino acids glycine and hydroxyproline, and by a molecule called glyoxylate[77]. You then urinate this out. Increasing your intake of oxalic acid far beyond that amount—which is very easy to do on a plant-based diet full of almonds, chocolate, spinach, kale, turmeric, potatoes, and yams—can easily lead to problems down the road in terms of joint pain and kidney stone development, and even potential *death* if taken to the extreme[78].

When people attempt to remove oxalates, they may experience a phenomenon called "oxalate dumping," which is the process by which your body attempts to excrete oxalates from the body via the urine, skin, and even through the eyes in some cases when it realizes that there is now an abstention of the consumption of oxalates[79, 80]. This is why it's usually suggested that you remove oxalates slowly, and not entirely all at once. This can be a very painful experience, and can manifest itself in skin rashes, mood changes, fatigue, dizziness, etc. It's best to abstain from these as soon as possible as well.

3. Glucosinolates

The next group of plant toxins seem to be less of a potential problem, but still do disrupt your physiology. These are called glucosinolates, which, when reacted with certain enzymes, turn into isothiocyanates[81]. One example of such an isothiocyanate you may have heard of is sulforaphane, found in broccoli. These compounds have been touted as having anticancer properties, and are said to be good things, when in reality, this couldn't be further from the truth. In reality, these compounds have been named "goitrogens" because of their propensity to compete with iodine at the thyroid, disrupting hormonal balances, and causing goiter[82]. Isothiocyanates like sulforaphane do seem to have "anticancer" properties, but the reason for this is due to their ability to kill cells outright via oxidation—*which it also does to healthy cells as well*[83, 84, 85]. Using these compounds in isolation, strategically, on certain cancerous cells may definitely be a good idea, however this still has the inclination to damage surrounding healthy cells, making this quite risky either way. Isothiocyanates are found mostly in the cruciferous vegetable family, consisting of broccoli, cauliflower, kale, cabbage, bok choy, brussel sprouts, and mustard plant, which, of course, are touted to be some of the best vegetables you can eat (as most are considered to be).

4. Polyphenols

Another set of compounds that seem to be actively harmful to humans may actually surprise you; polyphenols. These are said to be the absolute best antiaging, anticancer, and anti-inflammatory antioxidants known to man, especially such polyphenols as resveratrol in red wine and curcumin in turmeric. Unfortunately, you're not doing yourself a favor by eating or drinking polyphenols—it's quite the opposite. I'll be talking about antioxidants at much greater length in the next chapter, but, of course, I'll talk about some now as well. When these compounds raise our antioxidant status, this is seen as a success—indeed, a good thing, because the assumption is that these antioxidants are behaving as antioxidants in us. In reality, it's most likely that our antioxidant status goes up because our body is fighting oxidation from these chemicals, not the other way around[86]. Polyphenols such as curcumin and resveratrol have actually been shown to outright cause chromosomal aberrations in DNA, and damage cells in the stomach of human beings[87, 88]. Others act as endocrine disruptors by mimicking estrogen in the body. Soy has a lot of these polyphenols, if you catch my drift[89]. Tannins are other polyphenolic compounds that function as digestive enzyme inhibitors, disrupting digestion and interfering with nutrient uptake[90]. You can find extensive lists online of the plants that contain the most polyphenols, and which ones do what (supposedly), but a few are turmeric, red wine, berries, chocolate, coffee and tea, olives and olive oil, red onion, dark leafy green vegetables, and soy.

5. Salicylates

Another set of harmful plant compounds are salicylates. Salicylates/salicylic acid have been used in medicine for thousands of years for reducing inflammation and fevers. Plants are very useful for medicinal purposes, and should be used for those reasons. Consuming these on a daily basis, however, can lead to problems, like anaphylactic shock[91]. Plants that contain these compounds consist of broccoli, cauliflower, cucumber, mushrooms, radishes, spinach, and zucchini. Compared to other compounds, these don't seem to be the worst ones to eat, however, swelling of the liver can be caused by excessive aspirin use, and the primary way aspirin alleviates inflammation is with its salicylic acid content[92]. Something to think about.

6. Phytates

The last group that's worth mentioning is phytates. To get granular here, the electrochemical charges on the extremities of the phytate molecule will attract various things to them and repel others as well, depending on the electrochemical charge on the other molecules concerned. Some of the termini will be H^+ bound electrons, and some will have protons that will dissociate from that molecule, and will therefore cause the molecules to be charged differently (H's don't carry a charge, electrons do carry a charge). It turns out that the pH of any fluid solution is one of the things that will determine how many of those dissociations occur relatively.

The problem with the difference in electrochemical charges is that the phytate molecules with a negative electrochemical charge bind to the positively charged ions in the solution that those molecules are in (the stomach acid, in this instance), and these include nutrients in the stomach acid that are essential for the life of a human being, particularly iron and zinc, stripping them from the human body, potentially leading to nutrient deficiencies. All plants contain phytate from some level to another, but plants that contain the most are any seeds, which include grains, beans, and certain nuts, such as pumpkin seeds, almonds, chia seeds, linseed, and sesame seeds. However, the phytates do not tend to bind to heme iron, but the elemental iron that is found within other plants, and the zinc from meat isn't susceptible to being bound by phytates either. If you are a plant-based eater, however, phytates absolutely will be a problem for you, as your main source of iron and zinc is from plants, and are susceptible to the binding affinity of these phytates.

It's important to note that there are thousands of plant compounds that are toxic and poisonous to human beings, even if we can't feel the effects directly after consumption. These, however, are the primary offenders, and it's important to stay away from these, as they can—and definitely do—cause problems within the body that can be disastrous and debilitating later in life.

This concludes the biochemistry section of Chapter 2. Now we will proceed to indicating what proper human behavior is from this final, brief section—human anatomy

- **ANATOMY**

Human anatomy and human anthropology are actually quite similar in many respects. They both deal with the human body, and they both draw inferences about who we were, and who and how we should be today. There are plenty of places to start with anatomy, but in no particular order, so we can start anywhere.

The first place we can start is our appendix. When people are asked where their appendix is, most don't really know. When asked what it's responsible for, they also don't know. I'm here to tell you that I don't blame you if you're one of those people. The appendix seems to be completely useless. What's funny though is…it really is.

The appendix is a vestigial organ, which means it is a remnant of a much larger organ that we used to have, which was called a cecum[93]. A cecum is a large organ that other animals such as gorillas and other members of the ape family have that is specifically designed to metabolize the fiber in the plants they eat, turning it into short chain, saturated fatty acids for their primary fuel source. Given our evolutionary past, which stems from that family, we used to have one of those as well, and that can be seen with the appendix.

Now you may be wondering "so what?" Well, the fact that our cecum has atrophied so much over the last couple million years should indicate that we stopped eating so much fiber—*we stopped eating so many plants*. This goes right along with the notion I've pronounced a multitude of times, that being that we ate almost exclusively meat for most of our existence as a species. Meat has no fiber in it. In fact, contrary to what people may envision meat as, it's made of water, protein, and fat, along with the associated vitamins and minerals, and *that's it* (seems like a pretty "clean" food to me). Since we are on the topic of the digestive tract, I think it would also be convenient to mention that our stomach pH is lower than that of dogs, cats and even lions (which are all carnivores!) at a whopping 1-1.5 pH, which is that of a vulture's stomach pH[94]. Why would our stomach pH be the equivalent of a vulture's pH, though? I thought vultures were scavengers? Human beings have been hunters and gatherers for their entire existence, right?

Not quite. As I mentioned earlier, before we were ever hunters, we actually *were* scavengers, subsisting off of rotten animal flesh[95]. The theory goes that since the flesh was rotten, we needed to develop a stomach that was acidic enough to kill the pathogenic bacteria to prevent us from contracting diseases from it. The next thing we can go *back* to, actually, is our teeth, because there is something that needs to be cleared up here. We've talked about them extensively, but something we haven't mentioned is the fact that our teeth are actually that of a frugivore. You can see the clear resemblance here:

But, wait, that doesn't make any sense. Why would we have a frugivore's teeth if frugivores eat raw fruit, nuts, seeds, and shoots? After everything I've read up to this point, shouldn't we be eating exclusively meat?

Here's the thing to understand about evolution—traits are selected for and selected against in a very particular way—through positive and negative selection pressures. Most people know that traits are selected *for* when you need the trait to develop in order to survive. Those are positive selection pressures. But, what most people actually fail to understand (including me, originally) is that traits aren't selected against if they're not necessary anymore—they're selected against *only if that trait becomes deleterious in some way, or if it interferes with the survival of an organism.* A perfect example of this would be the appendix I just mentioned. We have never lost that organ entirely because it is completely harmless within us; it's just atrophied due to it not having been used much at all, and, in turn, has lost its function. Another example, however, would be our teeth.

Human beings have a frugivorous past, and we remained frugivores until we came down from the trees and started eating animals[96]. When we started to eat animals, we were scavengers, and therefore were able to eat the meat with the teeth we already had. When we began to hunt the animals, we used tools, not our teeth, and therefore *still* didn't need to develop sharper teeth like those of a lion or tiger to kill the animals in that manner. To this day, we get by just fine without sharp, pointy teeth.

The size of our digestive tract also indicates that we are a carnivorous species, with shorter intestines than that of other primate animals; herbivores have much longer small intestines than humans do[97].

As you can now judiciously infer, from a paleoanthropological, anatomical, and biochemical point of view, the *diet* that is indicated for human beings *without a doubt, unequivocally, is a 100% carnivorous diet* (we will cover lifestyle behaviors later on as well; this book is not just about diet). Ever since we strayed from this, our "progression" has been nothing but regression, and it's been right in front of us for so long.

I know how contentious and controversial it is to say this. You probably still have many, many worries about this. "What about blood pressure?" "Don't you need carbs to build muscle?" "Cholesterol may be important, but how much is too much?" "What about heart disease?" "What about gout?" "Isn't fiber a superfood?" "Aren't *vegetables* superfoods?" The truth is, for a little over a century now, and especially during the last 80 years, we have been lied to—*with* malice of forethought. It has been brought upon by rapaciousness and cowardice, but also, I believe, from another group of people as well who want to weaken us as a society, and to keep us weak. The things you think you need, and the things you think are contraindicated, are completely backwards as a result of this misanthropy and misconduct. In the next chapter, Chapter 3, we will be breaking down all of the mainstream myths that have been promulgated and are endemic in our society's beliefs, and, in fact, the *world's* beliefs, and dispelling them once and for all with all of the facts available to every one of us. Join me there.

CHAPTER 3

THE MAN MAKES THE MYTH, AND HE BECOMES A LEGEND

WELCOME TO THE NEXT CHAPTER of Contraindicated, where we will be dispelling every major mainstream myth that has been allowed to flourish unscathed for, in some cases, almost a century now. The goal of this chapter is to, of course, get the truth out there, but, also, to ease your anxiety relating to the new information you now possess about diet. As I concluded in the last chapter, we will discuss lifestyle factors as well, but for now, we need to start with diet, as that was the firstly mentioned topic. With that being said, we will start with the most endemic myths, and go down the list until we reach the least popular ones. Buckle up, because this will be a ride.

• MYTH #1: THE GREAT CHOLESTEROL MYTH

No, I did not rip off Stephen Sinatra and Johnny Bowden for the title of this myth, although I should definitely give them credit for writing that book well before the time the truth behind this began to gain even as much traction as it has today. The most popular health narrative in the global population and in the medical community for over 50 years has been that higher cholesterol and saturated fat intake will result in higher "LDL cholesterol" levels in the blood, and that cholesterol will then maneuver its way through the blood vessels, and invaginate itself in the arterial walls of said blood vessels, causing heart attacks. This process is progressive, and therefore leads to further and further buildup, progressively harmful in nature, and finally leading to atherosclerosis, or heart disease. Even when searching the word cholesterol in Google Images, the first images that are presented are graphics of plaque clogging arteries. However, this could not be further from the truth.

The first research that demonstrated a link between cholesterol and heart disease, as well as the USDA recommendations to eat less fat and cholesterol in 1977, were not only false, but also fraudulent. The sugar industry, or the Sugar Association, purchased and paid for these. The journal of the American Medical Association published a report from UCSF in 2015 showing internal documentation from the Sugar Research Foundation discussing how there was quite a substantial amount of evidence in the literature dating back to the 1940s and 1950s suggesting that sugar causes heart disease. They described, in their own words and documentation, how they paid off three Harvard professors to manipulate data and publish false papers to make it look like cholesterol was causing heart disease, or was at least associated with heart disease, while sugar was exonerated[1, 2]. Following this, one of those professors, Dr. Mark Hegsted, became the chairman of the USDA and helped develop the 1977 USDA dietary recommendations to dramatically cut saturated fats and cholesterol since it "causes" heart disease.

After the release of the guidelines in 1977, rates of *diagnosed* “high LDL” in Americans, decreased by about 29% between the years of 1976-1980 and 1988-1994. From 1988-1994 and 2001-2004, they decreased again by slightly over 21% and from the years of 2001-2004 and 2007-2010, they decreased by slightly over 18%. In total, from the years of 1976-1980 to 2007-2010, the average “high LDL-C” diagnoses in Americans decreased by over 50%.[3] Red meat consumption in pounds per person also went down dramatically after 1977, from about 88 pounds per person consumed in 1977 to about 72 pounds per person in 1980, and has been steadily declining ever since.[4] Given that the guidelines expressly encouraged the consumption of grains, vegetables, and fruits in substitution of such foods, we can assume that the decrease in red meat consumption is commensurate with the increase in the consumption of those foods as well.

Now, most people will say that the cardiovascular disease mortality has gone down since 1977 as well, and they'll use this as "evidence" that these guidelines are working. While this is true[5], this is looking at *mortality* from cardiovascular disease, not the *prevalence* of the disease. The medical establishment has gotten much better at treating the disease successfully with pharmaceutical and other invasive interventions and procedures, but that does not mean that less people are developing the condition. It is difficult to find statistics presenting the prevalence of diagnosed cardiovascular disease as a whole in Americans before around 2000. According to the EPA, cardiovascular disease prevalence in US adults from 2002 to 2018, however, has remained relatively stagnant, at about 111 cases per 1,000 adults on average[6], so we can at least say there hasn't really been an improvement in what seems to be about 21 years. However, what we *also* know is that the rates of diagnosed diabetes went up markedly after 1977[7], and 70% of patients with type 2 diabetes die from cardiovascular disease[8]. Therefore, it doesn't seem to be a judicious assertion to say that cardiovascular disease prevalence has decreased since 1977—it's most likely climbing up.

Another posited claim is that Ancel Keys, who was an American physiologist and biologist from the Eisenhower Era, did a study called the 7 Nations Study, where he found that in 7 nations, as you increased the amount of fat (which has the propensity to raise cholesterol) in their diets, there was a parabolic increase in heart disease as well[9]. Firstly, that is a correlation, not a causation. However, even so, he actually had data for 23 countries, and when all 23 were plotted, there was no association whatsoever, and it is scattered all across the graph[10]. This has been known for 60 years. It's also important to note that Ancel Keys was a *fish* biologist and physiologist, not a human one[11], and he was still studying when he was selected to determine the "cause" of heart disease.

Another interesting point to acknowledge is that atherosclerosis only occurs in blood vessels, specifically the high pressure areas of the vascular system, and never, *ever* occurs in veins (except in a surgical bypass situation, where a vein is introduced into a high pressure area of the vascular tree). This alone is enough to dispel the myth that cholesterol is causing heart disease, especially considering the *other* fact that cholesterol constitutes 1/10th of 1% of atherosclerotic plaque, typically.

So then what is really causing heart disease? In order to answer that, we must understand what heart disease really is.

Heart disease, at its core, is an inflammatory process that occurs in the body due to hyperglycemia (high blood sugar) which leads to glycation and oxidation of sdLDL and other LDL particles[12], and the only way to have high blood sugar is by consuming carbohydrates (stress can induce slightly higher glucose levels from your body pumping out adrenaline and cortisol and telling your liver to create more glucose, as well as dehydration, which makes the concentration of sugar in your blood higher, but you won't become hyperglycemic due to these factors alone—you still need carbs to surpass that threshold).

Fructose in particular has a higher propensity to initiate this process, as I earlier mentioned, which was shown specifically by Dr. Robert Lustig and the biochemistry department at UCSF[13, 14, 15, 16, 17]. Many other factors contribute as well, including plant anti-nutrients (the colloquial term for plant *toxins*) such as lectins, as I also mentioned earlier[18]. Blockages in the blood vessels are caused by atherosclerotic plaques, as we know, but, contrary to popular belief, and contrary to what the media may tell you, the plaques are largely scar tissue that can become calcified at later stages, become unstable and rupture, then causing thrombi, which are blood clots[19]. None of this has anything to do with cholesterol, but if you search in your web browser what atherosclerotic plaque consists of, the first things listed are fat and cholesterol. It's difficult to find sources that say otherwise, but it is possible. So why is cholesterol, specifically "LDL" cholesterol, taking so much blame, if it's not the real problem?

First of all, there is no such thing as "LDL cholesterol," there is only cholesterol, and different transport proteins that transport the cholesterol throughout the body. These are called lipoproteins, which are protein-fat molecules that act as delivery agents for cholesterol. You cannot dissolve lipids in water, and cholesterol is a lipid. Therefore, it will not dissolve in water. Therefore, you need a "package" (lipoproteins) to be able to "package up" fats and allow them to travel through the bloodstream, otherwise they would separate from your blood and cause an embolism. There are several classes of lipoproteins, such as low density lipoproteins (LDL), medium/intermediate density (IDL), and high density (HDL). Every lipoprotein contains either an ApoA "tag" or an ApoB tag. ApoA attaches itself to HDL, and ApoB attaches itself to LDL. The cells that require cholesterol absorb the ApoB containing lipoproteins on the way through the bloodstream, bind them up on the cell membrane, and pump as much cholesterol out of the lipoprotein into the cell as is required. That's the process in a nutshell.

The sugar molecules involved in the heart disease process bind to proteins on the cholesterol carried by LDL, and sdLDL particles, which are smaller versions of LDL, and happen to be metabolites of fructose and alcohol (fun fact: fructose and alcohol break down to practically the same metabolites). This process is called glycation, as previously alluded to, in which the glucose molecules physically fuse to the molecules listed before, and make them either not work properly, or not work at all. Fructose has a much higher glycation rate as well. Once again, some scientists have shown that the glycation rate of fructose happens to be about 7-10x higher than that of glucose[20].

When they bind to the molecules, they block out the receptor that allows your liver to take them in (the ApoB 100 receptor). When this gets ‘knocked out,’ so to speak, the only thing that can take them up are the scavenger receptors on your macrophages. They continue to engulf them because they have an unlimited capacity to do so, and therefore form large “foam cells.” Once you have damage to your arterial walls, which is required for the process of heart disease, then those molecules will invaginate into the defect, and will *then* form atherosclerotic plaque. The lipoproteins *do not* get deposited into the arterial walls without these defects. In other words, if you don’t have damage to the arterial walls of the blood vessels, this will not happen. High blood sugar will increase this reaction, and, as stated, fructose will do this even more. The main reason why diabetics have a much higher rate of heart disease is due to this; their blood sugar is chronically elevated. Blame gets staked on LDL-C, when in reality, they are really the firemen that show up to the fire, and are not the arsonists themselves.

There is only a 1 in 1 million prevalence of people who have a genuine problem in this regard, in which they have none of the receptors for the lipoprotein transporters, and as such, their cells are unable to absorb cholesterol from the bloodstream, leading to serious diseases, and usually early death, but still not due to cardiovascular disease—it’s often in the teenage years due to *cellular starvation*[21].

It is important to remember what cholesterol is in the first place, and what roles it plays in the body. Cholesterol is a high molecular weight alcohol and a steroid molecule. Cholesterol is vital for many things in the body, including Vitamin D synthesis and utilization[22], and is also the precursor to 5 major hormone groups, those being progestogens, glucocorticoids, androgens, mineralocorticoids, and estrogens, which are all *vital* for your health[23]. This is probably why men on low-fat diets have exhibited lower testosterone levels[24]. Cholesterol goes into cell membranes, making up 40-50% of all of them in the body. Cholesterol assists in digestion and the absorption of vitamins since it is a constituent of bile salts[23]. Cholesterol makes up 20% of your brain[25], interrupts communication between pathogenic bacteria via a process called quorum sensing[26], and it even makes up the myelin sheathing on your neurons[27]. Cholesterol is also essential for proper cell membrane fluidity[28]; cholesterol makes our cell membranes more stiff and resilient by making the phospholipids in the phospholipid bilayer of our cell membranes "stick together" more, like glue. Seed oils tend to lower your cholesterol, so this is, apparently, one reason as to why these are not things you should be eating[29, 30].

One argument made against the consumption of cholesterol is that we make our own cholesterol in the body, and it has even been recognized and labeled as a non-essential nutrient[31]. While we may make our own cholesterol in the body, we only make about 70-80% of the amount we really need to thrive.[32, 33]. But this doesn't change the fact that we need to source the other 20-30% from food, and the only foods that happen to contain cholesterol are animal products, those being meat, eggs, and dairy.

At this point, one may say "Eddie, this is great information and all, but where are the *studies* to fortify the claim that saturated fat and cholesterol intake don't cause heart disease?" Well, here are a few references to some of them:

According to a 68 thousand person study published in the BMJ, those over 60 with higher LDL levels lived longer, had lower rates of infection, lower rates of cancer, and reduced rates of other disorders[34]. There are probably other things going on here as well, and not just solely the cholesterol levels being a factor, but it is still most likely a very significant factor in the results given what we now know about the importance of cholesterol and its inappropriately maligned nature.

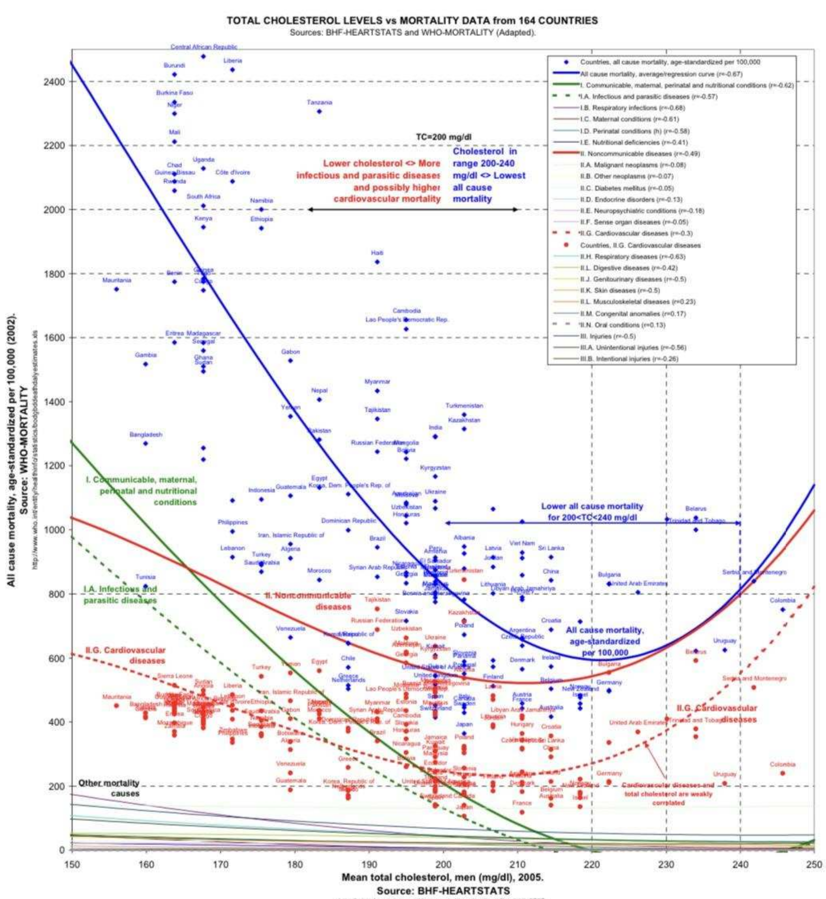
The Women's Health Initiative Study, conducted on more than 48,000 females and published in 2006, cost 700 million USD. Its goal was to establish for certain whether low-fat diets were healthy or not. That's not precisely accurate, though, as the researchers already believed low-fat diets would be helpful and only sought to confirm their suspicions. After being randomly assigned to a low-fat diet or a standard diet, participants were subsequently monitored for around 8 years. Due to the study's scale and significance, its findings were released with much fanfare, and the principal researcher went on record to state that the results demonstrate the need—indeed, the benefits—of dietary reductions in even greater than in the 8–10% studied of fat. But nothing of the sort could be seen in the results. However, if you read the results table or the conclusion, you wouldn't be able to understand this. There, in cryptic wording, was the single study with a statistically significant finding in the entire study—the only finding not likely attributable to chance alone—and you had to travel to page 661 of the journal in which it was published to find out the truth. The results showed that the low fat diet group performed worse than the control group. The incidence of complications, such as heart attacks, was 26% greater in those with a history of heart disease who were randomly assigned to the low fat group[35].

You may have also heard of the Sydney Diet Heart trial, an excellent interventional trial that looked at the results of substituting polyunsaturated fats for saturated fats in patients who had heart attacks. Results about whether or not this diet actually decreased the incidence of death were never going to be made public, however. The original study data were only found in a basement by chance, and it took a researcher some 40 years after the study's conclusion to decipher and publish it.

The findings, which showed that increasing polyunsaturated fats and decreasing saturated fat in the diet raised the incidence of death by 62%, were published in 2013 in the British Medical Journal[35]. The one justification offered to support this rise in deaths was that it was brought on by a rise in the consumption of trans fats. In particular, it is asserted that the trans fat content of the margarine ingested by the intervention group was greater. But, there is a weakness in this argument. What matters is the distinction between hard and soft margarines. Trans fats were included in hard margarine at the time. However, Miracle Brand, a soft margarine that was explicitly advertised as such, was the margarine utilized in the study. Very few trans fats, if any, were included in soft margarines. In the intervention group, eating cookies, cakes, pastries, and puddings—all of which were frequently produced with hard margarine containing trans fats—was expressly forbidden. Additionally, the intervention group utilized safflower oil instead of other trans fat sources, which similarly has little to no trans fat. The intervention group probably certainly lowered their intake of trans fat.

There are other interventional studies besides the Sydney Diet Heart Study that demonstrate the supposed effects of switching from saturated to polyunsaturated fats. A high saturated fat diet and a high polyunsaturated fat diet were contrasted in the gold standard, double-blind, interventional Minnesota Coronary Survey, which was also finished in 1973 and involved over 9,000 men and women. Similar to the last study, the outcomes were nearly forgotten until the original study data was found and, at long last, released in 2016[36]. They came to essentially the same conclusions. The kicker is when the study's results were inquired about before the author passed away, he said that they were disappointing, and that is why they were not published.

These studies are pretty telling, but I think the most telling set of data comes from the largest associative data set produced by the British Heart Foundation and the World Health Organization (not working together). It can be seen that they measured the total and LDL cholesterol and averaged it out for people in 168 different countries (these are several hundred million data points around the world). On the other axis, they listed the age adjusted death rates, and plotted the death rates per 100,000 persons per year vs their cholesterol level. What they found was that the lower your total cholesterol level was below 220, the higher the incidents of deaths were from all causes, and from every subcause, those being heart disease, cancers, strokes, etc[37]. Association cannot establish causality. However, if there is no association, or if there is an inverse association, then causality can be dismissed.



The most important note to make to truly effectuate people's proper conceptualization of this is that your *cholesterol levels are regulated by your genes and nothing else.* What this means is that no matter how high your cholesterol levels are on a lipid panel, whether it be 300 or 400, this does not indicate a serious problem at all, not to mention the fact that these cholesterol levels are not measured, but rather *estimated*, which means that this number is an estimate based on a regression sum with an error around it. This is probably the most difficult thing for people to wrap their heads around and accept, but these are the facts. So don't worry about optimizing your HDL, LDL, total cholesterol, etc, or trying to change its level in any way, despite what health influencers (from all sides!) say upon this topic, as you will be defying your intrinsic nature and physiology in the same attempt.

The bottom line? **DO NOT FEAR CHOLESTEROL.** The National Cholesterol Education Panel in 2004 lowered the threshold for what is considered to be high cholesterol on the basis of no new scientific data, and later it turned out that 8 of the 9 members on the panel had financial ties to statin drug manufacturers[38]. To this day, no decision or change made to guidelines has been based on any substantial data about cholesterol and any deleterious hard health outcomes in human beings. In fact, saturated fat consumption has even been shown to be associated with a reduction in the amount of sdLDL particles created, which were earlier explained to be a possible associative factor in atherosclerosis due to them being metabolites of fructose and ethanol, for one, and also due to them being smaller enough to have a higher speculated chance of entering the injured arterial areas[39].

It's also associated with an increase in the production of large, buoyant LDL in the body, which are speculated to be much less of an associative factor in coronary events[40]. Cholesterol is vital for optimal cell function. It plays a crucial role in almost every area of your body, and we know that dietary cholesterol hardly impacts blood cholesterol, except perhaps initially, which I think is due in part to your body restoring its cholesterol after long periods of its destitution to such a nutrient[41, 42, 43]. You will die without cholesterol, not with too much of it, as any excess cholesterol is excreted from the body or recycled[44].

Just for fun, here are some links to extra studies not yet referenced in this section that show that higher fat diets have shown some pretty fantastic results at reversing epilepsy, among other great feats, and some studies that suggest carbohydrates seem to be the real culprit, if you're curious enough to read them.

- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3321471/
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6375425/
- https://www.frontiersin.org/articles/10.3389/fnut.2021.594408/full
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2390860/
- https://www.researchgate.net/publication/366416410_Dietary_carbohydrate_quantity_and_quality_and_risk_of_cardiovascular_disease_all-cause_cardiovascular_and_cancer_mortality_a_systematic_review_and_meta-analysis#:~:text=Limited%20studies%20were%20found%20on%20the%20association%20of,risk%20of%20cardiovascular%20disease%2C%20stroke%2C%20and%20all-cause%20mortality.

• MYTH #2: THE GREAT "ETHICS" MYTH:

One common objection to a diet based primarily on meat is that this will contribute to imminent climate catastrophe—climate change, global warming, increased greenhouse gas emissions, etc, usually followed up with the supposedly "axiomatic" claim that it's entirely unethical to kill animals for food alone, and it's not sustainable. However, these objections seem to be based on a lack of understanding of the effects of monocrop agriculture on the environment, regenerative farming, the cruel reality of nature, and the GHG hypothesis itself.

The global warming argument states that greenhouse gasses, which are gasses in the earth's atmosphere that consist of 3 molecules (water, carbon dioxide, methane) that store heat and warm the earth, due to human activities, have started to rapidly accumulate more and more, causing large increases in the Earth's temperature, which, eventually, will lead to the deaths of millions upon millions of people due to heat shocks and hyperthermic events. In order to stop this, they say that human beings need to cut down on fossil fuel use, cut down on animal farming activity due to the amount of methane cows produce, make room for monocrop farming, among other things. Let's say this theory is true—for now. Is agriculture really better for the environment than cattle raising in terms of greenhouse gas emissions?

According to the EPA's report in 2015, beef as a whole represented only 1.9% of the total greenhouse gas emissions that year, which is much less than plant agriculture, transportation and industry, and electricity generation[50]. Besides, people seem to completely fail to understand that **methane emissions from livestock are also part of the carbon cycle and don't *increase* the amount of carbon in the atmosphere**[51]. Methane produced by ruminants goes into the atmosphere and is broken down to carbon dioxide after about 12 years[52]. The atmospheric carbon dioxide is then used by plants during their cellular respiration to make carbohydrates, and the cows eat those plants, releasing methane, and the cycle continues. Methane represents about 11% of the greenhouse gasses in our atmosphere[53], and the majority of that methane comes from coal mining, natural gas usage, the breakdown of trash in landfills, and natural sources like wetlands and termites[54].

The reality is that mono-crop agriculture, which is utilized to grow the majority of plant foods today, depletes organic matter by exposing deeper layers of the Earth to oxidation during tilling[55]. This damages natural ecosystems and further depletes the soil of the nutrients needed for proper plant growth. The amount of carbon dioxide that plants sequester from the atmosphere and use to produce the energy they need to exist will increase in soil that is healthy and nutrient-rich.

Monocrop farming depletes the soil of these nutrients, which results in less carbon dioxide being absorbed and more carbon dioxide being released into the atmosphere. Ruminant animals add organic matter to the soil, which improves soil quality, enables plants to sequester more carbon dioxide, creating a carbon-negative environment[56]. Of all the greenhouse gasses in the atmosphere, the loss of the soil is responsible for *many* of them[57] since the Industrial Revolution due to the fact that soil can hold more carbon than is in the entire atmosphere at this moment[58]; there are about 7.82 gigatonnes in the atmosphere[59], and the soil can hold 3-4x that with photosynthesis from the plants[60].

There was a study done in 2006 that concluded that 18% of all GHG emissions were from livestock, but the study factored in feed, transportation, and processing as well, which vastly skewed the results[61]. At the end of the day, placing cattle on nutrient depleted land actually restores the soil and leads to a carbon negative environment, not the opposite.

Additionally, the pharmaceutical sector alone makes significant contributions to GHG emissions. Instead of switching from a meat-based diet to a plant-based one, there are global estimates that people have applied to a dollar figure and have shown that based on pharmaceutical expenditure on the average adult with Type 2 Diabetes, if they were to stop taking their medication, they would reduce their carbon footprint by 29%[62], and we know how effective a low to no carb diet is at putting diabetes into remission[63].

Our ancestors were careful not to over-hunt or destroy the ecosystems due to the damage this causes to the earth in the long run. This doesn't mean don't hunt at all, and don't eat animals at all. As can be inferred, this would be more negative to the environment than anything positive.

It's important to also mention that the validity of the GHG theory is being challenged more and more—we aren't even sure if it's imminently catastrophic at all. Many climate scientists, such as Bjorn Lomborg, seem to think otherwise[64], for example. So, the question of whether cattle raising is worse than monocrop agriculture for the environment seems pretty clear: Cattle raising seems to be much healthier for the environment than monocrop agriculture. Also, the recent implementation of modern industrialized agricultural farming, along with pesticide use, kills millions of insects and animals every year[65]. Habitats are destroyed to make room for more farmland, and even during the plowing process alone. Cattle lose their homes, and die as a result as well. None of this particularly is environment "friendly," nor ethical, as clearly demonstrated. It turns out that just because you're not killing an animal does not mean you are not killing an animal. A single vegan meal usually consists of vegetables that are most likely from different parts of the world, contributing to more "air miles" from transportation as well[66].

There also seems to be a misunderstanding in the anti-meat-eating community about the fate of the animals they are claiming to contribute to saving. Animals in the wild do not die peacefully hardly ever. They either die from disease, or are killed brutally by another animal. Therefore, when you think you're saving an animal because you aren't eating it, just know that it is still being killed for food and eaten. Death is a part of life, and you cannot have life without death. When our ancestors hunted, it was not out of malice. When the animal was killed, our ancestors did not let any of the animal go to waste. They used every part, in order to make clothing, to eat, of course, and for tools.[67] Additionally, one cattle "kill" can supply people for a very, very long time, sometimes up to an entire year, if not more, with food[68]. One animal death per year for meat consumption is not even scratching the surface of how many different animals are killed for the growing and farming of things like wheat and corn. One cow a year is vastly less than the amount of deaths that 1 vegan meal can contribute to.

There *are* some poor raising methods used on animals, especially in conventional animal meat production, however. Animals crowded together with hardly any space for movement, fed corn and soy and other vegetarian feeds, some even given antacids due to the amount of acid reflux they experience from eating their inappropriate diet used to fatten them up[69]. This is one of the reasons why most say that pasture raised, grass-fed and grass-finished animal products are vastly superior to conventionally raised animal products. This includes eggs and dairy. Supporting local farmers by purchasing meat from them is a great way to ensure the ethical treatment of the animal you are consuming that day, as well as ensuring the continuation of that source of meat by paying that farmer. You're also getting a healthier option, and meat with a better fatty acid profile than conventional meat[70].

We also need to establish that veganism/vegetarianism is extremely dangerous for human beings. These plant based diets are *entirely* destitute of the nutrients needed to function at optimal health[71], and lead to the deterioration of the body. Human beings are animals as well. Even if meat eating did kill more animals on a daily basis, animals would still be dying left and right—it would just be us instead. Is it really more ethical to eat a diet that trades one animal's life for another? Is it really ethical to engage in contraindicated activity for our species? I'll leave you with this one sentence, which may be abrasive, but is still the truth:

Animal lives are extremely valuable, but human lives are invaluable.

In regards to the sustainability of a Carnivore diet on the environment, it has been sustainable for millions of years, as we ate this way for millions of years[72]. If the expansion of monocrop agriculture halted, humans would have more space for cattle raising and farming, and therefore it would be even more of a sustainable option. At the moment, with the current increased expansion of monocrop agriculture, one definitely could question its sustainability. This is why many, including myself, believe that it is not only important to start eating more animals and transitioning to a carnivore diet, but to also support local farmers in the process and attempt to stop the further expansion of monocrop agriculture.

You don't need to feel guilty about eating meat. We've been doing so for at least 4.5 million years[73].

• MYTH #3: THE GREAT FIBER MYTH:

One of the other most pervasive claims across the globe is that fiber is incredibly essential for human health. We need fiber for healthy bowel movements, a healthy gut microbiome, and for short chain fatty acid production, among other claims such as longevity, decreased "risk" of cancer development, reduced glucose spikes, etc. The problem with these? These are entirely wrong.

Fiber is composed largely of an indigestible compound known as cellulose, just like a significant part of trees and tree bark are[74,75]. Here's the thing—studies that have been done on fiber that attempt to establish its efficacy to ameliorate constipation that are of any statistical significance look at stool size and transit time, and have nothing to do with the ability of fiber to improve performances of bowel movements. Interestingly enough, there has only been one 'sort-of' scientific study on fiber and its ability to ameliorate idiopathic constipation published in 2012, which was conducted on 75 people. They were all on a relatively high fiber diet, but some were put on an even higher fiber diet, and their symptoms got worse; their bleeding, bloating, and pain all became worse. Then they had some people on a medium to lower fiber diet, and their symptoms ameliorated slightly, but not completely. However, they had an elimination diet on the other set of people, where all fiber was reduced, and every single person—all 41 participants—had complete resolution of their symptoms. The average rate of bowel motions was 1 bowel motion per day every day on the no fiber group, and the high fiber group had a bowel motion on average of 6.83 days[76].

You can even see the seemingly deleterious effects of fiber when looking at patients with diverticulosis, which is the outpouching/breaking down of the distal colon, leading to infection and even death if left untreated. As a disease, diverticulosis has only a few correlating events. There is a study that was done on thousands of patients with thousands of colonoscopies looking at what was associated with diverticulosis, and they found that the only things that had associations with diverticulosis (which then trends towards diverticulitis) were increased fiber intake and increased number of bowel motions a day[77]. Even general surgeons put patients with diverticulosis on a low residue diet—that being a low fiber diet—to rest the bowel[78]. Is this making sense yet?

Other fiber advocates purport that you need fiber for the production of short chain fatty acids in the body as well (SCFAs). The claim that fiber creates short chain fatty acids is true[79]; the bacteria in your gut will ferment the fiber because your body can't absorb it. It's essentially a waste product, like eating wood. They then will produce methane gas, alcohol & aldehydes, sugar, and then SCFAs. These can get absorbed by some of the cells in the intestines. Those cells will then convert those into ketones, and then use those ketones as a source of energy that will make the cells healthier and stronger, and better at producing mucus in order to protect itself. You know what else grants you these same benefits? *Being in ketosis.*

You're far better off being in systemic ketosis the vast majority of the time to reap those benefits to an even greater degree. This bacterial fermentation only occurs in a very focal part in the body. Therefore there are only a select few cells that will benefit from this process. The two ketone bodies produced in a ketotic state are Acetoacetate and βHB (Beta Hydroxybutyrate)[80], the latter being thought to be needed to be produced by fiber fermentation, which is incorrect. The other thing that other people happen to leave out of the picture is that fiber fermentation also results in lactate production[81], which can up-regulate gluconeogenesis in a contraindicated fashion, and therefore lead to an increase in blood glucose consequently (lactate is a known primary gluconeogenic precursor)[82].

Of course there is also the claim that if you don't 'nourish' those "good gut bugs" at all, then your microbiome will starve and lead to poor health. To put it simply, the studies that claim to show that there are "good" gut bacteria and "bad" gut bacteria are all either epidemiological studies, or other studies that also can only establish association alone. The microbiome is the biggest case of misunderstanding between correlation and causation seen in recent times. Your microbiome will adjust to the diet that you are on and will take care of you as such[83]. The bacteria that feed off of soluble fiber will die off without being fed that fiber any longer. However, you do not require these bacteria, nor have they been proven to cause any positive health benefits in human beings.

The same goes for the claims that fiber promotes longevity. There is no evidence to support this, and there are only associative epidemiological studies attempting—in vain—to establish this once and for all. However, one fun fact to mention is that a study released this year in 2023 entitled "The Role of Diet on the Gut Microbiome, Mood and Happiness" reported "strong correlations between greater consumption of fat and protein to lower anxiety and depression, while consuming higher percentages of carbohydrates was associated with increased stress, anxiety, and depression." So I don't think replacing fiber with fat and protein is that big of an issue for your microbiome—it may even enhance it.

Fiber has also been touted as beneficial because it has the propensity to reduce glucose spikes after a meal[84]. You know what else does that? *Not eating carbohydrates; not eating sugar.* You're just engaging in a double whammy at that point.

Another study published in 2022 showed that fiber in the diet was associated with increased rheumatoid arthritis incidents due to its interaction with the bacteria *Prevotella copri* in the gut microbiome[85]. If this isn't enough, fiber has been postulated to be protective against colorectal diseases, including colon cancer, when another study published in 2007 concluded that there was no evidence for this[86]. First of all, that's to be expected, considering the word "protective" is often used, which is a cause-and-effect claim that cannot be established at all in any area of human nutrition science, but this certain study showed that there were not even meaningful associations between increased fiber and decreased outcomes of these deleterious ailments.

The bottom line is that fiber actually seems to cause harm. It can block nutrient absorption[87], we cannot break it down, and it causes microabrasions in the gut lining. It also increases mucus secretion and immune dysregulation[88]. We have a vestigial organ, called an appendix, which is the remnant of a very large cecum we used to have millions of years ago when we truly were ingesting plants in significant amounts. Other animals have cecums that are designed for the fermentation of plant material and fiber into fatty acids for metabolism. There is a reason we don't have that anymore—we stopped ingesting fiber.

Despite all of this, fiber is considered an essential nutrient by many health organizations[89,90,91]. To put it simply, the criteria for what is and what is not an essential nutrient is very flawed. You would think that an essential nutrient is a nutrient in which we would die without, except you'd be wrong. According to ScienceDirect, "essential nutrients are ones that cannot be synthesized by the body and, therefore, must be supplied from foods[92]." Most websites say this, and then they follow up by saying that these nutrients are essential for human life, except that isn't part of the definition, and that is just an opinion about the nutrients themselves that they list afterwards. This is how they trick you. Fiber is not only not a true essential nutrient, but is also not something you want to be ingesting in any amount ever. If it truly were essential, I would be dead.

In reality, fiber isn't likely to help with constipation—it could even make it worse; it's like adding cars to a traffic jam. What does seem to help is adding more saturated fat into the digestive system. Is it any wonder that fiber started to be advertised far more right around the time that the low fat movement gained so much traction[93,94]? Some people, including me, speculate that people were getting constipated as a result, and needed something to help them with that. They believed fiber would do that. In certain circumstances, fiber may be beneficial in ameliorating minor constipation in a pinch, as it gives your body something to "gnaw on" so to speak, and does cause movement in the bowels, but you risk making it worse that way. You're better off relying on saturated fat to lubricate your system, and do that for you.

- ## MYTH #4: THE GREAT "SALT" MYTH:

Everyone knows salt causes high blood pressure…right? Well, not exactly—it's contextual. Your kidneys are designed to regulate the pH of the body by filtering ions in and out of the blood, one of those ions being sodium. Insulin is a hormone that causes the body to retain water. Do you see where this is going? If you have chronically elevated insulin, your body will retain more water, but with that water will be your electrolytes such as salt associated, increasing blood volume, and increasing blood pressure. If you don't have elevated insulin, your body will simply excrete excess sodium via the kidneys without a worry. In other words, salt *intake* isn't what causes high blood pressure—it's salt *retention.*

In fact, let's explain how this notion makes even less sense. Salt served as the most popular and efficient food preservative prior to the industrial age[95]. We know that the salt intake in Europe was very high, at least from the 1500s, when it reached as much as 40-100 grams thanks to meals like salted fish, as Mike Kurlansky points out in Salt: A World History. This quantity is equivalent to swallowing the contents of one or two standard 2-ounce salt shakers from a restaurant. Given that the first record of heart disease wasn't made until the middle of the 16th century, if these enormous amounts of salt were causing hypertension-induced heart disease, people at the time must not have given much thought to untimely death. According to the Salt Institute, western nations consumed between 15 and 17 grams of salt per day from the early 1800s through the end of World War II[96]. After WWII, when refrigeration started to replace salt as the primary method of food preservation, salt consumption in the U.S. declined substantially to about half that rate, or 9 grams (1.8 teaspoons) per day, and has stayed constant for the past 50 years based on 24-hour urine sodium data[97].

The prevalence of hypertension is currently three times higher than it was in the first half of the 1900s despite this historically low and consistent salt intake. Therefore, salt consumption is still considered "high" by health standards, but this doesn't explain why hypertension keeps increasing when salt consumption is constant. The Salt Institute was established in 1914, and suddenly, with no explicit reasoning, shut their doors, despite everything going well for them at the time[98].

Work on getting your insulin lowered by abstaining from carbohydrates, and your blood pressure will lower. It may take some time, but don’t blame the salt for what the sugar did. In fact, more than 40% of Americans’ sodium intake actually comes from food like bread and rolls, according to a CDC report, meaning that the association between salt and high blood pressure may be due to the foods that the sodium comes with, and not the sodium itself (spoiler alert: that’s almost definitely the case)[99].

- ## MYTH #5: THE GREAT SCURVY MYTH:

The next myth is how on a low to no carbohydrate diet, such as Carnivore, you won't get enough Vitamin C, and therefore you will get scurvy. Frankly, this is just ridiculous; you don't see carnivores dropping dead from scurvy. Let's look at why.

Vitamin C, also referred to as ascorbic acid, ascorbate, and other names, is a water soluble vitamin that is crucially involved in collagen synthesis[100], catecholamine synthesis[101], L-Carnitine synthesis[102], cholesterol synthesis[103], bile synthesis[104], amino acid synthesis[105], and peptide hormone synthesis[106]. It is a reducing equivalent, also known as an antioxidant, and an immune modulator, as it was actually shown to reduce leukocyte adhesion in people with atherosclerotic lesions[107].

According to one explanation, a gene was "knocked out" or rendered useless some time ago due to a change in our DNA structure, which prevented humans from producing their own vitamin C some 61 million years ago[108]. It is suspected that this gene, which goes by the somewhat long name L-gulono-γ-lactone oxidase, was selected against, implying that doing so had some beneficial effects. It is believed that at this period, the Earth was quite warm and likely abundant in plants and fruits, so humans not only did not require a gene to synthesize vitamin C, but this gene also had unintended consequences that no one has been able to fully explain. As a result, we now need to get some of our Vitamin C from food sources other than our bodies. How much vitamin C we need to eat is what seems to be unclear to people.

On a phospholipid bilayer, two protein transporters are in charge of pushing different substances against the concentration gradient across the membrane. A Glut 4 transporter and an SVCT transporter (Sodium Vitamin C Transporter) are two of them. Glut 4 transporters normally carry glucose into cells, as already explained, but they also both contribute to how a cell stores Vitamin C[9]. Although it is frequently stated that human tissues cannot store Vitamin C, two transporters exist that can. Storage is the act of keeping something in one place for an extended period of time for use while being pushed against its concentration gradient.

Notice the mention of the Glut 4 transporter, which typically transports glucose into cells. Here is where our explanation is. Vitamin C and glucose compete for transportation at the same transporter on the cell[109]. The more sugar you eat, the more your body needs Vitamin C, because the less your body can use of the Vitamin C. Our body is more inclined to use the glucose first, not because it prefers it, but because, as explained earlier, it is vastly toxic to other cells, so your body desperately tries to use it up as fast as possible, or, if it can't, stores it as fat instead.

The way that Vitamin C works while being stored in cell membranes is by acting as a reducing equivalent[110], or, to simplify, an antioxidant. When Vitamin C, or L-ascorbic Acid, becomes oxidized, it becomes Dehydroascorbic Acid, which gives up electrons, which activates the enzymes involved in collagen synthesis and the synthesis of the other formations alluded to earlier.

Vitamin C is readily recycled from its oxidized form if the cellular redox potential is at an optimal level[111]. Cellular redox potential, or reduction-oxidation potential, simply refers to the measure of the propensity of a chemical or biological species to either acquire or lose electrons through ionization. If the cellular redox potential is not good, then the Dehydroascorbic Acid (oxidized Vitamin C) must be excreted, and the Dehydroascorbic Acid is turned into…*oxalates*[112]. This is *not good*. Therefore, it is important to minimize the excretion of Vitamin C. The way to do this is to not consume more Vitamin C than is required. The current dietary guidelines recommend ~80 mg/day[113], however, this is based on the Standard American Diet, which is a high sugar diet. It's also important to keep the cellular redox potential in shape, especially by regulating blood sugar levels, as hyperglycemia will lead to poor redox potential[114], which explains the supposed "need" for so much Vitamin C in the diet, since it is based on a high sugar diet. This explains why people on a carnivorous, keto, low carb diet do not require nearly as much Vitamin C as other people.

There is a history of sailors getting scurvy from what people attribute to the lack of the consumption of fresh fruit primarily during the 15th and 16th century, but one of the details that seems to be missing from that story is the fact that the sailors that got scurvy were on a diet of primarily sailor's biscuits. These biscuits weren't like the biscuits we have today—they were made of hardtack[115], which consists of only flour, salt, and water. The sailors did not get scurvy in the beginning of the journey, as they had access to meat like fish and pork. Later on, the meat and other food like pea soup would spoil, and the only food that was left on the shelves would be the biscuits, which are entirely bereft of Vitamin C. The only reason the myth that you need fruit and vegetables to combat scurvy came to fruition is because Dr. James Lind performed what's commonly known to be the world's first interventional study on 6 groups of sailors with scurvy and found that the group given citrus juice was the only group that began to ameliorate their condition[116]. Another important note, however, is that eventually, even those citrus juices became ineffective at curing scurvy after months of storage[117]. Other parts of the world have survived long journeys on meat alone, and have evaded scurvy very effectively[118, 119]. Even Napoleon's army, when stranded in Egypt, evaded scurvy by eating only horse meat[120, 121], by his own orders to his army.

Not eating fruits and vegetables will not induce scurvy. This is a myth. It's extremely clear. You require far more Vitamin C on a diet that is rich in carbohydrates as sugar and Vitamin C compete for the same transporter, hyperglycemic events reduces redox potential, causing you to need more Vitamin C, and you typically need to use more on this type of diet as you need a higher antioxidant status to combat free radicals and other reactive oxidation species. There is sufficient Vitamin C content in the muscle meat of large ruminant animals to evade scurvy and serve your needs as a human being. If this wasn't the case, then millions of Carnivores would be dropping dead within months. The first signs of scurvy are fatigue and weakness, along with poor mood before anything else like bleeding gums occurs, which is usually in the later stages of scurvy. Symptoms also take about 4-5 weeks to set in, possibly up to 3 months, which is very little time[122]. The reasoning behind the fact that you will not develop scurvy on a properly tenured and properly fortified carnivore diet is not exclusive to Vitamin C either—this goes for things like calcium, magnesium, and many other nutrients as well. There are no essential nutrients that cannot be found in adequate amounts in meat that you need to derive from anywhere else as long as you are abstaining from carbohydrates.

Everybody just needs to calm down. This is yet another instance of fear mongering to discourage people from effectively and unequivocally enhancing their health.

• MYTH #6: THE GREAT "CALORIES" MYTH:

"Eat less, move more." "Calories in, calories out." It's what we've been told for decades now, and it's become seemingly self-evident to people. "It's just the law of thermodynamics" they say; "it's just physics; you need to eat less and move more in order to lose fat and maintain optimal body composition." In order to moderate how much we eat, we then track our "calories," which we say are an accurate measurement of how much "energy" we "consume" and "burn" on a daily basis. Is any of this actually true?

It's actually one of the biggest, and, frankly, most dangerous myths to ever be promulgated and perpetuated in the health sphere.

I told you we would get to talking about physics! To explain why this myth is nonsense, we first should start off with what calories really are in the first place, because people can't even get this right—not even health "professionals." Calories are the amount of heat required to raise the temperature of one gram of water around a closed thermodynamic system, also known as a bomb calorimeter, to one degree Celsius[123]. It's a measurement of kinetic activity, or the movement of the molecules in that water. That movement is caused by photons of a certain wavelength interacting with the surrounding water after being released from the rapid combustion of the food in a bomb calorimeter via an electrical current, which therefore causes rotations, vibrations, and translations. That's all they are. Most people will then be sparing and say that calories are then measurements of heat energy. That's fair enough on an informal level, but if you want to be technical, and absolutely correct, they aren't that either, because the pure, authentic form of energy cannot be directly measured. Calories are a measurement of *temperature*, and nothing more. Energy is a confusing and seemingly contradictory topic at times.

You should already be able to see why this is a problem when it comes to measuring the "energy" intake and expenditure in human beings accurately and even remotely sensibly, however. People say that we "absorb" calories, which we don't; we absorb matter, or mass, not calories or energy. They say we "consume" calories, which is also false—this would mean that we would be absorbing photons. We just established that that is nonsense. They say we "burn" calories, which, again, is false. First of all, how do you "burn" a photon? We don't "burn" anything in the human body. But, if we are going along with the terminology, the only "calories" being "lost," or, "expended," would be the insensible loss of heat to entropy of your body. A true "calorie deficit" would be hypothermia, and a true "calorie surplus" would be hyperthermia. These people don't even know what calories are, and they espouse these claims without hesitation. They'll call *you* a science denier if you try to dispute this utterly ridiculous nonsense, however, so be careful.

For metabolic activities, humans employ *chemical energy* instead of thermal energy. The human body absorbs mass in the form of proteins, fats, carbohydrates, and alcohol and then chemically interacts those substances under control with molecular oxygen obtained from the air. They react in a way that changes the chemical bonds, and in doing so, since those chemical reactions are exothermic, some photons—or heat units—are released to entropy, which is essentially a sign of chemical inefficiency, or the inefficiency of a chemical process. The human body then absorbs a large portion of the photon energy from those exothermic events and uses it to create ATP, a molecular energy storage form, which, of course, is the cellular energy currency produced by the mitochondria. That is what actually happens in terms of the "energy processing" in the body. Human beings don't "absorb" calories. Again, calories are a measurement of the temperature of a bath of water around a bomb calorimeter. We don't "expend" calories or "consume" them. So, why do people insist on using this incorrect terminology and logic when it is clearly inapplicable to human beings? It all comes down to the notorious and inappropriate citation of the first law of thermodynamics.

People will constantly cite the first law of thermodynamics as being unequivocal and indisputable in this regard, hence the word "law" in the name. This completely neglects to mention the fact that laws can't be applied to everything—laws are contextual. The first law of thermodynamics is actually a formula—it has no words. It states "$\Delta U = Q - W$." That's it.

When putting this into words, what it's really demonstrating is that the change in internal energy of a system is equal to the quantity of the energy supplied to that system as heat, minus the work done by that system, where the internal energy of the system seems to refer to the energy required to set that system up in its current state ready for the undertaking of such work, having a certain amount of heat added to it. Here's the thing—the law specifically applies to closed thermodynamic systems only, such as the previously alluded to bomb calorimeter. Human beings are open thermodynamic systems, and therefore the heat equivalence principle does not apply to us. What does it mean when we say we are "open thermodynamic systems?" It means that not only do we allow the flow of *energy* in and out of our bodies, like closed systems do as well, but also the flow of *matter* in and out of our bodies as well, thus invalidating the use of this law as being applicable to human beings. Therefore, anyone that says anything about the first law of thermodynamics referencing anything about mass or matter is mistaken, as mass is explicitly excluded from the law and the competent interpretations of the law itself, because matter and mass are not able to flow through closed systems.

It's also important to talk about what energy is in the first place, which is where things get a little complicated. Energy actually cannot be defined; it's a construct. When attempting to define energy, you get a definition that involves the term "work." When you try to define work, you get a term called "force." And then, when defining that, you come right back to energy, with no definitive definition—it's circular. Again, energy, at the end of the day, is a construct.

Energy also has no mass, and therefore cannot have any effect on the mass balance of the human body; we don't store or absorb energy, but, rather, we store and absorb *mass*; human body composition is a mass balance exercise; *mass in, mass out*[124, 125, 126, 127, 128]. This is because matter, as opposed to energy, is real and tangible, and therefore has a perceived reality; we can weigh it and observe changes to it after work is applied. But, since it is a mass balance exercise, and not an energy balance exercise—since it is mass in, mass out, and not energy in, energy out—then "calories in, calories out" is entirely invalid.

On a technical level, mass *is* a condensed form of energy, if we're being fair. However, for all intents and purposes, even though mass and energy are interconvertible, on a day-to-day basis, in our body especially, they don't actually do this, so we will say that we don't store energy, but mass. For example, the stored fat on our bodies is a form of mass, in effect, because there's no way that it can be converted to energy. The energy contained in the mass of fat is equal to the mass multiplied by the speed of light squared.

Fat is a condensed form of energy, and will remain condensed. What will happen when your body uses it for metabolic processes is that fat will be chemically interacted with oxygen, and that interaction will produce some H_2O, which is still mass, and some CO_2, which is also still mass, and your body will maintain some of that water to have the homeostasis of the hydration status of that body (the rest will be excreted at some point in urine, sweat, tears, vapor at the lungs, etc), and the CO_2 will be excreted at the lungs according to its concentration gradient as that relates to the specific capacity for CO_2 of the human body at any given instance in time. As you can see, mass is converted into other forms of mass, and is lost in many different ways, in different forms, at different times. As a function of that reaction of fat with oxygen, there is a release of Gibbs free energy, which is encapsulated by another two molecules, those being ADP and an inorganic phosphate molecule, which are bonded together to form ATP, which is the "energy currency" of the cell. No energy is released, created, or destroyed; everything remains mass. Something cool to note is that matter, or mass, is *not* conserved, and *can* be created and/or destroyed[129]. We've been told otherwise with the citation of the law of conservation of mass, which, for all intents and purposes, and in day to day life, is true, but it actually is not true in every situation, like nuclear reactions.

You can even figure out that calories are nonsensical units of measurement when it comes to the energy intake and expenditure of human beings without even being as technical as I've been. For one, it's obvious that different foods containing the same number of "calories" will be processed differently and have a different compositional effect on the body consequently. One of the reasons for this is because foods have a different thermic effect all across the board[130]. Also, how many “calories"” are you getting from protein? You don’t know, because you can’t track how much of the protein was utilized in bodily tissues. Another thing to note is that even if everything they said about calories is, or was, correct, the calorie number on food labels in every western country is allowed to be out by up to 20% in either direction[131]. Also, your endocrine/hormonal system status seems to play the primary role in maintaining your body composition. If you’re chronically in an anabolic state due to your insulin remaining above an indicated level, you will tend to store more of the fat you eat rather than if you were in more of a catabolic state, with your insulin quite low, even if you ate the same amount of fat gram for gram at both times. Let’s dive into this a little deeper, because this is important.

The primary hormones involved in body composition are insulin and glucagon. Some of this will sound familiar from things I’ve said previously within this book. As we've already mentioned, insulin is the hormone of feeding and storing, whereas glucagon is the hormone of fasting and "burning" (a catabolic hormone that converts a complex molecule into a form the body can use). Every cell in the body has an insulin receptor because insulin affects every cell, while glucagon affects most cells rather than all of them, hence not every cell in the body has a glucagon receptor. Insulin has a 100% anabolic effect on muscle, boosting both glycogenesis (the process of storing glucose in the muscle for later use) and muscle synthesis. Because muscles lack glucagon receptors, glucagon has no effect on them.

Due to the presence of both receptors, adipocytes (fat cells) have the ability to both store and degrade fat when necessary in a given context. Insulin is engaged in the storage of fat and glucose by instructing the liver to produce lipids (lipogenesis) and/or glycogen (glycogenesis), but glucagon is antagonistic to this by being involved in glycogenolysis, gluconeogenesis, lipolysis, and ketogenesis. Since adipocytes appear to be more responsive to insulin than to glucagon, insulin would probably prevail in a "tug-of-war" if there was a 1:1 ratio of the two hormones, further showing the importance of hormonal optimization being key for body recomposition rather than counting "calories," which your body doesn't use anyway.

Protein increases both insulin and glucagon while fat does not increase insulin but does increase glucagon. Carbohydrates increase insulin while decreasing glucagon. However, the underlying glycemic status has a significant impact on the insulinogenic action of protein. Let me give an example.

The predominating metabolic activity is shown by the insulin to glucagon ratio (I:G). Low I:G ratio indicates catabolism (insulin sensitivity, autophagy/mitophagy, lipolysis, BAT/brown adipose tissue activation, etc.), whereas high I:G ratio indicates anabolism as the dominant process. The I:G ratio is ~0.8 in a fasted ketogenic state, and ~0.5 after protein ingestion (in the form of alanine, the prototypical gluconeogenic amino acid). However, the I:G ratio is 4 in a Standard American Diet (a high sugar diet) fed state, and 70 after alanine administration (WOW!). As observed, after protein is introduced to the high sugar dieters, there is a *22.5x increase* in the I:G ratio, while there is no increase in the I:G ratio in the low-carb group. This is because *the I:G ratio is dictated by the need for gluconeogenesis.*

Insulin and glucagon also regulate ketogenesis in the liver. Low insulin is required for ketogenesis to occur, but we must also have elevated glucagon.

All of this further demonstrates that simplifying everything to "calories" is the most vapid oversimplification one can muster up.

Additionally, when you're inflamed, you tend to store more water as a result, and therefore this also plays a role in your weight management[132]. The only way to effectively lose or gain weight using the "calorie" method and logic (whatever that weight is made up of, as it can be fat, muscle, bone density, connective tissue, water, etc) is by vastly under eating and/or vastly over eating, which is unhealthy, and unsustainable, for one, but also is not due to the "caloric" restriction or surplus, but rather due to the consequential *mass* restriction or surplus, which *further* validates the actual science of body composition alteration(s), and not this 'bro-science' way of assessing and interpreting things, which is just flat-out incorrect.

After all of this explaining, these CICO folks will then usually use a straw-man argument against people who actually know what they're talking about, and they'll say that our argument is that "calories don't matter." This is a silly oversimplification of the actual argument we possess. I'll summarize it for you: What we say is that calories are neither the appropriate tool to use in order to manage your intakes, nor are they remotely accurately measured, and even if they were, neither can you measure how many you've spent or used either. It won't work unless you're vastly reducing your mass/macronutrient intake, which is contraindicated. There are other factors such as the level of inflammasomes in your body, your hormonal balance and signaling/responses, which influences your hunger and satiety signaling, among other things.

On a very serious level, this is extremely dangerous advice to be giving people. This contributes to very serious eating disorders, since people think that the only way they can lose weight is by effectively starving themselves, and they then become afraid to eat anything. The double whammy comes in when you realize that most of the food nowadays *does* tend to cause people to inappropriately gain fat because of the way that it affects their hormones and the inflammatory state of their body, and therefore when these people actually *do* muster up the courage to eat something, even if it's the smallest amount, if it's of that 'franken-food' nature, they will gain fat, and they will immediately revert back to not eating again, like a dog being shocked when he approaches his water bowl. This is very serious. People are becoming anorexic and bulimic, and I attribute most of this to this dangerous and ill-advised propaganda, which absolutely needs to stop. People are told to starve themselves, and then when they eventually "cave," which is always on bad "food," they feel guilty, as if they did something wrong. It doesn't help that everyone else will say the same thing, and blame your decisions on a lack of willpower and discipline.

This incorrect philosophy also contributes to people vastly over-exercising, and not only that, but engaging in the wrong *kind* of exercise, that being steady-state cardio, which is also contraindicated, and, contrary to popular belief, *not* good for your heart. This causes inappropriate hypertrophy to the heart muscle, which typically contributes to a shorter lifespan[133].

Most of the people espousing these messages are members of the commercial fitness industry on social media. Let me say something—these people truly are the epitome of "meatheads." They—and other impressionable people they cater to as well—think (consciously or subconsciously) that since they have muscle, they are therefore healthy, and know what is truly health promoting behavior. Nowadays, this is completely false. Just because someone has a lot of muscle does not mean they know what they are talking about, and it does not by any means mean they are healthy. Most of these people are dying very prematurely, and it's not only due to steroids.

So, eat less, move more? Absolutely not. More like eat proper human food until satiety, and engage in proper resistance training. At the end of the day, if you need to exercise in order to maintain optimal body composition (meaning not being overweight), your diet is wrong. End of discussion. Proper exercise has an exorbitant level of benefits for the human body, but if you are trying to maintain your body composition *only*, then exercise is not required. Eating a species appropriate, species specific diet for human beings will, without a doubt, eventually, and very quickly in most cases, lead to optimal body composition. Don't count your calories. In fact, please, for the love of it all, quit using the word entirely. It's a waste of time.

- ## MYTH #7: ANTIOXIDANTS:

Many people question where one would derive their antioxidants from on a Carnivore diet. After all, antioxidants are essential for counteracting unstable molecules called free radicals that damage DNA, cell membranes, and other parts of cells. Isn't the only source of antioxidants plants? Not quite, and, in fact, antioxidants from plants have been very poorly misunderstood for quite some time.

Let's first start off with the claim that we "need" "antioxidants" from plants. Well, here's the problem: the antioxidants in plants are only antioxidants *for the plant, and not for human beings.* In fact, they can—and usually do—play the role of *pro*-oxidants in humans. Let's take a look at why.

Human beings and plants have disparate operating systems. This means that plants have parts that work together and in harmony with each other, but not in other animals' bodies, and vice versa for us. Antioxidants are just one such example of disparate parts in certain operating systems. Almost all of the antioxidants most mentioned are actually compounds called "polyphenols." You've probably heard of these. Examples of these include resveratrol, the primary polyphenol in red wine, curcumin in turmeric, catechin, genistein, and sulforaphane, found in broccoli. Polyphenols have been touted as "essential" for longevity and increasing your healthspan, but, just like most other areas of health "science," this is based primarily on epidemiology, which is nonsense and only associative.

However, there have actually been studies and analyses done on the potential effects of these polyphenols, and they aren't too great. Many such studies have been conducted on curcumin. These studies have shown that chromosomal aberrations seem to be induced by curcumin in not only animals like mice, but also humans, specifically in the gastric mucosa[134, 135, 136, 137, 138, 139]. Curcumin has, in fact, been shown to kill cancer cells[140]. However, it also causes these aberrations in the DNA, seemingly canceling out the potential benefits. It's also important to note that most studies that show the benefit(s) of curcumin are usually shown in test tube studies, where they administer an exorbitant and unrealistically high amount in cells that are in vitro, rendering the studies implausible in daily life[141]. Another thing to mention is that there are many health influencers who say that curcumin absorption is quite low unless you pair it with piperine, a compound found in black pepper. Do you want to know why that is? Piperine enhances the absorption of curcumin because piperine inhibits your stage 2 detox pathway in your liver. In other words, your body is trying to dispense with and expel the curcumin because it recognizes it as foreign and damaging, but piperine stops that and forces it to stay in the body. Health influencers say this is great because curcumin is "anti-inflammatory," but if they knew anything about the biochemical mechanisms as to how this is achieved, they may think twice about this phenomenon[142].

Another famous polyphenol is sulforaphane, found predominantly in broccoli and broccoli sprouts. It also gets a good reputation for having "anti-cancer" properties. Similar to curcumin, however, sulforaphane seems to do more harm than good. Sulforaphane happens to be what's called an isothiocyanate, which behave as goitrogens in the body. Goitrogens are compounds that we primarily come across in plants that stimulate goiter, also known as an enlarged thyroid. They do this by competing with iodine at the thyroid in the body. Basically, after sulforaphane acts as a pro-oxidant in the human body[143, 144, 145, 146, 147], the remaining sulforaphane competes with iodine for absorption at the thyroid, which, over time, tends to lead to goiter, which tampers inappropriately and deleteriously with hormonal balance in the body.

Resveratrol—the polyphenol found in red wine—has been said to be extremely health promoting and powerful as well. It's stated self-evidently at this point. It turns out that resveratrol does in fact, seem to turn on a certain set of genes called sirtuin genes, which are said to be essential to activate in order to promote longevity, once again. First of all, just like all of the other previously mentioned compounds/molecules, resveratrol has been shown to be a pro-oxidant in human bodies, doing damage to DNA[148]. But, on top of that, being in systemic ketosis *also* activates these sirtuin genes, as well as many other genes associated with longevity (key word *"associated"*), rendering resveratrol redundant.

But wait—it gets even better. There are certain polyphenols, called flavonoids, which include such famous compounds as quercetin, which is found in onions, and genistein, which is found in soy. These compounds do many of the same things that I've just outlined. However, they do something even more diabolical as well: they mimic estrogen in the body. These compounds are just one of a multitude of different compounds included under the umbrella term "phytoestrogens." The way they do this is by mimicking the 17β estradiol receptor in your body [149, 150]. The term "soyboy" really isn't just made up, it seems.

We need to allude back to the first part of this discussion: plants and animals have different operating systems. Polyphenols are antioxidants, but not for us—rather for the *plants.* When understanding this, these results then start to make sense, if they didn't already. Researchers and scientists will say that since our antioxidant status in our bodies goes up after ingesting these plant antioxidants, this is a good thing, and the result of the plants behaving as antioxidants in our bodies. This is not true. Yes, our antioxidant status does seem to go up after ingesting these compounds, but it's due to the fact that our body is up-regulating its own antioxidants to *combat* the oxidative damage these compounds promote and cause within our bodies. This is a complete misunderstanding of this phenomenon. So, we've now established that plant antioxidants do hardly any good, and mostly cause deleterious effects in the body. So the next question people tend to ask is "okay, so where should we get our antioxidants from?" Well, there are a few ways.

First of all, the human body has a vast array of intracellular antioxidants that are created endogenously. Glutathione is probably the most well-known of these. Others include lipoic acid, L-arginine, coenzyme Q10, melatonin, uric acid, bilirubin, and transferrin[151]. Remember what I said in the last chapter about uric acid, which has been demonized for quite some time as being the "cause" of gout, and how, in reality, gout is not caused by uric acid build up, but it seems to rather be a problem brought on by oxalates binding to uric acid in many cases, not uric acid itself[152, 153]. Think about it —would your body really produce something endogenously that would cause itself unnecessary harm? When eating more red meat, people may see a rise in their uric acid levels, which is not only not proven to be bad, but is likely a very good thing, as uric acid has been shown to be a very powerful water-based antioxidant[154].

Also, Vitamin C and Vitamin E are also very powerful antioxidants that we obtain through our diet, which are found in entirely sufficient amounts in the muscle meat of large ruminant animals[155].

The most powerful antioxidants for human beings, however, are not created internally, and not consumed via the diet. They are actually derived from the earth. No, this isn't voodoo science, this is very real. When you touch your bare feet to the earth, you are making a direct electrical connection between yourself and the earth. Your body then sequesters these electrons from the earth, and they behave as very powerful antioxidants, but seem to do many other beneficial things as well[156]. This makes complete sense actually. Oxidation is the loss of electrons, and reduction is the gain of electrons. If you are absorbing electrons, then of course those electrons are going to be used as antioxidants, as the exact opposite of that, by definition, would be oxidation. As we evolved as a species for about 4.5 million years, most of the time we have had an electrical connection with the earth far more than we have today. Our physiology seems to have evolved for it. Let’s talk about the potential benefits of grounding, which seem to be very compelling.

It has been demonstrated that earthing may help improve erythrocyte metabolism and the body's cells' ability to absorb glucose[157]. Additionally, it appears that grounding is highly good at easing post-exercise muscle aches[158], and improving sleep[159, 160] and heart rate variability[161], which is a measurement of how long it takes for your heart to go from an elevated rhythm back to homeostasis. The higher your HRV, the better. Grounding also improves blood flow[162], as it reduces blood viscosity[163], that being the thickness of your blood, by a factor of 3 *immediately* after one connects electrically to the earth, which is due to the attraction of the electrons to the outer membrane of the red blood cell, which coats them with a mutually repellent layer of electrons, which allows all of the blood cells to spread out evenly amongst the blood, reducing the clumping of those cells. It’s associated with reduced inflammation overall as well[164], which is most definitely a good thing.

Grounding is also associated with reduced pulse rate, increased respiratory rate, and increased blood oxygen perfusion[165], as well as improvement in the levels of aberrant and abnormal cortisol levels[166], increased levels of melatonin[167], reduced psychological stress markers[168], changes in brain wave activity to ‘fight or flight’ to ‘rest and relaxation’ within minutes after grounding, and back again after disconnecting[169], expedited wound healing, improved autoimmune symptomology with people who suffer from autoimmune conditions, and improved hormonal balances of all kinds[170]. As you can see, an optimal antioxidant status can easily be achieved on a diet that excludes plants of any kind, with that status seemingly being even better than the antioxidant status of an omnivorous or herbivorous human, without any of the damage that plant antioxidants seem to cause.

Side note—in order to effectively ground, you need to avoid making contact with anything that functions as an insulator. Examples of insulators include rubber, glass, and sand. And yes, this means that grounding at the beach is ineffective if you are depending on the sand. In the water, however, you will be grounded.

• MYTH #8: THE GREAT "BLUE ZONE" MYTH:

Blue zones are zones of the world that have the highest concentrated number of centenarians within them. They are purported to be the healthiest as well, and scientists and influencers primarily attribute this to their diets, which are typically very low in animal protein, and very high in plant foods.

I can't help but make this one very short, because I've already explained this in Chapter 1—this is based on observational data, and to conclude that this is only attributable to diet when there are multiple other confounding variables is reductionism in the extreme.

Also, the notion that all blue zones have a prevalence of low animal protein consumption isn't even true to begin with. Okinawa, Japan, for example, is a population that, yes, eats lots of purple sweet potatoes, but also one that eats a *lot* of pork. This is even anecdotally spoken about by some Americans who now live in Okinawa, such as Jessalyn Randle, a carnivore health influencer, who has also pointed out the completely different culture there, which consists of a very tight-knit community that congregates in person rather than through a screen, and much walking and outdoors time than is prevalent here in America that all undoubtedly contribute to their long lifespans[171, 172]. In fact, just to top this one off, a 2022 paper found that meat intake predicts higher life expectancy across 175 countries, even after controlling for variables like education and GDP (so *before* and after adjustment, also known as fabrication, as explained in Chapter 1), therefore dispelling the Blue Zone myth once and for all[173]. Also, is it any wonder that the founder of the Blue Zone myth, Dan Buettner, is an agenda contributor for the WEF[174]?

- ## MYTH #9: THE GREAT "ACIDITY" MYTH:

We're starting to get into the less common arguments you hear against a ketogenic or carnivorous diet, but this one is definitely one that I have, and that you may have heard before—meat and animal products are acidic, make the body acidic consequently, and acidity promotes disease in the body. Alkaline diets full of alkaline foods such as fruits and vegetables are therefore what we need to eat in order to discourage diseases and pathogens in our body, such as diseases like cancers. Is this really true? *Not at all.*

What's funny is that if you ask the people that espouse this argument how acidity control works in the body, they will not be able to give an answer. Pretty typical of people to say things about things they don't understand even slightly. Now since, of course, we can't just say their opinion is not true "at all" and not give a reason, I need to give reasons. I'll give the shorter one here, and the quite lengthy one will be listed at the end of the book in the "Deeper Science" section. To put it very simply, there are only *4 factors* that change the pH of an aqueous solution, such as our blood, those being the temperature of an aqueous solution, the presence of carbon dioxide in the solution, the ATOT concentration of the solution, which is the measure of the effective charge in the fluid pool from the prevalent amino acids (proteins) within them (or, weakly dissociated acid anions), and ions dissociated within that solution exogenously, let's say, but only 4 types of ions have a significant effect, those being chloride, sodium, potassium, and lactate. However, those 4 ions are very quickly filtered out through the kidneys, which is what the kidneys are designed to do in the first place (if you didn't know, every time your heart pumps blood through the body, roughly 25% of that blood goes through the kidneys to be filtered[175]). This is also why the pH of your urine varies throughout the day, and not your blood pH, which is kept at around 7.35-7.45 *always*[176]. If you are somehow able to test your true blood pH and you come to discover that it is below 6.8 (which is the lowest it can go in natural circumstances, which only occurs after extremely intense, volitional exercise to exhaustion for a few minutes at most), I would suggest making a quick call to your closest friends and family members, because you are going to die[177]. The only time your blood pH stops being properly regulated is moments before one's death, and no other time[178].

I mean, do you really think for millions of years we were making sure that our pH was regulated within our blood? Trust me, our bodies do that for us, no matter *what* diet you're eating.

- ## MYTH #10: THE "AGING" MYTH:

A myth that has sort of parasitically infiltrated universities throughout the last 2-3 years is that animal protein *itself* expedites the aging process. The basis for this is that eating more animal protein causes higher IGF-1 (insulin-like growth factor 1), as a result of the stimulation of growth hormone from protein, thus raising mTOR levels in the blood (the mammalian target of rapamycin, a protein involved in regulating cell growth, cell proliferation, and autophagy), and accelerating aging through this mechanism, along with the associated inflammation[179].

In reality, as long as you are engaging in a Carnivore diet without cheating with alcohol or carbs, you will never engage the Randle Cycle because your I:G ratio will be low (~1.3), and in a fasted state will be ~0.8. When at ~1.3, this is just enough for muscle protein synthesis, but not enough to cause excessive growth. The other problem with this "aging" notion is that insulin and IGF-1 operate and function in lockstep. In primitive organisms hundreds of millions of years ago, insulin and IGF-1 were one thing[180]. There has been a division of labor between then and now that has separated them, but they still work in synchronicity; if insulin rises, so does IGF-1, and vice versa[181]. Therefore, to have elevated IGF-1 (which will raise mTOR), you must have elevated insulin, and protein's insulinogenic effect is highly dependent on the underlying glycemic status, as has already been elucidated, meaning that simply consuming protein will not guarantee a spike (or at least a vast increase) in the insulin level; the insulin response will vary greatly upon your dietary intake of carbohydrates, and especially if you mix those carbohydrates with fat (re: Randle Cycle; SAD).

Studies that are cited that supposedly show that animal protein necessarily raises IGF-1 levels have not taken into account the fact that animal protein is practically never present in isolation. This means that when one increases their consumption of animal protein, they are basically invariably increasing their intake of the associated fat within the meat concerned (which, even in lean meat, is still present to some degree), and therefore would be upregulating the Randle Cycle to some degree, which would raise insulin, which would raise IGF-1 levels consequently.

- ## MYTH #11: PHYSIOLOGICAL INSULIN RESISTANCE:

This perhaps sounds a bit misleading, as physiological insulin resistance as a concept is a real phenomenon, and not a myth. However, the argument typically associated with this phenomenon is the real myth, and that is that if you abstain from consuming carbs, your body will not be able to handle them as well, therefore reducing your “metabolic flexibility,” which is a bad thing[182].

Well, they get one thing right. The claim that abstaining from carbohydrates reduces your ability over time to metabolize them as well if one were to introduce them back into their diets again is true. This is due to the body reducing its production of Glut 4 transporters on the outsides of cell membranes, therefore having less cells being able to metabolize glucose than a regular carbohydrate consumer has[183]. As a result of this, one's blood glucose will spike much higher, and de novo lipogenesis will be initiated to a much greater degree, and one stores more fat, and suffers more acute inflammation—this is true. There's a very simple rebuttal to this however, and that is that this is your body doing exactly what it's supposed to do. You see, people tend to talk about metabolic flexibility a lot now, as if it's something that is incredibly important to have—the ability to process both carbohydrates *and* fats in an effective way. But, if you understand that carbohydrates are always, under every circumstance, contraindicated, then you understand that this notion is ridiculous on its face—what animal in the wild is designed to metabolize *everything* effectively? Animals, including us, are specialists in regards to diet. But, also, this is *completely* indicated in human beings. Think about it—if your blood sugar spikes much higher after eating carbohydrates than it would if it were used to eating them, it causes more inflammation, but also causes you to *store more fat*. This was perfect for a temporary fruit season, as it allowed us to more easily store fat than it would be to store fat if we had more cells that could oxidize the sugar for energy.

Don't get me wrong, you will still be well on your way to fat storage if you're eating carbohydrates every day, but you'd be storing far more far quicker if you didn't have as many Glut 4 transporters on the outside of your cell membranes.

All you need to realize is that your body will have a harder time dealing with carbohydrates when you reintroduce them after a long cessation of them. This doesn't mean continue eating them to avoid this—it means *stop eating them, and don't eat them again.*

• MYTH #12: THE GREAT TMAO MYTH:

For about ten years, vegans and plant-based diet advocates have been suggesting that people stay away from red meat consumption because red meat causes a build-up of a substance called TMA (Trimethylamine), and those that eat a diet rich in red meat meat also experience proliferation in a particular species of gut microbiota that then causes the transmutation of the TMA into TMAO (Trimethylamine-*N*-oxide), which is purported to be pro-inflammatory, carcinogenic, and, of course, atherogenic. This theory is once again based on a substantial amount of associative (not causal) data, which doesn't show a relationship between the consumption of meat and any deleterious long-term health outcomes anyway.

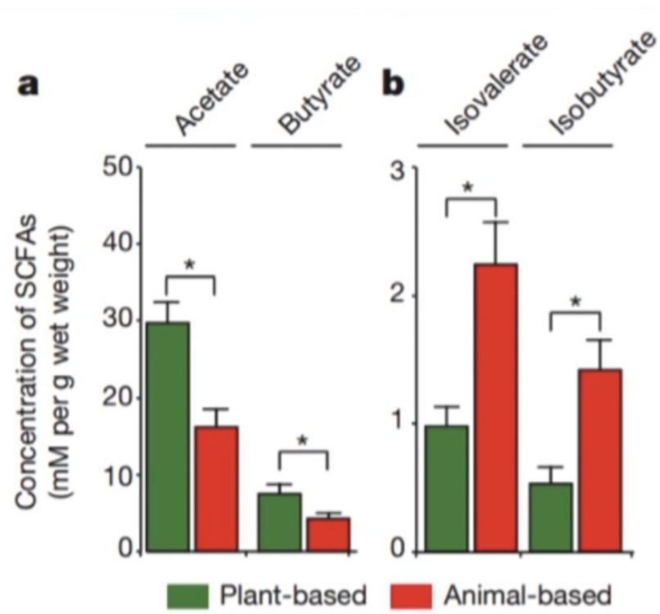
Fun fact, the average American consumes only around 2.5 ounces of beef per day, which is about 57 pounds per year[184], yet gets 60% of their effective mass intake from ultra-processed plant based foods, such as sugar, grains, and oils[185]. This means, funnily enough, that the standard American diet is already mainly plant-based, and we know that this is the worst diet (a mixed diet that is plant dominant), so does it really make any sense to blame things like atherosclerosis on red meat?

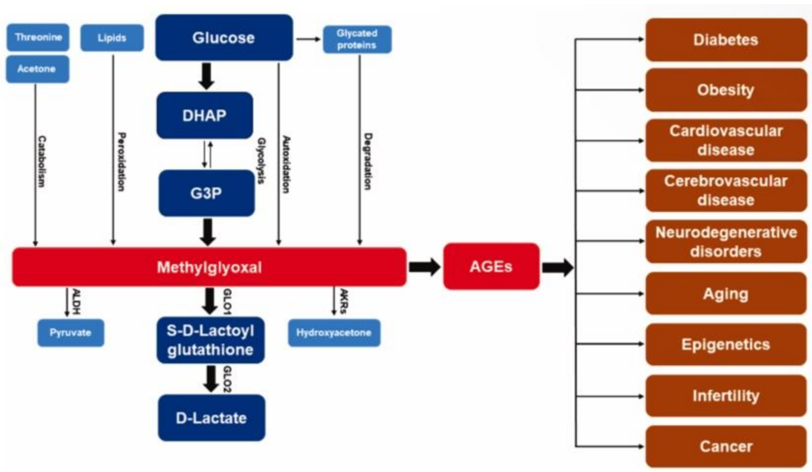
One recent paper published in late 2020 stated "human gut bacteria in the genus *Bilophila* have genomic signatures for genetic code expansion that could enable them to metabolize both TMA and its precursors without production of TMAO. We uncovered evidence that the *Bilophila* demethylation pathway is actively transcribed in gut microbiomes and that animal-based diets cause *Bilophila* to rapidly increase in abundance. CVD occurrence and *Bilophila* abundance in humans were significantly negatively correlated. These data lead us to propose that *Bilophila*, which is commonly regarded as a pathobiont, may play a role in mitigating cardiovascular disease.[186]" This implies that your gut microbiome will adjust to the diet that you are on, as long as you transition appropriately, and not overnight. This is what we've been saying forever. If you were to put someone who is on a plant-based or vegan diet on a Carnivore diet or meat heavy diet overnight, the gut bacteria that metabolize TMA would not exist, therefore leading to a potential problem. "Potential," because TMAO has not actually been proven to be proatherogenic, as that is a cause-and-effect statement. This is, in fact, what many studies will have participants do—they will have participants that are on plant-based or vegan diets transition overnight to a Carnivore diet or heavy meat diet, and then measure the levels of TMAO after weeks of follow up, and try to extrapolate the conclusion to everyone on a meat-based diet. We know practically nothing about the gut microbiome, but what is clear is that the microbiome will adjust to your diet as is required and necessary at that current time.

• MYTH #13: THE METHYLGLYOXAL MYTH:

A much less common myth that has been promulgated recently regarding a ketogenic Carnivore diet is regarding a compound known as methylglyoxal. It is said that when engaging in the abstention of carbohydrates, your body endogenously creates more methylglyoxal, which functions as an advanced glycation end product (AGE), therefore expediting the aging process from the expeditious "glycative" damage that occurs[187].

Here's the thing—methylglyoxal is found in a number of foods, but is involved in overall metabolism; the metabolism of any food produces methylglyoxal–especially the metabolism of carbohydrates[188]. When in a ketotic state, you up-regulate intracellular antioxidants like glutathione, which helps to prevent methylglyoxal's tendency to convert to AGEs (advanced glycation end products[189]). But, this is where things get interesting, because this is contextual, actually, because there are two types of keto diets. One of these diets is the plant-based ketogenic diet, and the other is the animal-based ketogenic diet (Carnivore). When undertaking the plant-based keto diet, individuals will exhibit increased/exorbitant acetate concentrations, and individuals on the animal-based/carnivore ketogenic diet exhibit much less acetate concentrations[190]. Acetate is a ketone body that can be converted to glucose via gluconeogenesis, and is a precursor of methylglyoxal[191].

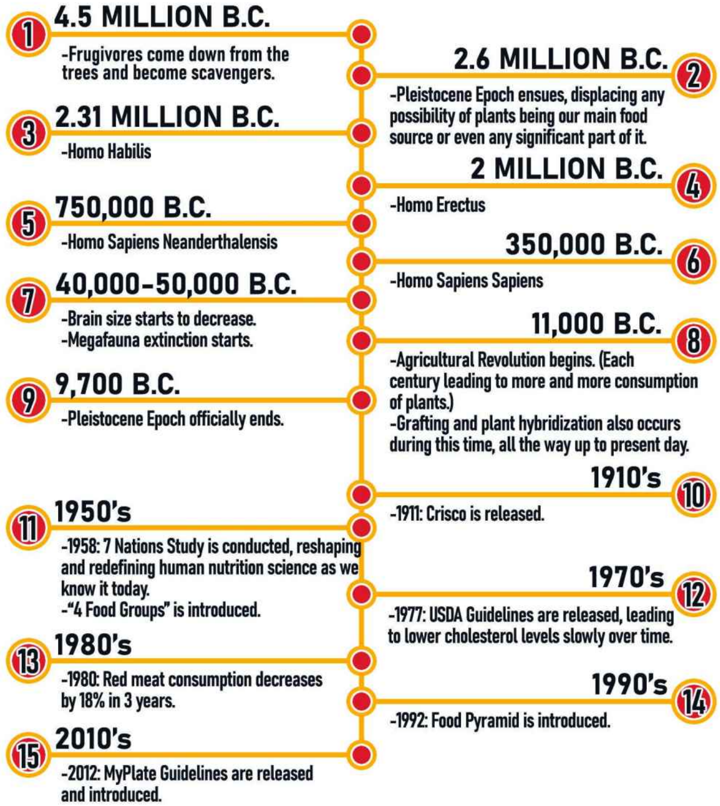




This leads to higher methylglyoxal levels that have a tendency to convert to AGEs. They are even more likely to turn into AGEs in the plant-based ketogenic diet because it results in a far less of a ketotic state due to the acetate concentrations and other gluconeogenic precursors like lactate that will lower the intracellular antioxidants like glutathione, which are known to reduce the conversion from methylglyoxal into AGEs.

Overall, methylglyoxal in the body is something to be mitigated, and the best way to do this is by eating a properly tenured, properly fortified ketogenic diet, that being the animal based form.

Methylglyoxal has very powerful antimicrobial properties for topical treatments, however. Honey–Manuka honey in particular–has fairly high levels of methylglyoxal, so honey on the skin seems to be an effective treatment against bacterial skin infections[192, 193].



1
4.5 MILLION B.C.
-Frugivores come down from the trees and become scavengers.
2
2.6 MILLION B.C.
-Pleistocene Epoch ensues, displacing any possibility of plants being our main food source or even any significant part of it.
3
2.31 MILLION B.C.
-Homo Habilis
4
2 MILLION B.C.
-Homo Erectus
5
750,000 B.C.
-Homo Sapiens Neanderthalensis
6
350,000 B.C.
-Homo Sapiens Sapiens
7
40,000-50,000 B.C.
-Brain size starts to decrease.
-Megafauna extinction starts.
8
11,000 B.C.
-Agricultural Revolution begins. (Each century leading to more and more consumption of plants.)
-Grafting and plant hybridization also occurs during this time, all the way up to present day.
9
9,700 B.C.
-Pleistocene Epoch officially ends.
10
1910's
-1911: Crisco is released.
11
1950's
-1958: 7 Nations Study is conducted, reshaping and redefining human nutrition science as we know it today.
-"4 Food Groups" is introduced.
12
1970's
-1977: USDA Guidelines are released, leading to lower cholesterol levels slowly over time.
13
1980's
-1980: Red meat consumption decreases by 18% in 3 years.
14
1990's
-1992: Food Pyramid is introduced.
15
2010's
-2012: MyPlate Guidelines are released and introduced.

All of this should clear the myths up, but also should clear up a *true* axiom, that being that we have been lied to about *everything.* A very familiar phrase is “whatever the government tells you to do—do the opposite.” Most people hear this and may even agree with the statement, but, even I didn’t think (until now) that it truly meant *everything*, and that that word isn’t an exaggeration. Shall we take a look at some of the old advertisements that have been displayed throughout relatively recent history?

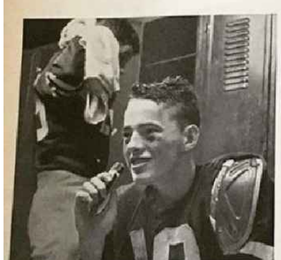
How sugar helps weight-watchers stay inside their belts

The thing that most often makes a belt too small is an appetite that's too big

How can you eat less food without being hungry all the time?

Sugar is a natural satisfier. It turns off your appetite faster than most foods—with less calories

That's why you'll find sugar and the good foods that contain it in most modern diets



Why halfbacks eat sugar between halves. Sugar begins furnishing energy almost the minute it's eaten—the quick energy that athletes need to finish strong. Even if you're just a Monday morning quarterback, you need quick energy, too. Sugar is one of Nature's best sources.

Sugar as a "seasoning" for soup. Eight years of testing at leading universities show that sugar helps bring out the real flavor of almost any food. Folks in taste tests said they preferred the foods with sugar added—not for sweetness, but for truer flavor of the food itself. Try adding a little sugar to vegetable soup. You'll find that it brings out a lot of flavor.

18 CALORIES!

Surprise you that there are only 18 calories in a teaspoonful of sugar? (Some people have guessed as high as 600.)

Sugar satisfies your appetite faster—and with fewer calories—than most other foods.

All statements in this message apply to both cane and beet sugar.

Published in the interest of better nutrition by SUGAR INFORMATION, INC. a non-profit organization
NEW YORK 5, NEW YORK


Diet dodge:
Enjoy an ice cream cone shortly before lunch.
Sugar can be the willpower you need to undereat.
When you're hungry, it usually means your energy's down.
By eating something with sugar in it, you can get your energy up fast. In fact, sugar is the fastest energy food around.
And when your energy's up, there's a good chance you'll have the willpower to undereat at mealtime.
How's that for a sweet idea?
Sugar . . . only 18 calories per teaspoon, and it's all energy.
Sugar Information


Diet tip:
Nibble on a cookie about an hour before lunch.
Sugar keeps your energy up–and your appetite down.
Willpower fans, the search is over! And guess where it's at? In sugar! Sugar works faster than any other food to turn your appetite down, turn energy up. Spoil your appetite with sugar, and you could come up with willpower—the willpower you need to eat less, and maybe even weigh less.
Sugar . . . only 18 calories per teaspoon, and it's all energy.
Sugar Information
General Post Office Box 94, New York, N. Y. 10001

Diet hint:
Have a soft drink before your main meal.
Sugar just might be the willpower you need to curb your appetite.
We know it sounds odd—but it can work.
Spoil your appetite by eating something with sugar.
Sugar works faster than any other food to turn your appetite *down*, your energy *up*.
Then when mealtime comes, you're less apt to overeat.
Willpower never tasted so good.
Sugar . . . only 18 calories per teaspoon, and it's all energy.
Sugar Information
General Post Office Box 94, New York, N.Y. 10001

The "fat time of day:" that's any time you overeat. Sugar's instant energy can slip you past.

"I think of sugar as extra willpower."

The "fat time of day" is when you're really hungry and ready to eat, and eat, and eat.

The message is coming from your turned-up appestat*.

You can turn it down shortly before mealtime by snacking on something sweet.

The sugar in a soft drink, a couple of cookies, or a candy bar turns into energy in minutes.

By cutting your appetite and increasing your energy, sugar helps slip you past the "fat time of day" the sweetest way possible.

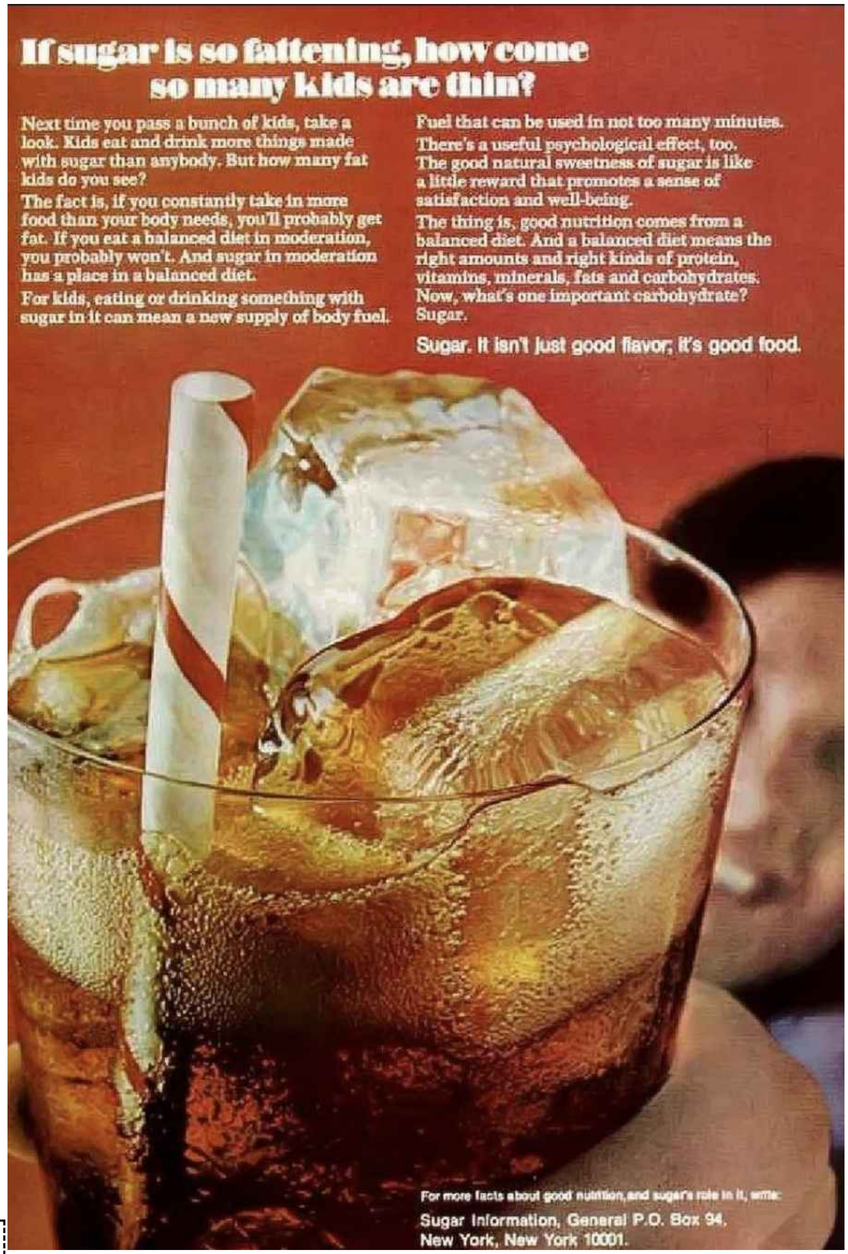
Sugar... only 18 calories per teaspoon, and it's all energy.

Never enough time? Handy new recipe booklet, "Desserts by the Clock," fits fixing time to your time. Send 10¢ for postage and handling.

Sugar Information

Dept. A, P.O. Box 2664, Grand Central Station, New York, N.Y. 10017

"A neural center in the hypothalamus believed to regulate appetite."— Webster's Third New International Dictionary.


If sugar is so fattening, how come so many kids are thin?
Next time you pass a bunch of kids, take a look. Kids eat and drink more things made with sugar than anybody. But how many fat kids do you see?
The fact is, if you constantly take in more food than your body needs, you'll probably get fat. If you eat a balanced diet in moderation, you probably won't. And sugar in moderation has a place in a balanced diet.
For kids, eating or drinking something with sugar in it can mean a new supply of body fuel. Fuel that can be used in not too many minutes.
There's a useful psychological effect, too. The good natural sweetness of sugar is like a little reward that promotes a sense of satisfaction and well-being.
The thing is, good nutrition comes from a balanced diet. And a balanced diet means the right amounts and right kinds of protein, vitamins, minerals, fats and carbohydrates. Now, what's one important carbohydrate? Sugar.
Sugar. It isn't just good flavor; it's good food.
For more facts about good nutrition, and sugar's role in it, write:
Sugar Information, General P.O. Box 94,
New York, New York 10001.

Sugar and your appestat.*

Tucked away in your brain is a hunger switch.

It's called an "appestat."

It helps control the amount you eat.

Sugar can help you switch your appestat from "on" to "off."

Read more about sugar and weight control.

Everyone knows sugar contains calories. So it's hard to think of sugar as a big help in weight control, yet that's exactly what sugar can be.

When your *blood sugar level* is low, your appestat is turned up and you're hungry. (Probably tired, too.) Just a small amount of sugar, in a soft drink, candy, coffee, or tea, will turn your appestat down. Then you're not so apt to overeat, and overeating is really what makes you fat.

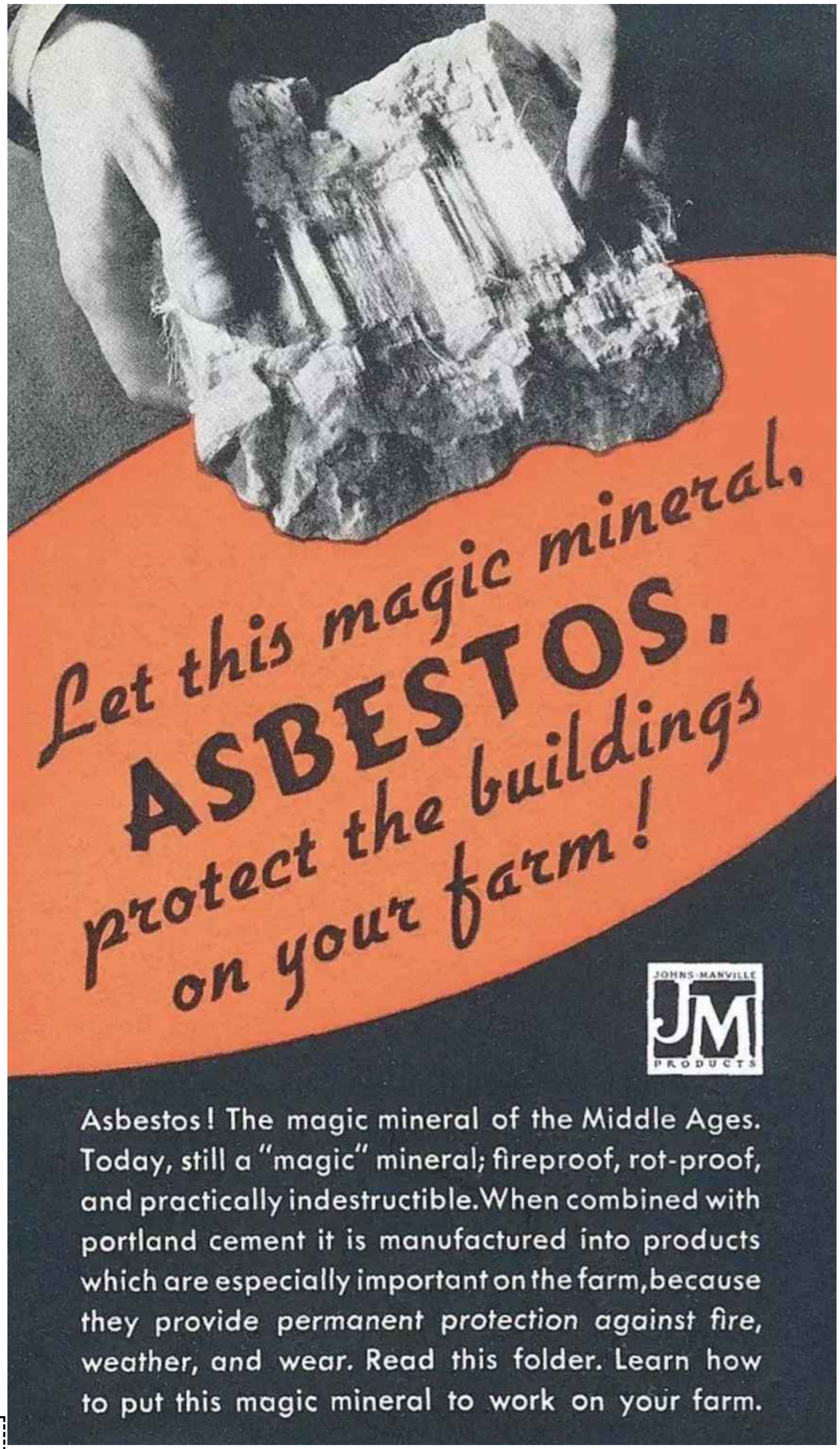
In addition to helping with weight control, sugar does other good things. For one, it gives you quick energy. Sugar is *all* energy, and is taken into your blood stream faster than any other food. So when sugar turns your appestat "off," you might say it "turns you on." Artificial sweeteners don't affect your appestat and have no energy value. Also, sugar tastes good, and so do foods made with sugar. Stay with sugar. Sugar's got what it takes!

Only 18 calories per teaspoon—and it's all energy.

*"*A neutral center in the hypothalamus believed to regulate appetite.*"—*Webster's Third New International Dictionary.*

SUGAR INFORMATION, INC.

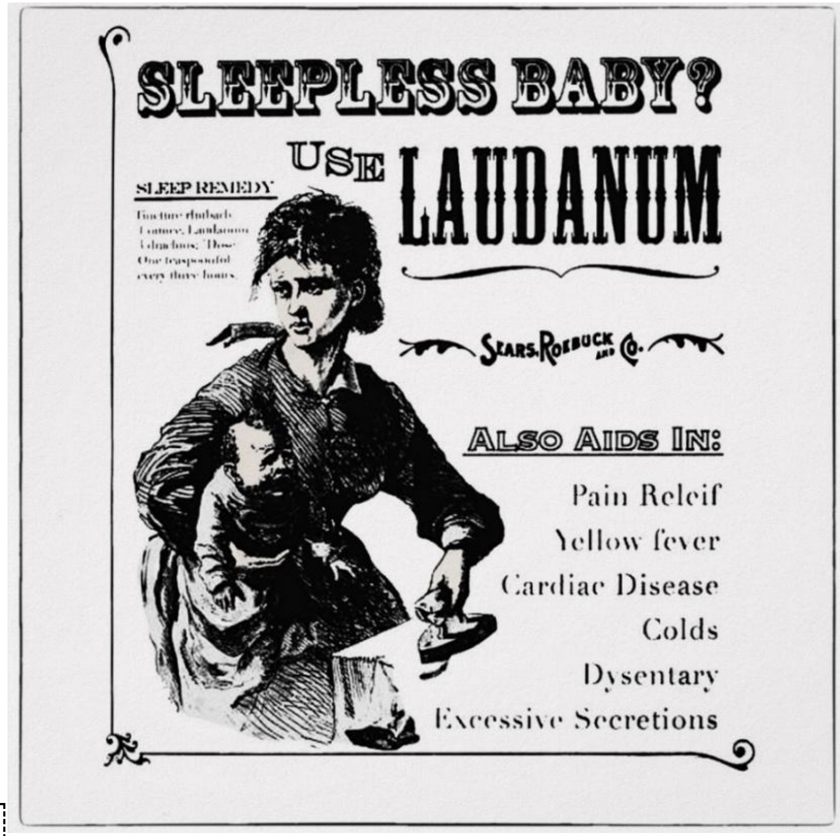

"DDT is good for me-e-e!"
The great expectations held for DDT have been realized. During 1946, exhaustive scientific tests have shown that, when properly used, DDT kills a host of destructive insect pests, and is a benefactor of all humanity.
Pennsalt produces DDT and its products in all standard forms and is now one of the country's largest producers of this amazing insecticide. Today, everyone can enjoy added comfort, health and safety through the insect-killing powers of Pennsalt DDT products . . . and DDT is only one of Pennsalt's many chemical products which benefit industry, farm and home.
@portraitsoul3.0
GOOD FOR FRUITS — Bigger apples, juicier fruits that are free from unsightly worms . . . all benefits resulting from DDT dusts and sprays.
GOOD FOR STEERS
KNOX OUT FOR THE HOME — helps to make healthier, more comfortable homes . . . protects your family from dangerous insect pests. Use Knox-Out DDT Powders and Sprays as directed . . . then watch the bugs "bite the dust"!
KNOX OUT FOR DAIRIES — Up to 20% more milk . . . more butter . . . more cheese . . .
PENN SALT
CHEMICALS
97 Years' Service to Industry • Farm • Home
GOOD FOR ROW CROPS
KNOX OUT FOR INDUSTRY


Let this magic mineral,
ASBESTOS,
protect the buildings
on your farm!
JOHNS-MANVILLE
JM
PRODUCTS
Asbestos! The magic mineral of the Middle Ages. Today, still a "magic" mineral; fireproof, rot-proof, and practically indestructible. When combined with portland cement it is manufactured into products which are especially important on the farm, because they provide *permanent protection against fire, weather, and wear.* Read this folder. Learn how to put this magic mineral to work on your farm.


According to repeated nationwide surveys,
More Doctors Smoke CAMELS than any other cigarette!
Doctors in every branch of medicine were asked, "What cigarette do you smoke?" The brand named most was Camel!
THE DOCTORS' CHOICE IS AMERICA'S CHOICE!
CAMEL
For 30 days, test Camels in your "T-Zone" (T for Throat, T for Taste)


For
PEP and VIGOR-
VITAMIN
DONUTS
MARK OF
TESTED QUALITY
Each Donut Fortified with a minimum of 25 units of Vitamin B1

More than
55% of your daily
protein needs
And a higher level of many vitamins and minerals
than the average Australian meal.
Keeping you and your children in good health makes good sense...and good business. And we think our food is as good for you as it is good to eat. We're not suggesting, of course, that a meal at McDonald's gives you all the nutrients you need.
But it is true that a meal of a BIG MAC®, a McDonald's strawberry milk Shake and a (regular) serving of French Fries, provides a substantial proportion of your daily requirements of many nutrients. While this meal combination supplies 40% of the total body requirements of calories, it provides more than 55% of the daily need for protein and greater than 50% of the daily need of many important vitamins and minerals.
The table below indicates specific nutrition information on the illustrated meal.
If you would like further information about McDonald's food, ask at any McDonald's restaurant for our 'Nutritional Look at McDonald's' leaflet.
We want you to enjoy our good food... and enjoy it in good health.
NUTRITION INFORMATION*
The meal combination illustrated here contains the following nutrients in relation to the Recommended Australian Daily Allowances of Protein, Vitamins and Minerals for an average Adult male aged 18 to 35 years. #
*Protein 59% Riboflavin 44%
Vitamin A 18% Niacin 33%
Vitamin C 75% Iron 54%
Thiamin 25% Calcium 77%
McDonald's
McDonald's
McDonald's



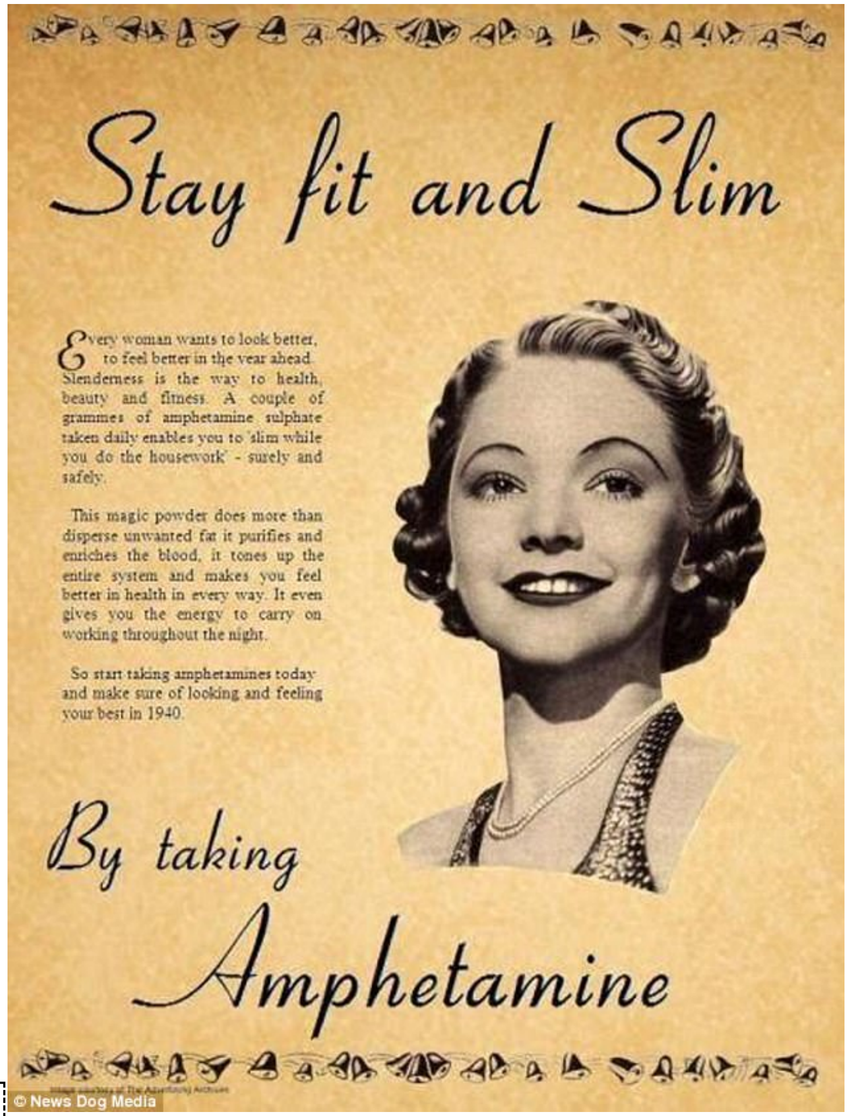
SLEEPLESS BABY?
USE LAUDANUM
SLEEP REMEDY
SEARS, ROEBUCK AND CO.
ALSO AIDS IN:
Pain Releif
Yellow fever
Cardiac Disease
Colds
Dysentary
Excessive Secretions


"Just as I've told you on our Dragnet shows, I smoke two packs of Chesterfields every day . . . much milder Chesterfield is best for me."
Jack Webb
Chesterfield is Best for YOU!
CHESTERFIELD contains tobaccos of better quality and higher price than any other king-size cigarette . . . the same as regular Chesterfield.
Chesterfield CIGARETTES
Chesterfield KING-SIZE CIGARETTES
CHESTERFIELD—FIRST CIGARETTE TO OFFER SMOKERS PREMIUM QUALITY IN BOTH REGULAR AND KING-SIZE
WHEN you are asked to try a cigarette you want to know, and you *ought* to know, what that cigarette has meant to people who smoke it all the time.
For a full year now, a medical specialist has given a group of Chesterfield smokers thorough examinations every two months. He reports:
no adverse effects to their nose, throat or sinuses from smoking Chesterfields.
More and more men and women all over the country are finding out every day that Chesterfield is best for them.
Enjoy your Smoking!
Try *Much Milder* Chesterfield with its *extraordinarily* good taste.

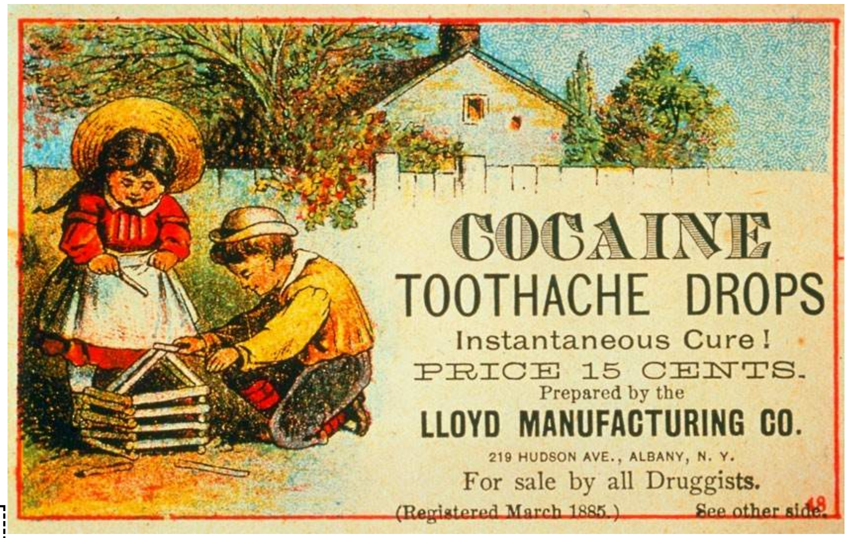

Before you scold me, Mom...
maybe you'd better light up a
Marlboro
Yes, you need never feel over-smoked .... that's the Miracle of Marlboro!
MARLBORO
Gee, Mommy you sure enjoy your
Marlboro
Yes, you need never feel over-smoked .... that's the Miracle of Marlboro!
MARLBORO

"THE STAR"
Asbestos Pad
for Dining Tables
The original and patented Dining Table Pad.
Not an imitation.
The best Pad manufactured.
Made of a special grade of Asbestos of sufficient thickness and weight to assure protection from damage by heat and moisture, covered with double faced cotton flannel to make it soft and noiseless.
Pads and leaves made to fold to convenient size to lay away when not in use.
Doily, Chafing-dish and Platter Mats of same materials, size 5 to 18 inches, round, square or oval.
Ask your dealer to show you the STAR Pad.
All Pads and Mats bear our trade mark, "Star."
Write for descriptive booklet.
L. W. KERNEY & CO.
253 W. 62nd St.
Chicago, Ill.


For a better start in life
start COLA earlier!
- Promotes Active Lifestyle!
- Boosts Personality!
- Gives body essential sugars!
How soon is too soon?
Not soon enough. Laboratory tests over the last few years have proven that babies who start drinking soda during that early formative period have a much higher chance of gaining acceptance and "fitting in" during those awkward pre-teen and teen years. So, do yourself a favor. Do your child a favor. Start them on a strict regimen of sodas and other sugary carbonated beverages right now, for a lifetime of guarantood happiness.
The Soda Pop Board of America
1515 W. Hart Ave. - Chicago , ILL.


Stay fit and Slim
Every woman wants to look better, to feel better in the year ahead. Slenderness is the way to health, beauty and fitness. A couple of grammes of amphetamine sulphate taken daily enables you to 'slim while you do the housework' - surely and safely.
This magic powder does more than disperse unwanted fat it purifies and enriches the blood, it tones up the entire system and makes you feel better in health in every way. It even gives you the energy to carry on working throughout the night.
So start taking amphetamines today and make sure of looking and feeling your best in 1940.
By taking
Amphetamine
© News Dog Media


"The best things in life come in Cellophane"
"You SEE what you buy-no guesswork."
"Foods come fresh-stay fresh longer-less waste."
"...and things in Cellophane are clean and sanitary."
DU PONT Cellophane
DU PONT
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY
Look at "Cavalcade of America" on Television

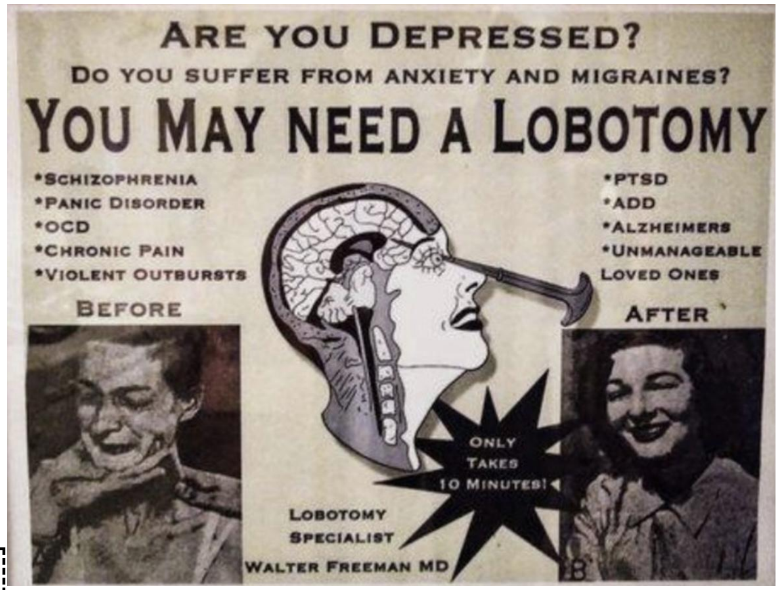

COCAINE
TOOTHACHE DROPS
Instantaneous Cure!
PRICE 15 CENTS.
Prepared by the
LLOYD MANUFACTURING CO.
219 HUDSON AVE., ALBANY, N. Y.
For sale by all Druggists.
(Registered March 1885.)
See other side.


THE DUTCH BOY'S
LEAD PARTY
THE LEAD FAMILY
A Paint Book
for
Girls and Boys
With which is bound
COLOR HARMONY IN THE HOME
A Booklet for the Grown-ups

© Keystone

Baby Is Given Fresh Air in Window Cage

BABIES of flat and tenement dwellers, whose tiny lungs have been forced to breathe stale and overheated air, are offered relief by the recent English invention pictured above. A large metal crate is attached to the outside of the window by two stout iron poles. A baby basket can easily be lowered inside. If insects are likely to trouble the child, the crate can be screened.



These lies are just the first half of what started to get the ball rolling even faster towards our species' slow extinction. The other half is something we skimmed over entirely, which are all of the introductions into our food, water, and air supply *as a consequence of the industrial revolution.*

CHAPTER 4

INDUSTRIAL GENOCIDE

It's one thing to get things wrong about what's indicated for one's health, or to even nonchalantly introduce lies about it to the general public. But, it's another thing to carelessly, fraudulently, and misanthropically introduce new entities into our food, water, and air supply as well, which undoubtedly have also contributed to humanity's downfall—undoubtedly having exacerbated it *exponentially*, which is an understatement.

The industrial revolution of course was great for many reasons, but most of us understand that it also caused people to sacrifice quality for quantity, and therefore has led to serious, pressing problems to the human race due to the consequential pollution, as well as the slew of new compounds that are saturating our environment that are a direct result of the revolution.

It's hard to talk about *everything* regarding the industrial revolution in a chronological fashion, so we will be listing the major events in terms of the severity of the consequences they delivered to us. The first major event that resulted from the activities and behavior manifested from the second industrial revolution in particular (or the technological revolution) is the establishment of the pharmaceutical industry as we know it to be today.

Many people don't actually know the origins of the modern pharmaceutical industry, which encompasses hospitals, doctor's offices, nurse's offices, and, of course, pharmacies. It actually all started with a very famous man known as John D Rockefeller, who was an oil magnate and one of the richest men in all of history. In fact, he was America's first billionaire ($418,000,000,000 adjusted for inflation). Rockefeller's first and primary company was Standard Oil, which ended up controlling 90% of all oil refineries in the U.S[1].

Now, people fail to truly understand how big Standard Oil really was. Standard Oil is no longer the brand or the company you see around, but it is still in existence—it's just now been broken up into the brands Chevron, Exxon, Mobil, and all the rest.

Petrochemicals, which were chemicals that could be produced from oil itself, were first identified by scientists in 1900[2]. Using this newfound knowledge, scientists began figuring out how to employ these molecules to make vitamins to treat diseases like rickets and scurvy that were caused by vitamin deficiency. Rockefeller was entirely on board when he learned about this because, at his core, he was a businessman, and he believed that these chemicals could also be used for this purpose. He would naturally believe it, wouldn't he? Because doing so would allow him to completely monopolize a different industry. All he would need to do to start making money would be to patent the goods. A portion of I.G. Farben (a German manufacturing firm that provided the Nazis with supplies during World War II, by the way) was quickly acquired by Rockefeller[3] after this.

But it wasn't going to be this simple. The concept of eastern medicine as we understand it today encompassed *all* of medicine. As a result, people in America were still treating themselves, their friends, and their families' illnesses and diseases with these techniques. Holistic approaches to therapy and healing were also widely promoted by doctors and medical colleges in the US, which is unheard of now (and I think you're starting to see why). Of course, Rockefeller faced rivalry from a commercial standpoint.

As a result, Rockefeller and Carnegie collaborated to recruit Abraham Flexner through the Carnegie Foundation, whose job it was to tour the US and evaluate medical schools and hospitals there[4]. Due to the Flexner Report, which followed, nearly half of all medical schools were shut down. I don't know about you, but this sounds extremely authoritarian and corrupt, especially when you consider that some of these holistic doctors were even imprisoned for nothing more than teaching medical practices that had existed for tens of thousands of years before these occurrences. Additionally, Rockefeller gave hospitals and colleges a little over $100 million through his "General Education Board[2]." Hospitals and medical colleges were homogenized in a short amount of time via the same methods. The pharmaceutical industry was born at this point, relying solely on patented medications rather than natural cures.

But here's the thing: Rockefeller didn't end there. He could have, but he chose not to. He made the decision to become even more vindictive, dig his claws in even deeper, and establish his dominance by starting a slander campaign on his holistic rivals[5]. As soon as this happened, the media seized control and smeared them too, thoroughly solidifying it. That is the history of the current system, which sees Big Pharma giving significant sums of money to medical schools so that students will prescribe their products, which finally formed completely in about 1910[6]. Now you may understand why you may feel more like a customer when you're with your doctor than you do a patient—if your doctor is incentivized with a monetary bonus for prescribing certain drugs over others, then it should come as no surprise that he may care more about that money than you.

Now, of course, you can't talk about the formation and ossification of the pharmaceutical industry without talking about the drugs that were introduced afterwards that also contribute to the persistent disease in the world.

The class of drugs that deserve the first mention due to the absolute havoc they wreak upon your cells, is statins, which tens of millions of people take today. They're extremely profitable, which is conveyed quite clearly when looking at the $150 billion that has been amassed from the sales of Lipitor, that being only *one* of a few other statins[7]. We've already established so far that cholesterol is not by any means whatsoever a cause in heart disease, and is not even associated with it at all, therefore meaning that statins are meaningless to take for the goal of lowering your risk of developing heart disease. However, it would be quite the fortune for these drugs to simply be “unnecessary,” as opposed to *destructive* to the human body, but this is unfortunately not the case. First, let’s talk about the history of statins and how they came to be in the world today.

Statins were first discovered in 1913 by a Russian scientist by the name of Nikolai N. Anichkov. When he force-fed pure cholesterol to rabbits, he discovered that they developed atherosclerosis[8]. His research eventually contributed to the development of the "lipid-heart hypothesis," which was advanced by Ancel Keys in the late 1950s and early 1960s. Apparently to them it didn’t matter that humans have a different physiology than rabbits because we are carnivores, which would explain why the atherosclerosis developed in the rabbits as a result of this inappropriate administration of cholesterol, or that the atherosclerosis in these rabbits was different from the atherosclerosis that develops in humans; you're just supposed to ignore those things. But because these significant defects went unnoticed, researchers from all around the world began looking for medications in the 1950s that could reduce the body's production of cholesterol. Triparanol, also known as MER/ 29, was discovered to be a novel medication that could accomplish this by one of these pharmaceutical corporations, the William S. Merrell business, the same company that introduced thalidomide to the United States (you may research the effects of that drug for yourself). After receiving FDA approval in 1959, Merrell quickly achieved commercial success.

Despite the profits, the medical front was a complete failure. It was taken off the market in 1962 after many people experienced severe and long-lasting side effects such as permanent cataracts in patients as young as 6 years old, hair loss, severe dermatitis, and accelerated atherosclerosis, the very condition it was supposed to prevent. All of these negative effects were actually recognized by the scientists previously, which is where the fraud enters the picture. Animal pre-clinical research had found a number of problems with this medication. For instance, the rat you see below was the sole survivor of the 44 after receiving triparanol for nine weeks[9].

Later, in 1963, a federal grand jury made the official discovery that the William S. Merrell company had falsified data in addition to withholding data related to the risks of their drug. This included the company redrawing graphs, failing to report cataracts when they knew they occurred, denying knowledge of symptoms like hair loss when questioned, and instructing company salesmen on how to attribute these symptom presentations to other drugs. Merrell was ultimately fined $80,000, which is incredibly small, but fortunately, it was followed by about $50 million in costs to settle additional later civil actions[10].

But after that, the world was faced with a dilemma: if blood cholesterol levels are risky, what medications should we use to treat them? The statins we know today were then created. The first statin to be utilized in research was a mycotoxin called ML236B that was isolated in 1976 by a Japanese scientist by the name of Akira Endo. By 1979, Merck and Sankyo, a Japanese pharmaceutical company, were competing to expeditiously release the same statin on the market. This should not be surprising because, as we all know, the pharmaceutical industry now treats everything in this manner. Sankyo, however, stopped researching and developing the medication in 1980. Why? The statin was found to be too risky since almost half of the dogs they were using as test subjects and giving the medication to developed intestinal lymphoma[11]. Later that year, Merck followed suit, but not for long[12].

Later, in the years that followed, researchers at Merck fought to continue their work, subtly criticizing Sankyo for stopping study and claiming that they were wrong to believe that their test animals had cancer. Even though I'm not a scientist, I'm confident that things like the observable growth of cancer in test participants are not misunderstood by scientists. If anything, they would falsely disclose that information in order to get a medicine approved, as we've seen before. The first statin, Lovastatin, which Sankyo had deemed too risky, was approved by the FDA in 1987 as a result of Merck's decision to continue research in the field.

You'll find throughout this book that the majority of these FDA approvals adhere to this pattern of deceit. The story doesn't end there, of course. The National Institutes of Health (NIH) came to the conclusion that lowering cholesterol levels artificially using a medicine may actually be contraindicated in 1990. Then, in 2001, Bayer, a large pharmaceutical corporation, recalled their statin Baycol (are you noticing a pattern here?) when numerous deaths directly related to this medication transpired[13]. Most people are unaware of what the company Bayer even is, let alone that it has paid over a billion dollars to settle thousands of lawsuits consequently.

The list of potential harms caused by statins is quite long. They're associated with symptoms of Dementia[14], increased incidence of osteoporosis[15], lower testosterone levels in men and women[16], which of course are associated with erectile dysfunction and shrunken testicles in men, and they even increase the chances of one becoming diabetic, oddly enough (I am using the word "chance" rather than the words "associated with" for a reason for which I will explain soon). The Woman's Health Initiative found that those taking statins had a 71% increased incidence of diabetes[17]. Now, don't begin to believe that these possible (and likely) adverse effects are a secret. Simply remove the medicine insert from the package to view a variety of warnings, including increased risk of liver cancer and severe muscle damage, to name a few. In actuality, a warning that statins should be prescribed with caution to patients over the age of 65 should be added. Another possible adverse effect indicated here is blood in the urine, along with an elevated risk of diabetes. Even more impressive is the list of problems mentioned in post-marketing surveillance, which includes everything from gynecomastia and lung illness to depression and insomnia.

Is this exaggerated, though? It sounds great when people like Oxford University professor Rory Collins remind everyone that the risks of experiencing these adverse effects are extremely low (less than 1 in 200, in some situations)[18]. If Rory truly thought this though, then why did he apply for a patent on a test that might pinpoint which patients were most susceptible to statin side effects[19]? And why does a website that sells his proprietary test assert that 29% of statin users experience muscle issues? In reality, 29% is likely closer to the truth than 0.5 to 1%, especially after learning how statins interact with the body's metabolic processes.

Like many other health studies undertaken today, statin studies frequently include a design flaw that causes them to underestimate the true frequency of adverse effects. A study that used a "running period," for instance, required that potential patients receive doses of a statin for four to six weeks before the study began, followed by doses of a placebo, and anyone experiencing negative side effects was to be eliminated from the study[20]. This happened to be more than one-third of all possible subjects, or more than 11,000 persons. Is it any surprise that the adverse effect rate in the final analysis is low when participants with side effects are excluded before the trial begins?

In reality, more than 1 in 5 patients are unable to tolerate statin medication at a regular dose[21], which is amazing, considering, as well, that most people would be willing to tolerate mild statin side effects if they thought it would help them live longer, which indicates that symptoms preventing 20% of patients from taking standard dose statins are much more severe. But this raises the query: How much longer will the ordinary person's lifespan be extended by taking a statin? Whether they're worthwhile or not should depend on the response to such a question. This question was answered quite clearly by one analysis that combined the information from all relevant studies, eliminating any chance of cherry-picking and resulting in information from 11 studies with almost 90,000 participants. After years of taking statin medications, the analysis's findings revealed that patients who had previously experienced a heart attack gained a median of 4.1 days of life while those who had no history of heart disease gained a median of 3.2 days[22]. This is *completely* insignificant.

Be aware as well that this article may potentially have overstated the advantages of statins for several reasons. First off, there have been a lot more statin trials that were not able to be included in the evaluation for the simple reason that the pharmaceutical corporations did not make the data available for unbiased analysis, as is the case with many sorts of studies today. In addition to all of this, a meta-analysis of "RCTs" on statins released in February 2022 found no mortality benefit of taking a statin for people between the ages of 50 and 75[23]. It's interesting to note that only one of the eight trials they examined—the Jupiter trial—showed a favorable "effect."

However, those with high LDL levels were actually not included in this study. Additionally, all participants had to have C-reactive protein levels of at least 2 (CRP is an *inflammatory* marker linked to heart disease, which makes sense given that heart disease is caused by inflammation). Despite this, individuals who advocate for statins frequently cite this one study, appearing content to dismiss the results of the other 7 studies. But let's stick with this study and examine how studies' reporting can make their findings appear far more remarkable than they actually are. According to the New York Times, study participants who took statins were over 50% less likely to experience a stroke, require a stent, or undergo bypass surgery, which is fairly astounding[24]. The result, however, was a composite of five illnesses that included non-fatal heart attacks, non-fatal strokes, hospitalizations for angina, cardiac mortality, or having arterial revascularization, which may not have been necessary. This is a concern in and of itself. However, the Jupiter study reported a 44% lower "risk" with statin therapy using this combined composite endpoint.

In Chapter 1, I discussed how reporting relative outcome statistics—rather than reporting absolute outcome statistics—or, at the very least, reporting both kinds—can be misleading. This is an ideal illustration of exactly what I mean. During the course of the trial, 1.5% of participants in the statin group and 2.7% of participants in the placebo group met the criteria for the composite endpoint, which, when put immediately side by side, is indeed 44% since 1.5 is 44% less than 2.7. This is known as a 44% relative “risk” reduction. In absolute terms, however, this isn't really all that impressive. Additionally, you obtain a far better result when you isolate the study's data on heart attacks, both fatal and non-fatal, but the difference between the two groups is still utterly inconsequential. Nevertheless, based on this single set of data, you could still assert a 54% decreased relative risk of heart attack. This is absolute criminal behavior[25].

Now consider what would happen if we presented the data as a relative risk rather than reporting on the absolute rate of statin side effects as was done in a particular New York Times story. When you look at the study cited in the New York Times article "Statins may not affect memory, study suggests," you discover that 376 of the approximately 480,000 statin users who participated in the study experienced acute memory loss, compared to 114 in the matched "control" group who did not take statins[26, 27].The "risk" of memory loss is increased by 320% when using the terminology and statistical reporting style employed in the previously mentioned paper, and by 440% when confounding factors are taken into consideration. I wonder why the New York Times chose to print the absolute outcome figures for that one rather than include this in the headline…

Other things to mention about these drugs are that using statins is linked to an approximately 11,500% incidence of dying from ALS, a disorder that is invariably fatal and defined by a disease affecting the motor neurons in the spinal cord. However, to anyone with common sense, this is a clear indication that statins are the most likely cause of this problem because the strength of the association is roughly the same as the association between smoking and lung cancer. Technically speaking, using scientifically disciplined language, it is impossible to establish a causal relationship in this case, but I'll let you decide what to believe.

Additionally, I used the word risk to describe the symptoms displayed by statin users and the accompanying statin use, as I promised to discuss earlier in this section. This is due to the fact that the creation of your CoQ enzymes, a crucial component of your electron transport chain, is drastically reduced within your mitochondrial membranes when you take statins, according to biochemical principles[28]. The mitochondrion and the rest of the cell perish when your electron transport chain breaks down. Using the word "cause" here is appropriate since, as previously explained, major killers like diabetes, heart disease, and dementia are caused by mitochondrial malfunction and chronic systemic inflammation. The take home message is this: Statins are one of the most (if not *the* most) damaging prescription drugs in the world. They are absolute mitochondrial poisons, and they are extremely dangerous as a result. If you, for some reason, insist on taking a statin or on continuing the use of a statin, please take CoQ10 alongside it to replace the other CoQ enzymes that are being destroyed as a result of the statin use.

Moving forward, Metformin is another great example of a damaging drug that came from the industrial revolution, this being a diabetes drug designed to control blood sugar, which was officially released in 1957 as a pharmaceutical for the public[29]. Metformin is the next piece of this cesspool of contraindications we have as a direct result of the second industrial revolution. But, didn't I just say that it's designed to control blood sugar? Yes, I did, and it does, in fact, lower it. However, one of the main mechanisms as to how it does this is by "forcing the doors open," so to speak, within your cells that are disallowing sugar to enter them[30]. Remember when I said that doctors will claim that diabetes isn't a problem of high blood sugar, but a problem borne of "insulin resistance?"

Really what they are saying is that your cells can't tell that insulin is on the outside of the cell trying to usher glucose in because it's become "immune" to it (for all intents and purposes) from insulin levels being chronically high in these diabetics; like hearing a sound for so long that you start to not hear it anymore. I'm sorry, but this is rubbish; this is not what your cells do at all. Think back to the previous Randle Cycle section in Chapter 2, where I explained that cells know the insulin is outside, but are disallowing entry to *protect* themselves since they are entirely replete with energy at that moment. Metformin defies your intrinsic physiology and kicks down the door anyway, ushering the glucose in, and *killing your cells as a result.* On a blood glucose test, this may be seen as a win, and even, perhaps, on your A1c as well (since the A1c measures glycated hemoglobin and not other, more precious cells that are dying as a result of this glucose spilling into them without warning), but it is not a true win for the individual, who will continue sustaining damage from diabetes for as long as he or she continues to consume carbohydrates.

Another class of drugs that came of this newly established pharmaceutical industry was antibiotics, with penicillin being the first to be released in 1928[31]. Antibiotics are not an inherently contraindicated drug. In fact, they are extremely indicated in many circumstances, like, of course, for a serious bacterial infection, such as syphilis, Lyme disease, or Tuberculosis. But oral antibiotics nowadays are given out like candy, and this is a huge problem due to the fact that antibiotics are great at killing *all* bacteria, not only pathogenic ones. Remember, your gut microbiome harbors 100 trillion bacteria within it, and these bacteria don't simply sit around and exist. 70% of immune cells are housed within your gut, for example[32]. Your gut is also the other most significant part to your nerve center next to the brain, and both of these are tightly linked together in what is called the gut-brain axis. This axis is responsible for transmitting neurological signals and chemicals mutually between each other, such as serotonin from the gut to the brain, just for one example[33]. Taking antibiotics is like starting a wildfire within your gut, and this can cause many, many problems, and it can take up to two years for some of those bacteria to grow back at all, and some can even be gone forever[34]. Antibiotics should only be used to tackle very, very pressing bacterial infections, not for a common cold or even a flu (especially considering the flu is a *viral* infection, and not a bacterial one).

Another damaging class of drug that resulted from the pharmaceutical industry being established is the antacid class, introduced in 1930 with TUMS, and later picking up pace in 1952 with actual prescription drugs one could be prescribed and take. This would include drugs such as Omeprazole, Prilosec, Zantac (before it was taken off the market!), and Pepcid. Antacid drugs are split up into two main classes: proton pump inhibitors (PPIs), and H2 blockers. PPIs work by simply reducing the pumping of chloride ions that occurs within the stomach to create stomach acid, therefore reducing the amount of stomach acid present, and H2 blockers work by binding to histamine receptors in the stomach (also important for creating stomach acid), and doing the same thing. At the end of the day, both of these medications reduce the effective stomach acid within the stomach of an individual. The notion is that too much stomach acid is the underpinning problem of GERD (Gastroesophageal Reflux Disease), and therefore you need to reduce this amount. Believe it or not, the main cause of GERD or acid reflux isn't due to too much acid being generated—it's too *little*[35]. Yes, you heard me correctly. The way that stomach acid works (besides digesting your food, of course), is by making contact with your esophageal sphincter at the section where your esophagus and stomach meet, right around the top of your diaphragm. When acid makes contact with this sphincter, it closes and shuts, disallowing the seepage of acid into the esophagus where it does not belong. When there is insufficient acid within the stomach, there is not enough acid to cause a closure of the sphincter, and therefore much more acid creeps up into the esophagus, causing heartburn and "throat" burn. So, what causes low stomach acid? This is usually a problem that accrues slowly over time from the slow degradation of the robustness of the stomach and overall digestive tract due to an inappropriate diet that contains lectins, oxalates, tannins, etc, that all actively damage the stomach and its lining[36]. However, as I've explained, these drugs do the same thing. This is not innocuous, however, and can cause serious issues down the road. The primary issue this lack of stomach acid causes is indigestion, as your food isn't able to digest as properly as it should. The other main problem is the lack of nutrients that you will be deriving from said food, as your stomach acid, which is responsible for breaking down your food very effectively, won't have the facilities to allow as much access to nutrients due to the amount of acid being so low[37].

If people have had GERD for a very long time, it can take a while for it to heal, particularly if the disease is caused by, as I said, stomach degradation. Therefore, it can be quite difficult, and, in some cases, dangerous, to quit antacids cold turkey, and to jump directly into taking a shot of vinegar or lemon juice to fix an acute reflux flare. However, these problems, anecdotally, have been said to be entirely ameliorated as a result of eliminating plant material, upping acidic foods such as meat and animal fat, and without cessation for just a few months, or slightly longer[38]. If you have an acute flare, taking some baking soda (not too much) with some water and drinking that seems to do the trick for some too, which may be indicated if you have sustained a certain level of damage that has manifested into Barrett's esophagus, for example. Antacids really should not be taken, even if they are quite lower on the toxicity spectrum than things like metformin and antibiotics, or the next drug on the list, that being the birth control pill.

Oh, what a way to be contentious. The birth control pill is a very heated topic of discussion, and, quite frankly, it shouldn't be. It's not my place to insert or foist my opinion upon others about whether this should be prescribed/sold or not, so don't worry about me doing that. However, this pill is very clearly contraindicated in many circumstances.

The birth control pill was introduced first in 1960 with the brand Enovid, with the indications being listed for "menstrual disorders," and has been, over time, made more and more readily available[39]. Fortunately, the potential deleterious effects of birth control are fairly mainstream, which takes some stress off of me. But, there are still some things you may not know about this drug. According to research (I know—such a trite phrase), synthetic progestins found in birth control pills have been shown to make people attracted to people of the opposite sex who they would not normally be attracted to. For example, women taking oral birth control pills have been found to be more drawn to softer, less masculine faces than women who are not taking birth control pills[40]. This can cause serious problems when coming off of the pill for the attempt of having a child with a partner, as one may not be attracted to them after the cessation of such a drug. The birth control pill is designed to alter hormones and shut off normal hormonal pathways within the body (the brain in particular), so this makes quite a bit of sense.

There are plenty of other problems that are associated with birth control, such as studies concluding increased incidents of thrombotic strokes and myocardial infarction with the administration of birth control[41, 42], and a reduced production of T-cells[43] (the cells responsible for maintaining the body's immune nonresponse to self-antigens and suppressing the body's unwarranted and potentially harmful immune responses), which may explain one of the reasons behind the disproportionate number of women that have autoimmune conditions compared to men. And before you start thinking that IUDs may be safer, this may not be the case.

Although copper IUDs are frequently promoted as one of the most effective long-term birth control methods, they nevertheless have some side effects and potential hazards, including painfully heavy periods, hair loss, bacterial vaginosis, and "wire fragmentation[44, 45, 46, 47, 48]." Two studies—one from 2018 and the other from 2021—confirmed an increase in the prevalence of bacterial vaginosis, with the latter study showing a 200% rise in prevalence that was probably caused by a decrease in *Lactobacillus*[46]. This increases the rate of antibiotic prescription (we've talked about *their* effects) and harms the long term health of a woman.

"Wire fragmentation" is something people often overlook. This was actually known as a potentially quite probable risk with copper IUDs that the FDA knew about when they approved it in 1984 (more misanthropy!). If pieces of the wire IUD are embedded in a woman, this leads to increased pain, the necessity for surgical removal, and possibly potential future infertility. Since 2013, there have been more than 3,000 instances of this. Many women experience painful periods, heavy menstrual flow (up to 50% increased blood flow), hair loss, backaches, migraines, and other symptoms. Additionally, copper in this form can cause a rise in estrogen levels in women's bodies, potentially raising their risk for cancer, ovarian cysts, and a host of other issues[49].

Below is a photo of a 7 year IUD upon removal:

Most people wonder where the copper went on this IUD, and the answer is that *all* of it is embedded in this woman's uterine wall, and now needs to be removed surgically.

Additionally to all of this as well, IUDs (hormonal or non-hormonal) function by making the uterine lining inhospitable for the implantation of a fertilized egg. If you believe life begins at conception, you should know that this would be considered an abortion[50]. Again, we are entering contentious territory, so I feel the need to say that I am not inserting my opinion about the moral conundrum of abortion; I am just making people aware of what they are doing and how this works.

Overall, birth control, in my humble opinion, is *often* very contraindicated. Of course birth control has its uses, like for the alleviation of severe periods and menstrual pain primarily, but as I'll make very clearly, most of these pains are not due to a birth control deficiency—they're due to chronic systemic inflammation, and that can be alleviated with proper diet and lifestyle intervention that is indicated for all humans.

The other big class of drugs that came about during the 1950s was the antidepressant class, with the first tricyclic antidepressants and monoamine oxidase inhibitors[51]. The notion that depression is caused by a chemical imbalance that needs correcting via pharmaceutical means was dispelled very recently, actually, with the authors of the article also stating that scientists don't know how antidepressants really work in the first place[52]. Depression, anxiety, and many other mood and behavioral disorders are very intricate and convoluted, so explaining exactly how to fix depression via biochemical mechanisms is futile. However, we do know that the gut-brain axis being damaged (mainly the gut more than the brain) deeply impacts mood and behavior, and we also know that 95% of serotonin is produced in the small intestine[53], not the brain, *and* we know that there is a very significant correlation between mental illnesses and inflammation of the brain as well[54], meaning it's even more important to take care of our gut and physiology more than using prescription drugs to *alter* our physiology in ways even scientists don't understand.

More recently, we've also had the introduction of Ozempic and other GLP-1 agonists into the pharmaceutical supply as of 2023, those being "weight" loss injections for type 2 diabetics and obese people without diabetes (yet). In fact, as of 2023, Ozempic has been granted authorization as a *first-line* treatment for type 2 diabetics[55]. This shouldn't come as a surprise that there has been a drug announced that causes people to lose weight instead of teaching them healthy eating habits, because the mainstream institutions know that these "healthy" food choices they've been promoting aren't working, the reason being obvious now that you've read up to this point, which is that they *aren't healthy*. The main way that Ozempic works is by allowing for the creation of more insulin within the body by acting as a GLP, or, glucagon-like peptide[56] (the drug also disallows as much creation of glucose from the liver, and slows the rate at which glucose is released from the stomach, preventing spikes in blood sugar). Basically, if you need more insulin secreted, Ozempic will initiate the release of more insulin than your body otherwise would release naturally. This definitely has been shown to cause *weight* loss, but, remember, "weight" isn't what you should be aiming for. You should be aiming for fat and water loss, because "weight" can be composed of connective tissue, bone density, and muscle as well. It turns out that when people lose weight when using Ozempic, they are seeing numbers go down on a scale, but their body composition is becoming less and less optimal, increasing their fat to muscle ratio markedly. In other words, patients are becoming thinner, but also fatter[57]. In weight loss patients, some muscle is expected to be lost, but the amount at which it is occurring within these patient populations seems to be an extreme problem.

I'm sure you've noticed a trend so far, that being that all of these drugs tamper with our natural physiology as a human, and have side effects and problems associated with them that, oftentimes, outweigh the benefits. You may also draw the judicious conclusion that *all* of these drugs (not just most —*all*) are designed to be taken forever, and are never designed to ameliorate the pathology it's designed to treat. Almost all of these drugs also do damage to your mitochondria, causing systemic inflammation, as we've discussed. The modern medical industry is designed to perpetuate illness, as they profit from sickness and do not profit from having their hospitals and doctor's offices empty. Big Pharma's total revenue in 2022 was $1,480,000,000,000[58], and in the same year, 695,547 people died from heart disease[59], 605,213 people died from cancer[60], 103,294 died from diabetes[60], and 119,399 died from Alzheimer's[60]. This is about 1 million dollars per person.

Additionally, the third leading cause of death is actually due to medical errors, as a Hopkins study from 2016 suggests[61]. Of course, this isn't intentional on the behalf of doctors, but this still should alert people and should make you want to be less dependent on doctors when things go wrong, and instead prevent problems arising in the first place with proper diet and lifestyle behaviors, because, as we know, prevention is the best cure for any disease. This is why the Big Pharma industry that we know today, created by John D. Rockefeller is, in my opinion, the worst consequence of the industrial revolution.

The second biggest consequence, however, is something that is almost tied for the first. This would be the introduction of industrial seed oils into the human diet.

For almost 100 years, polyunsaturated fatty acids, or, PUFAs, and seed oils have been touted to be healthier than saturated fats in that they reduce “risks” of diseases like heart disease, diabetes, stroke, etc., while saturated fats like butter, tallow, lard, suet, ghee, cheeses and other dairy products have been touted to cause these diseases. In fact, the average American today consumes 3-6 tablespoons of soybean oil per day, which equates to about 4.3-8.6 gallons per year, which is about the same as 12,000-25,000 soybean plants. Examples of other seed oils are canola oil, sunflower oil, corn oil, safflower oil, and grapeseed oil, as well as many others.

To put it simply, these claims are based on epidemiological studies and/or poorly conducted associative studies that are very destitute in their results. PUFAs seem to actually be quite harmful to human beings, especially inferred from the methods used to manufacture them and process them. Before 1900, almost all fat in our diets was derived from animal fats like tallow and butter. Rates of illnesses like diabetes, heart disease, obesity, etc were a fraction of what they were today during those times as well[62, 63]. Since 1910, with the introduction of Crisco, our consumption of saturated fat has steadily decreased in the American diet, and with it, the rates of all those chronic diseases have skyrocketed[64]. We can infer that this decrease in saturated fat coincided with a commensurate increase in the consumption of seed oils, as the lower prices incentivized more consumers, and the later guidelines from the USDA and the AHA promoted this substitution. Red meat also gets blamed for the increase in chronic illness, but our consumption of red meat has decreased in the last few decades[65], and is steadily decreasing. Something is clearly not right, and the dark history behind the implementation of these oils into the market should shine some light on the reason.

William Procter and James Gamble, two soap producers, started a soap company around 1879. At the time, rendered animal fat had been used to make most soaps[66]. But as the industrial revolution persisted, they ultimately tried their hand at making another soap out of seed oils. These oils were employed at the time to power the industrial revolution. Before P&G found they could use all the leftover cottonseed oil to manufacture soap, cottonseed oil was classified as "toxic waste". Finally, they learned that cottonseed oil could be "hydrogenated" into a cooking fat that resembled lard and functioned as a fat substitute. As a result of this finding, Criso was born relatively quickly and launched in 1911. These vegetable oils became very popular because of their inexpensive price (because they were first made from waste materials) and their low production costs. For some additional deception, the American Heart Association accepted a $1.5 million gift from P&G in the 1940s and "coincidentally" promoted vegetable oils as a heart-healthy substitute for traditional animal fat[67]. And, finally, President Eisenhower’s heart attack in 1955 solidified the fear of animal fat and cholesterol, and led to their demonization[68]. “Fat-free” product alternatives started becoming much more popular, and saturated fat was replaced with, as we know from earlier, refined sugars, grains, and seed oils. Fun story.

Before we get into the biochemistry, let’s, for fun, elucidate how these oils are made. A How It’s Made episode actually quite conveniently lays this out quite clearly. Here’s what they say:

The first step is to clean the seed in a vibrating sieve, as the seeds are typically accompanied by pieces of crop and dirt when they arrive at the *facilities. The seeds, smaller than the openings in the sieve's mesh, fall through to a conveyor below. The foreign material stays on top and is moved to a storage bin via another conveyor where it's then sold as cattle feed. The seeds then pass through a magnet, removing any metal that may be contained within the mix. Next, the seeds enter a roller mill. They pass between two steel rollers which then crushes the seeds into thin flakes. A conveyor then feeds the flakes into a screw press, which has a large revolving screw shaped shaft, enclosed within a slotted cage. As the shafts turn, the threads squeeze the flakes with high pressure, forcing out the oil, which then drains out through the slots. 42% of canola seed is oil. This screw press extracts nearly ¾ths of that. The remainder is still trapped within the pressed flakes, now referred to in this process as "canola cake." The cake exits the other end of the press and moves on to a second extraction. This one is a 70 minute wash with a solvent. This chemical extraction process removes all but a trace of oil. The factory then grinds the cake into a protein-rich meal which is also sold as animal feed. The extracted oil, stored in large tanks, now enters the refining phase. First, they wash the oil for 20 minutes with sodium hydroxide. During this wash cycle, they spin the oil at high speed so that the centrifugal force separates the natural impurities, which the factories later sell to soap manufacturers. After this cleaning process, the canola oil is visibly clearer. However, it still contains natural waxes, which make it look cloudy. Therefore, the next step is to cool the oil to 5℃, which thickens those waxes, therefore allowing them to be filtered out. The waxes don't go to waste either—the factory uses them to produce vegetable shortening. In the factory's lab, technicians recreate production on a small scale to ensure performance and "quality." Meanwhile, back in the factory, after washing and filtering the oil, they bleach it to lighten the color, then use a steam injected heating process to remove the canola odor as well. The oil is now fully refined, and ready for bottling [69].*

That sounds great! Doesn't it?

Now let's get a little more scientific. PUFAs are still essential for human life. They consist of Omega-3 fatty acids, and omega-6 fatty acids, and they cannot be manufactured in the body, and therefore they have to be ingested[70]. However, Omega-3s and Omega-6s need to be present in balance; they need to be present in a healthy ratio, or else there will be serious consequences[71]. Let's start with talking about eicosanoids. Eicosanoids are "local" hormones that only affect cells in close proximity to the location where they were produced. They control a number of critical processes, including immune function, inflammation, swelling, fever, and clotting. Eicosanoids can only be produced from omega-3 or omega-6 fats, which are stored in a layer of fat that surrounds the outside of cells. Therefore, the body reaches into the cell membrane, grabs one of these fats (either omega-3 or omega-6) and uses them to generate one of these eicosanoid molecules. If the cell consumes an omega-6, it undergoes a conversion process, changing from linoleic acid to gamma-linoleic acid, dihomo gamma-linoleic acid, and finally arachidonic acid. Simply said, arachidonic acid can be transformed into compounds that are very inflammatory.

If the cell ingests an Omega-3, the conversion procedure appears different. It first transforms into alpha linolenic acid, then into stearidonic acid, then into eicosatetraenoic acid, then into fats that are quite well-known, those being EPA and DHA, and finally into a series of molecules that are significantly less inflammatory than the byproducts of arachidonic acid. It varies in terms of which fat the cell is grabbing from the cell membrane since the paths between different fats are intertwined. However, its metabolism is reliant on the same enzymes that are involved in the omega-3 and omega-6 pathways. As a result, the fats fight for these enzymes. The ability of the omega-3 side to convert to the more active forms, EPA and DHA, is thus decreased if the number of omega-6s is increased. If you increase the amount of one of these fats, you decrease the amount of the other. Therefore, increasing our intake of omega-3 fatty acids alone won't be enough to give us more of them; we also need to reduce our consumption of omega-6 fatty acids at the same time. As explained, these fats are very prone to oxidation. Polyunsaturated fatty acids will upregulate two separate inflammatory pathways, and downregulate one. The amount of polyunsaturated fatty acids in humans' diets prior to roughly 80-100 years ago was close to zero, as vegetable oils were not consumed, and the only sources of these fats had to have been derived from real foods. 350,000 years ago, the intake was none to speak of really, as it would've only been derived from meat, which has very little PUFA content.

Monounsaturated fats, such as those that are found in abundance in olive oil, downregulate one inflammatory pathway slightly, and upregulate another one markedly. Therefore, monounsaturated fats, which are touted as good, are still inflammatory, just not as much as polyunsaturated fats. Because of the unsaturation of one or more of the carbon to carbon bonds in a monounsaturated *or* polyunsaturated fat, those molecules are prone to twisting around one of the carbons. This will form a trans fat. Heat and pressure cause the formation of trans fats, as well as certain chemical treatments, all of which you will find in modern industrial food production (pressure, heat and chemicals). Trans fats have only in the last few years been banned in food in many countries altogether because of the large association between the incidents of problems with the intake of trans fats that cannot be ignored.

Both monounsaturated and polyunsaturated fats are prone to forming very, very dangerous primary and secondary oxidation products as a function of metabolism, as well as a function of the manufacturing process of some of these oils. One of these products is called aldehydes.

Even at extremely low concentrations, aldehydes will obliterate lipid rafts, rip cell membranes to shreds, destroy cell organelles, bind to DNA to promote carcinogenesis, and outright induce cell death[72]. These are vastly toxic (fun fact—glucose itself is an aldehyde!). An example would be HNE, which has been found in high concentrations in commercial french fries from fast food restaurants[73]. Aldehydes have also been found in excess in commercially available omega-3 supplements, which is just one of the many reasons to not purchase these either[74].

Seed oils have also been shown to be associated with the rise of the concept of "insulin resistance" in the world[75, 62]. When we absorb fats, they get absorbed into chylomicrons, which are transported around the body. The liver releases these oxidized lipids along with LDL particles and "LDL cholesterol." All regions of the body receive oxidation products thanks to these oxidized fats, also known as lipid peroxidation products, found within cholesterol molecules. The liver is one of these oxidized products' major final destinations. This is why vegetable oil has been linked in studies to "insulin resistance" and fatty liver disease[76]".

Due to their "insulin resistance," type 2 diabetics struggle to eliminate these oxidized fats from their bodies, which prolongs the oxidative stress for several days. However, seed oils have never been beneficial, even if one does not have diabetes. One should never let any oil touch their lips. Seed oils also have a half life of up to *750 days*, meaning they can stay in your cell membranes for *4 years*[77]. They are also found in almost every packaged food product in stores. If someone were to pick up the first packaged food item they saw in a store, there would be a very probable chance of finding seed oils on the ingredients label. "Vegetable oil blend" is one name they go by. One of the common touted benefits of these oils is that they help to lower cholesterol[78]. They do actually seem to do this, but lowering cholesterol doesn't seem to be a good thing, as I've already laid out. Don't forget as well about the two interventional studies that demonstrate the results of replacing saturated fats with polyunsaturated fats in people with previous cardiac events, those being the Sydney Diet Heart Study and the

Minnesota Coronary Survey, which all showed a similar, marked increase in incidents of death over 50% in the trials[79, 80], as aforementioned.

Overall, polyunsaturated fats are essential for human health, but only when found in the proper ratio, in small amounts that are non-oxidized, in the fat of animals, preferably ruminants. Seed oils, on the other hand, are some of the worst substances one can ever consume, and they seem to be destroying people's lives more and more each passing year.

Throughout the past few sections, I've laid out enough proof to convey that most of the axioms that we hear today and that have been promulgated are not only false, but completely fraudulent. The FDA themselves are a group of people who have demonstrated to be the most fraudulent in this regard, to the approval of statins that were later withdrawn, to the other hundreds of drugs that have gone through that same procedure. Here's a list of them below, which you can look further into if you'd like, just for fun:

- Baycol
- Belviq, Belviq XR
- Bextra
- Cylert
- Darvon & Darvocet
- DBI
- DES
- Duract
- Ergamisol
- Hismanal
- Lotronex
- Meridia
- Merital & Alival
- Micturin
- Mylotarg
- Omniflox
- Palladone
- Permax
- Pondimin
- Posicar
- Propulsid

- PTZ & Metrazol
- Quaalude
- Raplon
- Raptiva
- Raxar
- Redux
- Rezulin
- Selacryn
- Seldane
- Trasylol
- Vioxx
- Xigris
- Zantac
- Zelmid
- Zelnorm

In total, this makes 36 drugs[81].

Yeah. I'd take the FDA's approval of substances and products with a grain of salt (or a spoonful of it). But the FDA doesn't just approve drugs, as you know. They approve all foods and food additives. However, food additives like we see and know them as today did not exist until the second industrial revolution. Most health conscious people understand that food additives are not a healthy thing *at all*, but just how many different types of food additives are there?

When you buy a packaged food from the store, putting aside the seed oil blend and the sugar and plants that are contained within it, you're consuming emulsifiers, preservatives, dyes, artificial colors, humectants, drying agents, artificial sweeteners, bleaches, neutralizers, disinfectants, thickeners, antifoaming and anti-caking agents, alkalisers, deodorants, extenders, gasses, conditioners, hydrogenators, hydrolizers, maturers, sulphites, sulpha dioxide, fumigants, antifungal preservatives, stabilizers, texturizers, antibiotics, steroids, and even irradiation. If you're wondering how many total of these food additives are approved by the FDA, there are 1,435 of them, as listed in alphabetical order on their website[82]. Of course we can't talk about every single one of these additives and their potentially deleterious effects, but we can spend some necessary time on some of them.

To start, we can talk about aspartame, an artificial sweetener that everyone at this point knows about. Much has been written about aspartame (nutrasweet), the most commonly used of artificial sweeteners, which has been at the center of numerous rows concerning safety. A quick search turns up thousands upon thousands of aspartame websites, few of which are complimentary (and those, predictably, come from manufacturers).

Aspartame began its somewhat controversial life not as a sweetener, but as a potential stomach ulcer therapy[83]. It was given limited approval in

1974. However, after receiving additional study data showing that aspartame might cause serious brain injury in mice, the FDA ordered an aspartame review. The review, published in 1975, and a subsequent further review revealed unethical, immoral, and downright fraudulent behavior on the part of aspartame's manufacturers, G.D Searle and Co. (now a part of the Monsanto group). Subsequent aspartame investigations and even criminal proceedings always seemed to stall, shortly after which those responsible for the investigations went to work for Searle or their attorneys, PR companies and other "friends."

Following several investigations into aspartame, it was clear it would not be approved for general use. Then along came a certain Donald Rumsfeld, to be CEO of Searle. Immediately things changed. Commissioners who had previously voted against aspartame changed their minds, and then left for cushy jobs with Searle-related firms. Rumsfeld had Reagan appoint a "friendly" to head the FDA and pretty soon aspartame was "approved" against all medical evidence, logic, and process of law.

What exactly is aspartame? Aspartame is composed of three main compounds: aspartic acid, phenylalanine and methanol (wood alcohol)[84]. Phenylalanine is an amino acid and is known to affect several neurotransmitters[85]. It makes up 50% of the aspartame molecule and has been associated with cancers for many years, even being cited as "essential" for cancer development[86, 87, 88]. Methanol is the most basic form of alcohol, as opposed to ethanol, the kind commonly found in alcoholic drinks. It is an extremely poisonous compound, which, if drunk, can cause many problems, including blindness and death (this is actually where the term "blind drunk" is derived from)[89, 90]. Although only 10% of the aspartame molecule, methanol is deadly and is readily released and broken down when aspartame is ingested, releasing formic acid and formaldehyde (embalming fluid), both of which are poisonous. The third component, aspartic acid, is also an amino acid, which is widely recognized to excite nerve cells and has been associated with many brain and nerve problems including HDD, anxiety attacks, depression, headaches, and migraines[91].

In summary, aspartame is not nice stuff. You may think that by drinking "diet" sodas and "lite" products that you are helping yourself by avoiding sugar. Think again. The simple rule is to not use aspartame at all—*ever*.

Other artificial sweeteners like sucralose don't seem to be great either. In fact, it has been shown that one Splenda packet (sucralose) can kill up to 50% of one's gut bacteria within their microbiome[92]. This is like setting off a grenade within your stomach! Another study in 2016 conducted by scientists at an independent laboratory found that sucralose seemed to cause leukemia and related blood cancers in male mice who were exposed to this ingredient throughout their lives[93]. Now, I know we aren't mice, so you could make the argument that this is a reach, and that's completely fair. But, I thought it was worth mentioning anyway.

Although artificial sweeteners aren't metabolized the same as sugar, the manner in which they react within us biochemically and physiologically seems to perpetuate addictive behavior because the body senses something is sweet, but doesn't receive any effective energy from the amount, therefore potentially increasing cravings. In fact, when consuming an artificial sweetener, your body doesn't know that it isn't sugar, so it still releases insulin, and this can actually cause a slightly *hypo*glycemic state, making the individual's appetite heightened through this mechanism as well[94]. So far, there are 6 artificial sweeteners that have been approved by the FDA. In chronological order, they are Saccharin (1907), aspartame (1974), acesulfame potassium (1988), sucralose (1998), neotame (2002), and advantame (2014).

Your best bet is to stick with regular carbohydrates if you had the choice. Of course, those are contraindicated too, so just stick to saturated fat and protein.

The other type of food additive that has garnered a lot of attention in the past decade or so is food dye. There are currently 6 primary food dyes legal in the US, those being Blue no.1, Blue no. 2, Green no. 3, Red no. 3, Yellow no. 6, and Yellow no. 5. Interestingly, Yellow 5 and Yellow 6 are banned in Europe, but are still legal in the United States[95]. The other "secondary," less common food dyes used in the United States but that are also deemed illegal in Europe are potassium bromate, azodicarbonamide, butylated hydroxyanisole and butylated hydroxytoluene, brominated vegetable oil, and red 40[95]. The fact that there are a slew of food dyes that are still allowed to be used in the United States but not in Europe is disturbing itself, but what's even more disturbing is the way in which these dyes were even allowed to be approved in the first place.

Red 3 is a very common one that is talked about in this regard. Interestingly enough, red 3 is banned in cosmetics and external drugs due to its association with cancer, but is still legal in food[96]. You can find it in chewing gum, Ensure drinks, Pediasure drinks, Nesquik Strawberry Milk, popsicles, ice creams, fruit cocktails, candy, and Kellogg's Unicorn Waffles, but not lipstick. In 1989, it was reported that the fruit industry was "enraged" by the FDA's proposal to ban Red 3 from food because "Americans like their cherries red" in a can, and they also knew they were going to lose a lot of money, so they lobbied the House Appropriations Committee to add language to its report that "instructed the FDA not to ban the dye—formally titled FD&C red No. 3—without further study[97]."

This is actually in violation of the "Delaney Clause" that requires the FDA to ban carcinogenic food ingredients[98]. When they banned Red 3 in cosmetics, the FDA said it would "take steps" to ban it in food too, but it's been over 30 years, and they have done nothing.

Here's the other thing—just because the FDA approves an ingredient doesn't mean a food manufacturer has to use it. When are food companies going to be held accountable for using controversial and potentially cancerous chemicals in their products, *especially* products designed for children?

What are some other seemingly problematic food additives? What about Trisodium Phosphate, found in Lucky Charms and Cheerios, and also sold in isolation as a heavy duty cleaner to use before painting[99]?

Or what about titanium dioxide, a food additive that makes food look brighter (whiter, in particular) that is associated with gut disturbances, inflammation, and cancer, and that is banned in Europe as well[100]? Some studies have even shown that titanium dioxide may damage DNA, and seemingly causes cancer in animals[101]. Titanium dioxide is found in candy, chewing gum, white sauces, pastries, coffee creamers, chocolate, cake decorations, sunscreen, toothpaste, lotions, and soaps. What about potassium sorbate, a preservative in many Starbucks drinks that has been shown to be genotoxic to white blood cells, which could lead to cancer[102]? Or Carrageenan, a drink thickener heavily associated with intestinal inflammation[103]? Tests have found "food-grade carrageenan" contaminated with up to 25% of "degraded carrageenan[104]," which is the kind that's not supposed to be used in food and drinks. Degraded carrageenan is classified as a "possible human carcinogen" by the International Agency for Research on Cancer[105]. There's also BHT, a preservative that has been shown to function as an endocrine disruptor that is also possibly carcinogenic[106], and calcium propionate, which disrupts the metabolism and can promote fat gain consequently[107], and TBHQ, a preservative found in Domino's Pizza, Reece's cups and many other foods that has been shown to be associated with weakened immune systems and to potentially worsen flu symptoms[108]. Even further to this are compounds such as monosodium glutamate (MSG), a flavor enhancer and excitotoxin that excites brain cells to death, increases food cravings, and makes you eat more than you should[109], and can also be disguised as many, *many* other ingredients on food labels, such as…

- All “natural flavors,” including natural cherry flavor, natural orange flavor, natural fruit flavor, smoke flavor, turkey flavor, natural peppermint flavor, natural vanilla flavor, natural maple syrup flavor, etc.

- “Autolyzed” anything
- Balsamic Vinegar
- Barley Malt
- Brewer’s yeast
- Broth
- Bouillon
- Carrageenan
- Corn Starch
- Glutamate
- Gelatin
- “Hydrolyzed” anything
- Protease
- Maltodextrin
- Malt extract
- Modified food starch
- Nutritional yeast
- Seasoning
- Sodium Caseinate
- Soy protein
- Soy sauce
- Stock

- Textured protein
- Yeast extract
- Wheat starch
- Whey protein

Even additives that you think are natural can actually be a huge problem, especially if they're derived from unhealthy sources. One great example is citric acid. The fact that citric acid is a common food ingredient and a fruit-based substance means that most people are unaware of its hazard. Although citrus fruits like lemons, limes, and oranges naturally contain citric acid, manufacturers obtain the majority (99%) of the citric acid used in processed foods by fermenting *Aspergillus niger*, or *black mold*, in a laboratory[110].

Zero studies on the safety of taking bigger doses of produced citric acid used as a preservative have been done, however when you total up all the items that contain citric acid, many individuals eat a lot of it every day. But things only get worse. Some food makers go further and incorporate produced citric acid, which is already troublesome, into partly hydrogenated vegetable oil. I think you get the point about food additives, if you didn't already. But, there are other problems with our food supply now as a result of the industrial revolution that don't fall under the "food additive" category, one of which being the introduction of pesticides, herbicides, and GMO foods.

Glyphosate is *also* one of the biggest names in the health sphere now, and for good reason. Glyphosate, also known as Roundup, is a pesticide that was introduced in 1974 that is sprayed on almost every plant you can think of, most predominantly all grains, like wheat and corn[111], in droves. Of course, just like everything else so far, it has been associated with certain cancers. In March of 2015, the International Agency of Research on Cancer (IARC) classified glyphosate as a "probable carcinogen" (Class 2A), based on "limited evidence" showing the weed killer can cause Non-Hodgkin lymphoma and lung cancer in humans[112]. Since then, thousands of individuals have filed suit against Monsanto, blaming Roundup for their Non-Hodgkin lymphoma. The first case to go to jury trial resulted in a stunning guilty verdict, and Monsanto was ordered to pay the plaintiff, Dewayne Johnson, $289 million in damages[113].

The suspicions about glyphosate aren't new, either. Monsanto, the owner of roundup, along with Bayer as alluded to earlier in this chapter, have been attacked for a long time with speculations like these, and now there is evidence that during these times, they led attacks on scientists to censor them (again…*more. Fraud*)[114].

Most people jump right into talking about how contaminated our *food* is with glyphosate, but not enough is talked about when it comes to glyphosate in our clothes and care products. Because tampons are composed of cotton, a 2015 investigation discovered that 85% of them contain glyphosate. Tampons are primarily made from traditional cotton, which is repeatedly treated with glyphosate, as well as polyester, an oil-based material, and rayon, which is made from wood pulp, sugar cane, and soy that has also been bleached and sprayed with glyphosate[115]. Putting aside the potential cancer risks, there are other issues as well, such as glyphosate functioning as an endocrine disruptor and causing hormonal imbalances, thyroid interference, microbiome disruption, as well as reproductive and infertility, fatty liver disease, and more[116]. You may want to stick to buying organic clothing, as odd as that may sound, and organic care products for these reasons.

As I've already stated, glyphosate is quite well known, so I won't go too much more into it, as this book is saturated as is. But, I do encourage you to dig deeper and read more about the potential dangers of glyphosate, because I do believe it is a very, very serious issue.

But remember, that's not all I mentioned. I also mentioned the introduction of GMO foods. The first GMO food was the tomato in 1994, released by a Californian company, so GMOs are quite new[117]. There are many concerns about GMO foods, like the fact that they are sprayed with pesticides and herbicides (that are also sprayed on organic crops as well, as long as the pesticides are labeled "organic," just in case you were unaware[118, 119]), as we've discussed, but also due to the fact that it involves…humans tampering with nature. I mean, we even created a GMO mouse in 1974[120], GMO bacteria in 1976[121], and as recently as 2020-2021 introduced GMO mosquitos into Florida Keys and parts of Texas (which just so conveniently aligned with the introduction of the new malaria vaccine rollout plan in 2023…cha ching!)[122, 123, 124, 125]. Too often now in society, scientists and others continue to ask the question of "can we do it?" instead of "should we do it?" Humans tampering with nature and then consuming those unnatural substances is very worrisome for many, including myself.

As you may have guessed, food additives, herbicides & pesticides (like glyphosate), and GMO foods are number 3 on the list of the worst consequences of the industrial revolution that has expedited the precipitous decline of the human race. Don't eat processed foods, and don't eat plant foods either, which shouldn't sound too foolish now if you've gotten this far. It's such a cliché to say not to eat processed foods, but it truly is one of the first steps to improving your health. It's even the main reason why vegans feel so good when starting their diet—because they eliminate the entirety of the processed garbage they were eating before!

The 4th big problem that resulted from the industrial revolution was the new way we started to raise animals, most importantly, how we started to feed them.

An interesting animal to start with in this regard is the chicken. Many people don't even know how the chicken used to look even 100 years ago (along with anything else for that matter).

The chicken we eat today has increased 4-fold in size since the 1950s[126]. In 2022, Americans ate an average of 101 pounds of chicken[127], and in 2020, had an inventory of 518.3 million chickens[128], so it's safe to say America eats a *lot* of chicken. However, compared to what was previously available to us, the chicken we eat now is extremely different. It's a well-known fact that modern chicken is "dry," "bland," and "flavorless." However, chicken was seen as a delicacy in the 1960s.

Chicken was pricey and only eaten on extremely exceptional occasions in the 1940s[129]. According to the U.S. Bureau of Labor Statistics, prices for fresh whole chicken are 780.95% lower in 2023 versus 1935, which equates to a $156.19 difference in value[130]. During WWII, red meat was rationed and Americans' chicken consumption increased markedly as a result[131]. The National Poultry Director of A&P, Howard Pierce, was concerned that the rising demand for chicken would decline and A&P's poultry sales would plunge[132]. Therefore, the biggest store in the nation at the time, A&P, put together The Chicken of Tomorrow contest. They recognized two benefits from this competition: first, it would produce a bird that would be more affordable for future manufacturing, and second, it would promote their brand more widely[132]. As previously mentioned, chickens in the early 1900s were very different from chickens now. In the 1940s, the typical broiler chicken weighed around 3 pounds and required a few months to reach that weight[133]. This new competition, which Pierce organized, tasked participants from across the country to raise the fattest chicks in the shortest amount of time.

Each entrant grew their chicken for 12 weeks in accordance with the contest's straightforward guidelines. After that, the birds would be killed and evaluated. Without taking taste into consideration, the judges' primary performance indicators were size, skin, breast breadth, and average weight. The white-feathered Arbor Acres from White Rocks and the Red Cornish Crosses from the Vantress Hatchery, which exceeded all others in size, width, and weight, were the two breeds that excelled the rest of the field. The Arbor Acre Breed, which still dominates the chicken we eat today, was subsequently created by cross-breeding them[134].

The average chicken broiler today grows in 35 days, which is half the time it took for the chicken with the quickest growth rate in 1948. Our birds waddle as they walk because of their short legs and enormous breasts, and they are also much larger, weighing an average of 6.5 pounds[133]. We have developed birds that have been genetically altered to gain the most weight feasible. Additionally, humans consume *baby* birds. The greatest flavor is produced by a mature, adult bird, as has been known for generations. At the start of the 20th century, chickens were usually killed at four months. The reason for the bland flavor of today's bird is that broilers are slaughtered at 47 days, which is an entire 4-fold reduction in the age of the bird we eat[135]. The quicker you can slaughter the bird, the more money you can make, so it makes sense why we would do this, but it doesn't change the fact that it is completely unnatural.

But, as mentioned in consequence number 4, what chickens are currently fed as a result of this differs greatly from what they have historically eaten. Chickens are kept around farms to clean up leftovers since they are designed to eat a variety of foods, including rodents, frogs, grass, bugs, and trash. Compare this to the current situation, where hens are predominantly fed maize and soy in an effort to make them fat as rapidly as possible. A weak-tasting fowl has been produced as a result of these inadequate nutritional inputs, which are also incongruous with what chickens should eat according to evolution. In the end, it's actually us, the consumer, who bear the brunt of this. Conventional Grain-Fed birds have an Omega-6 to Omega-3 ratio that can be as high as 15:1. Contrast this to a pasture-raised chicken, which has an Omega 6 to Omega-3 ratio of 8:1[136]. The good news is that there are still many excellent farms who raise chickens and sell them in the manner that they were intended to before 1948. A good local farm will have the chickens roaming around in the field and eating a variety of foods, making them more nutritious and likely improving their flavor as well. Although the price will be slightly higher, the chicken's flavor and nutritional value will make up for it, as will the increased sense of security you'll experience regarding your access to food. Why is this significant?

By the year 2030, poultry is expected to account for 41% of the protein from meat sources[137], but only 3 companies currently control practically all of the commercial poultry genetics industry globally, and the top 4 Agrochemical companies control ~55% of the market[138], as well as the top 2 commercial seed companies controlling ~40% of the global market[139]. As Twitter user @CarniClemenza points out:

The pervasiveness of these companies lends them a certain level of control over the quality, prices, and security of our food. Smaller competition then becomes beholden to compete with "Big Food" on means outside of price by outperforming on quality and food security. Note: voting with your dollar serves to make the big boys bigger, or support small scale, high quality. You have a choice. A "food apocalypse" may not be a catastrophic event. It may not mean food shortages or hungry people in the streets. In fact, I'd argue it may already be happening. With your grocery store promoting more and more "food-like" substances, real food may be harder to come by. Locally sourced, nutritious food may become less and less common than it already is today because small farms may become inaccessible for many people. Test: next time you're in a grocery store, try to find where all of your food (every ingredient) actually comes from. Despite these industries becoming more and more concentrated, you do have a choice. If you'd like to connect with a small farm in your area, check out this link: eatwild.com

Therefore, it's probably very important that you have access to a local farmer anyway.

But anyway, as you can see, our chicken has been industrialized just like the rest of our food system. But this has happened with cows, turkey, pigs, and even fish now as well. A fact I talked about earlier is that these cows suffer from acid reflux as a result of eating these inappropriate diets of grains and soy, and are fed antacids as a result.

The changing of poultry and cattle being fed grains and soy started around the 50's and 60's, but fish joined the group in the 90's when they began to be farm raised on corn and soy[140]. Last I checked, fish weren't supposed to eat those foods, because they live in the ocean. When buying fish, make sure to look for "wild-caught" on the label. If it says organic, don't buy it. It's not like anyone followed the fish around to see if it ate organically in the ocean. If it says organic, that means that they fed the fish organic corn and soy—it's just a marketing tactic.

The other phenomenon worth mentioning in this section, however, since we are on the topic of alterations to animals and their meat and dairy, is the implementation of pasteurized dairy as being part of consequence number 4 of the industrial revolution.

Typically we are told that dairy is inflammatory and causes acne and joint pain, and in particular, flares people with endometriosis. But, it may not be as simple as dairy itself being the problem.

Dairy is known to be an incredible source of iodine, Vitamin A, D, K2, and B Vitamins (not calcium, contrary to popular belief. For reasoning on that, I would suggest researching the biochelation of calcium from dairy). What the dairy animals are eating makes even more of a difference in terms of its nutritional content, however. 100% grass-fed dairy has 25% more omega 3's, 500% more of the anti-inflammatory fatty acid CLA (conjugated linoleic acid), and more antioxidants, Vitamin A, and K2 than conventional dairy[141]. This is why many cultures historically have consumed large amounts of dairy without chronic disease—it was a nutritious food for them. The problem is today that these three factors rarely line up, meaning when we modern-folk eat dairy we may experience symptoms from minor inconveniences to serious reactions. What's the reason? Well, there are a few, but one is due to pasteurization of dairy, which arrived at the scene in

1947 with the first mandatory dairy pasteurization law, and was ubiquitous starting in the year 1973, when the federal government required milk pasteurization in any interstate commerce as well[142]. Pasteurization, contrary to what a significant number of people believe, is not a "cooking" process. Pasteurization is a flash exposure to high heat (72℃) for about 15 seconds to kill off pathogenic bacteria and other disease causing entities or compounds (in some cases, it can be heated to 63℃ for 30 minutes)[143, 144]. Unfortunately, this process destroys a lot of its nutritional content and completely destroys the potentially beneficial bacteria and probiotics contained within the milk. In the process, pasteurization also denatures many of the proteins, such as the whey protein, inactivates the folate, denatures the glutathione, damages the immunoglobulins, completely destroys the lactoferrin and the probiotics, and destroys the enzyme lactase within the milk that helps people break down lactose that can't otherwise handle it too well. All of this can (and typically does) make the dairy unable to be properly digested, which can cause inflammation that typically manifests as gastric upset, and can lead to all of the issues that are associated with overall dairy consumption.

You don't need to worry about drinking raw milk, either, as long as the farmers who extracted that milk used proper sanitation. We've been doing so for thousands of years, why did we stop? Have you ever wondered why raw milk is even illegal in certain states? While the main argument by the FDA is that it has a higher chance of having *Salmonella*, *E. coli*, or *Listeria* bacteria, the same can be said for many types of sushi and unpasteurized cider, believe it or not, yet those are legal (with exception of New York's Cider Pasteurization Law and other isolated local laws). Why can't raw milk, the type of milk that has sustained millions of people for generations, just come with perhaps a warning label?

Following a 1986 Public Citizen lawsuit and a lengthy petition by the Health Research Group of Public Citizen Group, the FDA outlawed the sale of unpasteurized dairy products[145]. Somewhat recently, it was observed that the FDA and CDC were both using the *same data* to support their prior conclusions. The study examined the years between 1993 and 2006 and discovered 121 cases of foodborne illness linked to milk products: 202 hospitalizations, 1,571 cases, and 2 fatalities[146]. This equates to around nine outbreaks annually. Approximately 6-7 outbreaks per year, or 75%, are associated with unpasteurized milk products, according to the CDC. But how serious is the risk in reality? While many different foods can cause foodborne illnesses, raw milk is among the riskiest of all, according to the CDC. But is it really the case?

48 million people (1 in 6 in the U.S.) get sick from tainted food each year, according to the CDC[147]. There were 1,527 outbreaks, 29,444 illnesses, 1,184 hospitalizations, and 23 fatalities in just one year, 2009–2010[148], and a variety of foods, including shellfish, eggs, sprouts, and vine-stalk vegetables, are also to be blamed for it. Listeria outbreaks in 2014 and 2015 were tied to ice cream, caramel apples, and cheese. Salmonella outbreaks in 2015 were linked to cucumbers, pork, frozen chicken, and frozen tuna. E. coli outbreaks in 2014 were linked to clover sprouts and ground beef. One factor connects the majority of these cases: the infected product came from a sizable farm or business, frequently sourced from another state or even nation.

That looks to be very risky. However, we are given a small warning symbol on the package and given the freedom to make our own decisions. What about milk, then? While there is no nationwide estimate of the number of people who consume raw milk (perhaps because the majority conceal this knowledge), *Time* stated that 100,000 people in California alone do on a weekly basis[149]. The CDC is also trying to terrify us by claiming that there has been a 70% increase in illnesses linked to raw milk, yet the likelihood of being ill is actually very low.

According to the data, unpasteurized milk was responsible for 81 outbreaks, 979 illnesses, 73 hospitalizations, and no fatalities between 2007 and 2012[150].

Let's imagine for a moment that just the 100,000 residents of California consume raw milk in our nation. Even if they only have one glass each week, we know they drink it once a week. This implies that during the course of five years, Californians consumed 26 million glasses of milk, or 100,000 glasses each week, or an average of 979 illnesses, for a chance of becoming sick of 0.0037%. That is true even though we exclude individuals who consume more than one glass per week and the remaining 49 states (an estimated 9 million Americans consume some raw milk on a yearly basis). Why the ban, if not to safeguard consumers?

Since then, a persistent conflict has been fought over the prohibition of raw milk. While consumers have purchased "cow shares" from local farms, referred to it as "pet food," and even purchased their own cows to circumvent the laws, the FDA has gone on the offensive and has raided farms, stopped food trucks, and sued local businesses for trying to bring raw milk products to those who want them. Ultimately, what we have are thousands of ordinarily law-abiding people who disobey the law because they think it would be good for them. RealMilk.com has the most recent information regarding the legality of raw milk in your state. For many farmers and consumers, it is evident that the restriction is not meant to protect our health when considering the hazards, which are clearly not larger than those associated with many other foods (which are permitted for consumption). According to one popular theory, it was merely put into place to safeguard the dairy industry because pasteurized milk has a longer shelf life and is easier for large corporations to produce.

Pasteurization and new animal raising methods are yet another part of the regression of the human race we see today. Humans continue to defy nature due to their untamed, untrammeled arrogance. Unfortunately, however, I can't say that all of the consequences I've listed are the last. We still have plenty more to go.

The fifth most deleterious inclusion since the beginning of the second industrial revolution isn't one in particular—it's everything new that we now put on our skin and breathe in from the air today. This would include shampoo, conditioner, body wash, shaving cream, lotion, chlorine in pools, BPA on receipts and cans and plastics, lubricative razor strips, sunscreen, antiperspirants, mouthwash, fluoride toothpaste, acne creams, perfume, cologne, air fresheners, incense, candles, laundry detergent, and, just for fun, I'll throw in microplastics as well.

Wow, what a list! This may be a hard pill to swallow, but almost everything you are applying to your body that you think is making you more clean is most likely making you less clean and less healthy as well.

Many people are unaware that your skin absorbs about 64% of everything on it within 26-30 seconds, and that includes any harsh chemicals[151]. Even further to this, there have been studies showing that this absorption rate is around 100% in the genitalia and underarms regions, and that the skin absorbs 100% of all fragrance compounds[152, 153]. This is one of the reasons why testosterone gels that are self-applied by men have warnings on them that say not to sleep next to someone afterwards, as it will affect them as well. This happens with everything to some degree, however, contrary to popular belief. This means any chemicals within your pool, shampoo, body wash, shaving cream, and even your shower water. What chemicals could those be? Well, shampoos conditioners, and body wash contain many, many phthalates, parabens, and xenoestrogens that function as endocrine disruptors within the body, and disturb hormones as a result[154]. They also tend to do the exact opposite that they claim to do, which is nourish hair—they tend to damage it. Do you think our hair is designed to be exposed to 50 chemicals all contained within one bottle? Chlorine is known to damage hair as well, so you can only imagine what it may do within our bodies when it's absorbed through the skin.

Why did I mention mouthwash, though? Conventional mouthwash has been around since the late 1800s, but what people don't know is what it does to your oral microbiome. Very similarly to the problem of antibiotics destroying beneficial bacteria within your gut rather than only the bad ones, mouthwash does the same thing to your oral microbiome.

Many people are unaware that there are bacteria in your mouth that are responsible for producing nitric oxide, a compound essential for blood vessel dilation, and therefore, blood pressure control[155]. You produce more nitric oxide through your nose than your mouth, but your mouth does produce it nevertheless. Destroying these bacteria through the use of mouthwash can actually lead to elevated blood pressure through this mechanism[156]. In reality, bad breath is usually a result of gut dysbiosis rather than an oral problem, so fixing your diet will do much more than using mouthwash[157]. Also, if the problem is only coming from the mouth, it's almost always a problem caused by carbohydrate consumption. The American Dental Association itself suggested carbohydrate restriction in 1942, and they also questioned fluoride due to its dubious effectiveness and unknown risk of injury[158]. The FDA also had concerns with fluoride, stating in 1963 "Sodium fluoride used for therapeutic effect would be a drug, not a mineral nutrient. Fluoride has not been determined essential to human health. A minimum daily requirement for sodium fluoride has not been established[159]." Despite the fact that the ADA did not come across any fresh evidence to the contrary, both of these were ultimately overturned.

When you learn that the head of the Kellogg Foundation was appointed as the ADA Council on Dental Health's chair and then went on to select a well-known supporter of water fluoridation to the ADA Research

Committee, you’ll realize that there is fraud hidden within this decision as well. Then, a new editor who was working closely with the Sugar Research Foundation and promised to "carry announcements about future Sugar Research Foundation grants" took the position of the Journal of the American Dental Association's editor who had expressed doubts about the safety of fluoride himself[160].

As I noted in Chapter 3's "Cholesterol" section, the Sugar Research Foundation was aware that sugar was a leading cause of cavities as well as a number of other ailments, and therefore knew that in the upcoming "carbohydrate age," fluoride would be required in the diet. Because the cereal and sugar industries saw cavities as one of their major dangers, the ADA ushered in the fluoridated-carbohydrate era. This leads to quite a smooth segway into the mention of fluoridated dental products, and why I listed them here as well. Now you have seen the fraud that was behind this implementation, but why is fluoride such a problem biochemically? Fluoride is the key ingredient in the world’s most deadly nerve gasses, and the most reliable cockroach and rodent poisons[161]. Fluorine is the world’s most electronegative element[162]. With this electronegativity and its small size, it has enabled scientists to join it with a whole host of other elements, creating monsters such as nerve gasses and atomic bombs. These same properties make fluorine extremely dangerous. It’s the ultimate free radical and the chaos that it causes within our biological system can be traced back to its stealing of electrons and its binding to substances that easily donate electrons. As aging is correlated with the inability to manage free radicals (among other things, to be fair), we can now begin to understand why one PhD Biochemist, John Yiamouyiannis, appropriately labeled fluorine as “the aging factor[163].” As many know, it’s also in our drinking water as well, which shouldn’t make you feel much better now that you know these facts. In areas where we fluoridate the water, hypothyroidism rates have doubled, and 64 studies have been conducted that show a correlation between fluoride exposure and low IQ [164, 165]. Additionally, fluorosis (too much fluoride) rates are rising [155]. Fluoride is not only found in tap water but also bottled water, infant formula, and pharmaceutical drugs such as anesthetics, antacids, antibiotics, antidepressants, arthritis drugs, chemotherapy, statins, anti-anxiety meds, and antimalarial medications [166, 167].

I should mention for anyone curious that the machine that I personally use for water is actually a Kangen Water machine, which not only filters out everything from the water except calcium when getting the right prefilter, but also breaks apart the molecules of water and restructures them into micro clusters, making the molecules smaller and therefore easier for your cells to absorb, quenching thirst with far less water, and allowing your cells to be "cleaned out" more thoroughly, so to speak. For more information, please refer to the end of this book in the "Deeper Science" section after finishing the rest.

Iodine may help with the harmful propensities of fluoride, which is abundant in eggs and raw dairy [168]. However, this is also just another reason to ground electrically to the earth, as this also will combat free radicals.

Don't be fooled. Our ancestors never saturated and bombarded their teeth and mouths with fluoride to avoid cavities—they abstained from carbohydrates. If you do the same, you won't need to use mouthwash or fluoridated toothpaste. There are plenty of toothpastes online that exclude fluoride from them; Primal Life Organics is a great brand, or you may like Boka as well (not a sponsor).

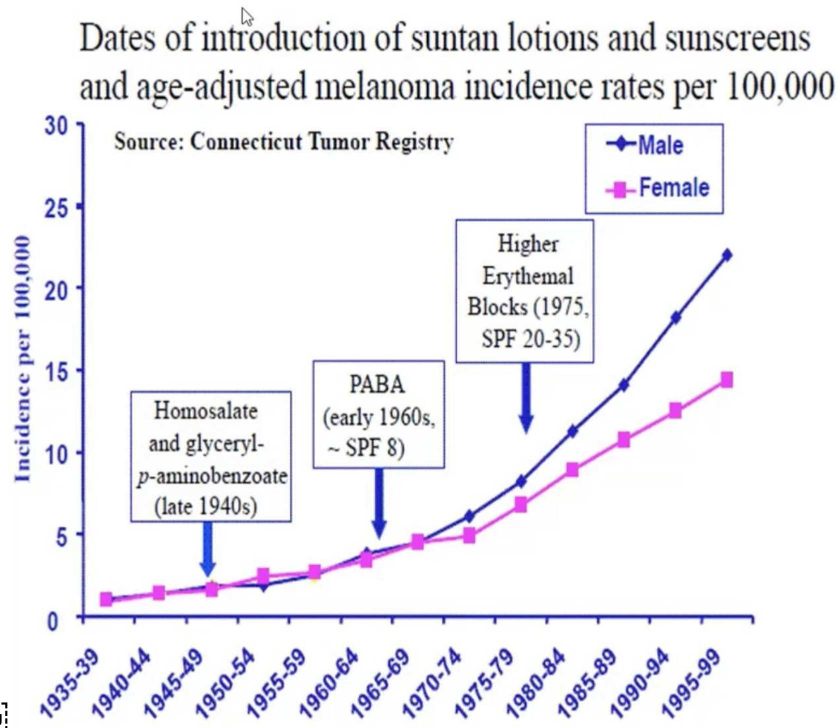
The other one that I listed that is possibly even weirder than modern mouthwash and toothpaste is BPA on store receipts. Before we even get to store receipts, let's briefly explain what BPA is.

Due to its endurance and hardness, polycarbonate is a form of plastic that is utilized in a wide range of applications. This can be found in food and drink containers, polycarbonate roofing, lighting fixtures, and eyewear lenses. Plastics made of polycarbonate are produced using bisphenol A (BPA). When polycarbonate items are manufactured, not all of the BPA is sealed in. As a result, when liquids or food are put in the container, some of the BPA may break loose, mix with the contents, and then be ingested by consumers. Additionally, surface and groundwater, dust, and the air all contain BPA. BPA is believed to have a similar structure as the hormone estrogen and could even mimic its function[169]. Because BPA can mimic and replace hormones, it may harm human health because our bodies are sensitive to changes in hormone levels. BPA can have an impact on the reproductive system, and for women, exposure to BPA can alter ovulation and puberty, which may result in infertility[170]. Additionally, it might prevent pregnant women's eggs from maturing and harm the fetus [171]. BPA may raise the risk of erectile dysfunction, poor libido, and issues with ejaculation, all of which are associated with male impotence [172]. Exposure to BPA carries a number of additional potential dangers, thus it is better to limit it to as little as is practical. Because polycarbonate resin is used to line cans, minimizing consumption of canned goods and switching to BPA-free alternatives are the best strategies to reduce exposure to BPA. However, even if a plastic product does not bear this label, some polymers with recycling codes 3 or 7 may still contain BPA[173]. Avoiding heating plastic containers, and cutting back on plastic containers in general, are also ways to reduce BPA exposure, the latter of which is what I would suggest.

But where do receipts come in? This is the fun part. Printed store receipts contain about 1,000,000 times more BPA within them due to their lamination and printing than the amounts that leach into bottles and canned foods, containing around 60 to 100 milligrams of free BPA, when measurements of BPA in other products are usually measured in nanograms[174].

So, next time you check out at the store, maybe consider getting your receipts emailed to you, unless you want to grab it with a pair of gloves. Remember—it takes an average of 28 seconds for substances to be absorbed through the skin! BPA is banned in many places, but typically it's replaced with BPS, which does the same things (if not more and to a greater degree) as BPA does[175]. So at the end of the day, it's best that you just stick with glass or stainless steel tupperware and containers, rather than plastic ones.

Sunscreen is another substance that I want to talk about very briefly. The first sunscreen was introduced in the year 1928, and a few more followed over the last century due to people contracting more and more sunburns during this time[176]. However, here is an interesting association:



As you can see, as each additional sunscreen was introduced, incidents of melanoma increased each time in both sexes. This is not to say that sunscreen is causing skin cancer, but this is to say that they are definitely not helping reduce the incidence of them at all.

The link cited for this graph is a page that is "not found" when attempting to access it. You can believe that that dispels the credibility of the data and therefore makes it dispensable on this basis if you'd like, but after all of the fraud that has transpired throughout history that I've laid out throughout this book up to this point, I would encourage you to be be a little more skeptical about those choices to shut down pages or remove information from certain pages such as this one. However, there is also another site that is still up that shows this graph, so I'll link that after this sentence as well[178].

So, what's the cause of this skin cancer? Well, there's my opinion that I hold, but that's based off of other people's anecdotes, which are all the exact same. What am I referring to? I'm referring to the "Oil-Burn"' hypothesis as I call it, which is the phenomenon where the more seed oils people eat result in a higher frequency and severity of sunburns[179].

I don't believe this is only attributable to seed oils, however. I think that people that eat higher amounts of seed oils also eat lots of other inflammatory foods and eat less foods that contain vital nutrients to prevent against other types of damage, and they also typically exhibit less healthy behavior as well, making them more inflamed. As I stated, a myriad of anecdotes from people who have gone Carnivore have stated that the one thing they notice above all is that they do not sunburn anymore when they're in the sun for significant periods of time. In fact, it's probably the most common anecdotal experience I hear about, besides the amelioration of diabetes, for example. If you're set on using sunscreen, however, don't use the conventional ones displayed in that graph, which, in my opinion, are contributing to skin cancer. Instead, use a sunscreen that has the main ingredient listed as being "Zinc Oxide."

The last thing I'll expound upon is my mention of antiperspirants. The first antiperspirant (a deodorant that also prevents sweating entirely) was released in 1903, and they haven't really changed too much since then[180].

The most notable reason as to why I'm mentioning them here actually hasn't changed at all, which is the fact that antiperspirants use aluminum in order to grant this effect of not sweating when indicated.

There is not a lot of hard evidence to suggest that this aluminum does anything deleterious to humans, however, I have my speculations. This is due to the fact that aluminum is the one metal that is heavily associated with Alzheimer's and dementia presentations[181], and the aluminum from antiperspirants is being applied to the pores that function as an exit and opening for your body. Remember, I said that chemical absorption rates under the arms have been shown to be 100% in some cases. That's just my opinion though, so take that with a grain of salt. As I also mentioned, we don't just eat toxicity and swim in it now, we also breathe it in through the polluted air that we contribute to. With perfume, cologne, air fresheners, incense, and scented candles, we are inundating and bombarding ourselves mindlessly and carelessly.

Around 72% of fragranced products contain endocrine disruptors[182]. And, as Dr. James DiNicolantonio said, "you can't heal if you live in a plume of toxic fumes[183]." He also said himself that "fragrance" on ingredient labels should be viewed as "the new secondhand smoke," and I completely agree. There are plenty of ways to scent your home or living space using holistic methods, such as using pure essential oils (unfortunately nowadays those are also difficult to find, but Young Living is a great brand that sells these, who I am also not a sponsor of) in a diffuser. However, be careful with the type of water you put in the diffuser, as any chemicals (including fluoride!) that the water possesses will also be exuded into the atmosphere. So far, the industrial revolution has done everything it can to ruin our health. I say the industrial revolution, but of course, in reality, I mean we—we have done everything to destroy ourselves, ironically enough. On January 24th, 1984, we made the decline increase even more with the implementation of the first Mac PC[184].

To call the first ever Apple Mac revolutionary would be an understatement. The best feature was the access that was granted to information that we could only access in a library manually through books. But, very quickly, this turned into a communicative outlet, and then an entertainment outlet. The implementation of the first cellphone with a QWERTY keyboard for texting was in 2002 with the T-mobile sidekick[185], which is what first allowed for quick texting, and then the iPhone in 2007 implemented mobile entertainment like we'd never seen it before, as well as enhancing texting and making it more efficient[186]. All of these "advancements," however, have started to be seen by others, including myself, as regressive moments in many ways as well. The technology that we know today is designed to prey on our dopamine receptors and elicit certain responses from us similar to gambling machines in casinos. As a result, they hook us in and make us more sedentary. This also contributes to a lack of sun exposure, but, also, most importantly, a lack of face to face communications and human connections. Believe it or not, a longitudinal Harvard study that lasted almost 9 decades showed that positive relationships were the number 1 predictor for longevity and lack of disease development, with the explanation behind this being suggested as a lack of a heightened fight or flight as a consequence of incessant stress, so communication and relationships seem quite important[187]. People have spoken about sedentary behavior forever, and I don't really feel the need nor have the desire to talk about it further. Instead, I'm going to talk about something different, that being this new phenomenon we see today as a result of this sedentary behavior, that being a "downward" and "inward" lifestyle. When you're sedentary, you're not sedentary standing up—you're either lying down, or sitting down, and it's almost always in cushy chairs and/or beds. This puts the body into a more inward position, putting excess strain on the joints and ligaments, which, over time, tends to lead towards pernicious degeneration of the ligaments, leading to ligament laxity or joint instability.

One of the most notable areas this occurs in is the neck as a consequence of continuously looking down and forward at devices for hours and hours on end, especially in the developmental years. This results in a condition called CCI, or cranio-cervical instability, which, if severe enough, can mimic the damage of a car accident when observed under X-ray imaging. This can also manifest as a slew of different issues such as anxiety, depression, gastroparesis, dizziness, light sensitivity, POTS, general tachycardia, derealization/dissociation, confusion and forgetfulness, headaches, tracking issues with the eyes, and many, many other problems. A downward and inward culture that puts more pressure on their ligaments and joints as a result of this new lifestyle behavior further contributes to the structural decline of human beings that was alluded to in section 1 of Chapter 1, further regressing the human race[188, 189].

There is much, much, much more to this condition that I zealously encourage each person reading this to delve deeper into; this is another hidden epidemic. Great sources would be the latest version of Prolo Your Pain Away by Dr. Ross Hauser, a Board Certified Physiatrist, or Physical Medicine and Rehabilitation Specialist who has been treating and curing this condition for decades now, and worked with the pioneer of the type of regenerative treatment used to cure this condition. He is the founder of Caring Medical Florida, and has a YouTube channel of the same name that expounds upon these conditions in much more depth and precision. I will link all of these in the "recommended links" section at the end of this book[190].

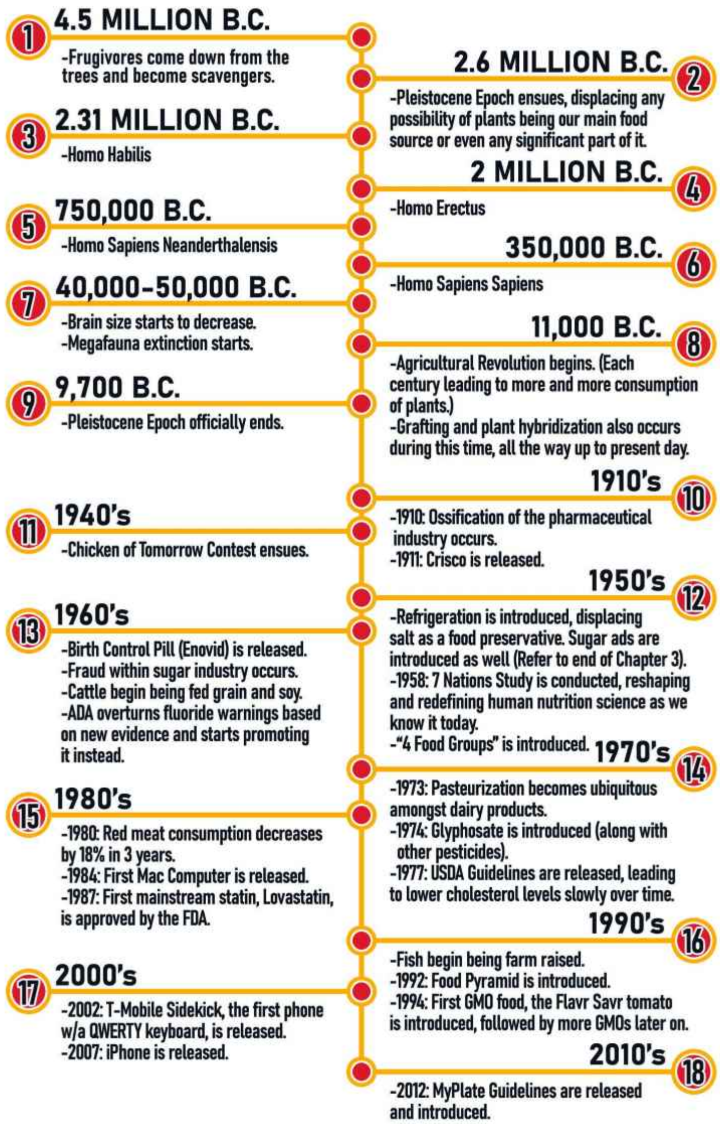
Other implementations as a result of the industrial revolution that are deemed harmful are breast implants and other body modification surgeries, as well as EMFs. I want to comment on EMFs for a bit.

This may be a little inflammatory to people in my crowd, but I don't think people should be worried about EMFs too much at all, and that includes the recent implementation of 5G.

One needs to understand that the frequencies emitted from 5G wavelengths are orders of magnitude less than that of sunlight. There are many things that I've talked about and will continue to talk about in this book that have already made me sound crazy that are not crazy, and are truly backed up by science of the utmost veracity, but there are other claims that are not underpinned by any hard science at all, and very little observational and associative science as well, which we still have to expose no matter the side. I believe the EMF craze is one of them. However, I am someone who is very puritanical, so I am working on completely reducing my exposure to EMF from technology to an absolute bare minimum on principle, and I still to this day refuse to use bluetooth headphones of any kind. This also means I do not shame people from abstaining from this technology either. I just recognize that there is not enough hard proof or observational proof to reasonably speculate that EMFs can be causing as much of a problem as people say they are.

Before we move on to the next chapter, let's summarize the effects of the second industrial revolution. Today, we now eat mainly toxic sludge, riddled with additives, seed oils, processed sugar, and pesticide ridden GMO plants, lather ourselves in over 100 different chemicals as a result of industrialization in the name of hygiene in the forms of shampoo, body wash, conditioners, acne creams, makeup, and shaving cream, we breathe in toxicity in the forms of incense, modern scented candles, modern cologne, modern perfume, and modern air fresheners, our tap water now carries all of the residual waste products from new industry activity, now containing atrazine, which has been shown to turn male frogs into female frogs at very low doses, the oceans are riddled with heavy metals and plastic waste that is killing animals in insidious ways, toxifying them in ways that make it unsafe for human consumption in large amounts, and testosterone levels are the lowest they've ever been, with infertility being the highest it's been in decades as well.

Yes, you heard that last part correctly. Testosterone levels have dropped by 15-20% in the last two decades[191], US birth and fertility rates in 2020 dropped to their lowest levels since 1979[192], and today, 1 in 7 couples trying to have a baby will have infertility[193]. Economicshelp.org shares: "South Korea with the world's lowest birth rate of 1.0 could see the population halve within 50 years. 23 countries, such as Spain, Japan and Italy could see their populations halve by 2100[194]." Other influencers and reporters say that the reason behind this has to do with women empowerment, higher costs of raising children, and lower child mortality, rather than decreased male fertility, but this seems quite ridiculous[195]. Research shows us that sperm counts have dropped by 52.4% since 1973[196], with others saying as high as 59%[197]. Research also shows us that young women are less fertile at 25 than our grandparents were at 45[198].


1
4.5 MILLION B.C.
-Frugivores come down from the trees and become scavengers.
2
2.6 MILLION B.C.
-Pleistocene Epoch ensues, displacing any possibility of plants being our main food source or even any significant part of it.
3
2.31 MILLION B.C.
-Homo Habilis
4
2 MILLION B.C.
-Homo Erectus
5
750,000 B.C.
-Homo Sapiens Neanderthalensis
6
350,000 B.C.
-Homo Sapiens Sapiens
7
40,000-50,000 B.C.
-Brain size starts to decrease.
-Megafauna extinction starts.
8
11,000 B.C.
-Agricultural Revolution begins. (Each century leading to more and more consumption of plants.)
-Grafting and plant hybridization also occurs during this time, all the way up to present day.
9
9,700 B.C.
-Pleistocene Epoch officially ends.
10
1910's
-1910: Ossification of the pharmaceutical industry occurs.
-1911: Crisco is released.
11
1940's
-Chicken of Tomorrow Contest ensues.
12
1950's
-Refrigeration is introduced, displacing salt as a food preservative. Sugar ads are introduced as well (Refer to end of Chapter 3).
-1958: 7 Nations Study is conducted, reshaping and redefining human nutrition science as we know it today.
-"4 Food Groups" is introduced.
13
1960's
-Birth Control Pill (Enovid) is released.
-Fraud within sugar industry occurs.
-Cattle begin being fed grain and soy.
-ADA overturns fluoride warnings based on new evidence and starts promoting it instead.
14
1970's
-1973: Pasteurization becomes ubiquitous amongst dairy products.
-1974: Glyphosate is introduced (along with other pesticides).
-1977: USDA Guidelines are released, leading to lower cholesterol levels slowly over time.
15
1980's
-1980: Red meat consumption decreases by 18% in 3 years.
-1984: First Mac Computer is released.
-1987: First mainstream statin, Lovastatin, is approved by the FDA.
16
1990's
-Fish begin being farm raised.
-1992: Food Pyramid is introduced.
-1994: First GMO food, the Flavr Savr tomato is introduced, followed by more GMOs later on.
17
2000's
-2002: T-Mobile Sidekick, the first phone w/a QWERTY keyboard, is released.
-2007: iPhone is released.
18
2010's
-2012: MyPlate Guidelines are released and introduced.

OBJ

I wasn't kidding when I opened up this book by describing what is happening to us at the moment as a slow, insidious extinction; I meant this literally. I hope that with all of this new information you've accrued, you can start to rearrange your life and attempt to make it as toxin-free and as puritanical as possible. Let's move on to Chapter 5, where we talk about the final elements that are harming your health, why they do so, and what you can do about it.

CHAPTER 5

SUNLIGHT, BLUE LIGHT, RED LIGHT… DEUTERIUM

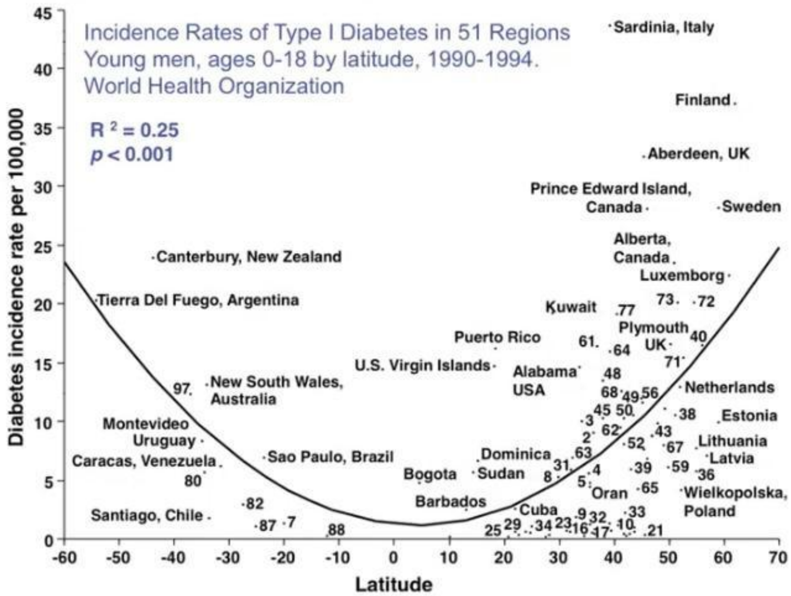
There have been multiple changes we've made to our lives since 20,000 years ago. This is a vast understatement. But, even putting aside how we eat and how many toxins we've introduced into our bodies, there are many lifestyle changes that we've made that are seemingly harmless, but, in reality, are vastly damaging to our health.

The first change would be regarding how little sunlight we get nowadays. Sunlight doesn't just make us feel good and make our skin look more aesthetically pleasing—there are actually many different physiological changes that occur when we are in the sun. For example, sunlight exposure initiates the release of serotonin, dopamine, melatonin, and sirtuins, can help initiate autophagy and necessary apoptosis, can assist in ATP production, allows for the production of nitric oxide, which is essential for blood vessel dilation, and beta endorphin, which is a compound that relaxes us and boosts the immune system and helps with wound healing[1, 2]. Regular sunlight exposure is also associated with higher levels of sex hormones such as testosterone, and, of course, as everyone knows, the sun will increase your Vitamin D levels as well, which is quite important because Vitamin D is involved in the activation of almost every enzyme in the body, and is actually more-so a hormone than it is a vitamin[3]. Something not often talked about, however, is that the different times of the day matter when it comes to getting sunlight. There are 3 types of UV radiation, and only two of them will penetrate the atmosphere (except in areas where we have ozone depletion, but that's a story for another day), and these are UVA, UVB, and UVC, which are different wavelengths[4]. Since UVA has a relatively long wavelength, it penetrates the atmosphere well, while UVB has a somewhat shorter wavelength and does not. You receive more UVA radiation when the sun is lower in the sky and much less UVB radiation when it is overhead during the day, which is when you are more likely to get sunburned because you are exposed to more UVB, which causes much more damage to your skin.

Therefore, if you're trying to reap the benefits of sunlight exposure, but trying to mitigate the damage you sustain from it without the use of sunscreen (as you now know you should), prioritizing sunlight before noon could be your best option. Also, a key point here is that ultraviolet A is what actually stimulates the nitric oxide synthase mentioned before[1], which, in 1992, got "molecule of the year" for being associated with better blood sugar control, better blood pressure, among other beneficial health markers and outcomes[5].

Side note—All UV light is beneficial to a certain degree, however, as UV helps optimize U0-U1 ATPase activity in the body's mitochondria. A component of the ATPase protein within the mitochondrial membrane spins, and the rate at which spins determines the amount of ATP the mitochondria can create per unit time. This rate is determined by the intensity and frequency of the electromagnetic spectrum radiation that is received. In other words, UV light is the wavelength at which the mitochondrial function is maximized.

We don't know precisely how deleterious to our health it is to stay away from the sun for long periods of time, but what we do know is that when looking at data conducted on the incidents of diseases like renal cancer in men and women, type 1 diabetes, colorectal cancer, breast cancer, multiple sclerosis, and leukemia in relation to the latitude of the residency of these individuals, you see a significant association between the increase in the number of incidents the farther away one is from the equator:



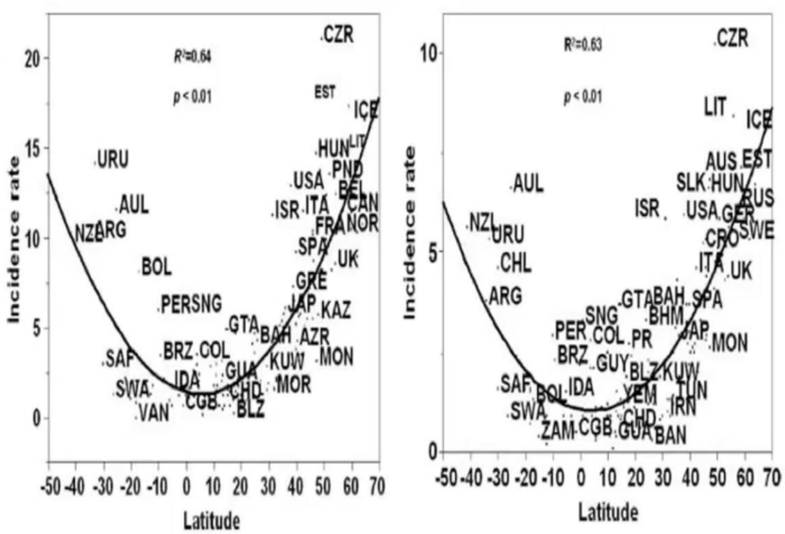
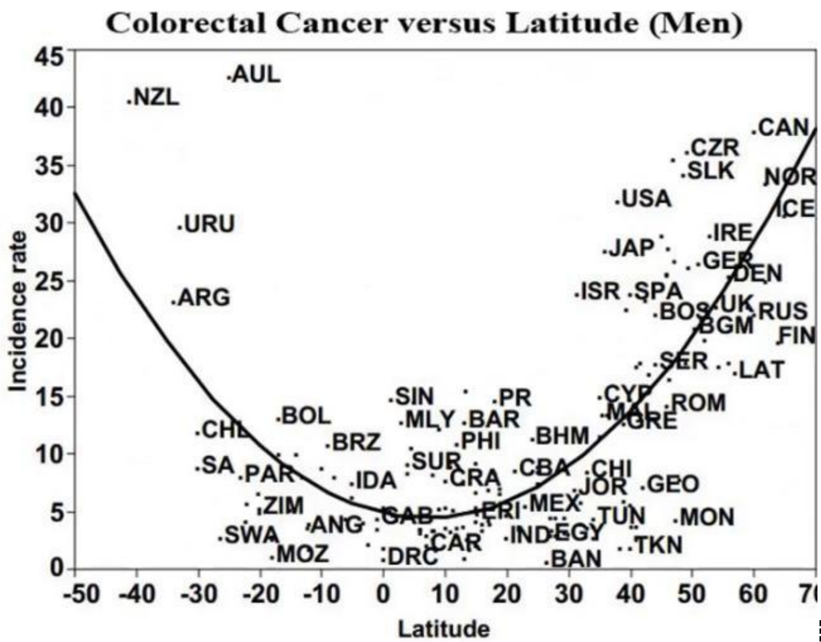
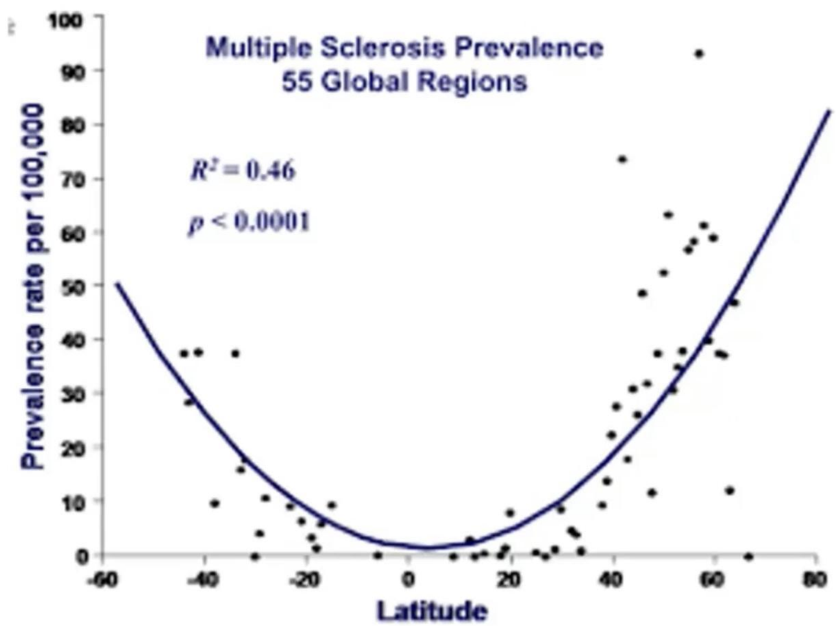


FIGURE 1 – Renal cancer incidence rates, males, by latitude, 2002. Source: Data from GLOBOCAN[1].

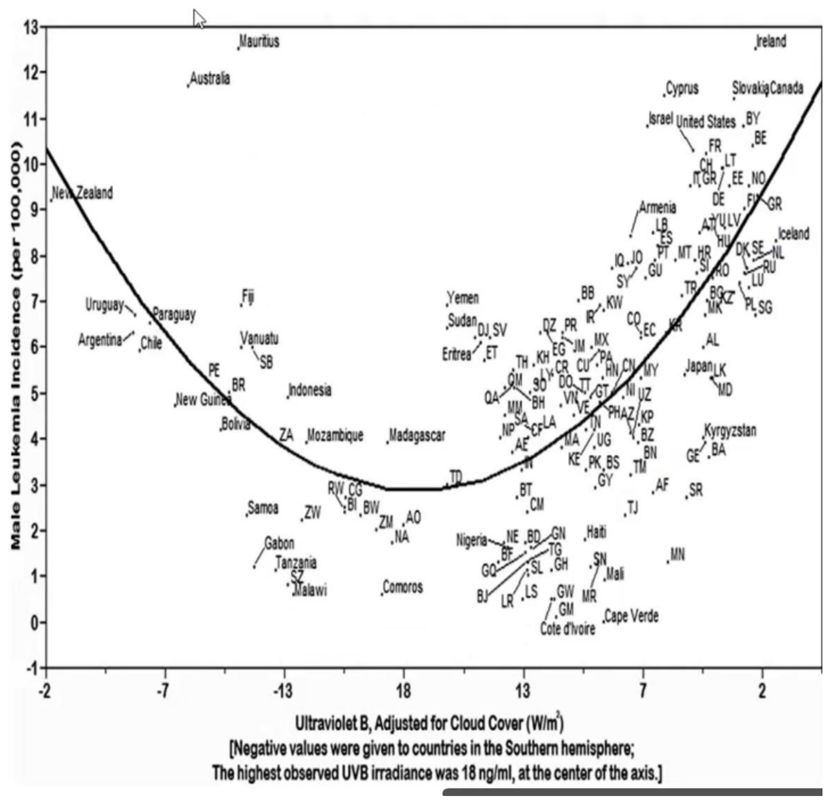
FIGURE 2 – Renal cancer incidence rates, females, by latitude, 2002. Source: Data from GLOBOCAN[1].



Colorectal Cancer versus Latitude (Men)
Incidence rate
Latitude
NZL
AUL
URU
ARG
CHL
BOL
BRZ
SA
PAR
IDA
ZIM
SWA
ANG
MOZ
SIN
MLY
BAR
PR
PHI
SUR
CRA
GAB
DRC
CAR
PRI
MEX
IND
EGY
BAN
BHM
CBA
CHI
JOR
TUN
TKN
GEO
MON
CYP
MAL
GRE
ROM
SER
LAT
ISR
SPA
BOS
BGM
UK
RUS
FIN
JAP
USA
IRE
GER
DEN
CZR
SLK
CAN
NOR
ICE



Multiple Sclerosis Prevalence
55 Global Regions
$R^2 = 0.46$
$p < 0.0001$
Prevalence rate per 100,000
Latitude



It is important to acknowledge that these are only associations, and not causalties. However, these give more of an insight as to how UV light may impact hard health outcomes in human beings over periods of time.

Another thing to avoid is using sunglasses when engaging in sunlight exposure. This may seem weird, but hear me out. When UV light makes contact with your eyes, it signals to your brain to produce MSH, which stimulates melanin production[6]. Wearing sunglasses may not eliminate this signal, but it will definitely delay it, therefore potentially increasing your chances of developing a sunburn even in UVA light.

The other thing to remember for your safety and enjoyment is to, of course, moderate yourself in the sun if you very infrequently expose yourself to sunlight. It may seem kind of odd at first that something like our eyes being exposed to certain wavelengths can initiate biochemical signals through our entire physiology, but this has been happening since the beginning of our existence. Our eyes evolved to respond to light and different frequencies of light—this is how our bodies regulate their circadian rhythms[7]. We've neglected to remember this and have taken this for granted, and therefore have been quite careless with the new implementations of technology in our life. What am I referring to exactly? I'm referring to the hyper-inundation and exposure of blue light to our eyes that we now experience today.

Melanopsin is a heme based protein (a class of proteins that are based around iron/have iron included in the molecule, such as hemoglobin, myoglobin, etc.) which is found in the retinas in your eyes[8]. Because melanopsin is a photoreceptor, it will cleave, or break, and release free retinol (Vitamin A), into the body when exposed to photons of light in a specific frequency range, which just so happens to be the blue spectrum of light. There are a number of reasons why this occurs, but the primary one is that it allows your eyes to gauge the quantity of blue light present, which in turn informs your body of the ideal circadian rhythm, which takes into account both the time of day and the season. For instance, if the climate is such that your body believes it to be winter, it is likely to slow down the rate at which your mitochondria function, which will slow down your metabolism.

This all sounds fine, so what's the big deal? Well, *the rate at which you can move electrons through the electron transport chain to create energy is slowed down when retinol concentrations rise too high because they begin directly affecting or damaging some other heme-based proteins in your body, such as the cytochromes inside the mitochondria*.

Before the invention of the incandescent light bulb, the LED screen (which emits enormous amounts of blue light), and before we overflowed our environment with other wavelengths that may also interfere with mitochondrial function and melanopsin, like cell phone and modem frequencies, we weren't experiencing much of a difference in the concentrations of blue light and other frequencies we experienced throughout our existence as a species.

Natural blue light is basically always safe, but artificial blue light needs to be controlled because it tends to be considerably more harmful. Melanopsin alone will reduce mitochondrial activity, but the extra Vitamin A that will be released when staring at screens (for example) will physically harm the cytochromes, further reducing such activity.

Another commonly posited argument about the harmful effects of excessive artificial blue light is that it drops your melatonin levels within 5 seconds, as Andrew Huberman has pointed out relatively recently, then causing you to stay awake[9]. Decreasing your melatonin levels is not a good thing, as we know, as melatonin itself is one of the most powerful intracellular antioxidants our bodies produce. However, an interesting thing to note is that melatonin most likely does not make you tired. It's regarded as "the sleep hormone," but only due to its association with sleep—the levels of melatonin in one's blood increase a few hours before sleep ensues, and remain high when asleep for the first few hours of the night. But, this doesn't mean that melatonin is what is making us tired.

Sleep is when the body repairs itself the most, and since melatonin is one of the most powerful antioxidants in the body, it would make more sense that this hormone would increase before sleep and remain high during the initial phases of sleep for this reason instead. In fact, the reason blue light wakes us up has more to do with the way it affects our circadian rhythm and, consequently, our cortisol, as already elucidated. Keep this in mind when you fail to become tired and fail to fall asleep even after taking 4 doses of melatonin capsules before bed. If you find more success with melatonin in this regard compared to others, I hate to break it to you, it most likely is just a placebo effect.

There definitely are some effective blue-blocking products out there, however. There are also settings on your phones and laptops that will also reduce and/or completely eliminate blue light eminence from the screens. When buying products like daytime and nighttime blue-blocking lenses, however, you need to ensure that they actually change the colors you are seeing when you look through them, or else they are not blocking blue light, as much as they may advertise them to do otherwise. The same goes for screen "protectors" for your devices as well (which I wouldn't recommend). In terms of settings for phones and laptops, using the "night shift" setting, even at the warmest setting, isn't going to cut it in terms of completely eliminating blue light being emitted from the screen.

There is, however, a way to do it, which I do every night during and after sunset, all the way until sunrise the next morning. If you're using an iPhone, all you have to do is go to "settings," then to "accessibility," then to "display & text size." After that, you want to scroll down to "color filters," select it, and toggle the notch. Then, you want to tap on "color tint" which will now be visible, and then turn the "hue" bar to the maximum level at the bottom of the screen. For the "intensity" bar, you can adjust it to your liking, but it should definitely be more than halfway increased. I happen to turn both bars all the way up, and my brightness all the way down when I activate this. This completely eliminates blue light eminence from your phone. You can do the same thing on your MacBook devices as well. Then, you want to return to the "accessibility" screen, and scroll all the way to the bottom of the screen, until you find "accessibility shortcut." Tap on that, and de-select any existing selections, and select "color filters." The complexity is over at this point. All you have to do now when you would like to have the red screen selected is to triple tap the side button on your phone. To return back to your normal screen settings, triple tap again.

During the day, I will actually have my phone on Apple's "night shift" setting on the warmest variance, to even further reduce the amount of blue light I'm being exposed to during the day; I never have my phone on normal blue light settings. In fact, now when I see a normal phone or computer screen, it's almost blinding, and it definitely does hurt my eyes.

Many health influencers know about the damage of blue light on the eyes, and actually advocate for red light exposure as an additional lifestyle change to incorporate, instead of just abstaining from blue light. The studies on "red light therapy" are quite limited, with no causal relationship linking results to red light itself. However, if you're interested, BonCharge has red light panels for sale, as well as TrueLight (not a sponsor). There is one more thing to mention before we move on, and that is a compound known as deuterium. Deuterium is an odd one out; he didn't fit into any chapter or section of this book, as hinted at in the chapter name. I desperately tried to make him fit, but in vain. He's also something that most people have never even heard of, until now (you're welcome, deuterium).

As you should have come to understand by now, there are a slew of factors in human health and dietary health that we fail to take into consideration in terms of its effects on us. A lot of this isn't our fault—most of us aren't scientists, and we don't know everything. However, given this phenomenon, we need to scrutinize things that are seemingly irrelevant in human health, which actually happen to be *very* relevant. One of these factors is the amount of deuterium we consume through our food and water.

Deuterium is the heavy version of the hydrogen atom, making it an **isotope** of hydrogen. The simplest ion in the periodic table is hydrogen, which has one proton and one electron around it. Another type of hydrogen that naturally occurs in a specific ratio or proportion to all other hydrogen atoms is deuterium. Despite being a minuscule portion, it does exist. Similar to the hydrogen ion previously mentioned, it is made up of an electron and a proton, but a deuterium molecule also contains a third particle-like component called a neutron. If you remember middle school science, neutrons are protons with the exception that they do not carry a positive electrochemical charge. Instead, they merely contribute mass to the molecule. As a result, a deuterium molecule has a greater mass than a conventional hydrogen atom. Deuterium is sometimes known as "heavy water," and it is sometimes denoted with the symbols "^{2}H" or "D."

So how can excess deuterium cause a problem? Deuterium happens to have an effect on what's called the H0 H1 ATPase protein[10], which is embedded in the inner cellular membrane in the mitochondria. The protein is composed of two subunits, one of which is fixed to the membrane and the other of which is somewhat free-floating. When protons—in this case, hydrogen ions—are fired through the center channel, the protein spins like a motor, generating torque energy that is then used to attach inorganic phosphate molecules to ADP molecules to produce ATP. Deuterium is significantly heavier than hydrogen, therefore trying to put one through makes the "motor" stutter and slow down. This messes up the timing and actually throws the entire system for a loop[11]. Why does this matter? Remember, by delaying the mitochondria, it affects your ability to make ATP at a specific pace, and anything that slows your mitochondria *causes inflammation*. One of the things that slows down mitochondria is excessive deuterium. Atherosclerosis, “insulin resistance,” diabetes, parkinsonian-type disorders, dementia, obesity, etc. all unquestionably require inflammation, once again.

It's important to note, however, that having no deuterium at all in the body is also not a good thing. We do require an amount of deuterium within a certain threshold for optimal bodily functions to continue occurring, but we get way too much nowadays, as we will look at in a little bit.

Deuterium also directly affects the food molecules themselves, in addition to all the other enzymes and mediators in your metabolic processes. Deuterium is, once more, twice as heavy as a typical hydrogen ion. As a result, it forms bonds with carbon skeletons that are much shorter and slightly at an angle, which affects their functions and makes it harder to separate them for use. It also makes them less stable.

So, how do we reduce deuterium from dietary sources? Well, the foods highest in deuterium are those foods that are higher in glucose or fructose, and starches[12]. Seed oils also have an *exorbitant* amount of deuterium in them. There is just yet *another* reason to avoid these "foods." The only plant foods that don't contain deuterium in high amounts are typically leafy green vegetables such as spinach and mustard greens. Animal fats and proteins, however, happen to be very low in deuterium[13], along with virgin, unrefined coconut oil and extra virgin cold-pressed olive oil, which you can't really get in the United States, which is another reason to just stick with animal fats, which you should be doing anyway.

So, let's *reflect* (😉) for a minute on everything that has been taught thus far from the beginning of this book to now. Not being grounded to the earth, a lack of sunlight, excessive amounts of deuterium and blue light, fiber, plant anti-nutrients, eating any form of sugar from any source, seed oils and margarine, and not engaging in any proper exercise are all causing inflammation. I know that you may be thinking you can't change this many things about your life (to which I would challenge this, of course), but you're probably able to acknowledge that you can change some of them. Of course, this would mean that you'd be sustaining *some* level of inflammation, but not as much as you could be. I would encourage everyone reading and learning these things to start to *naturally* reduce inflammation by eliminating the toxic elements of your life that I've elucidated thus far and by introducing the positive ones. However, if you're wanting something to give you a boost during your journey trying to get there, or if you have an illness/disorder/disease that is characterized by or causes chronic systemic inflammation that requires an extra punch to start the process of its amelioration in the first place, I would recommend taking the Cerule products that are mentioned and expounded upon at the end of this book in the "Deeper Science" section, which are not pharmaceuticals, and are not nutritional supplements like Vitamin D or creatine supplements are, but are instead nutra*ceutical* products that initiate the release of your own inherent stem cells from your bone marrow (that you don't run out of) to help aid in alleviating inflammation and repairing injured tissues. With everything that's been covered so far, there's not much left to dissect. However, there are still just a few more lingering arguments that people have for living the way I've promoted throughout this whole book so far. The final task before moving on to how to begin the transitional journey is to dispel these extant arguments, and dispense with them as such.

CHAPTER 6

EXTANT ARGUMENTS

Before I start with the dispelling, I will say that some of this may sound repetitive, as the responses to these arguments will be incorporating many of the aforementioned facts and explanations that you've already read throughout this book. However, there *are* things you have not heard just yet in this chapter, and for people that are *still* hesitant, I would suggest you stick around and hear these through.

- ### "THIS IS A GREAT DIET TO GO ON TO DEVELOP COLON CANCER"

There are actually no meaningful associations—let alone causative relationships—between red meat and any cancer whatsoever. The studies that conclude this are rooted in poorly conducted observations (epidemiology) which depends on respondent data, groups of elderly people to ensure the occurrence of death (and therefore cannot be extrapolated to the general public), along with many other flaws, and then are almost always adjusted for at the end, which means the data was fabricated. Remember—scientists report what they observed, not what they think they would have observed if they had conducted the study differently. So yes, this means that even the classification of red meat by the WHO as a type II carcinogen is based on this data.

- ### "YOU NEED CARBS TO BUILD MUSCLE"

You need *glycogen* to build muscle, and an adequate insulin response to initiate the process of glycogenesis, but fortunately, we have a process in the body called gluconeogenesis that allows us to create all of the glucose we need endogenously as long as we have adequate protein and fat intake. And no, as we've covered, gluconeogenesis is not "stressful" on the body as some will say; it is not any more "stressful" as it is for your pancreas to secrete enzymes for digesting food. The fact alone that we have the system of gluconeogenesis means that we had an evolutionary reason for developing it, and indicates that fat has been (and still is and should be) our primary fuel source, and therefore our body prefers to engage in the process of gluconeogenesis rather than being insulted and inundated with exogenous carbohydrates, which we know to be contraindicated and damaging anyway.

There's another myth embedded in this one however that is in regards to insulin. This myth states that insulin can further increase protein synthesis, basically the premise being the more, the better. However, this myth came from a study that applied pharmacological injections of insulin at hyper-dosages that the body is not capable of creating on its own, so eating more carbohydrates will not translate into gaining more muscle[1].

Think about it this way, the sculptures that were built thousands of years ago of men with great builds were built during times when carbohydrate consumption was very, very low, and yet those people were bigger than us in every way. This painting, depicting Dante in Hell, shown below, demonstrates this quite clearly:

I know—an odd choice to insert into this book, but it gets the point across. So don't believe that you need carbohydrates to build muscle. We are smaller nowadays due to making decisions like that. The best we can do is live an indicated lifestyle so that future generations can become more robust than us slowly over time.

• "THERE IS NO EVIDENCE OF A LONG-LIVED SOCIETY EATING A CARNIVORE DIET"

Lack of evidence of something does not equate to evidence of the *lack* of this eventually becoming a possibility. We have been eating exclusively meat for millions of years, so why wouldn't we be able to do it now?

- **"PEOPLE THAT ATE THIS WAY DOZENS OF MILLENIA AGO DIDN'T LIVE A VERY LONG TIME AND HAD AN AVERAGE LIFESPAN OF 30-50"**

This was *not* due to our diet. If that were the case, then we wouldn't have lasted this long as a species. Look at the environment they lived in and how hard life was back then; look at the rates of *infant mortality* especially… you'll start to see the true reason why we weren't living very long.

- **"RED MEAT IS INFLAMMATORY"**

There is no evidence to support the claim that red meat is inflammatory anywhere. Any studies that say such a thing do not look at red meat consumption in the context of a no carbohydrate or low carbohydrate diet, and therefore cannot attribute the results of increased inflammation to red meat alone.

- **"PLANT ANTINUTRIENTS ARE HORMETIC"**

Alcohol, cigarette smoke, and heavy metals aren't hormetic, so why would we assume plant toxins are? Hormesis involves reaping benefits after a stressor…with plant toxins, there are no benefits, just damage. Your body can get better at handling those damaging effects, but that isn't a sign of hormesis, that's just a sign of your body metaphorically scarring over.

- **"YOU JUST WANT TO JUSTIFY YOUR ADDICTION(S)"**

You think I wouldn't prefer to eat sweet potatoes? Blueberries? Pizza? Sauteed broccoli? Asparagus? You'd be wrong. I don't eat those because I know that they are not indicated for my physiology. Also, this seems like a projection. Sugar follows the addiction model. When you eat a bunch of sugar, your blood sugar spikes, and then it crashes, which leaves you tired, with headaches, and shakes, so you go and eat more. It also activates the dopamine pathways in your brain more than cocaine does, and actively damages your cells. Does this sound benign or innocuous in any way, or does it sound like an addictive substance?

- ## “THIS IS AN EATING DISORDER”

An ironic argument, considering that this diet has saved people with eating disorders and has given them liberation from the shackles of food addiction or complete food abstinence (anorexia).

- ## “NOT ALL CARBS ARE BAD/THERE ARE GOOD AND BAD CARBS”

All carbohydrates break down to the same thing—glucose. So there are no “good” or “bad” carbs—they’re all contraindicated for human consumption.

- ## “THERE ARE LOW GI CARBS AND HIGH GI CARBS”

The glycemic index is complete nonsense. You cannot say, without a doubt, how a food is going to impact everyone’s blood sugar after the consumption of that food. You can’t even establish what one person’s blood sugar response will always be to that food, because that fluctuates too, as it depends on a myriad of factors, like what time of day it is, how much sleep one accrued the previous night, and what your current activity level is and has been on that given day.

- **“VEGANS LIVE LONGER THAN PEOPLE WHO EAT MEAT”**

Actually, meat eaters and vegetarians or vegans live about the same amount of time when you look at the data.

- **“THIS IS AN EXTREME DIET”**

This is not an extreme diet. This is the diet we ate for millions upon millions of years as a species, and hundreds of thousands of years in our current speciation. We’ve been eating plants for 13,000 years, and have ramped up the consumption of them in just the last thousand, really. You should see the results that the agricultural revolution had on our physiology and look at the trends since then—it’s pretty remarkable.

- **“YOU’RE LOSING WATER WEIGHT WHEN YOU STOP EATING CARBOHYDRATES, AND THAT’S ALL IT IS”**

You lose water weight first when you go on any diet. This is because the metabolic byproducts of fat are carbon dioxide and water, and the metabolic byproducts of glucose are the same. But, you also lose a lot of fat later on as well, as you’ll reduce your blood sugar levels, and you won’t be in an anabolic state for the majority of the time.

- **“YOU CAN ELIMINATE PLANT TOXINS BY PROPERLY PREPARING THEM AND PROPERLY COOKING THEM”**

You cannot eliminate them, you can reduce them. There are some that you can’t reduce at all, however, and that includes fiber, which is a contraindication in the human diet and human enteric function.

- ## "IF PLANTS ARE TRYING TO KILL US, THEY'RE DOING A PRETTY BAD JOB AT IT"

Not really, actually. Look at the disease rates of a myriad of diseases in the past 50-100 years, in which we stressed more consumption of plants, and you'll see a problem there, and you will also see a stark, *stark* decrease in our brain size, height, and jaw size since the agrarian revolution as well. The plants are slowly winning the evolutionary arms race, actually, quite quickly relatively speaking. And before you say the whole notion of plants and animals living in an evolutionary arms race is ridiculous, that is botany 101, after all.

- ## "YOU CAN DERIVE ALL OF YOUR FAT FROM CARBS"

Carbohydrates can be (and usually are) converted to fat in the liver, yes, but the only reason that happens is because the body is trying to get rid of the excess sugar in the bloodstream because it is damaging to the body. Glucose destroys lipid rafts, destroys cell organelles, binds to DNA and causes mutations to it, and at a high enough concentration, glucose will kill a cell outright. Exogenous glucose is poison.

- ## "VEGANS HAVE LOWER RATES OF DISEASE THAN MEAT EATERS"

"Meat eaters" are almost always omnivores eating a mixed diet, which is more dangerous than a vegan diet. Find the comparison between rates of disease in vegans/vegetarians compared to Carnivores, and try again.

Another thing to mention, however, is that a 2020 review looking at nearly 2,000 vegans found they suffered from dramatically increased fracture rates compared to meat eaters, especially hip fractures, which sets people up for *breaking* your hip, which is almost a definite sign of a death occurring very soon afterwards when looking at the data[2]. This isn't a "disease," but it's still worth mentioning here with the insinuation that vegans are healthier than meat eaters.

- ## "LOOKING AT STUDIES IN WHICH SUGAR WAS REPLACED WITH THINGS LIKE POTATOES AND FRUIT, FAT LOSS DIDN'T CHANGE AT ALL, THEREFORE SHOWING THAT SUGAR ISN'T BAD FOR US."

It's almost as if those foods are…sugar. Carbohydrates all break down to sugar in the body.

- ## "THERE IS PROTEIN IN PLANTS, AND THEREFORE YOU CAN DERIVE ALL OF YOUR PROTEIN NEEDS FROM THEM"

70% of the protein in wheat is gluten. You don't absorb that gluten though. The protein in plants is not bioavailable, and many of them are inherently toxic, like gluten is, just for one example. In fact, almost all plant protein ingested is utilized for oxidation for fuel, as opposed to being incorporated into bodily tissues.

- ## "YOU ONLY LIVE ONCE—YOU MIGHT AS WELL ENJOY IT"

We do, in fact, only live once, which is why we carnivores do this. It ensures that we don't live a life full of pain and suffering from health consequences, as it is our species appropriate, species specific diet.

- ## "THAT'S SO RESTRICTIVE!"

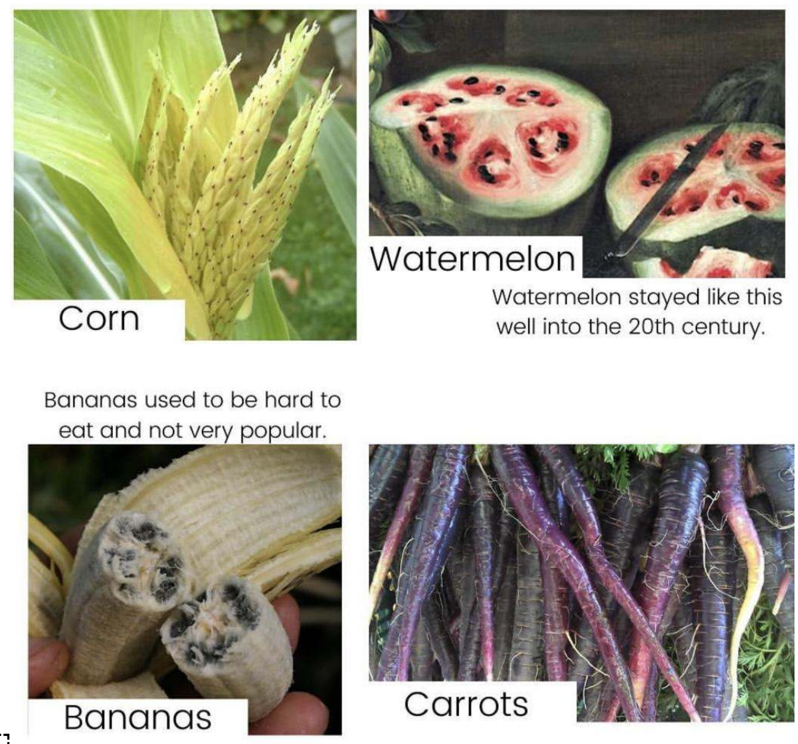
I'll tell you what's restrictive: not being able to think straight, being chronically inflamed, living in a hospital bed, living with diabetes, heart disease, pain, dementia/Alzheimer's disease, etc. Also, if your main sense of enjoyment (or one of your main derivatives of enjoyment) is from food, I highly suggest you take another look at your life. And one more note—when you eat the right way for even a month, you don't want anything else. You can see, smell, and even, in some cases, taste sugar, and you won't even want it. That isn't restrictive—that's liberating; that's every food addict's dream deep down.

- ## "I COULD NEVER DO THAT"

Whether you say you can or you can't, you're right. It takes dedication. But, if you truly believe that this lifestyle is the best thing you can do for your health, and will help you with whatever problem you're going through (even addiction to sugar and other foods, which is very real), then I would say to treat yourself like someone you're responsible for taking care of, and implement enough discipline to do it. A lot of times, when people say they could never do it, in reality what they are doing is not acknowledging that they could because if they did that then they would immediately have a voice in their head screaming at them to do it; it would immediately instill a sense of incumbency into them that they are afraid to undertake. Accept that you can do this if you really put your mind to it, and once you adhere to it for about a month (if that), it isn't a challenge anymore, and you stop craving any sugar at all—even if it's directly in front of you.

- **“GOD GAVE US MULTIPLE FOODS TO CHOOSE FROM, AND THEREFORE THEY COULD NOT HURT US/I CHOOSE TO EAT ALL OF THE FOODS GOD GAVE TO US”**

You can see how this can get contentious, but it’s something that needs to be addressed. Take a look at the picture below:



It turns out that throughout the entirety of the time that we as humans introduced ourselves to agriculture, we have been hybridizing and grafting crops to make them bigger, juicier, sweeter, starchier—you name it; produce nowadays is not like it used to be; what crab apples are today are what normal sized apples used to be…bananas used to be very fibrous inside, as well as carrots and watermelon, the latter of which used to be the size of an apple. We’ve made fruits and vegetables available out of season, which is completely unnatural, and not how God intended, and we also spray a swath of pesticides on them (even the organic ones), making them even worse. In tampering with all of these plants, we've also made them far less nutritious than they were before. One study analyzed crops from 1950-1999 and found that Vitamin C levels decreased by about 15%, B2 by 38%, protein by 6%, iron by 15%, calcium by 16%, and phosphorus by 9% (not to say that plants were ever a good thing to be eating anyway, but it's just some irony that I think deserves some notoriety)[3]. And here's the other thing—99% of the plants you see in stores were man-made using these methods to begin with. We combined the genes of two different plants to make a new one, and we did that multiple times to create more and more of them. As Jennifer Geissert, a doctor of physical therapy and Carnivore health influencer said so eloquently, "if you're dead set on eating only the fruits and vegetables that God gave us, you do you, but I don't know where you're going to find them[4]."

• "GOD IS AGAINST ANIMAL CRUELTY, AND WOULDN'T WANT US EATING ANIMALS"

I debated putting this one in here at all, but here we are. The food most commonly eaten in the Bible was meat, and it was known as a sign of wealth and overall success in every respect. The only times people were eating anything else was when meat was not available. Also, here's this verse, just for the cherry on top:

Romans 14:2 - One person's faith allows them to eat anything, but another, whose faith is weak, eats only vegetables.

• "EVERYTHING IN MODERATION"

This one is one of my favorites. This is like telling an alcoholic to moderate their alcohol, or a cocaine addict to moderate their cocaine. Sugar is a drug, and telling people to moderate it is as ridiculous as the aforementioned examples therefore. Also "moderating" plant toxins as well as other toxins is not indicated—*abstaining* from them is what is indicated. With everything that's been explained thus far in this book, I don't think I need to explain why this is the case again.

• "ANIMAL PROTEIN DESTROYS KIDNEYS"

Excessive protein consumption can further damage kidneys that are already damaged. It does not damage kidneys that are at full health…there is no evidence for that anywhere in scientific literature.

• "ANY BALANCED DIET WOULD'VE GRANTED THESE IMPROVEMENTS SEEN IN THESE ANECDOTES."

Quite frankly, if you ask these people that have reported life-changing and life-*saving* stories what they had tried beforehand, they will tell you they tried everything, and nothing worked for them. This specific alteration in most people is the only thing that works for them once they adhere for a month straight, and when they transgress, they reap the "rewards," which aren't very great ones. We will see that later in Chapter 8.

…And congratulations, you've almost reached the end of the 'information dump.' I know it is a lot, but that's what happens when reality is built upon lies—you have to tear it all down piece by piece. The next chapter will be all about how to properly, responsibly transition to a carnivore diet, problems that may arise, what they mean and how to fix them, how to make it affordable, how to do this for kids, clearing up some other questions, and what my experience has been on Carnivore.

CHAPTER 7

TRANSITIONING

You've finally made it to the transition stage, where you're finally realizing the importance of changing, but also realizing you shouldn't approach this carelessly.

It's important to take very careful precautions when approaching a transition from one diet to another, no matter what diet you're coming from, and no matter what diet you're transitioning to. The first precaution to take is to never—*ever*—change your diet suddenly overnight. If you remember back in Chapter 3, I mentioned in the debunking of the TMAO myth that many scientists will quickly change subjects' diets overnight to something much different, therefore causing them to exhibit different behaviors within their microbiome. Your microbiome consists of about 100 trillion bacteria, and those bacteria need to eat. They're very effective at adjusting to whatever diet you eat, but only if you give them enough time to do so. If you don't, they can absolutely wreak havoc upon your gut, causing serious gut dysfunction like constipation, diarrhea, pain, bloating, and any other dysfunctional gut symptom you can think of. The other part of this gut dysfunction is that sometimes, it can last for months, and it can also *take* up to 6 months to develop as well.

Another reason to not embark on the journey cold turkey is because of the fact that sugar is a drug (remember?). Don't forget that you should be conceptualizing sugar as a drug by now, and therefore should realize that it's not a great idea to quit a drug overnight. The side effects of this are exactly what the "keto flu" is, and how it's characterized.

A 6-8 week transition period, in which you gradually increase meat and animal fat consumption and lower your plant and carbohydrate consumption each week, is indicated for a proper transition into a new diet and lifestyle.

The second precaution to take is to supplement electrolytes during this period—*especially salt*. You may not need to, but have it ready in case you do. The reason for this is because insulin, as we talked about in the "Great Salt Myth" section, is a hormone that makes the body retain not only fluid, but the associated electrolytes within those fluids, most notably being salt, but also the others (potassium, magnesium, and calcium). You will be losing water weight first on this diet due to the abstention of carbohydrates, and then even *more* water weight the lower your levels of inflammation become, making it very important to remain hydrated during this time with more electrolytes than you're used to having. Remember—hydration is not just about water; it's about electrolytes too. If you don't know when to use the electrolytes, a good sign is when you start feeling any symptoms that are similar to the manifestations of classic dehydration, such as cramping, lightheadedness/head rushes, palpitations, and headaches in general, when your water intake remains either the same, or even more than you're used to.

Believe it or not, these are really the only two *main* precautions that you should take when transitioning to a carnivore diet. However, there are two other main things you need to ensure you do (and *don't* do) when you've *begun* one.

The first thing is to *make sure you eat sufficient protein for your needs*. But, it's not just that simple. It is not only necessary to have enough protein in your diet—it's also important to get all (or most) of your protein in one bolus each time you eat. Why is that? Well, it's important to "bump out" of ketosis once every day (unless you're partaking in a fast), and the way to do that is by having a sufficient insulin response via a sufficient bolus of protein, which will instigate the processes the body can only act out when in an anabolic state (because there are a few). Basically, what I am saying is to aim for eating one meal a day, with that meal having all of your protein within it, rather than splitting your protein up into multiple meals. Otherwise, you have a much, much higher chance of developing thyroid issues, electrolyte issues (due to a condition called leaky kidney syndrome, which, yes, is a real thing!), and all of the sequelae that proceed, even if it takes a long time to manifest.

If you think this sounds backwards, you wouldn't be the only one. I mean, if the diet is ketogenic, why would we need to *bump out* of ketosis? Don't you want to be in ketosis? Isn't that beneficial?

Here is another very important point to understand: **The goal of a ketogenic diet is not to be in ketosis**. Being in systemic ketosis *most* of the time is a good thing, but is contraindicated long-term, contrary to what many keto advocates posit. Why does extended ketosis cause issues? Let's quickly break it down.

Extended fasting and long term ketosis will reverse T3 (a thyroid hormone) as a protective mechanism. Vegans tend to, quite frankly, deteriorate, because even though they don't up-regulate the Randle Cycle, they still have elevated/excessive insulin levels due to their vast carbohydrate consumption, and therefore, when combined with an insufficient protein consumption (as is seen in their population), they increase their T3 hormone and further deteriorate their muscles. When doing keto or extended fasting chronically, you increase reverse T3, but when you eat a sufficient bolus of protein, you discontinue that trend due to the slow and steady rise in insulin (and because selenium, a mineral found in generous amounts in red meat, will also inhibit reverse T3). When doing a Carnivore diet, you won't run into the problem as long as you are eating enough protein for your needs.

The most important thing to assess with regard to thyroid hormone levels is whether everything is present within balance, not whether they approach or surpass a certain level or threshold. After all, "low" thyroid hormone levels is a pretty typical presentation on a diet that does not induce *marked increases in insulin levels, as lower insulin usually leads to lower thyroid hormone levels.*

Further to this, when glucagon is not high and insulin isn't too high, growth isn't that high, as I explained earlier in this book, but neither is any catabolic state either. Adding a significant amount of carbohydrates in with a meal consisting of a high fat content and moderate protein content will vastly change the I:G ratio, making glucagon much higher, and will lead to deterioration and adverse effects on thyroid hormone levels and thyroid function. Again, this only happens when this is chronic. When "reverse T3" increases, and TSH (thyroid stimulating hormone) decreases, this is not an issue. It only becomes a hypothyroidism related issue when you are on a poor diet destitute of fat soluble vitamins like Vitamin D, zinc, selenium, iodine, etc. High TSH and excessive reverse T3 is indicative of a problem, but high T3 isn't exactly indicated either; most centenarians, for example, have a slightly lower TSH and a slightly higher reverse T3.

Remember when I said I was going to mention why Paul Saladino may have had the issues he had? Now I hope you understand, since you know more about how insulin works, and why carbohydrates fixed the issues that *may* have developed as a consequence of being carnivores long-term. I believe Paul used carbohydrates as a drug to fix whatever problem he ended up developing that could have really been brought on by eating multiple meals a day, as opposed to one large one. But, there's a reason I keep saying "could have been," and "may," instead of a "was." of conviction. There are other, more salient behaviors that I believe were contributing to his problems (and some other individuals that make up a significant minority that also deal with the issues, albeit, still, rarely). The next one is the perfect segway into the second main caution to take when engaging in a Carnivore diet, that being…

DON'T OVEREAT ORGAN MEATS—ESPECIALLY LIVER! Hopefully I said that loud enough for the people in the back. Look, if you enjoy eating organ meats, go for it. But, understand that, contrary to what a lot of influencers say—especially Paul—they are not essential, for one, but, also understand that liver in particular is actually something to be very careful with; you do *not* want to eat liver in copious amounts every day, or even every week. The reason for this is not what other people tend to think it is, that being the amount of Vitamin A that is present within liver. In fact, it's actually due to the amount of *copper* that is concentrated so heavily in liver. The way copper in excess behaves biochemically within our bodies makes it to where our electrolytes are unbalanced, and it causes a slew of issues in that regard. Other organs don't have this issue, however, so if you enjoy eating testicles, go ahead and keep doing you.

Some people may want to bring up that some Carnivore influencers that don't eat organs have gotten lab results that have shown them to be "deficient" in certain nutrients. Most Carnivores feel great, and only decided to get their levels checked for fun. If you feel great (or, most often in the case of Carnivores, the best you've ever felt in your entire life) then don't worry about deficiencies, because the truth is, you're probably not deficient. The medical establishment has been quite successful in making people very anxious by putting thresholds on everything, including pulse rates, blood pressure numbers, and…RDAs and RDIs. Also, remember earlier in this book, how I explained that you require far, far less nutrient intake of certain nutrients when you aren't eating carbohydrates? I think that speaks for itself. These thresholds are based on high sugar diets, and therefore aren't very applicable to Carnivores.

But, what about the third possible reason? Well, this one is quite dense with some more science, but I do think it is important enough to be addressed. I also believe that this is the most probable cause of Paul's issues, and the primary cause of others who have also developed these exact same

—or similar—issues as well. This has to do with a concept commonly known as “**insulin suppression.**”

Recently, there was a case study that garnered quite a significant amount of attention, as a low carb/carnivore doctor by the name of Dr. Rob Cywes uploaded a video on YouTube about it. In this video, Dr. Cywes talked about a phenomenon that he termed “insulin suppression,” a construct/concept that he deemed to be the diagnosis of this individual, even though he presented with no symptoms, and simply decided to get labs done to entertain his curiosity.

The client at the time was a ~50 year old male who was very lean and muscular, and someone who was often described as the “picture of health” by others. He ate one meal a day on a high fat carnivore diet, which he had done for years. He presented, once again, with no symptoms of any kind, and simply decided to get blood tests done for curiosity’s sake.

Once these tests were done, it was found that he had “low” free testosterone (in quotes because “low” and “high” value judgment statements, once again, are based upon the normative levels of the population, the population concerned being extremely unhealthy), “*extremely* low” insulin, a “very high” cholesterol level, “*slightly*” elevated A1c, elevated liver enzymes, those being AST and ALT, which are liver enzymes that convert protein to glucose, and then into fat, and some protein into ketones, and, when in the bloodstream, are released from damaged hepatocytes (liver cells), “extremely high” glucagon, slightly low thyroid hormone levels, elevated GGT levels (Gamma Glutamyl Transferase, a marker for liver inflammation), and his urine analysis showed no ketones present.

Dr. Cywes’ diagnosis was, once again, a construct known as “**insulin suppression**,” which is believed to be caused by someone being very “fat adapted.” The condition is said to be characterized as someone hardly using any glucose due to, ostensibly, their body’s incredible fat dominance, as well as leading to their body creating *insufficient* ketones under the influence of glucagon, as their blood sugar is slightly elevated, due to their body's ostensible conversion of excess protein into glucose, *some* of which is then transmuted into fat (not all). This is said to be able to be detectable with elevated triglycerides, elevated GGT, and elevated AST and ALT in someone that is low carb or carnivore. In fact, in this particular case, the male's triglycerides were higher than his HDL level, which is also stated to be a patent sign of this phenomenon being present if the individual concerned is not eating exogenous carbohydrates and/or seed oils in any significant amount. Dr. Cywes stated that we are to know, overall, from this client's results, that he was metabolizing protein in excess.

It's quite amazing how the human body works, isn't it? You can still have a slightly elevated blood glucose level (that's still within "normal" range, at 91, might I add), and not be in ketosis (inferred from a urine analysis), while eating ***absolutely no sugar!***

Basically, think of "insulin suppression" as the "yang" to the "yin" that is "insulin resistance," and think of the s-shaped line that separates the yin and yang as representative of "insulin sensitivity," which is what is typically believed is indicated physiologically. The other important note here is that one may not be "insulin resistant" or "insulin suppressant," but may trend *towards* one of those sides. For example, someone who is on carnivore may store very little body fat, like this individual, and have slightly higher liver enzymes, very low insulin, etc., but may not have attained an entire "insulin suppression" presentation. This is the same with insulin resistance on the other side of the spectrum, where even if someone is not thought to be "insulin resistant," they may have a higher propensity to store body fat quite quickly, and present with higher homeostatic insulin levels quite quickly. Typically, this is more accurate, as almost nobody is *directly* on the s-shaped line, if we were to use the yin-yang conceptual image as a diagnostic map or chart. Most of the time, someone is either “insulin resistant,” “insulin suppressant,” or trends *towards* one of those sides.

Don’t conflate this with me insinuating that trending towards one of these sides is contraindicated or pathological—this is normal. It is only pathological when one has a complete presentation of “insulin resistance” or “insulin suppression” (and, really, only the former is very pathological; the latter is a problem, but not nearly as much of one). Almost every person on the planet trends towards a side (besides the people that are directly on the “insulin sensitive” line), which explains why some individuals store fat more easily than others, even if those people aren’t “insulin resistant,” and why others—like me, in fact—tend to store on to almost none, even when not “insulin suppressant.” So, these people in this hypothetical example are still “insulin sensitive,” even while trending towards a side.

Going back to the case study, Dr. Cywes’ prescription for this ostensibly “insulin suppressant” individual was then to eat 2-3 meals a day, for one, due to one meal a day ostensibly inducing too great of a protein load, as well as leaving too long of a period of time without eating for someone who doesn’t store very much fat, and also to increase carbohydrate intake with milk, berries, and honey to effectuate an insulin response. This may sound familiar, as I earlier elucidated that this is exactly what Paul Saladino did, with the only difference being that he added hundreds of grams of carbohydrates into his diet, rather than just a few *dozen*, as seems to be the case with this individual in this case study.

Others have observed this case as well, however, and have had a different diagnosis and prescription, but only for if this individual began to experience issues, which, as stated earlier, *was not the case*. The diagnosis is that this individual is *too lean* (if anything). His blood test results are also, according to these folks, nothing to worry about, as they are set that way by his genes. Their prescription would be for this person to drop their protein intake slightly if he were eventually needing to do anything at all as a consequence of him beginning to experience problems, and to increase his fat intake commensurately. Then, after this is done for a little while, the patient should assess whether that seems to have added just a slight amount of fat onto his body, and then assess whether that seems to have helped in realigning any signals that may or may not have been deleterious or contraindicated, which we are still unsure of.

In summary, however, both sides agree that, if anything at all is needed to be done here in this scenario when it becomes present, it is to stimulate insulin. This explains why the carbohydrates seemed to have helped the individual out after the adoption of Dr. Cywes' prescription/suggestions, which was inferred later from updated labs, which showed an ostensible improvement in the previously conceptualized "non-optimal" blood test results. Carbohydrates trigger GLP-1, which triggers insulin secretion (so does protein, however, in a normally functioning physiological system). The patient's protein metabolism into glucose (or, protein "waste," in other words) seemed to have gone down subsequently, since he is believed to no longer be requiring his body to generate any glucose endogenously, as he's consuming an amount of exogenous carbohydrates. Therefore, his protein use for *energy* purposes seems to have gone down, and his protein use for *implementation* into bodily structures seems to have gone up. His second urine analysis then seemed to show that he was in ketosis. However, after all of this, there is *one* question we are still left with.

Let's say that we suspect that there may have been an improvement in this person's health, despite that he was already described to be the "picture of health," and presented with no symptoms. Would the changes in the biological markers (that lead us to believe that there was an improvement somehow) be due to the fact that exogenous carbohydrates have been introduced, or, rather, that, because exogenous carbohydrates have been introduced, it is probable that some of the protein and fat have been removed, and, subsequently, the ratios of the macronutrients have altered in such a way as to achieve the outcome that could have achieved without the addition of any exogenous carbohydrates at all (which are entirely unnecessary, lest we forget)? At the end of all of this, there was *no* control exerted, so we are left with questions like these.

Triglycerides being elevated in a muscular male *alone* sounds like (perhaps) slightly excessive gluconeogenesis occurring, due to the individual using slightly excess protein to make slightly excess glucose, which *may* be interfering with other factors in their body. If this were the case, this therefore would indicate a lower protein consumption should be adopted and introduced, as well as, most likely, a commensurate increase in fat, and *not* an introduction of exogenous carbohydrates. However, once again, this individual presented with no symptoms, and, therefore, as per the Hippocratic Oath, *physicians are obligated to not intervene in these circumstances.*

This phenomenon of "insulin suppression" does not disprove the unnecessary nature of exogenous carbohydrates in the human diet. Insulin suppression seems to be easily fixed by eating the *proper ratios* of fat to protein for your individual physiological needs. It is very, very common for men who are attempting to build lots of muscle mass to overeat protein, and undereat fat as a subsequent effect of this, so this would, in my opinion, be the actual diagnosis, if there were anything that actually started to go awry with his physiology.

Optimal protein intake seems to be 1.75 grams per kilogram of lean body mass, "lean body mass" being very roughly calculated by taking your height in meters squared, and multiplying that product by the optimal BMI, that being ~22.5, with the result being your lean body mass in ***kilograms****. The number of grams of protein you derive from multiplying this now calculated lean body mass by 1.75 can be up to 1.5 times more than that number in terms of how much protein you should be consuming if your* *activity level is exorbitantly or abnormally high and/or intense, or you seem to still be deriving too little protein, however; these are rough estimates.*

I think this covers all of these somewhat common (but still rare) issues that can be seen when adopting a carnivore lifestyle for an extended period of time, and why Paul was one of these people, and why he saw the amelioration of his symptoms as a consequence of his re-introduction of carbohydrates into his body. But, what about other questions you may still have, like…

• "WILL I DEVELOP HIGH IRON OR HIGH FERRITIN ON CARNIVORE?"

This is actually a relatively common concern amongst people wanting to embark on this transition. In regards to developing high iron, no, this will not happen. It all comes down to the two types of iron found in foods—elemental iron, and heme iron. Elemental iron is the iron that is found in plants like lentils, chickpeas, and beans. I don't think I need to go into too much detail as to how consuming too much of this kind of iron can become a problem when consumed in high amounts. But, an interesting thing happens with heme iron, the iron found in red meat and other animal products. Heme iron is completely safe and non-toxic, and doesn't cause the same issues that elemental iron causes when consumed in high amounts. The way to explain that is to look at what ferritin is, what its functions are, and how it works in the body.

Ferritin is the storage form of iron in the body. When someone is diagnosed with "high ferritin," this is with respect to a normative value. In other words, "high" doesn't necessarily indicate a problem—it may just be higher than the normal value for the population (which I would speculate to be quite low). It could indicate a problem in some cases, but usually not. The point of storing the iron in the body in this way is that it is encapsulated in a protein “package,” which keeps it safe and non-toxic, and then those small packages of ferritin are opened as the body needs iron for its processes when indicated or necessary. The only time ferritin is a problem is when it is ***extremely*** high, in which case you may definitely want to try and get that lowered. However, if you don’t have a disease like hemochromatosis (which you would know about because you would have been diagnosed with that as an infant) or something like one of the several specific forms of anemia that paradoxically lead to a very high expression of ferritin, then it’s *very* unlikely to be problematic in any way shape or form.

To put it simply, yes, you may express what doctors will call “high ferritin” when consuming much more red meat. And, in some people, high ferritin can be a very powerful marker for intracellular inflammation (but not exclusively). But, if anything, after everything you’ve learned thus far, the normative values that these value judgment statements are based upon with respect to ferritin levels are most likely too low, so there is no need to worry about this.

- ## “WHAT ABOUT DAIRY? IS IT OKAY TO EAT ON A CARNIVORE DIET?”

Dairy nowadays has a hard time being processed by most people, even the ones who aren’t diagnosed with lactose intolerance, because, just like the people that don’t have celiac disease that still eat gluten, they are still sensitive to it, just not *as* sensitive. The truth is humans aren’t really designed to eat dairy; there are only about 30% of people in the world that have the enzyme to break down lactose, that being lactase, within their bodies in adulthood[1]. Dairy also has other problems such as the different variations of the casein protein, those being casein A1 and A2. Most people react to casein A1 (and some even think they’re lactose intolerant as a result of this, when they aren’t by current diagnostic criteria), but not casein A2, but casein A2 dairy products still have lactose in them. The third nonoptimal trait of dairy is that nowadays, as previously mentioned, it is almost always pasteurized. I've talked about what happens to the proteins in milk after pasteurization, and it's not pretty, and people may have a hard time handling them because of this.

Additionally, to even all of this, almost all dairy is also from grain fed cows, which can flare some people up as well, depending on who they are. Additionally, dairy itself, as previously discussed, is the only food in nature that has all macronutrients contained within them in a relatively equal ratio. Therefore, dairy can contain carbohydrates. The main ones in this respect are milk and heavy cream. This can flare people, or it can initiate food addictions some people had in the past that have now experienced the feeling of freedom from food that is often achieved on this diet. It doesn't help that casein A1 breaks down into beta-casomorphin, which is morphine, hence its name, making it even more addicting.

However, if all of these problems don't bother you personally in any respect, *or* if you can find raw, grass-fed, A2 dairy that has no carbohydrates in it, and you're not lactose intolerant/you have the lactase enzyme (or have gotten a lactose free dairy product), then go for it. Dairy is a great source of many vitamins and minerals, but also of fat and protein. Cheese, for example, is practically 50/50 in terms of its fat and protein content.

The moral of this story is to **be wary of dairy.** It can work for some, and can be a fun addition, but for others (or—most), it's not the best idea in my opinion.

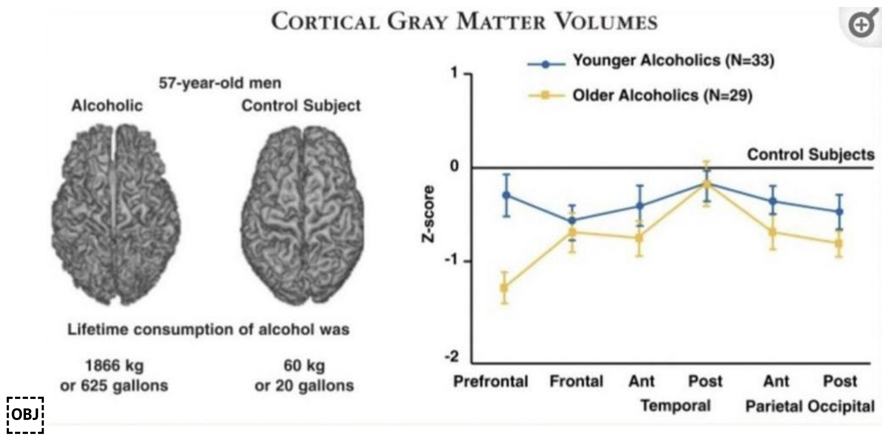
• "WHAT ABOUT RAW MEAT?"

This one cracks me up. To anyone else who may not understand why this question is being asked, it's due to quite a small group of people within the Carnivore community who have said that raw meat is what is truly indicated for humans, and cooked meat is unhealthy, or, as some of them say, is *killing* us. The notion is that more nutrients are present within the meat, and more is better, so therefore raw meat is better, and also, cooking creates advanced glycation end products, which further damages you. They also tend to espouse the belief that we aren't designed to eat cooked meat, and since no other animal eats its meat cooked, we shouldn't be either, as well as the supposed fact that your pancreas has to secrete more enzymes to digest cooked meat, as the enzymes that are in raw meat are denatured or destroyed during the cooking process, and this stresses out and damages the pancreas. I'll make this one quick and straight to the point. Cooking your meat is completely fine. Cooking meat (or any food, for that matter) destroys *some* nutrients, but not all—not even close; even well done meat has sufficient nutrient content to subserve the needs of a human being, believe it or not, and, also, more is *not* always better. What we are trying to achieve is *sufficient* nutrient consumption, not *more* in every scenario. In fact, in the case of Vitamin C, if you remember, more can actually be deleterious, as excess is converted into oxalates.

Another thing—we've been using fire for about 900,000-1,000,000 years now[2], and have been cooking our meat with it as well. I think that's enough time for us to adapt to the potential deleterious changes that would've been experienced from cooking our meat. Also, advanced glycation end products on meat after the cooking process are very, very minimal unless you heavily char your meat, and, even then, it's still quite negligible. The AGEs on non-charred meat are so miniscule that, if anything, it could even be a slight hormetic. If you're really that worried about it, just abstain from charing your meat, and eat medium rare to rare meat.

- ## "WHAT ABOUT ALCOHOL?"

There is no getting around this fact: Alcohol is a poison. It shrinks neurons, destroys your gut barrier, and leads to loads of inflammation. It also depletes NAD levels. One study even showed that alcoholics have reduced gray matter (areas of neuron density) in the brain[3]. This is just one of the reasons why alcoholics have learning and memory deficits, along with behavioral changes.



As psychiatrist Dr. Daniel Amen says, "the big lie is 'a little is good for you,' and there is just no scientific evidence that that's true." Technically, however, if you obtained an alcohol that is bereft of any plant material in it, it is "Carnivore friendly," let's say. But, instead of looking at this as a "Carnivore" thing, look at it as a "*health*" thing. This book isn't about "Carnivore"—it just so happens that Carnivore is indicated for humans. Alcohol is not healthy, and I strongly discourage anyone from partaking in any drinking *ever*.

• "HOW CAN I MAKE THIS AFFORDABLE?"

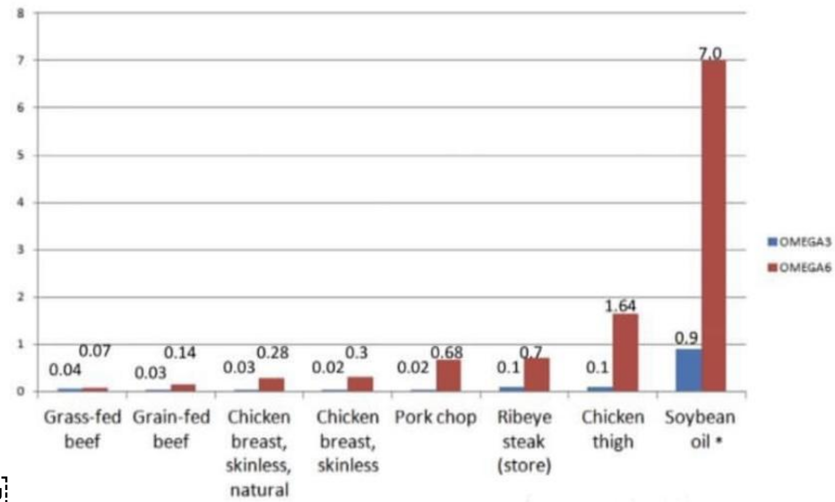
Let's be honest, typically, this isn't phrased as a question; it's usually phrased as a statement in which someone says they couldn't afford to do Carnivore and that it's "just too expensive." The foods I eat are ground beef, cheap steaks, butter, eggs, and salt. *That's it.* Others may want to buy some more types of food, and that's fine too. But even then, that's still pretty cheap. Think about it this way, when you buy vegetables and fruits and lots of produce, do they ever get completely eaten, or do you throw them away?

Don't you rush to eat them before they go bad, and even *then* still have to toss them? Well, with animal products, they stay fresh for up to a month, sometimes longer, and you don't need to eat a lot of them to be satisfied and satiated.

Also, do *not* listen to the zealots that say that grass-fed, grass-finished meat is the only way to go with regard to what kind of meat to eat. This is dogmatic nonsense. Grain-fed ruminant meat has a slightly—*slightly* less optimal fatty acid profile, and has a slightly higher chance of having *some* glyphosate in their bodies (very minimal) than grass-fed. I eat plenty of grain-fed meat, and I feel fine. Do not be scared to eat such a thing, as it's much more affordable, and it can taste even better, in some cases. This is the case for all other grass-fed products as well. Take a look at the graphs showing the comparison of fatty acid profiles between grass-fed and grain-fed ruminant animals:

Study, type of cattle	***n-6:n-3* ratio**	
	Grass	**Grain**
Realini, et al., 2004, Hereford steers	1.44 : 1 *	3.00 : 1 *
Ponnampalam, et al., 2006, Angus steers	1.96 : 1 *	3.57 :1 *
Duckett, et al., 2009, Angus-cross	1.65 : 1 *	4.84 : 1 *
Descalzo, et al., 2005, Crossbred steers	3.72 : 1 *	5.73 : 1 *
Nuernberg, et al., 2005, Simmental bulls	2.04 : 1 *	8.34 : 1 *
Alfaia, et al., 2009, Crossbred steers	1.77 : 1 *	8.99 : 1 *
Garcia, et al., 2008, Angus steers	1.72 : 1 *	10.38 : 1 *
Leheska, et al., 2008, Mixed cattle	2.78 : 1 *	13.60 : 1 *

* Indicates a significant difference (at least $p<0.05$) between feeding regimens within each respective study



The one thing I *will* say, however, is that other grain-fed animals, such as pork, chicken, fish, etc, are much worse than pastured/wild caught, but are still okay to eat once in a while. Since these animals are monogastric animals (meaning they have one stomach, as opposed to four, like ruminant animals), they have much more of the inappropriate and contraindicated food for their species in their flesh, along with the associated toxins. These types of meats would go under what is colloquially considered the "unclean" section, as opposed to ruminant meats, such as cow, bison, deer, elk, buffalo, lamb, mutton, and many more (A good tip is to make sure that no more than 10% of your diet consists of any meat other than ruminant meat, as ruminant meat in particular is what we are most designed to eat, and what we've been designed to primarily eat for millions of years).

If you're someone who doesn't react well to grain-fed meat, then getting grass-fed definitely may be the best option. But, even doing this, you can save money if you aren't buying much of anything else, or, at the very least, spend the same amount of money you were already spending on groceries, but on better products.

• "CAN INFANTS AND TODDLERS PARTICIPATE IN A CARNIVORE DIET?"

There's no reason why they shouldn't be able to. As we now know, the Carnivore approach is the species appropriate, species specific approach to human beings. It's quite easy to purée some meat for easy consumption for infants, and trust me, they'll love it. In fact, in the 1950s, canned baby food on shelves actually *was* almost all meat and eggs. Take a look:

• "SHOULD I FAST? AND, IF SO, HOW OFTEN?"

It does seem that fasting is indicated once in a while for humans. This makes sense considering we did not always have a successful hunt, and it could've been days until we did. There are two types of fasting—dry, and wet. A wet fast is characterized by not eating any food, but drinking water and electrolytes when necessary, and a dry fast is characterized by consuming *nothing* for that time, including water and electrolytes. It has been said that 1 day of dry fasting grants you the same effects of a 3 day water/wet fast, so dry fasting, although more intense, may be worth it. The "benefits" concerned are most notably with regard to autophagy, in which your body "cleans out" bad cells and renews them, so to speak (not to be confused with apoptosis, which is in-programmed cell death that the cell itself initiates when it feels that it is too damaged to be repaired at all).

When starting out, it's not recommended in most circumstances to fast at all. Your body typically needs the nutrients that it has been bereft of for quite some time, and therefore needs the abundance of food initially. However, later on, if you desire to fast (which is not necessary, but can be helpful), then starting with a wet fast for a day is a good way to ease yourself into the way a fast feels then moving up to 2 or 3 days if desired. 5 day fasts are typically the longest one can go to reap maximum benefits (especially a 5 day dry fast) before deleterious effects start to ensue, which are the same effects as the overly extended lack of protein will cause in people (thyroid problems and electrolyte imbalances) for the same reason (lack of insulin response).

On a technical basis, the greatest benefits that can be achieved by a fast are not truly initiated until after 72 hours of a fast. So, when people say they "fasted" for 24 hours, one could say, on a technicality, that it wasn't exactly a "fast." But, don't be that person. You can still see benefits from fasting for a day, or even just eating one meal a day, which is why that is recommended. If you didn't know, every time you eat food, there is always low grade inflammation that ensues in your body, even if the food you're eating doesn't directly cause inflammation. This is due to the fact that our bodies never knew if what we ate, ancestrally speaking, was poisonous to a certain degree or not. If we ate rotten meat (when we were scavengers) or if we were forced to eat a plant of some kind, this could have made us much more sick, or have even killed us, if we didn't have this mechanism in place within our bodies. Therefore, if you eat 3 meals a day, even if the meals consist of Carnivore foods, you will always be in a state of low grade inflammation, which is contraindicated.

Also, as was stated in the beginning, do not take this as medical advice, especially from someone like me, who, yes, may know quite a bit, but is not experienced in the field of consultation and working with patients or clients. Talk to your general care practitioner about fasting first, or consult with someone that does know what they are talking about with regard to consulting issues.

- ## "IS KETO OR KETOVORE OKAY IF I DON'T WANT TO DO CARNIVORE?"

Technically, you have a higher likelihood of benefitting from a keto diet (a diet that's only characterized by being low in carbohydrates, with plenty of plant foods able to still be included) as opposed to any other diet besides Carnivore, and Ketovore (a mixture of both plant-based keto and Carnivore) is even better. Unfortunately, for those who still enjoy plants and don't think they could completely give them up, and therefore want to stick with those two types of diets aforementioned, you cannot get around the fact that Carnivore is the most indicated for our species as human beings, as plants harbor toxins and fiber that are most definitely contraindicated. Another important note is that a plant-based keto diet could potentially, by my estimation, be worse than a typical vegan diet. This may surprise you, because plant-based keto is still keto, meaning that it contains minimal to no carbohydrates at all. This may be true, however the two main fuel sources that your mitochondria use are fat and carbohydrate, and the only plant-based sources of saturated fat you can source are coconut milk, coconut oil, any form of cacao, and pure palm oil (*not* palm kernel oil, which is a seed oil). If your keto diet does not contain these fats, and instead contains very little fat (therefore resulting in a starvation situation at some point or another), or contains only plant-based fats, such as seed oils or avocado and/or olive oil, I would argue that this *could* be worse than eating a plant-based diet that contains carbohydrates in them and doesn't contain seed oils in them.

Also remember that plants contain fiber, and the fermentation of fiber in the gut results in the production of gluconeogenic precursors like lactate and acetate, which will still lead to elevated glucose levels in the blood.

As long as you are aware of these things, then if you'd like to partake in plant-based keto or a ketovore diet, then go ahead, but I don't recommend this.

• HOW MUCH PROTEIN AND HOW MUCH FAT SHOULD I BE EATING?

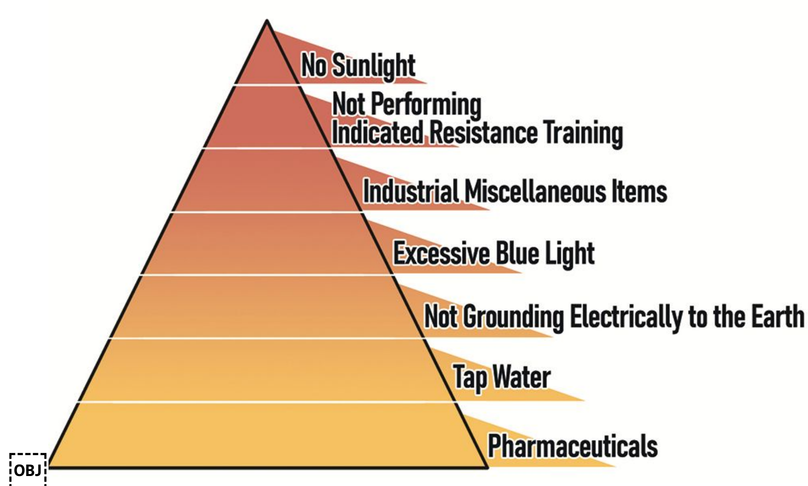
The answer to this question is much more simple than other influencers will make it seem. The answer is to *listen to your body.* Your body will know how much fat is enough and how much protein is enough as long as you are eating real foods, like meat and animal fat. If you are drinking lots of protein shakes, or you're eating high fat foods with sweeteners in them, you can easily overeat each of these macronutrients.

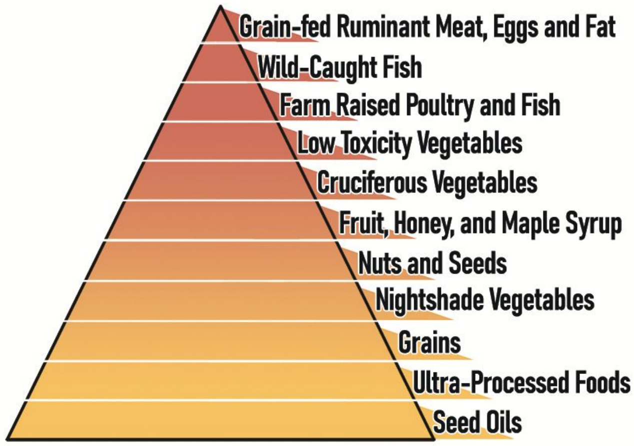
I am aware, however, that some people have trouble eating a lot at once, and may have trouble getting enough food in general. If you are one of these people, having multiple meals a day may not be the worst thing for you to do. But, as a general rule, just eat the right foods in an intuitive ratio, and I think you should be fine. Those tend to be the only other questions that are asked by others within this community who are just starting or are about to start. But there's one more thing I want to make very clear that most people completely fail to mention.

If you have an extremely damaged metabolism from a past disease, disorder, or illness brought upon by past contraindicated foods or lifestyle behavior, (oxalate toxicity being the primary one), you may not be able to abstain from all carbohydrates, and may have to include some in your diet. This does not mean to throw your hands in the air and eat as many carbohydrates as you want, because it's still indicated to get as close to being

Carnivore as is possible for you metabolically speaking. However, there is a significant minority of people that have sustained such an exorbitant level of damage from other foods and lifestyle behaviors that cannot function without carbohydrates as a result. Sally K Norton, the author of Toxic Superfoods, who is outspoken particularly with regard to oxalates in foods and the damage they cause within us, is a perfect example, as she has sustained a certain level of metabolic destruction from oxalates herself, and went through a very strenuous, albeit volitional, oxalate dumping protocol consequently. She tried Carnivore for a while, but very soon after realized that she did need carbohydrates in order to function properly. However, I use her as an example *also* due to the fact that she only has about 20-50 grams of carbs maximum within a day to maintain her functionality, and therefore is proof that you still don't need to eat hundreds of grams of them a day to function—even with significant metabolic damage.

If you are one of these people, you may be asking yourself what the least toxic carbs are to include, and what the most toxic ones are. In fact, actually, most of everyone wants to know the "toxicity hierarchy" in general for when or if they ever want to include something else back into their diet eventually. Here are the hierarchies I have come up with that you may follow if you so choose to, with the most contraindicated at the bottom, and the least at the top.





Keep in mind, these will vary for everybody, because there is an element of biodiversity amongst all of us. For example, nightshades may actually be more deleterious and inflammatory to certain people than grains are, so that hierarchy would look slightly different for them. These are designed to function as general templates for most people; these are not tailored for every individual person.

Here is the final timeline as well, detailing the entire history of the decline of the human race in one concise image:

1 **4.5 MILLION B.C.**

-Frugivores come down from the trees and become scavengers.

2 **2.6 MILLION B.C.**

-Pleistocene Epoch ensues, displacing any possibility of plants being our main food source or even any significant part of it.

3 **2.31 MILLION B.C.**

-Homo Habilis

4 **2 MILLION B.C.**

-Homo Erectus

5 **750,000 B.C.**

-Homo Sapiens Neanderthalensis

6 **350,000 B.C.**

-Homo Sapiens Sapiens

7 **40,000-50,000 B.C.**

-Brain size starts to decrease.
-Megafauna extinction starts.

8 **11,000 B.C.**

-Agricultural Revolution begins. (Each century leading to more and more consumption of plants.)
-Grafting and plant hybridization also occurs during this time, all the way up to present day.

9 **9,700 B.C.**

-Pleistocene Epoch officially ends.

10 **1910's**

-1910: Ossification of the pharmaceutical industry occurs.
-1911: Crisco is released.

11 **1940's**

-Chicken of Tomorrow Contest ensues.

12 **1950's**

-Refrigeration is introduced, displacing salt as a food preservative. Sugar ads are introduced as well (Refer to end of Chapter 3).
-1958: 7 Nations Study is conducted, reshaping and redefining human nutrition science as we know it today.
-"4 Food Groups" is introduced.

13 **1960's**

-Birth Control Pill (Enovid) is released.
-Fraud within sugar industry occurs.
-Cattle begin being fed grain and soy.
-ADA overturns fluoride warnings based on new evidence and starts promoting it instead.

14 **1970's**

-1973: Pasteurization becomes ubiquitous amongst dairy products.
-1974: Glyphosate is introduced (along with other pesticides).
-1977: USDA Guidelines are released, leading to lower cholesterol levels slowly over time.

15 **1980's**

-1980: Red meat consumption decreases by 18% in 3 years.
-1984: First Mac Computer is released.
-1987: First mainstream statin, Lovastatin, is approved by the FDA.

16 **1990's**

-Fish begin being farm raised.
-1992: Food Pyramid is introduced.
-1994: First GMO food, the Flavr Savr tomato is introduced, followed by more GMOs later on.

17 **2000's**

-2002: T-Mobile Sidekick, the first phone w/a QWERTY keyboard, is released.
-2007: iPhone is released.

18 **2010's**

-2012: MyPlate Guidelines are released and introduced.

19 **2020's**

-2024: The world is the sickest it's ever been mentally, emotionally and physically.

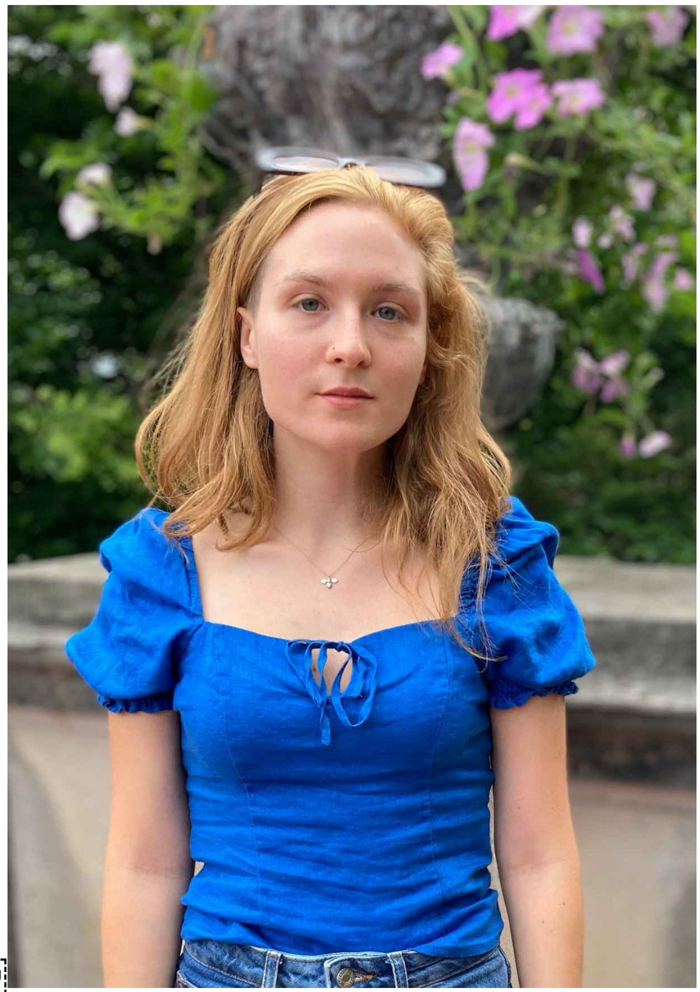
The final note I'd like to add is for anyone who engages in strenuous physical activity/exercise. One needs to expect a decrease (perhaps even a fairly significant one) in exercise performance for up to 3 months *after* having fully transitioned to a carnivorous diet (so, this means that it can take up to *five* months *during* the transition process, if following the 6-8 week rule, which is recommended). This does not mean that the diet is not right for you—if you're a human being with a metabolism that is not irreversibly deranged, it still happens to be the indicated and appropriate diet for your species. However, one cannot reasonably expect their body to efficiently switch from a primarily glycolytic metabolism to a "fat-burning" metabolism "overnight," so to speak, *especially* if they have been in such a glycolytic state for, effectively, their entire lives. However, once such an alteration has been achieved effectively within the body, your results may—and probably will—very well be much better than they were when you were depending on carbohydrates as your primary source of fuel.

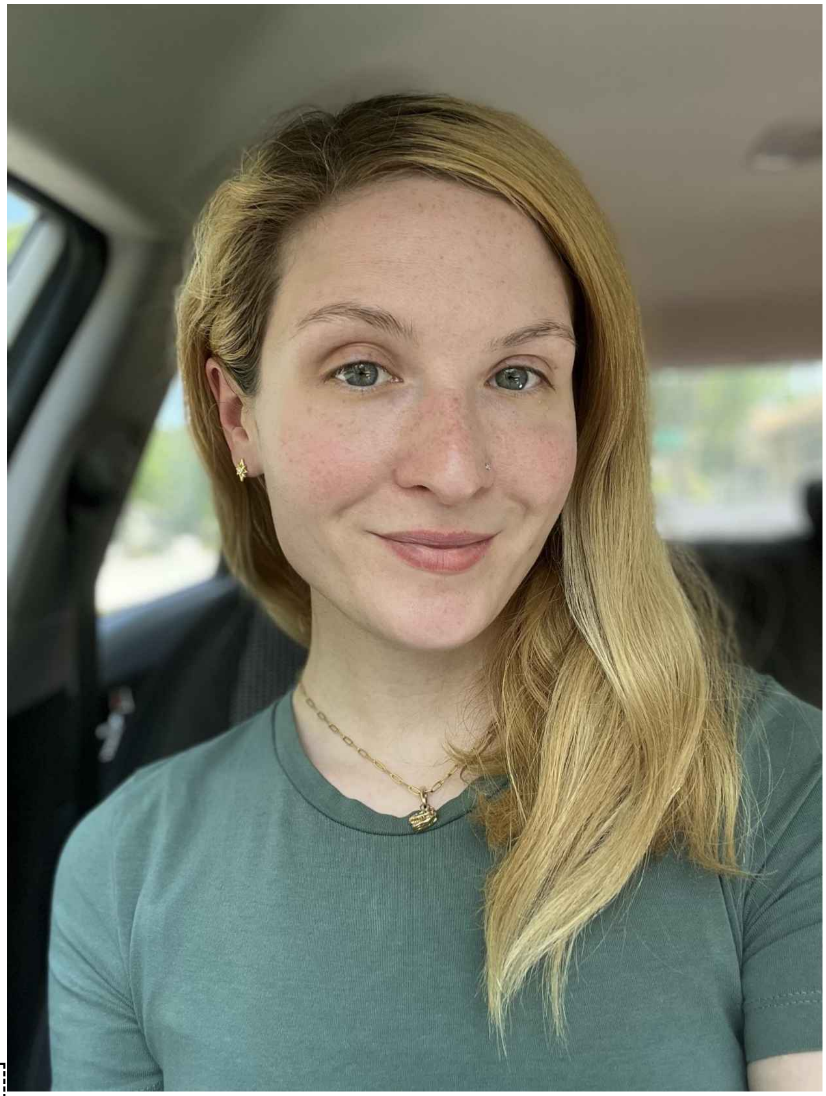
And you've finally reached the end! I'd like to include some anecdotes from the multitude of *other* people who have embarked on this journey and have seen amazing, life-changing, and, in a myriad of cases, life-*saving* results:

CHAPTER 8

ANECDOTES

JOSIER LIEDER (@THEEXPLANTEATER):





“My name is Josephine Lieder. I am 29 years old and found success on the Carnivore diet beginning in 2022 after transitioning over a period of about 6 months starting in May of 2021 after being vegan for roughly 14 years. The Carnivore diet put the autoimmune disease I was diagnosed with while vegan, ulcerative colitis, into remission naturally (meaning sans medication) as well as had anti-aging effects on my skin (my skin is also clearer and more hydrated now compared to when I was vegan), granted me mental clarity, focus, and a sound mind, had slight weight loss benefits that more so had to do with loss of bloating and inflammation, improved fitness, and improved oral health. I wholeheartedly vouch for this way of eating due to these sustained benefits that only become increasingly apparent.

I ate the Standard American Diet growing up and was pretty oblivious for the first 11-or-so years of my life about health and fitness. I didn't have the best role models, as my parents both ate the Standard American Diet and were both smokers. As a kid I remember believing (and being influenced to believe) that children were destined to have the same health history as their parents, so if my parents were overweight and suffered from a specific health issue, I would likely be overweight and suffer from that health issue when I got older. It didn't bother me much as a kid, but those beliefs stayed in my mind and influenced me as I got closer to my preteen years. There was a brief period of time, maybe when I was about 8, that I may have been considered overweight and was made fun of on multiple occasions.

The words of my peers and family members who had made comments stuck in my mind and seemed to permanently alter my view of myself getting closer to my preteen years, causing me to develop a fixation on wanting to lose weight when I was around 11. I remember around this same time we watched the documentary Supersize Me in health class, and that was the first time I made the connection that the food we eat does influence if we are diagnosed with disease, and I remember being terrified that I would end up getting cancer, diabetes, etc. (diseases that run in my family) if I didn't start eating healthier. This was also probably the first time I perceived I had some control over if I ended up getting those diseases. I was 11, maybe 12 years old at the time, and didn't deal with these perceptions in the healthiest manner. I remember switching to leaner meats and cutting out soda amongst other things, but my ultimate goal was losing 20 pounds. When I had difficulty with that I researched how to lose weight and learned about calories which was probably one of the most destructive things I could have learned at that age, at that level of maturity. This knowledge essentially led to me developing anorexia that worsened over a period of about 6 months when I was 12 as I developed the mentality that the less calories I ate, the more weight I would lose. The only thing that effectively snapped me out of it was being told I would die if I continued what I was doing by the eating disorder doctor I had begun seeing on a weekly basis. At this point I had lost sight of what it meant to "eat normally." I was 84 pounds at the time I began recovery (which didn't consist of going to a clinic; I just saw the doctor once a week and began seeing a nutritionist) and for about a year I suffered from frequent binging episodes. I felt truly out of control with food during that period of my life, but as I got back to a normal weight the binging did ease up.

At around the perfect time (and I say that sarcastically), when I was mentally still far from being recovered and still suffering from body dysmorphia and probably depression, at around 13 years old, I came across a PETA merch tent at the Vans Warped Tour where they were handing out fliers promoting vegetarianism and veganism. I remember going home and watching Earthlings that day, and literally overnight I was sold. I've always loved animals and even wanted to be a vet as a kid, so there was the perceived ethics part of it that I was sold on at the time, and other than that it gave me an excuse to decline food I didn't want to eat. I also perceived veganism to be healthier because at the time I believed red meat to be the cause of most chronic diseases and to be the main culprit when it came to weight gain.

I became vegan overnight, and I think due to my history with an eating disorder my parents put up with it because at least I was eating, so my mom agreed to buy me things like faux meats, etc., at the grocery store. I began by simply replacing meat and fish with meat substitutes and otherwise ate what most would consider to be a "balanced" diet. I often see vegans criticize those that eat meat substitutes as having "done it wrong" but I do remember I was simply following the bad advice I got from the PETA website as well as other vegetarian and vegan-promoting websites in regard to how they recommended transitioning to veganism. I’m not attempting to pass responsibility for my shortsighted decisions onto anybody other than myself, however, it is worth noting I was at an exceptionally impressionable age.

I remained vegan for a solid 14 years following that, and was diagnosed with ulcerative colitis at about year 10, when I was 23. I went through different phases and ways of eating vegan throughout the years, mainly influenced by whatever vegan YouTuber I was watching at the time, but it also seemed to be a byproduct of never feeling satiated throughout those 14 years. I began my journey with veganism eating what was probably similar to the Standard American Diet but with meat substitutes and maybe slightly less processed food, to transitioning to trying a whole foods plant based diet, a raw food diet, a fruitarian diet, the Raw Till 4 diet, just to come back, eventually, to reincorporating some processed meat substitutes into a diet mainly consisting of fruits, veggies, legumes and whole grains. I don’t think I’ve ever felt more low and on edge than I did when I was eating a whole foods plant based diet or some variation of the raw diet and I now understand that’s likely because of how low in fat and protein those diets are.

As a vegan, when I had cravings for meat substitutes, I deluded myself into believing the cravings didn’t go any deeper than that—I somehow didn’t make the connection it was because I was craving the actual thing and it’s surely also because I didn’t want to make that connection. Suffice to say the only way I felt remotely satisfied while vegan was incorporating meat substitutes and it was likely how I stayed vegan for so long. Veganism never did for me what I so desperately wanted to believe it would do.

As I brushed on, I felt very low on a daily basis for the entirety of my time as a vegan. I had horrible self-esteem that bordered on depression, panic attacks, crippling anxiety, was always battling cravings, dry skin and frequent breakouts, was always cold, was always bloated and confused as to why my stomach always seemed to be unnaturally distended although I remained pretty thin, and eventually those digestive issues escalated into ulcerative colitis. Again, this was after I'd been vegan for about 10 years, and it began with sharp pains in my intestine after I ate just about anything, constipation, and a high fever. My first bad flare that landed me in the hospital happened around March of 2017 and my 2nd, the more severe of the two, happened in November of that same year and resulted in my diagnosis. By this time my symptoms had escalated to having diarrhea multiple times a day (sometimes 20+ times), excessive blood in my stool, lethargy, severe pain after eating to the point where at my sickest I could barely eat, severe abdominal pain and an irregular heartbeat due to a potassium deficiency. After getting out of the hospital I was put on prednisone for about a month which healed my intestines to the point where the bleeding and diarrhea briefly stopped, but I was afterwards advised to begin taking a biologic and I refused. I truly believed my disease couldn't be genetic and had to be caused by environmental factors, so I attempted for the next 4 years to keep my autoimmune disorder in check while staying vegan. This meant avoiding acidic foods (or eating a vegan Low Fodmap diet), though I did eventually reincorporate most of what I was eating before I got sick as time went on. While I was able to avoid another severe flare during those 4 years, I never had normal digestion. Having a normal stool was unheard of for me and I was frequently either constipated or had diarrhea, and had small amounts of blood in my stool throughout. My breaking point came when I lost a family member unexpectedly in 2021 and for the first time since 2017, I saw myself beginning to go into another severe colitis flare.

I was desperate to get my autoimmune under control at that point, and happened to be reading a book around that same time that had a small section where the author mentioned he had previously been vegan but ultimately stopped due to health complications. He claimed that while it looks good on paper, a diet containing no cholesterol and collagen is bad for your brain and tissues. I had tried just about everything else under the umbrella of altering my diet while remaining vegan without having to succumb to taking medication, so my logic became that this was the only thing I hadn't tried. While I had fell for the claim that ulcerative colitis can be exacerbated by eating red meat and dairy (although I had obviously been eating neither), I decided maybe "healthier" animal foods could help (meaning chicken and fish) and reincorporated the most harmless animal food I could think of at the time, grass-fed chicken bone broth.

Immediately I saw improvements in my digestion. It wasn't a massive change right away, but it was apparent enough that I knew I was doing something right. After about a week I reincorporated eggs and fish, and then chicken and turkey a few weeks later. Throughout these months I saw the blood in my stool go into complete remission and it has never come back, and I got to the point where I had no more pain after eating. My bowel movements also reduced from multiple times a day down to once, though loose stools and diarrhea remained an issue during that time. My skin, which in my opinion had prematurely aged, was also beginning to look more vibrant and appear as if it had gained back elasticity.

It took me the longest to reincorporate red meat back into my diet, probably a solid 5 months, because it was difficult for me to get over my previous beliefs about it being the cause of chronic diseases, etc. Finding medical doctors on YouTube like Dr. Anthony Chaffee and Dr. Ken Berry around that time gave me the confidence I needed to discard those beliefs. I would say around November I reincorporated beef, as well as adding things in like liver and organ supplements.

I again saw another huge wave of improvements health-wise and especially saw improvements in my mental health, anxiety, and cravings around this time. My mind felt truly sound for possibly the first time in over a decade and I began to understand what true satiety felt like after eating. It was very ironic—as a vegan I was always in fear of the volume of food I could eat if I wasn't fastidious about planning my diet, always feeling like a bottomless pit. I'd thought, foolishly, that if I was eating animal products I would probably be overweight because they're so much more calorie dense and I felt like I could eat huge volumes of food without being full. Imagine my surprise when I reincorporated red meat in my diet and later, things like high quality organic grass-fed dairy, and could eat very small volumes of food and no longer have any desire to eat.

After about another month or so, I overcame the mental hurdle when it came to dairy as well, and, as previously mentioned, reincorporated high quality dairy products. I do find, presently, that lactose causes inflammation for me if I drink things like whole milk, etc., so I do stick to grass-fed heavy cream and hard cheeses, and that's really it for me when it comes to dairy. By the time I reincorporated dairy it was around January of 2022, and by this time I was deep into watching Carnivore doctors on YouTube and had found other influencers like Steak and Butter Gal who bolstered my confidence in the Carnivore diet, which I'd initially thought sounded insane. I was becoming aware of the multitudes of testimonies of people who healed autoimmune disorders on the Carnivore diet, and while my colitis had improved immensely, I still wasn't experiencing normal bowel movements. I remained either constipated or having diarrhea, albeit it only being once a day if I did have it, and mind you, this is while I remained eating fiber in the form of fruits, veggies, and starches which most would consider an animal-based "balanced" diet. In February of 2022 I had learned enough to want to earnestly try the Carnivore diet, and also started my Instagram and YouTube channel at this time, @theexplanteater (The Ex-Plant Eater) to document my journey and relate to other ex-vegans about life post-veganism because I didn't have an outlet in my personal life. It took me about 3 solid months on the Carnivore diet to finally have a normal, regular stool again, but it is what got me back to that point, something I'd previously thought may never be in the cards for me. So, many people ask me why I would go from one extreme to the other. Why is it necessary to go from a diet exclusively derived from plant foods to exclusively animal foods (with the exception of organic lemon juice in my water throughout the day and organic coffee)?

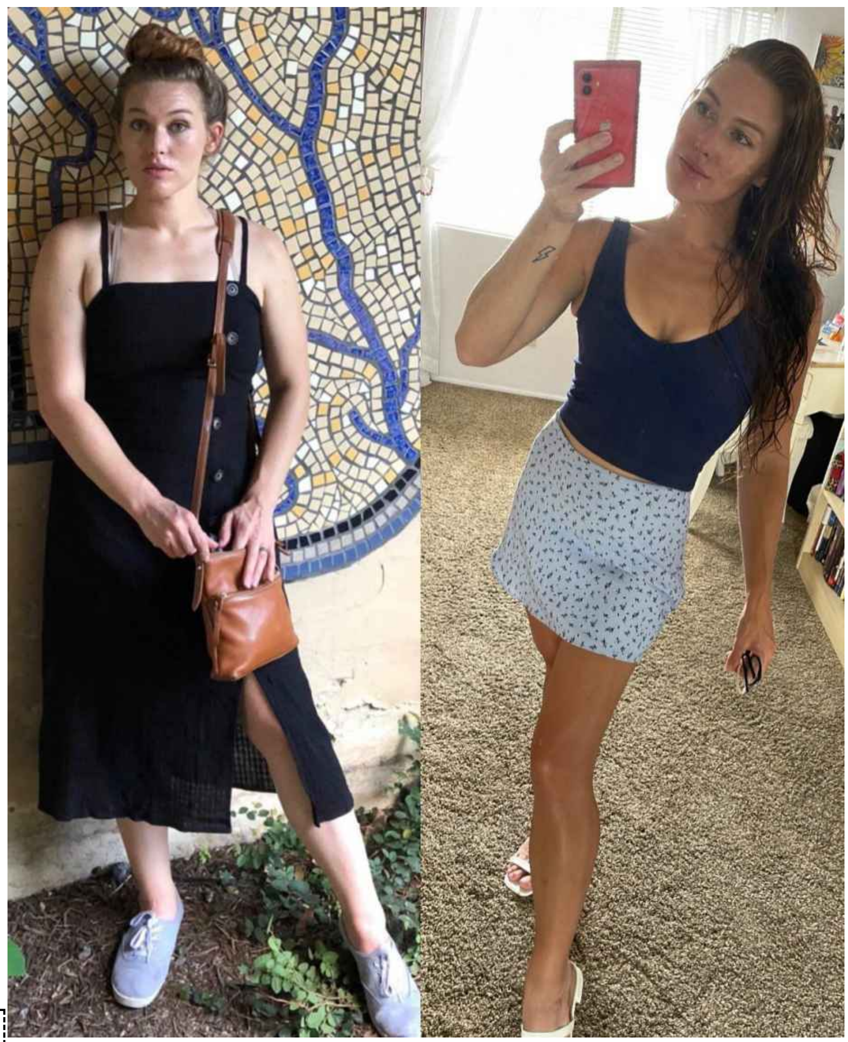
It is because this way of eating is the only thing that keeps my digestive system functioning as it should. I have tried to reincorporate some amounts of what I would have perceived to be harmless, in-season, locally grown plant foods and while I never see digestive issues remotely close to what I used to experience, I do, without fail, end up with subtle complications in the form of digestive pain, bloating, diarrhea, etc. I also tend to get breakouts, rosacea, achiness, and increased anxiety whenever I attempt to reincorporate anything like this on a daily basis.

So, essentially I eventually gave up on trying to reincorporate anything and currently I am feeling my best doing the Carnivore diet with the exception of organic coffee and lemon juice. I also very rarely eat seasoned meats and eat no seasonings other than sea salt. My diet is surely boring, but it has led to me feeling better than I thought I could feel, and in a lot of ways seems to be what veganism promised but never delivered on. My ulcerative colitis remains in full remission, my skin remains clear and vibrant and looks about 5 years younger, my brain processes things faster and more efficiently, my focus is better, I am more slender but more toned even while working out less now than I did when I was vegan, and have even seen changes I truly wouldn't have thought possible such as my breast size increasing and developing more of an hourglass shape, as well as hardly any pain at that time of the month anymore to the point where my period completely surprises me many months as of recently.

Overall, I feel a sense of wellbeing these days eating a diet that's vastly simpler than veganism. Critics will try to explain away my experience by saying I didn't do veganism right and was irresponsible with dealing with my health issues, but if I'd dealt with them by their standards I would be stuck on medication for the rest of my life, eating a diet that would continually lead to me not feeling my best.

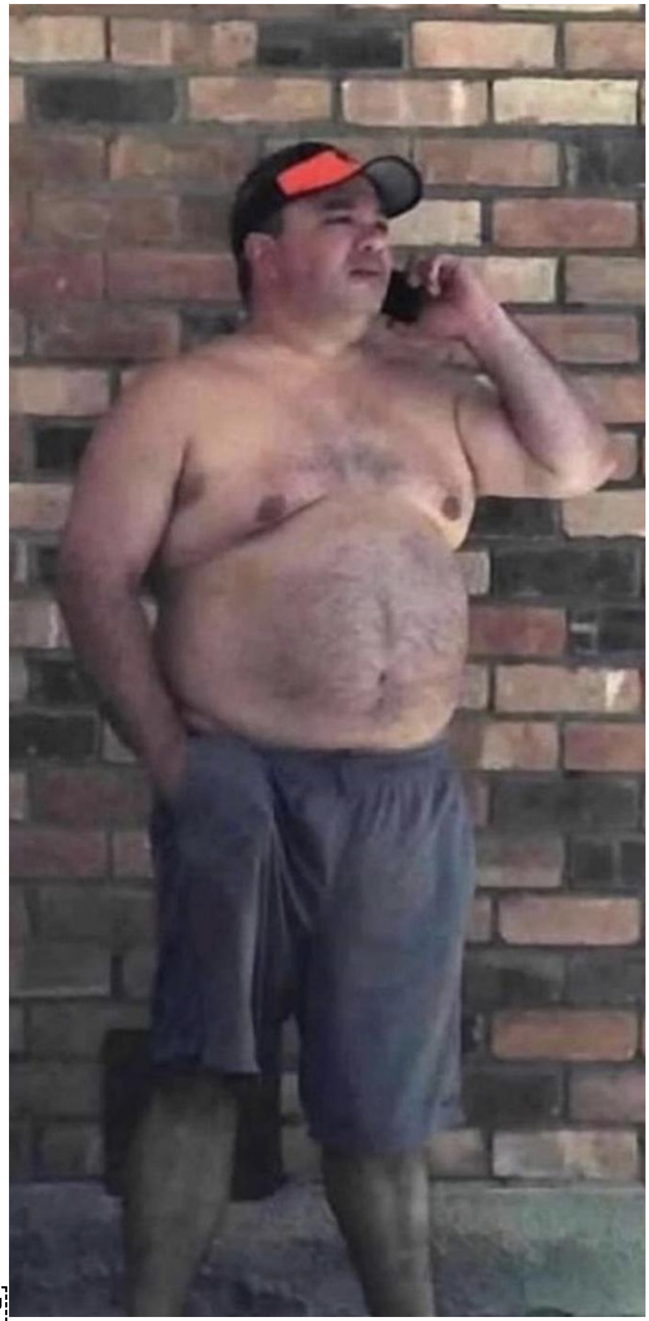
I don't see the point. I'm incredibly grateful I had the courage to try the Carnivore diet and prove to myself I was right all along about the fact that my autoimmune disease is NOT a genetic inevitability. I have gained back so much time and productivity—and happiness!—due to starting this way of eating."

JESSALYN RANDLE (@JESSALYN.RANDLE):



"I started Carnivore Jan 2020 after watching the Joe Rogan/ Shawn Baker podcast. I struggled with acne, weight gain, & chronic constipation (for nearly 2 decades, I would only "go" about once every three weeks). After starting Carnivore I lost 20 lbs in one month, my skin started to clear up, & my gut issues became basically non existent. The most surprising benefit, however, was how much this way of eating helped my mental health. Prior to Carnivore I was convinced there was something wrong with me, especially since mental issues ran in my family. But, I no longer suffer from intense uncontrollable mood swings or bursts of anger. It's like Carnivore turned me into a different person. I've been eating this way for over three years now & I feel healthier and happier than ever before."

DENNIS FORD (@DFORD428):



"Unfortunately in 2013, I didn't realize, and also was never told, that I was metabolically unhealthy and becoming even sicker. In 2017, I was diagnosed with Type 2 diabetes. My sickness began earlier in 2013 when I had numerous issues with gout, diverticulitis, kidney stones, fatty liver, and granuloma annulare, not to mention being morbidly obese at 240 lbs—I was never told by any doctor that any of these issues were related to the food I was consuming. I was always given medication and told that everything would be ok. It wasn't until 2018 that I decided to take back my health and begin exercising along with changing my eating habits to clean eating. I was on 3 different medications… Victoza, Jardiance, and Metformin and decided that these were not fixing the problem, only masking and contributing to the problem by making it okay to continue to consume and follow the Standard American Diet. I went from 240 to 170 lbs, but have since added muscle and am now 187 lbs, and I feel absolutely amazing. In September of 2022, I decided to follow Dr. Anthony Chaffee's Carnivore challenge and realized that this is the way to eat, heal, and achieve optimal health. I will never return to eating the unhealthy SAD ever again."

@THECARNIVOREUK:

"It was bang in the middle of lockdown when I decided that, suffering the daily psychological torture of mainstream media bobble heads lying through their teeth, I was going to make some serious changes in my life. If I was being lied to about covid, what else in my life was based on lies? The first, and most obvious example, was nutrition. It was here when I first discovered the dark conflicts of interest hidden within the government's nutritional guidelines, the tight grasp of Big Food over Western society, and the spate of lies being told about meat and animal products to keep the public from realizing optimal health.

I had experimented (very tamely) with the Keto diet for a few months before the world went to the dogs in 2020, but this was never a serious venture.

But watching Shawn Baker's monologues on YouTube in early 2021, coupled with the experience of living alone in a dystopian, East London high rise, gave me the time and impetus to adopt serious change.

I was never drastically overweight, or suffered from any serious autoimmune condition. I was a very ordinary 20-something man in London, but I drank way too heavily (during the lockdown I got into a terrible habit of having 4-5 cans most nights, out of sheer boredom rather than chemical addiction) and I had, looking back, an unbelievably strong sugar/carb addiction, most notably in the form of chocolate.

In my mid-20s I found myself a few stone overweight, with an anxious disposition, constant fatigue and almost daily gut distress. It felt like I was being slowly poisoned, which I was. And food addiction/emotional eating was at the heart of it all.

Every night after dinner I would get extremely strong cravings for chocolate that I would quench with an evening walk to Tesco. A big bar of dairy milk fruit & nut, washed down with 4 cans of Stella, lovely jubbly. It was an amazing dopamine hit, but I was absolutely destroying my gut and my long-term longevity.

So I decided to go Keto to start having come across some of Dr. Berg's videos on YouTube—eggs, avocados, coconut, mushrooms, nuts, low GI fruits, meat. I noticed some modest improvements, but after a few weeks I realized I just wanted the meat (& cheese). So I became Carnivore by default, pretty much burgers & steak everyday, but I was still doing dumb things like drinking beer everyday and snacking on chocolate.

Eventually at the end of 2021 I got a little more serious with Carnivore when I realized I wasn't exactly doing it right. I got relatively clean, using fruit and honey as 'natural' sugar replacements for the dirty carbs I had been addicted to in the form of chocolate, sweets, bread, cereal and beer. It worked relatively well for me; I lost a few pounds and I felt a lot better.

But the markers of insulin resistance were still with me. I still had intense sugar cravings in the evenings, even after downing monster portions of meat (second stomach is definitely a real thing). I still had a good portion of belly fat that was proving hard to shift, and I had a really inflamed face still. The chubby cheeks were cute but I decided a strong jawline would be cuter.

So at some point in late 2022, I got even more serious with my carnivorism. The fruit and honey were out. Having done some research on fructose, the thought of consuming an actual toxin on a daily basis didn't sit well with me.

I still ate a small number of carbs in the form of raw milk & Greek yogurt (soon I will be experimenting without these), but these weren't a daily feature. I'd have these maybe 1-2 times a week. You can see a photo of the difference this made on my Instagram.

Funnily enough, the more I learn the more I feel myself slowly crawling towards the lion diet, or maybe something adjacent to it. This is after all, the true Carnivore Diet. I actually tried it at the start of 2023 for 10 days but I didn't really feel that great on it. In fairness I ate a lot of frozen Costco burgers which I don't think did my microbiome any favors.

But if you look at some of the famous figures in the Carnivore space doing a lion diet, they are almost always in a healthy financial position to do it so that their lion diet consists mostly of good cuts of grass-fed steak, rather than my pauper-ish Costco hauls. In any case, I think it was too drastic a change in such a small space of time.

That's why next time I try it, it will be a gradual reduction of foods down to meat, salt & water. But I'm quite happy at the moment with BBBE (Beef, Bacon, Butter & Eggs). I'm definitely someone who needs variety.

And the sitrep is generally positive, I'm no longer someone who is beholden to a crippling food addiction. My mental and physical health is miles better than it was in 2020.

At the moment I am around 87kg/13 stone 10 lbs (192 lbs). I could definitely do with leaning up a little bit, but this is a pretty standard weight for someone who is (just over!) 6 ft. I've never been someone who was overly keen on the gym. I go through phases where I'm really into it, and then get side-tracked for a few weeks given certain stresses of my job.

But that's not a good enough excuse; going forward I will be prioritizing my physical fitness. I will definitely get more out of the Carnivore diet this way, even though what I have achieved so far has been remarkable (in my own humble estimation).

As someone who is also looking to ditch coffee in the near future, I will certainly need the dopamine compensation! I want to end by saying to people that looking at Carnivore content online can make you think that this diet will completely change your life overnight, but that isn't quite the reality. Even on Carnivore, it takes time for your body to adjust to change.

Your brain also needs to absorb all the information out there in order to make the decisions that are best for *you*. Even I, after years of private study on the subject, am still learning and continuously making changes to my diet and lifestyle. So don't worry if you haven't perfected your own health just yet. Mistakes and imperfections are normal. Enjoy the journey."

COURTNEY LUNA (@ITSCOURTNEYLUNA):

"My name is Courtney Luna and I'm a 39 year old homeschool mom and Carnivore content creator based in Southern California. My wonky relationship with food started when I was 13 and went to my first weight watchers meeting. I think they had good intentions with what they taught, but it was essentially eating whatever you want as long as it fit your points for the day. That didn't work out well for me.

After that was 25 years of yo-yo dieting. You name the diet, I'm sure I've tried it. Slim fast, Special K Cereal, grapefruit diet, counting macros, low carb, paleo, and finally keto. They would all work, but then I would gain it back. Nothing was sustainable until I found Carnivore. I found Carnivore through Paul Saladino and started out my first 5 weeks as animal based. I quickly realized that I was still wanting to eat fruit even though I wasn't hungry. That sugar still had a hold of me, so I gave it up.

After being in the meaty community for a bit I learned that I was not good at moderating. Like an alcoholic with booze, there was no way for me to just have a little bit of carbs and sugar—I had to abstain.

I started this way of eating on May 10, 2022 and the benefits have been life changing. I'm down 45 lbs, I was able to go off of my Zoloft, my acne cleared, I have food freedom because I don't obsessively think about it everyday, no gas or bloating and I'm just overall happy and healthy.

I wish more people would understand the link between diet and mental health. I struggled really badly and not one doctor asked me what my diet and lifestyle were. They just wrote a prescription. We need to make sure we're fueling our body properly, I mean, you wouldn't put gasoline in a truck that takes diesel, right? Same for our bodies. We need to be eating a species appropriate diet."

DEVAN WILLET (@THE_CONTOURED_CARNIVORE):

"I first started my Carnivore journey in 2021, after being diagnosed with a condition called "Interstitial Cystitis" (aka painful bladder syndrome). Interstitial Cystitis (I.C.) is a condition where the lining of the bladder becomes inflamed, often because of something consumed within the diet. Most commonly, urologists will prescribe the "I.C Diet," an elimination diet that removes the most common bladder irritants. At this point, I was 28 years old, had just had my second baby and was taking pain medications to help alleviate the pain I was experiencing because of my I.C. Additionally, I had gained 30 pounds from pregnancy, was prescribed levothyroxine for a thyroid condition that I had struggled with since the age of 14 and was also diagnosed with an enlarged kidney.

Upon my diagnosis, I immediately began the traditional I.C. Diet with no success. I had eliminated everything from coffee, alcohol, to strawberries. Nothing seemed to help my pain. After months of frustration and research, I found the Carnivore diet, often referred to as the "ultimate elimination diet." Within 30 days of starting the Carnivore diet, I was able to stop taking all the medication I was on for my I.C. Within three months of being on a Carnivore diet, I had lost 20 pounds and was able to taper off my levothyroxine as well. After 1 full year of being a Carnivore, I have lost 40 pounds, have been able to stay off all medications and have normal kidney function. Additionally, I have found that my energy has dramatically increased and I no longer suffer with the typical "afternoon lull" that so many of us struggle with on a daily basis. I am now 31-year-old and I feel better than I did when I was 21 and I am in the best shape of my life. Because of the overwhelmingly positive results that I have had, I am a huge advocate for a Carnivore/animal-based diet and will continue to promote it as a means of finding optimal health for others as well."

AMY (@_CARNIVORE_AMY):

“Remembering my first full year of Carnivore gives me feelings of relief, gratefulness and fear. It could all go away in a moment. I know because I brought myself back from illness once, only to hurtle back to my former self with lightning speed. This is my story of choosing to live.

In 2020 I was diagnosed with Stage 3 Kidney Disease which I was able to reverse with 8 months of Dr. Jason Fung-Style fasting and mostly ribeyes. As my numbers plummeted, I decided to research alternatives. I found Dr. Fung and joined his private group platform for $30 a month. I took all the courses and learned how to fast. I attended group sessions with coaches. I learned.

In truth I don’t recall much from this time. My brain wasn’t working right. My blood was filled with toxins that my kidneys couldn’t filter. It was fuzzy. I had impaired memory function. My mind felt almost blank. I couldn’t remember any details. I would test how my brain was doing by trying to remember who starred in the Die Hard movies. If I could remember, “Bruce Willis’” name it was a good brain day. If I couldn’t, it was a bad one.

It took a long time for my brain to change after my kidney function improved.

I made errors at work I didn’t even know I made. I couldn’t always remember my kids’ names. I do remember, however, delving into my bloodwork to try and figure out what was going on. I was also being tested for auto-immune. I had a cardio-phrenic fat pad. My analysis of my bloodwork, including my platelet count and my kidney numbers all pointed to oncoming diabetes. I started changing my search for truth. I asked, “What effect does sugar have on the kidneys?”

Sugar. My friend. My therapist. My stress-relief. My answer to every problem. My answer to every joy. My nemesis. My downfall. My addiction. And now…my killer.

Researching sugar brought me to the fringe-internet and in the fringe I found my answer; Carnivore. Carnivore would allow my body to stop craving sugar. Sugar was killing me. It seemed like the perfect answer.

…And it was. I did my best to fast and eat ribeyes. My numbers started to go in the right direction. My doctor said to keep doing whatever I was doing. In 8 months, with 3 or so of them fasting and Carnivore, I had done it. I healed my kidney function.

I remember the day my Doctor cleared me from taking any more tests. I sat at my desk with gummy bears in my hand. Picture it. Healed. Brain starting to work. Carnivore had breathed fresh life into me. And here I was—ready to go back to my old abusive friend. Of course I ate the gummy bears.

In a short period of time, I gained the small amount of weight I'd lost and an additional 30 pounds. I couldn't believe how stupid I was. I'd brought myself back from the brink of a slow death and messed it all up in 9 months. I faced the music on the scale in July. I remember thinking this would eventually hit my bloodwork. It might not be my kidneys. Maybe a different organ? Maybe my heart? Who knows?

It scared me. If I stayed on my chosen path I probably wouldn't get to see my grandkids someday. I wouldn't get to help care for my parents and aunt as they aged. Someone might have to help me sit on the toilet. Walk. Think. Eat. Function. At this point I didn't care about cute clothes or looking sexy. I was worried I'd lose my autonomy and cede all my life decisions to the rotten health-care system. I started to feel defiant. ***I vowed to go full Carnivore Aug 1, 2022.***

I had absolutely tried to go back to Carnivore many times and kept falling off the wagon. This time I added 3 things. I added an electrolyte drink with stevia in it. My biggest complaint about eating meat all the time? Thirst. So thirsty. I also used cream cheese with some artificial sugar. I ate it after every meal and whenever I had a sugar craving for 3 months. My sugar cravings hit the worst after eating a regular Carnivore meal. They were unbearable. I drank my sugary tasting electrolyte drink and ate my sugary cream cheese. Worked like a charm. The third thing I did was I took Lipase with every meal until my digestion adjusted. It was so much easier with the Lipase added.

For 3 months I went through literal hell. Spacey, lost and a little sad. I didn't remember feeling this way during my kidney healing stint with Carnivore. This time, however, I did zero fasting. I ate. I ate steak, ground beef, chicken wings, chicken thighs, salami, cheese, pork, eggs, bacon. I binge watched Laura Spath videos and stalked her like a lover.

During this time I was not perfect. I had the occasional pistachio. I ate too much cheese and too much heavy cream. I didn't judge it. I just ate animal products. I lost 18 pounds of fat and inflammation in the first month.

In October—my third month of Carnivore—I came across a group called Steak and Butter Gang. I had seen Coach Raymond Nazon's Before and After picture. It really made an impression on me. I wanted that kind of transformation but I could really relate to the sadness in the eyes of the before picture. The after picture, his eyes; steely, war-like resolve. I wanted *that*.

For a month I went to every meeting and listened. I didn't say a word. No coffee until after eating. Eat until comfortably stuffed for 5 times a day for 2 weeks. No artificial sugar. Calendars that ease you into more and more aggressive fasting windows.

I loved the community and the coaches. I started the program the next month. By that time I easily gave up the sugar in my cream cheese and my sugary electrolyte drink. It didn't taste good to me anymore.

I embraced everything and let myself be guided by the calendars. In 9 months I lost more weight and now was at 60 pounds lost going into July 2023. So lucky. As I started to feel better I decided to join OrangeTheory in November of 2022. It was rough. I was last all the time in everything. I couldn't walk faster than 2 miles per hour on the treadmill on flat ground. I cheated my way through every rowing session. In the weight room, I couldn't stand up on the bench. I didn't have the leg strength. I couldn't properly do a lunge for about 2 months. But the stress relief…my old friend sugar had been replaced with a dumbbell and orange lights.

In February I decided to start lifting weights as well. I was in better shape but still struggling. I walked into the bowels of the gym where scary people threw around weight and looked important. I started teaching myself. I found my favorites and tried to lift heavier and heavier each time. It was nirvana. Lifting weights made me feel sexy, confident and fully alive.

Do you know what we do as Carnivores? If your name is Shawn Baker or Anthony Chaffee this is likely not true. They don't crave like a fat girl craves. They aren't the same as me. Most of us fail to stay perfect. We fall off the wagon completely or we negotiate and bargain with ourselves for little things we think won't hurt us.

This is the dark side of Carnivore we don't talk about or hear about. Sugar addiction still rules us. We should talk about it more.

I fortunately haven't had any sugar binges but I know plenty of people who have. It's so hard to throw down some meat after a sugar binge. I have had some cashews with no seed oil on them. I've eaten some grain free chips made from Cassava. I occasionally use my old electrolyte drink with Stevia. I find these items don't give me sugar cravings. I also use sauces, sometimes with allulose, when I'm having a bout of meat aversion. I do what I need to. I strive to be better. I suspect better comes with time. I'm willing to put in the time.

Until then I recommit to Carnivore everyday. I recommit to being defiant. I have replaced my sugar addiction with a gym addiction. Not a bad trade off. I dry sauna almost everyday. I learn new recipes. I go to the Steak and Butter Gang meetings. I have a community. Community keeps Carnivore right in the front of your brain. You get to hear people's struggles and it reminds you to stay the course. Community is essential to us. We need each other.

When I talk to somebody I recognize their desperation. I still feel the desperation in myself. I mostly try to be genuine and honest with no made-up perfection. I try to explain in my very manner, "Hey…this is hard. Be gentle with yourself but firm in your resolve."

Most of us who come to Carnivore have a life or death choice to make. Some of us just want to look hot. Life or death choice is definitely easier to stick with than vanity.

In any case, Carnivore has saved my life. At 50 years old I've come to not care what another soul thinks about my choices. I'm able to walk to the beat of my own drum with enthusiasm. I'm so thankful to live fully and feel strong and confident.

Of course I want to share it with others. I want to give them hope as others gave me hope. Our community is our shield from the world. When we come together we have the chance to survive this hard thing we do. We have the chance to win our lives back. We have the chance to be defiant against the standard course Big Food and Big Pharma intend for us to go.

Carnivores are brave people. I'm proud to call them "my" people. Together, we make the choice to live."

There are many more of these stories, and it's even getting recognized in the mainstream media realm as well, as was demonstrated with a study conducted in 2020 on 2,029 adults over the length of 6+ months by Harvard University that concluded that 100% of diabetics came off injectable medications, 92% of diabetics came off their insulin completely, 84% of diabetics came off their oral medications, there was a ubiquitous reduction in CRP, an inflammatory marker, and a 90% reduction in all diseases to some degree[1], *and all reported satisfaction.*

Hopefully more of these testimonies and stories start exponentially increasing in prevalence, because as Raymond Wolfinger, an American political scientist and professor at UC Berkeley once said, "the plural of anecdote is data, after all[2]."

EPILOGUE

MY STORY AND MESSAGE

I didn't expect to be writing a book at 19 years old. At 16 years old, I was thinking about becoming a computer engineer or a videogame designer, but in reality, I didn't care. I was just going through the ropes aimlessly, trying to have fun along the way. I didn't take anything seriously (I mean, I was a kid), and that included the future. That was until I came down with my condition of hypermobile EDS. Almost 4 years ago now, I started to have unexplainable symptoms of what was, seemingly, an underlying disorder of some kind. I was in my chemistry class, third hour, during my junior year, and started to have a very weird "butterflies" feeling in my stomach, which elicited fear from me, first physiologically, and then mentally. I started looking around to see if other people were experiencing the same thing, when, of course, they weren't—our minds tend to have less sophisticated thoughts and more impulsive responses to stimuli when fear is induced or experienced.

Then, suddenly, within seconds, I had my first panic attack at 16, without realizing what one even felt like, or even realizing I had had one directly after I did; it took some reflection later to understand what it really was. I went home, and told my dad about it, and went to my room (with some pizza rolls and grapes, might I add), and didn't really think anything of it; I thought it was just a fluke. Little did I know that more and more symptoms were going to accrue, and I was very quickly going to become debilitated, and my life was going to completely change forever.

I first started having more random panic attacks, which were accompanied by muscle twitching around my rib cage (front and back), and I started having acid reflux, tachycardia that started to become, for all intents and purposes, my homeostasis, exorbitant fatigue after getting 8 hours of sleep, *depression*, and then, consequently, I developed *mental* manifestations of anxiety, which just made things worse. I was missing many days out of the week of school, and eventually got on propranolol, a blood pressure drug, for my heart rate, and I even had my testosterone levels evaluated to see if I was having all of these issues due to low testosterone, as my dad has a genetic predisposition to low testosterone, and developed somewhat similar symptoms at 17 (but nowhere near to the degree that I was experiencing). At 16, I was on 2 acid reflux drugs, a blood pressure drug, and topical testosterone gel (HRT/TRT). The testosterone gel, surprisingly, did make a slight difference, and improved my symptomology quite a bit in terms of the slight alleviation of my POTS symptoms I had developed, but not for long.

I continued to deal with these odd symptoms for months, and just learned to get through it; I dealt with the racing and pounding heart constantly, and the difficulty breathing, the fatigue, etc. while acting like everything was just okay. A lot of that was due to the fact that my friends and even some of my family told me that this was all a manifestation of my mind, and told me it was anxiety alone. I started to almost believe it. I continued to push myself further, despite the pain and the discomfort, and I started to develop even more symptoms along the way.

This is where it gets interesting. These symptoms included, among all of the others I've already listed: Abdominal/chest pain when experiencing any emotions whatsoever, so if I was happy, sad, excited, etc. it would cause shooting pain in my abdomen all the way up into my chest, heart and neck, and also all the way down through my intestinal tract and pubis, feeling inappropriately hungry and/or thirsty, esophageal spasms, which is, to be sparing, where I would just gag for no reason, constipation, eye twitching, tracking difficulties with my eyes, difficulty urinating, watering eyes (or very dry eyes), digestive discomfort as a whole, getting cold for no reason, low back tightness/pain/popping, an unsatisfied cough, where I always felt that I had to cough, but whenever I did, nothing was satisfied, and the feeling of urgency to cough remained, shifting/thudding ribs, where if I coughed, laughed, sneezed, or performed any action that forcefully contracted my diaphragm, every single one of my ribs—bilaterally—would (audibly) thud or shift, chest tightness, having anxiety for no reason (which is not the same as having panic attacks for no reason), having muscle twitching everywhere, extreme brain fog, restless legs, dizziness, pain and clicking by the left side of my hyoid if I moved my head side to side (turning it left and right), one-sided headaches, extreme heat sensitivity, where heat (usually from the sun) would exacerbate my tachycardia, difficulty breathing, lightheadedness, and general sensation of physical instability to the point of almost *complete* debilitation, and I would have to rest for a good 5-10 minutes before I could walk again, difficulty talking, where my midsection and everywhere that I experienced the shooting pains that were associated with emotions would sort of "seize up," and if I continued to talk, they would become much worse, numbness in the left side of my face once in a while, inappropriately dilated or constricted pupils, where they would fluctuate from constricted to dilated arbitrarily, clogged/popping ears, chest tightness, blood pressure swings, and burning sensations in my stomach. We'll get back to these in a minute.

I was dealing with all of these for years. I got my first job during the lockdowns (ironically) at Walmart, which was around April 30th of 2020, so now I was doing quite a bit of physical labor, which may take you by surprise because it's Walmart, but trust me—Walmart isn't the easiest job out there depending on what your position is, and it definitely wasn't for me, considering my current mysterious ailments and my position as a Fresh Cap 2 worker, who worked in the back where the warehouse was. As a result, I continued to wear my body down for the next 13 months, where I eventually got a new job at Target, which paid more, and was a much less taxing job for me physically. Despite that, however, I had already worn myself down for years, as a result of working, but also trying to be normal due to the gaslighting and my own desires to feel normal, which consisted of me engaging in resistance training on top of all of this.

One night, during July of 2021, I went into the pantry and grabbed some Life brand cereal, a granola bar, another grain based sweet snack, and ate them all in one sitting. This was not abnormal—I was 17 and weighed 140 pounds at 6 feet tall—I didn't care about what I was eating, and never had I before. But I had become, over the years, much more bodily conscious; I had to learn to focus on and scrutinize every tiny detail of my body and every sensation I endured. As a result, I could tell how a food made me feel instantly after I had eaten it. At this point in time, I had started to speculate on whether the food I was eating had an impact on whatever ailment I had going on, because, believe it or not, as much as I have said that I was starting to believe what people were saying to me about how it was in my head and was just anxiety, there was still part of me that didn't believe them (luckily), and, therefore, I was still studying and reviewing online what could've been going on with me by looking up potential causes of my symptoms, etc. After I ate those foods, my muscle twitching acted up quite a bit. I remember, ironically, being ecstatic about it, because I had finally gotten some guidance as to what was potentially going on with me. I immediately went upstairs to the loft of our house near my room and grabbed my phone and looked up "are grains bad for you," sort of laughing at the search because of how silly it seemed, until an article written by CrossFit Impulse popped up entitled "Why Grains are Killing You." That article opened my eyes to lectins and phytates for the first time. From that point onward, I started cutting grains out of my diet, but I still was having problems.

Later down the line, I did Paleo, and still had problems, and so I started asking other people online on Instagram that were in the health sphere if they had any recommendations on what else would help me, to which one of them replied and said to go on a Whole30 diet, cutting dairy, beans, legumes, and grains out completely. I did so, and was still having problems. Then I came to a "duh" moment—grains aren't the only foods with lectins and phytates in them. So I did some more searching, and came across Dr. Gundry, as many of you may know.

I started following his diet around September of 2021, and actually did notice quite a bit of improvement, but still not enough. I was mainly eating vegan but without even knowing it; I was having very little animal protein and animal fat because I bought into the myth that animal protein ages you faster and isn't good for you, so I became very meticulous about the amount I would consume on a daily basis. Despite this, I still continued on this diet for the remainder of the year.

Here's the part where you think you may know where this is going. I'm going to say right now, if you think that I discovered the Carnivore diet, adopted it, and it fixed me, and this is some miracle story like the others, you'd be wrong. That isn't me denigrating the diet—I clearly support and condone it, and I believe it's helped in a myriad of ways, but my story is much, much different. This is what happened next.

On Sunday, January 9th of 2022, everything hit the fan for me. I woke up, went downstairs, and was walking to the bathroom, when suddenly I looked down and my entire vision went black for a good second. It absolutely terrified me (which brought me pain, because fear would cause that abdominal pain that I have already described), and so I stayed in that bathroom for a while. I was too afraid to drive to my dad's, which was sort of my comfort place, so I had him pick me up from my mom's house, and I went on an unpaid 2 week leave for work. I thought I just needed some time to recover. Little did I know that I truly didn't understand what it felt like to have your life fall apart.

During the following weeks, I completely deteriorated. I couldn't walk anymore, I couldn't experience any emotion without crippling pain, and I was floor-bound. During that time, I lost all hope. I couldn't see my friends, and I couldn't even stand up to get in my car to drive and see my mom, or anyone for that matter. I was staring at the ceiling from the time I woke up to the time I went to bed (if I did go to bed) lying on the floor of my room, paralyzed in fear most nights, anticipating my death. If I had to use the bathroom, I slowly crawled there, and I couldn't stand up to make my food, so my dad would make it for me when he got home from work. At this point, you're probably wondering what in the hell is going on here. I haven't really explained what the cause of these symptoms has been, and why it got so bad. That ends now.

During the time of discovering Dr. Gundry's lectin-free plant-based diet, I was still, as before, looking into what could be causing my symptoms, but to no avail. At this point, I had gotten a barium swallow done, an esophageal scope done, a nerve test by a neurologist, every blood test you could've possibly thought of, and been to the hospital 3-4 times, all with the result of "nothing's wrong." However, one day I was scrolling on Instagram, as we all do, and I stumbled upon a post by a charlatan that you may recognize, Anthony, of Medical Medium. It was a post about vagus nerve inflammation. All of the symptoms that were being enumerated were an exact fit to *some* of what I was going through. So, I looked further into it, and stumbled upon what causes vagus nerve inflammation. I won't go into every single one of the things that I found, but it ended up leading me to a condition called cranio-cervical instability, which is a disorder characterized by hypermobility of the ligaments, which are what hold bone to bone in the body, in the cervical spine leading up to the cranium, hence the name. What this causes is an impingement by the bones, which are moving around too much due to the instability or laxity of the ligaments, on the surrounding nerves. One of the nerves in the neck is the vagus nerve, or, the vagus *nerves* (there's two of them, one on each side of the neck).

Sounds discomforting, or, it should, at least. Here's the other thing to keep in mind though—chronic impingement of nerves doesn't just remain a simple “impingement.” It leads to something else—that’s called “degeneration.” Also keep in mind that there are other nerves in your neck that aren’t just your vagus nerves, like your phrenic nerves, that are just as important as well; you don’t want to be messing around with your neck. This causes a large swath of issues, and can actually, depending on the severity of the issue, mimic the effects on the neck in the aftermath of a car accident. The condition is progressive and degenerative, as the more stress you put on your ligaments, the weaker and more unstable they get. Here’s the thing about ligaments—they don’t heal like muscle does; they don’t have a good blood supply, and the immune system isn’t as effective at repairing a ligament injury as it is at repairing muscle. This means that the condition can only really get worse until there is an intervention, which, in most cases is surgery, like a fusion for that area. Luckily there’s another option for treatment, which is prolotherapy and PRP injections into the injured areas. And no, these aren’t 1 or 2 injections like other places will do, this is a comprehensive treatment that can give you up to a hundred injections or more at once sometimes.

It’s much less invasive, and more effective, but takes longer. I was convinced that I had this condition, so I sought to find a clinic that treated it. I found one located in Colorado with the name of Regenexx, which is a Centeno-Schulz facility that administers these treatments routinely to people. I scheduled an appointment with them for February, and hoped for the best. That was in September of 2022, maybe a little earlier. Well, in January, when everything went downhill, I was told that my appointment was being moved back to late April. I couldn’t let that happen. I had to find another clinic that could treat me. That’s when I stumbled upon Caring Medical Florida.

Caring Medical is a clinic located in Fort Myers, Florida that specializes in PRP and Prolotherapy, as well as stem cell utilization from your bone marrow, and they focus primarily on the neck, but they also treat other areas as well, just as effectively, with the same methods. I scheduled an appointment with them for April 8th, but I still had to wait that long. 2 and a half months may not seem like a long time for people, and it really isn't—unless you're almost dead. That period of 2 and a half months was the worst time in my life, especially February. I was seeing a chiropractor (who I am still seeing) to try and manage my symptoms, and he did help quite a bit, but he could only do so much. Fast forward to the night of April 6th, and my dad and I arrived at my grandma's house—my mom's mom—in Venice, Florida, an hour and a half away from the clinic, where I was barely functioning at all. Something to appreciate here is that my grandma decided to buy that house in Florida on a whim a year beforehand, and had no reason why she did so. I still think about that to this day.

During my evaluation at the clinic on April 8th, I was told that my suspicions were correct, and that if I "had arrived any later," I was "on my way for something catastrophic." That is a direct quote; I couldn't forget something like that being said to me. I had my first prolotherapy treatment on April 11th, 2022, and I continued to get treatments over time. To save you a little more time (I know I've done such a good job of that thus far), we figured out that it wasn't just my neck that was the problem. It was my entire body. Let me repeat—my *entire* body; every single ligament in my body was weak. I was further evaluated for a condition called hypermobile EDS, or hEDS, and I tested negative, but only because my vascular system is not affected (the linings of your blood vessels contain collagen, just like your ligaments, and therefore having hypermobile EDS usually tends to impact those as well, but it doesn't affect mine). But, for all intents and purposes, I do have it on a structural level, which means every joint and every ligament is affected.

Remember when I had said that my ribs were thudding and shifting when I coughed or sneezed or laughed? It turns out that these pains I was having when I experienced any emotion, the majority of my POTS symptoms, the breathing issues, the achalasia, the hiccups that would occur every time I would cough, me not being able to stand up and walk around or even just *remain* standing, etc, was mainly due to my rib cage being so unstable, and that actually was discovered in around November to be the biggest problem for me, and the area that was negatively impacting me the most.

My chiropractor at home, as aforementioned, was actually pulling my stomach out from under my upper chest cavity because my rib cage was moving so much to the point that my diaphragm was spasming and was not holding my stomach in place where it was supposed to be. In fact, my ribs are still very unstable, as well as my other ligaments still, but they are much better, and I'm able to be far more functional as a result. I'm able to see my family and friends again (in moderation, to be fair), and I'm projecting to get treatment for another year *at least*. It wouldn't have taken me this long if we had tackled this from the beginning, but I ran myself into the ground for years until I became completely debilitated, so I'm going to be back and forth between home and Florida for a while longer. And that isn't to mention how long this was accruing before I became symptomatic.

So, how did this bring me here? How did I start becoming so "staunch" about Carnivore, and how does this connect to this community? Well, that's the interesting part.

When you start to look for the causes of this condition, there are only a few. The first one is if you got an injury in that certain area that you have instability or laxity in. That doesn't make sense in my case, because my entire body was and is affected. The other cause is genetics. Here's the problem with that—no one in my family has had any similar manifestations or any similar symptomology to me at all. Not even close. No one has become debilitated in my family at 18 years old from something this serious. Other causes of neck instability in particular are looking down at your phone all the time, believe it or not. If you look down, you put stress on your ligaments, and if you do this for hours upon hours upon hours a day for years on end, you actually deteriorate the ligaments, and this does become progressive and degenerative. Again, this doesn't explain the effects on my entire body, and this doesn't explain the severity of mine compared to other people who do and did the same things I did. After questioning for so long why I had what I had, I think I've finally figured it out.

What are ligaments made of? Collagen! Collagen is the predominant protein in the human body. Where do you get collagen from, and the amino acids to produce collagen? Meat and other animal products! The first burger I ever had was at 10 years old at Don Sol where I live (a *Mexican restaurant*), and I didn't even eat the whole thing. The only meat I willingly ate growing up was hotdogs, which I had once in a great while with mac and cheese, and chicken breast in a bowl of rice with peas.

Basically, what I'm insinuating is that I grew up with an aversion to meat, and therefore grew up, practically, unintentionally vegan. My diet mainly consisted of grain-based products; I only ate rice, cereal, pasta, crackers, ramen, poptarts, potato chips, you name it. I genuinely believe that the complete destitution of such an important dietary element (*the* most important element) was the cause of my condition. Veganism can cause serious deleterious effects to accrue in developing humans, and the element of biodiversity we all have means that those symptoms and problems will manifest themselves in different ways, but will invariably manifest themselves nevertheless. I believe my manifestation(s) were just extremely severe—almost to the point of death. That is how all of this connects. Also, using the knowledge that you have now from Chapter 2's "Anthropology" section, you'll remember that the introduction of agriculture started this entire structural regression in the first place, making my theory sound far less outlandish.

In terms of how I got to the point I have now in terms of my (truly ever tiny amount of) knowledge, articulate and enunciatory nature, my personality on YouTube, etc, that also really was initiated by my recovery process, or at least most of it. While I was debilitated, and lying on the ground (even while during treatment), I had already been looking into diet and lifestyle optimization for a few months, as I sort of already explained. Over the course of September 2021 to April 2022, I had read many books, such as The Plant Paradox by Steven Gundry, The Salt Fix by Dr. James DiNicolantonio, among others. I was following Dave Asprey at the time as well, Dr. Mark Hyman, and even people like Liana Werner-Gray. I was sort of on the right track, but I had a ways to go. But right after about May of 2022, I started to really start studying biochemistry, elements of physiology, and statistics and research methods, the latter of which started back in January of this year, actually (2023). I have been inundating myself from the time I wake up to the time I go to bed with this information. It has become my passion.

I usually use the analogy of how guys usually are with cars, I am with the human body and human physiology instead; I want to know *everything* about it. I discovered Professor Bart Kay in August of 2022, and that's what fully effectuated my strive and passion for this more than anything else did for me. I still have much, much more to learn, which is something a lot of people may say, but will never act out; most people will act like they know everything while pretending to exhibit humility by saying they don't. I'm not like that, but at the end of the day, I have to prove that with how I act; I can't just expect people to believe me by simply saying it. But the fact that I still have so much to learn makes this very exciting for me as well.

In terms of my diet evolution, I was staunchly "lectin-free," as stated before, and was taking all of Dr. Gundry's polyphenol complexes, his prebiotic supplement, and eating a ton of cassava root, sweet potato, olive oil, broccoli, cauliflower, asparagus, etc. I did make sure I ate half a pound of ground beef and 4 eggs a day though, so that did help.

Then came more inundation of Dave Asprey in my Instagram feed, who stressed even more animal protein and animal fat. I started to intuitively know that I needed more due to the treatment that I was getting, so I started upping the beef and eggs (while draining the fat, of course!). And then along came Paul Saladino. To be sparing again, I started the meat and fruit diet, and had some issues with getting very red and hot and sweaty after I ate, which most people call the "meat sweats" (which is ironic considering I don't get those anymore when meat is all I eat), a racing heart rate after I ate, higher blood pressure, acne, etc, but I was convinced this was symptomology from my treatment progression, because I had plenty of those as well, because we are changing the structures of my body and therefore affecting my neurology.

But then, on August 14th, 2022 (yes I know, it's sort of weird that I know the dates for everything, but I do), I discovered Bart Kay, as earlier explained, who did a video on Paul Saladino breaking down the Randle Cycle which I had watched the original video of the previous day. Let me be frank—I *hated* Bart. He was the most pretentious, annoyingly domineering person I had seen in a long time. But…his video was entertaining, so I watched it. And then I watched another. And another…you see where this is going. I quickly came to the realization of who Bart was—what his credentials were, his level of experience, etc, and I quickly realized that he was right about the importance of the absence of carbs from the diet. Starting August 23rd, my birthday, I started Carnivore, but with a sweet potato, but I cut that out about a week after that. Ever since then, I have been 99-100% Carnivore, and I haven't had any dietary or metabolic problems since.

So, then, why am I doing all of this? If the answer wasn't obvious enough already, it's because I don't want anyone to go through what I did, and still am going through. The potential serendipitous effects of this are that I make a living from this book and maybe some others, along with

YouTube and Patreon and Cerule, along with other side projects, and then I enjoy my "job," but that is not the primary reason for it. I've learned a tremendous amount already in a very short amount of time, and I feel the moral obligation to share it with the world.

I also care, however, because food isn't simply a certain amount of fuel that something gives you that doesn't have any ramifications or long lasting effects once you eat it. It's not something that can just be cheated on a few times a week with no consequences. Some of the things we eat stay in our cells for years and impact our physiology in ways not appreciated. Especially when developing, you need *food*, and when you're given garbage, you will form like garbage, like I did. It's genetic instructioning for the human body. It's what allows us to live and not simply be alive. Our cells only replace themselves and regenerate a certain number of times in our lives until we pass on—if we keep inundating them and insulting them with harmful compounds, we shorten our lifespan, even if those cells regenerate.

We wouldn't put poison in our bodies and think it was a good idea, but we think that the things we eat that are advertised as food and are designed to activate receptors in our brain to make us enjoy the taste and make us keep wanting more are food because someone said they are and have been saying it for decades, centuries, and/or a dozen or so millennia, because they're advertised as such.

Food isn't simply anything that we can put in our mouths and chew and swallow. I say that and people tend to think I'm wasting my time saying this because it's supposedly obvious, until you intently scrutinize everything around us that we put in our mouths, and when you intently observe what is happening to everyone around us. Our life expectancy is dropping, infertility rates in both genders are rising, almost everyone is obese, no one in class can keep their heads up before lunch time in schools now because we're so malnourished. I have friends and people close to me who are constantly tired no matter how much sleep they get—people that are so weak mentally, emotionally, and physically, and it's not due to their innate being or self.

I care because we're designed to live to be 120 years old genetically and we're living to not even half of that in some cases now. I care because at my last hospital visit before I came to Florida for treatment the first time, I saw a morbidly obese nurse taking a large Domino's pizza to the back to be shared amongst her coworkers—people in the medical industry who are in charge of our health and guiding us to better health. I care because this kind of misinformation I believe almost killed *me*.

People that try to be healthy don't even know how to do it because the information perpetuated is false or outright fraudulent. You see this with people in the fitness industry, who think that the only criteria of health is how much muscle mass and how little fat they have on their body, with no regard to what they're doing to get there—what they're putting into their bodies (orally or intravenously…food *and* drugs). You see people like Scott Murray who are told contraindicated information about health and diet, like eat less and move more, which I believe to be one of the most damaging and indirectly insulting and denigrating pieces of propaganda and misinformation still to be promulgated, where they die at 20 from under-eating and over-exercising, and when they do eat, they eat things that are not food, but are advertised as such.

I care because the people that have been trying to change and be healthier don't know where to start because they're told one thing after the other…eggs are good then eggs are bad, gluten is fine and then gluten is bad, carbs are bad and then carbs are good, cardio is bad and cardio is good…they try every diet on the planet, do every exercise routine, and then finally, when they're still sick, obese, or subject to some other form of manifested derangement of metabolism or physiology, they finally give up and say "okay doc, just give me the pill."

It shouldn't be like this. I care because everyone is either obese or emaciated due to poor dietary advice from charlatans, the majority of whom have ascended to the upper echelon of authority and serve only to promulgate misanthropic disinformation to the masses as long as it suffices their rapacious desires. I care because everyone is depressed, unhappy, unmotivated, lazy, and stupid. *This is not trivial.* I care because it's thought to be okay and normal to lose your memory and mobility the older you get, it's normal to be on breathing machines and break numerous bones, stop being able to breathe properly, lose your eyesight and your ability to speak fluently—your ability to articulate properly, walk with canes and walkers, or remain immobilized in a wheelchair, and eventually not be able to take care of yourself at all. I care because everyone and everything is falling apart around us.

We as humans—with our untamed arrogance—have decided to think we can somehow do better than nature in many ways, and we're reaping what we've sown. I care because the oceans and associated animals—as trite as this is—are being destroyed and killed because of our irresponsibility and inconsideration and laziness, I care because cattle and animals are being demonized and publicly criticized for existing, and then we destroy the world even more with industrialized mono crop agricultural farming, pesticides, millions of animal deaths, and contraindicated plants for human consumption as the alternative.

I care because people around me are being poisoned every day and I see it happening endlessly. We're shorter, smaller, and dumber than we were just ten thousand years ago; our brains have decreased in size by 11% since the agrarian revolution. I care because the food that's sold at hospitals isn't even food—we feed these people poison so they keep coming back to the clinic and hospitals, and they die prematurely, or they're kept in the hospitals to slowly and painfully die in despair without going home at all. I care because hundreds of thousands–if not millions–of people are now sufferers of autoimmune conditions and metabolic conditions that never existed until less than 200 years ago, and we blame it on genetics. I care because *kids* are dying from poor dietary decisions, poor lifestyles, and they don't know any better. People are being told it's their fault they're sick, unhappy, and disabled, way more often than it truly is. I care because this is what people think life is supposed to be and what life inevitably will be for them and their family. I care because I see what's happening and I don't want this to happen to my family and my future kids. l want the human race to thrive, and the world to thrive, nature to thrive, and I want to return this world to what it used to be before. Because the reality is that we aren't supposed to become the walking dead at 40 and onward…we're not supposed to be sick, fat, depressed, anxious, lonely, and in pain. It doesn't help that all of our morals have been thrown out the window, so now people isolate themselves and hurt other people. Our health, physically *and* mentally, is falling apart, and it's due to diet, lifestyle, cultural/moral changes, industrialization, and arrogance. Diet and lifestyle are the most important things that we can readily change quickly. Morals and culture is an entirely different story—that will take a long time. Undoing industrialization and taming our arrogance will be a side effect of doing the three former things, however

It's not hyperbolic to tell people to change what they're putting in their mouth so that they can live—not just be alive, but *live*—decades longer and reverse chronic diseases. The reasons people may think that it is because it sounds so banal and has been said ad nauseam; so repetitive because we're told one thing and then the opposite about everything. Everybody that says we need to eat healthier has a different view on what is healthy in terms of diet, and the same for exercise methods and the intensities needed to perform them, etc. It absolutely *is* true that this is one of the root causes of the fall of society. It's not dramatic. The problem is that nobody is looking properly at how to determine what is indicated for human beings; what is healthy—we've been looking in the wrong area for *decades*. That's why I'm doing what I'm doing; that's why I'm studying what I'm studying, and presenting what I'm presenting. I look at information as objectively as possible, because that's what we need. We needn't ideology and theology running our minds and influencing our behavior and perpetuated information when it comes to health, and we *especially* don't need supposed health information given to us by people who conducted studies that were funded by corporations with millions of dollars, which is also all you see nowadays.

Living this way will unequivocally and without a doubt change your life. By being our species appropriate, species specific diet, it objectively *has* to. That's how it works. There are no maybes here, and there are no negotiations. This is not dogmatic either—this is science. Is it dogmatic to say that lions are objectively carnivores? This is what is, and what is not (in terms of indicated behavior and interventions for our species), and nothing else.

This is a call to action to everyone else who has had the misfortune of being afflicted by this misinformation and disinformation in any way shape or form. We as human beings—we as members of the same species—have the responsibility to help each other; it is our obligation to stand up to incorrect dogma and propaganda that we see today that is leading to the deaths of innocent people around the world. We need to stand up against this nonsense, because this is a silent genocide—and *that isn't hyperbole either*. Do it for your family, your future children, and for yourself as well. Let's build this community further, and make this mainstream. It's about time things changed.

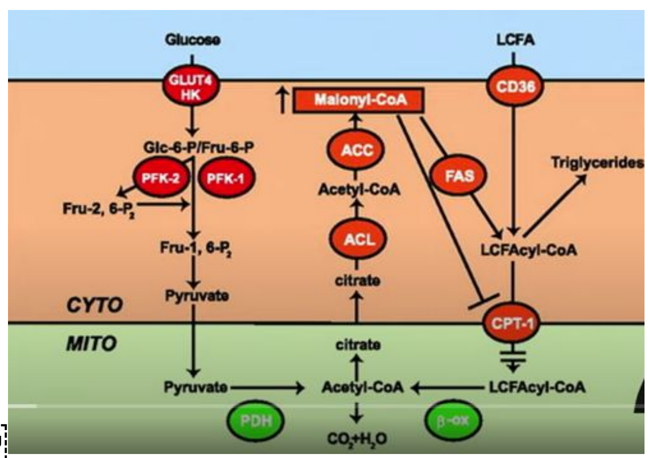
Eat meat, and live your best life. Seriously.

THE DEEPER SCIENCE

BONUS SECTION

This section is for anyone who would like to see the deeper science behind things I expounded upon in this book, such as the granular inner workings behind the Randle Cycle, how pH is regulated within the body, and the Cerule Products I mentioned earlier. Please note that this section is very convoluted, intricate, and, most importantly, is optional. Feel free to skip over this if you'd like, but I do recommend reading the sections regarding the Kangen Water Machine, and the Cerule Products.

MECHANISMS (RE: THE RANDLE CYCLE)



Situation A (Glucose Predominates, Fat is Inhibited):

Situation A arises when there is a high level of sugar in the blood, or if there is any amount of glucose in the blood at that time and very little fat as well.

The extracellular fluid, or blood, is represented by the blue region at the top of the illustration. The green area at the bottom depicts the interior of the mitochondria, where Acetyl-CoA is reacted in the cycle to make ATP, carbon dioxide, water, and energy. The tan area in the middle represents the intracellular compartment, or the cell cytoplasm inside the cell.

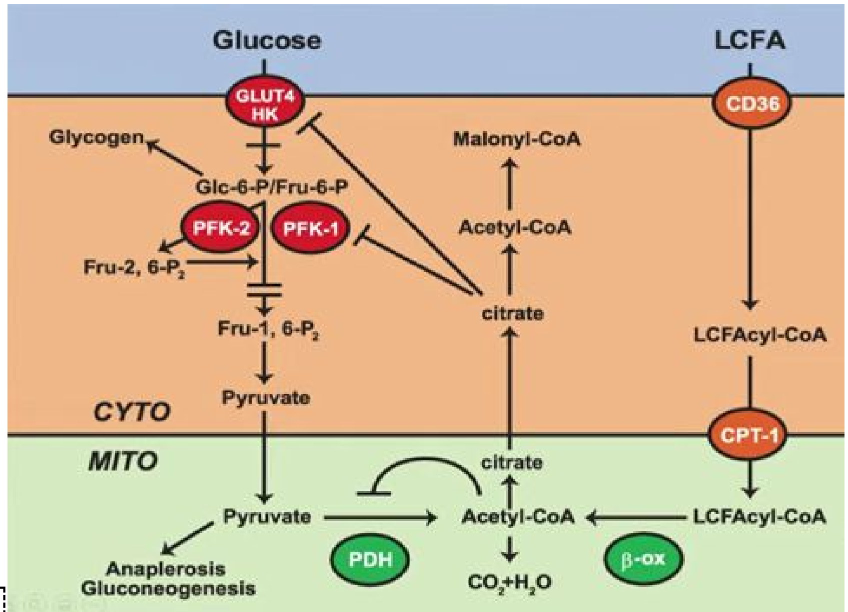
Any amount of glucose without any fat in the bloodstream is shown in the top left corner of the diagram. The Glut4 transporter, which is located on the membrane, detects the presence of glucose in the blood and transports it into the cell. Here the processes start, leading to the formation of either a glucose or fructose 6-phosphate. Then there are the phosphofructokinase 1 and 2, which are two more enzymes. The PFK 1 pathway leads directly to fructose 1,6-bisphosphate, but the PFK 2 pathway takes a different path and results in fructose 2,6-bisphosphate, which is then converted to fructose 1,6-bisphosphate. Following that, a chain of events occurs that cause a buildup of pyruvate inside the cell cytoplasm. Then, pyruvate is carried into the mitochondria by a monocarboxylate transporter, where it is met by a second set of enzymes that make up the pyruvate dehydrogenase complex. These enzymes then directly cause the production of acetyl-CoA, the first intermediate of the tricarboxylic acid (TCA) or Krebs Cycle, which generates energy, carbon dioxide, and water, inside the mitochondria. ATP is also created as a result of this.

In short, when a lot of sugar enters the cell and enters the mitochondria, a lot of CoA is suddenly produced (more than the cell can use for energy at that time because the cell doesn't need that energy). As a result, it feeds into the Krebs Cycle, which forces it around and results in an accumulation of citrate, one of the byproducts of the TCA cycle. It is a straightforward molecule that diffuses from the mitochondria and accumulates in the cell cytoplasm, where it is converted into acetyl-CoA by ATP citrate lyase, another enzyme. Then, a substance called Malonyl-CoA is created inside the cell cytosol by an enzyme called ACC (Acetyl-CoA Carboxylase).

Not an arrow, but rather a T shape, which denotes a blockade, is the line that runs from the Malonyl-CoA to the bottom right corner of the screen. In other words, the CPT-1 transporter is blocked by a rise in malonyl-CoA concentration. LCFAcyl-CoA molecules would be transferred by this enzyme from the cell cytoplasm to the mitochondria, where they would be subjected to beta oxidation and yield Acetyl-CoA. As a result, the right side of the "equation" can no longer be applied. Therefore, the fat cannot be oxidized inside the cell. This results in the synthesis of triglycerides, also known as **<u>FAT STORAGE</u>**, as a result of the accumulation of LCFAcyl-CoA molecules. This is probably where the myths that "fat makes you fat" and "fat is bad for you" originated. More so than the fat itself, the issue is how it is digested and utilized by the body. Nevertheless, whether or not the Randle Cycle is activated in the body, you can still prevent weight gain if you are using more energy than you are consuming. That was circumstance A, when glucose predominates and fat is stored as triglycerides because it cannot reach the energy-producing machinery. This is why people on a mixed macronutrient diet, which is high in both carbohydrate and fatty acids, will tend to get fatter and fatter over time. This is because if you eat any amount of sugar (which includes all carbohydrates, as they all break down to glucose) in your diet, you are essentially asking for fat storage to predominate and asking to become fatter and fatter over a lifetime. Of course, you can prevent this by using more energy than you eat, but that applies whether or not the Randle Cycle is in motion.

Let’s now move on to Situation B.

Situation B (Fat Predominates, Glucose Inhibited):



Situation B will take place if there is a high fat intake and a low blood glucose level. In this scenario, the CD36 transporter moves the long chain fatty acids into the cell, where they are converted into LCFAcyl-CoA units. This activates the CPT-1 transporter, which was previously inhibited by the glucose, and moves the LCFAcyl-CoA units into the mitochondria, where beta oxidation transforms them into Acetyl-CoA.

There will be a number of additional effects as a result of this. The first is that the left side of the equation will be blocked if the Acetyl-CoA concentration rises too high because this will block the pyruvate dehydrogenase complex, which prevents pyruvate from feeding into Acetyl-CoA. However, if there is an abundance of fat available, citrate will leak out of the mitochondrial Krebs Cycle and into the cell cytosol. Additionally, citrate in high concentrations will directly block phosphofructokinase reactions and the Glut4 transporter, preventing sugar from entering the cell and allowing fat to predominate while also raising blood sugar levels incessantly. Because sorbitol has an osmotic force and increases in concentration in high blood sugar, it also increases in your cells, causing the cell to burst. Every cell and organ in our body can be harmed by this, but some cells—such as those in the retina, kidneys, peripheral nerves, etc.—

have a naturally low amount of sorbitol dehydrogenase. Retinopathy, nephropathy, and neuropathy are the most typical consequences in patients with diabetes, a disease defined by chronically elevated blood sugar levels, thus this makes sense. Contrary to what most doctors may tell you, the ideal blood sugar level is 96.8 mg/dL at most (or 5.0 A1C). This is not the only reason for not wanting high blood sugar, but is one of many.

WHAT IS INFLAMMATION?

Inflammation is a pre-programmed reaction of the body when it recognizes tissue injury or a possible invading pathogen. It manifests itself in a variety of ways, one of which is pain. Inflammatory conditions of the body also produce chemical reactions that make nerve cells more sensitive to pain; an inflammatory state does not just increase pain. Redness is another symptom of inflammation caused by vasodilation, which occurs in order to deliver more cytokines, macrophages, and other immune cells to the wounded area as quickly and effectively as possible. Swelling occurs as well, and gap junctions between epithelial cells weaken, allowing cytokines to enter. Swelling also happens to act as a splint, preventing movement to heal. Heat is also felt as a result of increased blood and core fluid flow, and all of these manifestations result in reduced function, including the mental fatigue that follows. Macrophages, dendritic cells, which are nerve cells (as dendrites are the tendinous ends where nerve cells join to other nerve cells), mast cells, which are cells involved in the production of collagen and structural elements, muscle cells, epithelial cells, and many other cells are the cells that initiate inflammation via PAMP and DAMP cell receptors. Pattern recognition receptors, or PRRs, are what these are referred to. PAMPs are cell surface recognition protein sets that use a "lock & key" mechanism with pathogenic proteins such as antigens when they invade the body. DAMPs are activated when proteins that are normally kept inside a good, healthy cell begin to escape the cell owing to a rupture or something else, and are picked up by other cells as well as DAMPs. In other words, these cells (PAMPs and DAMPs) use a hook and eye mechanism to latch onto a cell and alert it of a problem.

When PAMPs and DAMPs are activated, pro-inflammatory mediators (PIMs) are released. When they are triggered, it causes vasodilation, plasma exudation into the tissue through the spaces within said tissues, allowing cytokines to enter, neutrophil and macrophage migration into the tissues, and fibrin and immunoglobulin exudation. When activated cytokines interact with fibrinogen, it precipitates out of the blood and forms a sticky, net-like matrix termed fibrin, which prevents produced components such as pathogenic cells from migrating. Immunoglobulins are big Y-shaped proteins that bind to damaged cell surfaces and "flag" them so that macrophages can recognize them. Macrophages respond to injured cells by undertaking a massive "respiratory burst," in which they burn fuel in their mitochondria in an uncoupled manner and rapidly create H_2O_2, or peroxide, which they will then splatter all over the tissue in an attempt to kill everything alive in there and cleanse any damaged tissues. They will then ingest the substance, transport it away, and dispose of it through various systems for excretion from the body or recycling, as is indicated.

All of these mechanisms contribute to hyperalgesia by lowering the afferent neuron threshold, increasing the efferent motor neuron potential (which makes it more difficult for the brain to send a message to the muscle to move), and causing psychological "paralysis" owing to the algesia (pain, anxiety, etc.). It is crucial to emphasize, however, that all of these systems and symptoms serve to keep us safe. However, it is also important to emphasize that the mere production of cytokines is insufficient to trigger an inflammatory response; cytokines can float around harmlessly in some cases. Another mechanism known as phosphorylation is required to activate these cells.

The chemical energy of an ATP molecule is stored between the adenosine molecule's second and third phosphate groups. When the third one is joined, there is a lot of energy in that last bond, so when that energy is needed for other processes in the body, the third bond is freed, and an ADP molecule is left in that cell, with a Pi (phosphate group). Mitochondria produce ATP from ADP + Pi utilizing the energy released by the reaction $4H^+ + 4e^- + O_2 \longrightarrow 2H_2O$ + energy. If energy is constant, optimal mitochondrial function necessitates a stable Pi; if mitochondrial activity is hindered, the Pi rises. It just so happens that Pi is the compound required to activate the pro-inflammatory cytokines, resulting in an accumulation of inorganic phosphate within the mitochondria, impairing their function because they can't use that phosphate group to resynthesize ATP because it's being used to activate the cytokines. Anything that reduces mitochondrial function causes an increase in inorganic phosphate content, which *causes* inflammation—this is what I meant previously. If this is chronic, so is the inflammation. This is not recommended because persistent systemic inflammation is essential for atherosclerosis, obesity/overfatness, cancers, autoimmune diseases, and a variety of other negative health effects.

Overall, impaired mitochondrial function is contraindicated, and mitigating this occurrence is very important to ensure you live optimally and ensure you increase your healthspan and lifespan.

PH BALANCE MECHANISMS:

It’s much easier to first explain what actually *does* affect the pH of an aqueous solution (there are 4 factors), and then use that knowledge to intuitively understand why diet alteration won’t affect your body’s pH in any meaningful way. The first thing we need to do in order to do that is to understand some basic chemistry first, like, for instance, what an equilibrium is. You probably remember this from chemistry. An equilibrium is a chemical reaction that occurs left to right and right to left simultaneously; it's a reaction and a reverse reaction.

Usually this is written as A + B ⇔ C + D. Each pairing of A + B and C + D has a likelihood of colliding in such a way as to form the other pair. This is determined by a few things, those being the concentration of A in the solution and the concentration of B in a solution (if we're talking about A + B → C + D), and the concentrations of C and D (in reference to A + B ← C + D), and, most important to this topic, the temperature of that solution (in both scenarios).

The reason that temperature matters here is because heat is the form of energy that the molecules are carrying, which means they vibrate more, causing the electrons to become more energized, and therefore have a higher propensity to interact with each other in such a way as to form these chemical reactions. This means that temperature is one independent variable that will change the pH. If you externally cool an aqueous solution down, the right to left reaction is favored, and if you heat it up, the opposite is favored.

According to Le Chatelier's Principle, an equilibrium will persist even if disturbed. This means that if there is a change in concentrations, temperature, partial pressures, or volume, the system concentrations all react to the change, and a new equilibrium is established within 1 millionth of a second. The principle says the equilibrium has a lot of power to buffer change. This leads to a discussion on what's called an 'equilibrium constant,' which is simply calculated by dividing the products by the reactants in a reaction (as viewed left to right). So, this would be written as [A][B]/[C][D].

So, what happens if I increase the concentration of A in the formula? The concentration of A actually remains fairly constant despite the additional 'A—' this is Le Chatelier's Principle in action. What actually happens is that the extra A that is added in reacts with B, thus dragging down the concentration of B, because that then flows through to the right side of the equation and causes the concentrations of both C and D to go up.

Given that A + B → C + D is endothermic, meaning that it uses heat to effectuate, what would happen to the value of the equilibrium constant ([C][D]/[A][B]) if the temperature of the solution was lowered, and if the temperature of the solution was raised? Well, if the temperature is lowered, [A] and [B] increase; also [C] and [D] decrease. In other words, the values of the 'constant' K_C (equilibrium constant) [C][D]/[A][B] reduces. If the temperature is raised, [A] and [B] decrease, and [C] and [D] increase, which means the value of the 'constant' K_C [C][D]/[A][B] increases.

This is weird, isn't it? We're told the equilibrium constant is a constant—it isn't. It is a variable, just not an independently moderatable variable, meaning that we can't change it directly, but only by changing the concentrations of the species in the solution. It is a dependent variable. Keep this in mind.

Now we need to touch on the auto-ionization of water. In water, $H_2O + H_2O \Leftrightarrow H_3O^+ + OH^-$. This happens when 2 H_2O molecules in a solution come in contact with each other, and a proton is then given up by one of those water molecules to the other one. The concentration of H_2O in water = 55.56 Mol/L^{-1}, assuming that the molecular weight of water is 18g/mol^{-1}, which is give or take as it depends on how much of the water is heavy and how much of it is light (but that involves different isotopes of Hydrogen, and is for another day), and it also assumes that the density of water is 1,000 g/L^{-1}. The concentration of H_3O^+ in pure water *at 25 ℃, or 77 ℉,* = 10^{-7} Mol/L^{-1}. The temperature is emphasized here because, as previously alluded to, the temperature impacts how effective the reactions are (heating means you have more reactants, cooling down means you have less). The concentration of OH^- in pure water at 25 ℃ = 10^{-7} Mol/L^{-1} as well. This means that our equilibrium constant is, when you do the math, 10^{-14}/55.56, which is 0.00000000000000018.

Let's now discuss the 'dissociation constant' for water. This is denoted by K_W. In our example, $K_W = [H_3O^+][OH^-]$. K_W (25 ℃) = 10^{-14}, as established. Therefore, the concentration of $H_3O^+ = 10^{-7}$ (pH = 7.0), and the concentration of $OH^- = 10^{-7}$ (pOH = 7.0). There is a thing called the pK scale, which is basically the 'negative logarithm of the original number.' So, in 10^{-7}, the p value would be 7. So, when you hear about pH, that is what that is referring to; it means that a p value of 7 for the hydronium ions (in this case) is 10^{-7}.

With all of this being said, we can establish that the dissociation constant for water at 0℃ is equal to 0.114 * 10^{-14}, which gives us a pH of 7.47, and that at 50℃, it is equal to 5.476 * 10^{-14}, giving us a pH of 6.63. Therefore, temperature is one of 4 things that will affect the pH of an aqueous solution. Now let's talk about water and CO_2 interaction mechanics.

Pure water has a given propensity to act as a solvent for CO_2. In other words, carbon dioxide gas will be converted into carbon dioxide in a liquid form after reacting with water. The amount of CO_2 that will be dissolved in pure water depends on the temperature and the pressure of the CO_2 gas (pressure of CO_2 in the air is very low, but when it's in your cells and is being utilized in the body, it is much, much higher). At 25 ℃ and at a barometric pressure of 760 mmHg, 1 liter of H_2O will dissolve about 0.001 mol CO_2. This will form Carbonic Acid ($CO_2(l) + H_2O(l) = H_2CO_3(l)$). This means that our K value will equal $[H_2CO_3]/[CO_2]$, which gives us 1.7 * 10^{-3}. If the concentration of CO_2 = 0.001, then the concentration of H_2CO_3 = 0.0000017. This means that "pure" water that is open to the atmosphere is not pure, and will not have a pH of 7, even at a temperature of 25℃. To understand why, let's look at the behavior of acid(s) in water.

$HA + H_2O \Leftrightarrow H_3O^+ + A^-$ (A = Acid). $K_a = [H_3O^+][A^-]/[HA][H_2O]$. $pK_a = -\log K_a$. Using this, we can observe the behavior of H_2CO_3 in water. $H_2CO_3 + H_2O \Leftrightarrow H_3O^+ + HCO_3^-$. The K_a value at 25 ℃ equals $[H_3O^+][HCO_3^-]/[H_2CO_3]$, which equals 4.2 * 10^{-7}. The pK_a value at 25℃ therefore equals 6.38. However, if we were calculating the pK value with the normal body temperature of a human being, then the pK_a value would equal 6.10 (even more acidic).

So, to summarize, carbon dioxide dissolves into pure water, and forms carbonic acid. Carbonic acid then reacts reversibly with water to form H_3O^+ and HCO_3^-. The concentration of H_3O^+ goes up some, the concentration of OH^- goes down some, and the concentration of H_2O goes up some, but not perceptibly because of its huge magnitude compared with the concentration of H_3O^+ and the concentration of OH^-. So, CO_2 entering the solution reduces pH, and CO_2 leaving the solution increases pH. Don't forget that the amount of CO_2 gas that will dissolve in water depends on the driving pressure of the CO_2 gas, i.e. its partial pressure, the temperature of the CO_2 gas, the temperature of the water, and the pressure and density of the water. Also don't forget that cell fluids are subject to CO_2 partial pressure as produced by metabolism, rather than as exerted directly by atmospheric pCO_2. This means that the rate at which carbon dioxide enters those fluids is changeable upward and downward on a second by second basis rather than simply how much carbon dioxide is in the atmosphere. Carbon dioxide is the second factor that will change the pH of an aqueous solution.

This next part revolves around weakly dissociated acid anions. Your entire body is made up of proteins, which are weakly dissociated *acids.* Albumin and globulins are the most prevalent, but there are proteins embedded in the cell walls themselves. They all have different electrochemical charges on the surfaces of those proteins depending on what amino acids are there. There are hundreds of thousands, sometimes millions of negative charges on the surfaces of those proteins. Therefore, they effectively add a negative charge into the fluid pool, which is modeled as an effective charge in milliequivalents, and we call that variable the A_{TOT}, or the total A charge, or the A^- charge, which is the variable derived from adding up the effective concentration of acids by using negative charge equivalents and derive an effective overall K_a value for all these acids. The concentration of A_{TOT} has the effect of further driving the concentrations of H_3O^+ and OH^- apart. As a result, the concentration of A_{TOT} tends to further lower the pH.

So, being hotter than 25℃ makes us more acidic, having carbon dioxide within our bodies makes us more acidic, and the fact that we are made of proteins makes us even more acidic. But, hold on a second—we know the blood has a pH of about 7.2 - 7.4, and a working muscle cell pH is only slightly acidic, at around 6.8, so what's going on here?

The net electrochemical charge of any aqueous solution/fluid pool is zero. Does that statement sound familiar? That is the Law of Electroneutrality. It states that the charge of a solution cannot have any other value except zero—*ever.* Say one adds the salt KCl to the blood. This dissociates to $K^+ + Cl^-$. K^+ is then pumped into the cell, Cl^- is kept out. This would create an un-negated positive charge in the cell were the law of electroneutrality not in effect, which would result in a spontaneous electrical discharge through the cell, because small positive to negative differentials would result in *massive* discharges of current. Basically, you would explode. But, that clearly doesn't happen, because any time you try and change that value, all of the K values (that are so-called "constants") *change,* and they change in such a way that everything shifts around due to the Le Chatelier's principle to resist the change you're trying to make in order to maintain a net electrochemical charge of 0. This also brings the SID^+ into the picture, or the Strong Ion Difference. The SID^+ is the net strong ionic difference in biological aqueous solutions. It has a positive charge, because the net charge of all [ions] in biological fluids is positive. This is so in order that the protein/CO_2 acidification influences are balanced, and the pH can be optimal. In other words, the pH of cells are kept at 6.4-6.8, and the blood at a pH of 7.2-7.4. The only ways to change the pH of our blood is by exercising, due to a buildup of lactate and carbon dioxide, hyperventilating without exercising, altering your base metabolic rate, and changing the effective SID^+ value by changing the values of the dissolved ions in our solutions. However, only 4 have a meaningful effect, and those are Na^+ (sodium), Cl^- (chloride), K^+ (potassium), and lactate. Lactate concentration goes up when glycolysis goes up, which most notably goes up during intense exercise. The kidneys will filter the ions in or out as well, which is how the body can change its pH by altering the concentration of ions—we can't meaningfully change it by eating more salt, for example, as the kidneys will just excrete the excess.

So, eat alkaline foods? Nonsense. Any time you add sodium, chloride, or potassium to your system or remove it from your system, that will change your pH, but your kidneys do a *great* job at regulating that change almost instantly, unless you are critically ill. There is nothing that is going to happen from eating a diet that is alkaline or one that is acidic that is going to meaningfully impact the pH of your body. The only thing that will be affected is your urine, which is what is supposed to happen anyway, as that is the outlet for so-called "ashes," which are just the ions left behind after you eat your food.

CERULE PRODUCTS:

I mentioned before that Cerule products are something you should consider taking if you want to get a headstart on ameliorating inflammation, or if you are intent on continuing some contraindicated behavior (which you shouldn't do, by the way). In reality, everyone above the age of 18 should be taking these products, because there is absolutely no reason not to. To explain what these products do in further detail, let me first talk about what telomeres are.

Telomeres are part of the DNA inside the nucleus of cells in your body. They are the end portions of the chromosomes, and are a certain varying number of base pairs on DNA that lock the DNA molecule together, which allows them to not fall to pieces. Every time a cell divides, a telomere gets slightly shorter. As you live, they get shorter and shorter, until they get so short that they no longer function in terms of tying those DNA molecules together, causing the DNA to disintegrate, rendering the cell unable to undertake cell processes or divide further, causing it to die. If that cell line is not replaced with a new cell line, then the cells that were making up those tissues in your body will no longer be there, and the functions that those cells were undertaking will no longer be undertaken.

This is one of the reasons why we age, become older, and disintegrate. Old cell lines, damaged cell lines, injured cells, etc, can all be replaced by a process of releasing an adult stem cell from the bone marrow, allowing it to enter the bloodstream, until it encounters a cell that is in need of repair, to which it will then bind itself to and differentiate into a new cell to replace the old one. That new cell will then start to divide, like all cells do, and replace the old cell. As you age, your ability to release stem cells starts to drop, such as that when you're 50, your ability to release those stem cells decreases by about 50%, at 70 by 30%, etc. There is an enzyme that is present in the adult stem cells called telomerase, which rebuilds telomeres every time the adult stem cell divides in the bone marrow to provide a daughter cell for release into the bloodstream that would usually shorten the length of the telomeres of the stem cells. What the stem cells do to maintain their integrity and numbers is use this enzyme to rebuild the telomeres. That is why you will die with the same number of adult stem cells in your bone marrow that you were born with. This is why adult stem cells are, for all intents and purposes, an immortal cell line. As soon as the adult stem cell differentiates into an adult cell line, then the telomerase is ejected. This is actually good, because if these cells kept dividing indefinitely (the adult stem cells), we would get cancer. When the adult stem cell differentiates into an adult cell line, it does so with a full length telomere—these are *new* cells.

The StemEnhance Ultra product from Cerule consists of an extract from a particular blue-green cyanobacteria that grows in a particular lake in North America. It is purified and concentrated, and the specific extract used is called an L-selectin ligand. L-selectin is the protein that ties the stem cell to the “tree” of the bone marrow, so the L-selectin ligand—or ligator—cuts that cord and lets the stem cell float off into the bloodstream.

Scientists have known about this for quite a while. There is, however, now, a much more exciting and emergent area of research with a vast array of articles available online with regard to these CD34+ stem cells and exosomes. So, what is an exosome?

An exosome is a “miniature cell;” a packet of information; there is no cell nucleus, and there are no cell organelles; it’s not technically a cell, and is actually much smaller than one. It functions as a packet of information that’s wrapped up in a phospholipid bilayer, and it is extruded from the cell, where it will then float through the fluid surrounding the cell, and communicate with adjacent cells. What scientists are finding out now in the research with regard to this field is that these adult stem cells, while they can —and do—differentiate into all sorts of new cells, prior to that, they are actually able to exude vast numbers of these exosomes and send packages of information from cell to cell surrounding them. So, if the adult stem cell encounters a tissue that is in need of assistance in some way, all the “machinery” and “code,” which are just bits of RNA, mRNA, and DNA, can be sent off as a “care package” or “repair package” for the damaged cell (or cells, plural, in fact), and these adult stem cells can exude these packets of information, which are then accepted by adjacent cells, incorporated into their own structure, then causing the RNA and DNA to start replicating and performing its other processes it’s supposed to perform.

Basically, what has been suggested is that adult stem cells can induce “neovascularization,” or the growth of new blood vessels if they are required for tissues that may be short on oxygen or other supplies the blood normally brings. Adult stem cells have been shown to counteract the effect of various sorts of leukemia and various cancers by sending messages to those cancerous cells to downregulate their activity and to discourage their other pathological activities. Certainly, adult stem cells have been shown to be mediators of anti-inflammatory effect by signaling cells that are experiencing a chronic, unwanted inflammatory condition to calm that situation down—to act as the ambulance arriving to downregulate all of those pro-inflammatory cytokines, for example. There are messages that are sent to cardiac tissue in post-myocardial infarction/heart attack situations as well, along with these cells having been shown to be helpful after strokes too. While scientists have known for a very long time that adult stem cells are involved in replicating replacement cells, they weren't really so certain of what they are certain of now, which is that adult stem cells are actually communicators, and will go to where they are required, and by some bemusing mechanism that scientists are still yet to quite pin down, will also know exactly what information is required, and what "care package" is required of what DNA, RNA, or whatever those cells need. It exudes these care packages in huge numbers as well—not in small amounts. Those exosomes will then be incorporated by the damaged cells, to once again make them "happy."

So, the take-home message is that the more adult stem cells you can have circulating within your body (obviously within limits—there is such a phenomenon as having too much of a good thing), and the more you can encourage your bone marrow to undertake the normal, natural process of releasing these adult stem cells much more likely in the way that you did when you were much, much younger, the better this is for ameliorating inflammation and any chronic health condition to speak of. Many scientists believe that this product (StemEnhance Ultra) is the world's premiere product at hand in order to achieve this process.

This StemEnhance Ultra, the flagship Cerule product sold, will restore the rate at which you were able to initiate the release of stem cells from your bone marrow endogenously as you did when you were much, much younger than you are right now (unless you're younger than 18). Depending on how many you take, you can increase the amount of stem cells you release exorbitantly, with the max amount being granted at 16 capsules. Other products that Cerule sells include PlasmaFlo, which cleans out fibrin deposits in the vascular system (you may remember what fibrin is from the Inflammation section above, if you read that) and therefore helps to improve blood flow and circulation, in some cases *restoring* it to the peripheral areas that, in some people, had almost completely lost it, such as fingers and feet. There is also another product called Cyactiv Joint, which aids in the rebuilding and repair of collagen, and Inflammation Support, which is pretty self explanatory. They also have a variety of skincare products, as well as a drink-mix by the name of CollagenActiv, which functions similarly to the Cyactiv Joint product while also incorporating marine collagen into the mix.

If you'd like to buy the product, I would encourage you to use the link below to get a 10% discount off your first order when you sign up for monthly deliveries: https://egoeke.cerule.com/www/shop

KANGEN WATER MACHINE

Earlier, I mentioned the machine I use for water at home, which is a Kangen water machine. You may have heard of this machine before, but for others, it may be quite foreign. Let me give you some insight into what this water is and how it benefits one overall.

Kangen Water, also known as electrically reduced hydrogen water, is water that has had the weak hydrogen bonds that keep it in clusters of 12-100 broken with electrolysis. This reforms them into micro-clusters of 4-6 molecules. This is smaller than the water molecules in filtered water, bottled water, distilled water, and reverse osmosis water.

These smaller water molecules are also absorbed by the body far more rapidly than any other type of water. You only absorb 15% of any other water you drink, but you absorb over 90% of Kangen water. We've all drank so much water so fast that we can feel it sloshing around in our stomachs, and feel like we're going to vomit, right? You will never experience that drinking this water. Your body starts absorbing it as soon as it enters your esophagus—before it ever reaches your stomach. Earlier in this text I also went into meticulous detail on what oxidation is, and how it is harmful to humans. Antioxidants (primarily from the earth) can help protect against this free radical damage, and may even reverse the damage done to cells. Inflammation is another major cause of many chronic health conditions including heart disease, diabetes, and brain diseases as well, as I've also laid out. After the bonds are broken apart in the water, there is hydrogen infused within the water, which makes the water "fizz" slightly, like soda, which you can see and hear.

Hydrogen ions, which are antioxidants themselves, can reduce both inflammation and oxidative stress via this mechanism without the use of grounding at all. In other words, this water grants you very similar effects, like reduced blood viscosity, that grounding electrically to the earth does, meaning that you can drink this water to reap the same benefits if you do not have access to the bare earth or a grounding mat. Of course, the hydrogen in the water needs to be drunk quickly, or, at the very least, covered in an airtight container, as it will not remain forever.

Another thing this water is capable of effectuating is a detoxification process through the body. By drinking this restructured water, you will give your body hydration at a cellular level. You will be hydrating your body more than it has ever been before, which will help your body start to flush out the toxins built up, and the metabolic waste buildup in your cells as well.

Some people do experience symptoms of this detox such as headaches, nausea, fatigue, poor sleep, low concentration and irritability during the first couple days of drinking this water (from my experience and others I've given this water too, however, it's quite uncommon). This is actually a good thing, though; it means your body is finally starting to flush everything out and become *fully* hydrated. The blood is the most easily monitored tissue that can show rapid changes that correlate with health and disease. People drinking Kangen water show exceptionally clean blood as monitored by live blood analysis, a tool to assess blood stickiness, clumping, and coagulation, and clotting processes, which can be related to the activation of an inflammatory cascade.

The filter the machine possesses is a double carbon anti-bacterial filter only, but the filters you can buy from the Ion Faucet's website include a vast array of others, including an arsenic reduction filter, a nitrate reduction filter, a remineralizing filter, a water softening filter, a dual wound sediment filter, and many more.

The water is also concentrated to a pH of 9.5 in the machine by default. Remember, this feature has no effect on your physiology at all. But, this machine actually makes water from a range of 2.5 pH, all the way up to 11.5 pH. These waters are not for drinking. In fact, the 2.5 pH water is infused with hypochlorous acid, a compound your body makes in certain amounts endogenously when you're sick, making this water function as a sanitizer replacement. Anecdotally speaking, I had a wart on my hand for over a year, and used every available product on the shelves to remove it to no avail, and then unintentionally removed it in a matter of 6 days by washing my hands in that water. It's pretty amazing stuff. There is also the 11.5 pH water that I mentioned, which functions as a dish soap replacement, as it completely emulsifies oils on impact (so, yes, this water actually *does* mix with oil!). There is also a 7.0 pH water that is infused with no hydrogen at all (just like the 2.5 and 11.5 pH waters), but is still micro clustered, a 6.0 pH water designed for use on the skin, and an 8.5 pH water as well.

Another great feature of this water is that since the molecules are so small, it makes tea instantly once it touches a tea bag, without the use of boiling. It sounds crazy, but I promise it works.

One more note I'd like to add is a personal one. Experientially speaking, this hydrogen water actually alleviates my symptom flare ups far more than grounding ever has. The mechanisms as to why, for me, are quite unknown. Drinking the 7.0 pH water option has never alleviated a flare as well as the 9.5 pH hydrogen water, even though the 7.0 water is still restructured. Although bemusing, I cannot deny my experience, and it leads me to believe that this 9.5 pH hydrogen water is truly something magical.

If you're curious about buying one of these machines, refer to these links at the end of this book, coming up.

RECOMMENDED LINKS

- ## VIDEOS
  - https://www.youtube.com/watch?v=KRmAEx5CWIM
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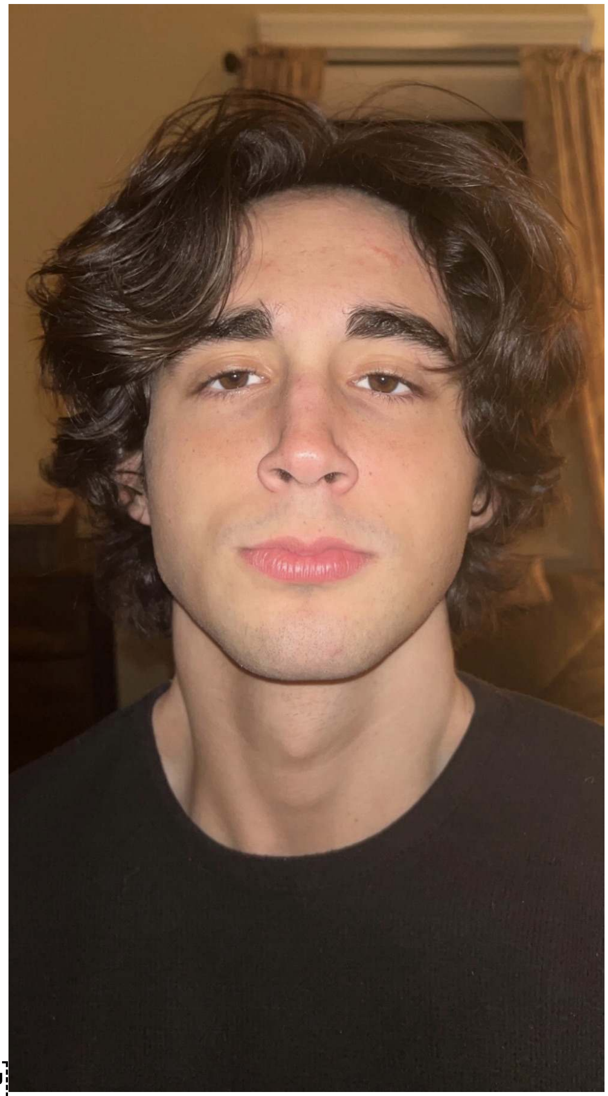
- ## SOCIALS & BUSINESS LINKS

  - Youtube: https://www.youtube.com/channel/UCRvNJCWjZrQIj55Gd4eqN2Q
  - Instagram: @e.goeke41
  - Twitter: @GoekeEddie
  - Patreon: https://www.patreon.com/user?u=6389011
  - Cerule: https://egoeke.cerule.com/www/shop
  - Kangen: Websites
    - Buy machine or shop models: EddieGoekeKangen.com
    - Learn more about the machines (Demo videos/How they work): https://app.enagicwebsystem.com/teamshare/?item=playlist&sharecode=3JZkcy

ABOUT THE AUTHOR



Edward A Goeke is currently a 20 year old high school graduate from Southern Illinois. After developing a serious case of a structural condition known as hyper-mobile EDS (hEDS) at 16 years old, he quickly realized that everything society has been taught about almost every aspect of health has been—and is—completely wrong. After years of continuous independent study and review of chemistry, biochemistry, and other elements of human physiology, Eddie now spends his time creating and uploading content on YouTube (@e.goeke_), Patreon (EddieGoeke), and X

(@GoekeEddie), exposing the endemic myths that have been allowed to promulgate for decades about human nutrition and overall health.

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- Dr. Anthony Chaffee (https://www.youtube.com/@anthonychaffeemd)
- Dr. Ken Berry (https://www.youtube.com/@KenDBerryMD)
- Dr. Robert Kiltz (https://www.youtube.com/@doctorkiltz)
- Dr. Paul Mason (https://www.youtube.com/@DrPaulMason)
- Dr. Ben Bikman (Instagram: @benbikmanphd)
- Zach Murphy (Ninjanerd.org)

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Chapter 1: Looking at Science ~~Differently~~ Properly)

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