

Diet research of the cassiopaea forum - A summary of the science background

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Compiled by Gabriela Segura, M.D.

Regular readers of the cassiopaea forum know that the health research is a must do to the unquestionable benefits of taking proper care of our machines. What we eat affects our body, mind and soul in ways that the average person has never learned about. The great improvements in body and brain health that forum members have achieved are based on solid science and research. It is not an exaggeration to state that this research - pioneered by Laura Knight-Jadczyk and the Quantum Future Group and expanded by the members of this forum - has saved many lives around the world!

Since newbies find it overwhelming to catch up with the various must read threads, I'm - as discussed on other threads - working on a couple of documents to help newbies get up to speed quicker. By reading the documents, they'll be able to navigate the various threads (which still are a must read!) much more quickly and painlessly.

The document is a synthesis based on dozens of health books (both ones on the recommended books list and others), hundreds (if not thousands!) of scientific journals and articles, explanations and experiences from forum members, and the threads "Life

Without Bread", "Ketogenic Diet - Path to Transformation?", "The Vegetarian Myth", and also a few others.

So the aim is to cover the scientific background of the diet, practical aspects of keto-adaptation along with recipes, a carb and protein counter and other practical resources including Sott.net's best health articles and videos, videos made by the "Château Crew", and theoretical and practical aspects of the most favored supplements and complementary therapies for detox and keto-adaptation.

The document will be in google docs for updating purposes according to new dietary research, books, etc.

English is my second language, so for syntax and grammar suggestions, and as to avoid noise, please send the edits as a personal message to Gaby in the forum. For discussions or suggestions related to the material in the documents, post in the relevant thread.

Citations and references will be added shortly.

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Without further ado, let's get started!

Scientific basis of the diet

Let us start without preamble by revealing directly the key for optimal health and wellbeing and the secret that was hidden all along in plain sight: Without fat, or with something akin to a low fat diet for that matter, we would never ever enjoy good health and wellbeing. Period. It is really that simple.

Saturated fat is the cure to many of mankind's modern diseases which stare us in the face.

A Healing Energetic Source

We live in a world where contemporary nutritional science preaches to us day after day about the evils of animal fats. They consider foods like pork fat and red meat as foods only to be consumed occasionally, if ever. We have come to falsely believe that these delicious and extremely satisfying foods are the equivalent of cholesterol clogging our arteries with subsequent death from a stroke or heart attack. Yet our brain's dry weight is 60% fat. Cholesterol itself plays such a vital role in our mental processes that 25% of our body's free cholesterol is found in our headquarters – the brain and nervous system.

Contrary to popular and dogmatic belief, without fat we are toast, both figuratively and literally speaking. In fact, more trouble comes from having low levels of cholesterol rather than too high. People with high cholesterol live the longest. A whole host of health problems as well as the familiar “aging” problems are a consequence of not getting enough of the good fats from our diets. Long gone are the days when the elderly died peacefully in their beds after a long lived life full of experiences and with full cognitive abilities. Now senile dementia is among the most gracious ways to end your cognitive life, IF you are lucky. Such is the vital role fat plays in our bodies.

Healing with Ketosis

Ketosis is an often misunderstood subject. Its presence is equated with starvation or a warning sign of something going wrong in your metabolism. But nothing could be further from the truth,

except if you are an ill-treated type 1 diabetic person. [A research member of sott.net's forum has diabetes type 1 and is doing the ketogenic diet. In normal circumstances, diabetics (including type I) report amazing results on a low-carbohydrate diet. See *Dr. Bernstein's Diabetes Solution* by Richard K. Bernstein, MD (Little, Brown and Company: 2007).]

Ketones - contrary to popular belief and myth - are a much needed and essential healing energy source in our cells that come from the normal metabolism of fat.

The entire body uses ketones in a more safe and effective way than the energy source coming from carbohydrates - sugar, AKA glucose. Our bodies will produce ketones if we eat a diet devoid of carbs or a low-carb diet equating to less than 60 grams of carbs per day. (This does vary among each person, but the general range is between 0 and 70 grams of carbs plus moderate intake of protein, being between 0.8 and 1.5 grams of protein per kg of ideal body weight. Pregnant women and children should not have their protein restricted). Being keto-adapted means that you use fat as an energetic source. This happens when you eat lots of fat along with little or no carbs AND when you eat moderate quantities of protein.

In fact, what is known today as the ketogenic diet was the number one treatment for epilepsy until Big Pharma arrived with its dangerous cocktails of anti-epileptic drugs. It took several decades before we heard again about this diet, thanks in part to a parent who demanded it for his 20-month-old boy with severe

seizures. The boy's father had to find out about the ketogenic diet in a library as it was never mentioned as an option by his neurologist. After only 4 days on the diet, his seizures stopped and never returned. (Volek and Phinney, 2011). The Charlie Foundation was born after the kid's name and his successful recovery, but nowadays the ketogenic diet is available to the entire world and it's spreading by word of mouth thanks to its healing effects.

It is not only used for a healthy lifestyle, it is also used for conditions such as infantile spasms, epilepsy, autism, brain tumors, Alzheimer's disease, Lou Gehrig's disease, depression, stroke, head trauma, Parkinson's disease, migraine, sleep disorders, schizophrenia, anxiety, ADHD, irritability, polycystic ovarian disease, irritable bowel syndrome, gastroesophageal reflux, obesity, cardiovascular disease, acne, type 2 diabetes, tremors, respiratory failure and virtually every neurological problem. It is also used to combat cancer and conditions where tissues need to recover after a loss of oxygen (Paoli et al., 2013).

Our body organs and tissues work much better when they use ketones as a source of fuel, including the brain, heart and the core of our kidneys. If you ever had a chance to see a heart working in real time, you might have noticed the thick fatty tissue that surrounds it. In fact, heart surgeons get to see this every day. A happy beating heart is one that is surrounded by layers of healthy fat. Both the heart and the brain run at least 25% more efficiently on ketones than on blood sugar.

Ketones are the ideal fuel for our bodies, unlike glucose, which is damaging, less stable, more excitatory and in fact shortens your lifespan. Ketones are non-glycating, which is to say, they don't have a caramelizing, aging effect on your body. A healthy ketosis also helps starve cancer cells as they are unable to use ketones for fuel, relying on glucose alone for their growth. (Klement et al., 2011).

The energy producing factories of our cells - the mitochondria - work much better on a ketogenic diet as they are able to increase energy levels in a stable, long-burning, efficient, and steady way. Not only that, a ketogenic diet induces epigenetic changes (If the genetic code is the hardware for life, the epigenetic code is software that determines how the hardware behaves), which increases the energetic output of our mitochondria, reduces the production of damaging free radicals, and favors the production of GABA - a major inhibitory brain chemical. GABA has an essential relaxing influence and its favored production via ketosis also reduces the toxic effects of excitatory pathways in our brains. Furthermore, recent data suggests that ketosis alleviates pain other than having an overall anti-inflammatory effect. (Ruskin and Masino, 2012).

The ketogenic diet acts on multiple levels at once, something that no drug has been able to mimic. This is because mitochondria are specifically designed to use fat for energy. When our mitochondria use fat as an energy source, its toxic load is decreased, the expression of energy producing genes are

increased, its energetic output is increased, and the load of inflammatory energetic-end-products is decreased.

These miraculous healing effects rely on the fact that fat metabolism, and its generation of ketone bodies (beta-hydroxybutyrate and acetoacetate) by the liver, can only occur within the mitochondrion, leaving chemicals within the cell but outside the mitochondria, then being readily available to stimulate powerful anti-inflammatory antioxidants. The status of our mitochondria is the ultimate key for optimal health and while it is true that some of us might need extra support in the form of nutritional supplementation to heal these much needed energy factories, the diet still remains the ultimate key for a proper balance.

Our modern world's staple energetic source is sugar, which needs to be processed first in the cell soup before it can be passed into the energy factory of the cell - the mitochondrion. Energy sources from fat don't require this processing; they go directly into the mitochondria for energetic uses. That is, it is more complicated and difficult to create energy from sugar than it is from fat. As Christian B. Allan, PhD and Wolfgang Lutz, MD said in their book *Life Without Bread*:

Carbohydrates are not required to obtain energy. Fat supplies more energy than a comparable amount of carbohydrate, and low-carbohydrate diets tend to make your system of producing energy more efficient. Furthermore, many organs prefer fat for energy.

The fact is you get MORE energy per molecule of fat than sugar. How many chronic and autoimmune diseases have an energy deficit component? How about chronic fatigue? Fibromyalgia? Rheumatoid Arthritis? Multiple Sclerosis? Cancer? Back to Allan and Lutz:

Mitochondria are really the power plants of the cell. Because they produce most of the energy in the body, **the amount of energy available is based on how well the mitochondria are working.** Whenever you think of energy, think of all those mitochondria churning out ATP to make the entire body function correctly. The amount of mitochondria in each cell varies, but up to 50 percent of the total cell volume can be mitochondria. **When you get tired, don't just assume you need more carbohydrates; instead, think in terms of how you can maximize your mitochondrial energy production...**

If you could shrink to a small enough size to get inside the mitochondria, what would you discover? The first thing you'd learn is that the **mitochondria are primarily designed to use fat for energy!**

In short, let fat be thy medicine and medicine be thy fat!

You will think that with all of this information we would see ketogenic diets recommended right and left by our health care providers, but alas, that is not the case. Mainstream nutritionists recommend carbohydrates, AKA sugar as the main staple of our

diets. The problem with this (and there are several of them) is that in the presence of a high carb diet we are unable to produce ketones from the metabolism of fats, thus, depriving our bodies from much healing ketone production. The fact that we live in a world which uses glucose as a primary fuel means that we eat a very non healing diet in more ways than one.

I have been doing the low carb diet for about a week and a half now and I must say, I am really starting to feel amazing!!! The first few days my head hurt, I felt lethargic, and my legs felt so heavy. But after I got past that, I have so much energy. I don't get tired anymore around 3pm. The best part is, I am not constantly thinking and obsessing about food. I feel a real sense of inner calm. My skin looks better, my hair looks better too. I have been having bacon and eggs for breakfast, a pork chop or other piece of meat for lunch, and usually some pork and sometimes some green beans for dinner. I have also lost some weight! Woo hoo!!! - Angela, United States. Sott.net forum.

We have been on a ketogenic diet for nearly three million years and it has made us human. It was the lifestyle in which our brains were nurtured and evolved. But not anymore, unless we all make an effort to reclaim this lost wisdom. Nowadays the human brain is not only shrinking, but brain atrophy is the norm as we age and get plagued with diseases such as Alzheimer's disease, Parkinson's disease, senile dementia and so forth.

In the mean time, new research is starting to elucidate the key role of our mitochondria in the regulation of the cell cycle - the vital process by which a single celled fertilized egg develops into a mature organism, as well as the process by which hair, skin, blood cells, and some internal organs are renewed. In the complicated and highly choreographed events surrounding cell-cycle progression, mitochondria are not simple bystanders merely producing energy but instead are full-fledged participants. (Finkel, 2009). Given the significant amount of energy needed to make all the nutrients required for cell division, it makes sense that some coordination existed. This long ignored and overlooked connection between the mitochondria and the cell cycle is something that is worthy of much further attention as we understand the role of diet in our bodies. We'll have to take a closer look at this subject of ketosis, as it really holds the key to unlocking our transformational pathways that can lead us to an outstanding way of healthy living.

You Are What You Eat

Another basic premise crucial to understanding why fat plays such an important place in our health comes from its role. You see, our bodies are made of cells (trillions of them), which are the units of life. Every cell is enclosed in a membrane that provides the waterproofing that protects it from its surroundings. This cell membrane is made of an uninterrupted fabric, made for the most part of fat.

Whatever fats you eat become your fat. If you eat rusted fat which is the plastic and highly oxidizing fat that passes now as “healthy

low fat”, the waterproofing of your life units will be made of a rusted coating. Try living with the trillions of life units that compose your body when they are coated in rust. This is where disease comes.

If you were to eat only plastic fat (i.e. margarine), then your cell membrane’s fatty composition would reveal the distinctive characteristics of the plastic fats in margarine. If you eat chicken fat, your cell membrane’s fat reflects the fatty acid composition of the chicken. But if you eat a highly oxidizing fat - which invariable means low fat in our modern world - you can count on its oxidation in our bodies. It is highly inflammatory and we already live in a high-inflammation environment.

You are what you eat, literally. Or rather ate.... now would be a good time to take a close look at what you have eaten for most of your life and its consequences on your health.

Fats also provide raw material for building-up a variety of crucial hormones and hormone-like substances in our bodies.

Cholesterol, our body's vital fat, acts as a precursor to essential corticosteroids: hormones made by the adrenal glands that help us deal with stress and protect the body against disease. Thanks to the unprecedented amounts of stress we are being subjected to nowadays, we now suffer what is called *Adrenal Fatigue: The 21st Century Stress Syndrome* (Wilson, 2001). Keep in mind that a low fat diet will only make this problem worse as we deprive ourselves of much needed building blocks for stress-coping hormones.

Cholesterol is also the raw material for making sex hormones like androgen, testosterone, estrogen and progesterone. Most people have an imbalance of some sort with these hormones including diseases like polycystic ovarian syndrome, endometriosis, infertility, PMS, hypo or hyper androgenism and so forth. You need enough of the good fats to balance your hormonal system in a proper way. Ladies' menstrual problems usually correct themselves on a low carb diet, while others report not noticing menopause. Gentleman recover their libido.

When it comes to fat, you are what you eat. If you have a diet based on corn oil as a source of fat, your fat cells will have increased amounts of linoleic acid, the fatty acid found in corn oil. So if you eat corn oil, your adipose tissue gets corn oily.

There had been an epidemic of heart disease in the twentieth century. Had there been a corresponding change in Americans' diets? Samples of fat tissue, obtained at autopsies show that the American diet had changed from one that emphasized animal fat, and particularly fat from pork, to one with more corn or vegetable oils.-Gina Kolata, *Rethinking thin* (2008).

The hormone DHEA (dehydroepiandrosterone) is also made from cholesterol by the adrenal glands. You might say that it is a "chemical cousin" of estrogen and testosterone as it helps form

these hormones. It is also responsible for body functions such as fat and mineral metabolism, and stress control.

More recently, a number of health claims have been made for DHEA. For instance, it might be an "anti-aging" agent, because restoring its levels to those found in 20-year-olds appears to have a rejuvenating effect. It is also said that DHEA can prevent or delay the onset of cancer, the hardening of arteries, lethal viral infections, lowered immunity, obesity, and diabetes. Some of the more interesting research and theories on DHEA have come from C. Norman Shealy, M.D., Ph.D., who has been studying this hormone for years. In his research, he has discovered that low levels of DHEA (along with low levels of the mineral magnesium) are found in nearly all diseases. In one of his studies, Shealy looked at DHEA deficiency in chronic pain and depression (Shealy et al., 1996).

Cholesterol is also a precursor to vitamin D: a crucial fat-soluble vitamin needed for healthy bones and brain tissue, proper growth, mineral metabolism, muscle tone, insulin production, reproduction and immune system function, the latter having a crucial role in combating disease. It is not surprising that people with various autoimmune conditions such as rheumatoid arthritis, Crohn's disease, type I diabetes and Sjögren's syndrome usually have low cholesterol values (Miettinen et al., 2004; Lodde et al., 2006). Rheumatoid arthritis patients even show low cholesterol levels 5 years prior to its diagnosis (Myasoedova et al., 2010).

It is really a no brainer since cholesterol is a potent anti-inflammatory fat which inhibits the formation of pro-inflammatory chemicals such as leukotrienes and thromboxanes through inflammatory pathways (Aleksandrov et al., 2006; Zagryagskaya et al., 2008).

Moreover, research suggests that cholesterol acts as an antioxidant (Smith, 1991), protecting us against free radical damage that leads to heart disease and cancer. Sally Fallon Morell and Mary G. Enig, PhD, authors of *Nourishing Traditions: The Cookbook that Challenges Politically Correct Nutrition and the Diet Dictocrats*, refer to cholesterol as the body's repair substance, manufactured in large amounts when the arteries are irritated or weak. They put forward the analogy that blaming heart disease on high serum cholesterol levels is like blaming firemen who have come to put out a fire for starting the blaze. In view of cholesterol's vital role in our bodies, this makes a lot of sense!

The so called "bad cholesterol," AKA LDL cholesterol, cannot be that bad if it is essential to transport cholesterol to the cells and various tissues of our bodies. LDL also carries powerful and essential antioxidant nutrients into the body such as vitamin E and the DHEA discussed above. Studies have also shown that "bad" LDL cholesterol has the ability to reduce pathogens and infectious bacteria. In fact, many researchers have written about the key role of fat in the immune defense system. High cholesterol protects us against infections (Ravnskov, 2003). People with autoimmune diseases (i.e. rheumatoid arthritis) are at an

increased risk of developing infections compared to the “normal” population (Doran et al., 2002).

Bacterial products such as lipopolysaccharides (LPS) - the coat material in some bacteria, i.e. gram negative bacteria - act as endotoxins in our bodies, making our immune system fire wildly. One of the first lines of defense against the ill effects of these endotoxins are both "bad" LDL and "good" HDL cholesterol which binds to LPS, and when bound to it, they become inactive and removed from circulation (Harris and Kumwenda, 2000). In this way, uncontrollable pro-inflammatory cytokines are not triggered. LDL and HDL cholesterol are really a part of the innate immune/defense system. Some even argue that HDL cholesterol's main role is infection fighting, not cholesterol transport.

Fat also is raw material for lung surfactant which protects our lungs from pollution and damage by oxidative stress. Saturated fat also protects the more vulnerable essential fatty acids (i.e. Omega-3s of heart health fame) from damage and rancidity.

In view of this information, it is comprehensible how a person with low cholesterol levels is at an increased risk for infection, autoimmune diseases and the much dreaded chronic inflammation which has a role in invariably every single disease. In fact, you'll likely die if you go through a septic blood poisoning event with low cholesterol levels (Chien et al., 2005).

I think I never ate so much fat (and meat) food for breakfast...I thought I might have problems due to fatty foods. But everything was fine, and my skin after three or four days (!) has become really smooth and soft. I've lost 3 kg, and I've never been hungry...my friends were surprised how well and healthy I look, and that I look like I'm filled with peace...I told them about breakfast with sausages and bacon, and how I never felt hungry. They were very surprised! But they believed! And it was only then when they see changes in me in just one week! I've talked to them months ago about the harmfulness of dairy and wheat, about how important are saturated fats. But obviously they didn't take me seriously. One of them began to think about how she can start breeding ducks for fat! And then I finally realized that all my stories about healthy eating does not mean anything until they do not SEE a change in me. And now I can really understand what means: be the change what you want to see in the world. - I.

Our bodies total cholesterol content is about 35g, primarily located within all the membranes of all the cells of the body. Our livers are also capable of producing cholesterol - roughly 80% of the cholesterol circulating in the blood. We have to produce enough of it since it is really that important as you are discovering. If we are not eating enough of it or if our livers are overburdened with the task of detoxifying the body from a most polluted environment like the one we live today, or if the liver is overburdened with so much toxic food (or the tons of pills and

drugs consumed every year), then we will not have or produce enough cholesterol. Those who have low cholesterol level might want to rethink their health status!

Low cholesterol levels may also reflect decreased bile output which in itself might mean that we are eating too much of the wrong foods and not enough of the good old fats. You see, cholesterol is the precursor to bile salts, which are vital for digestion and assimilation of fats and fat soluble vitamins (A,D,E,K) in the diet. People on a very low fat diet end up damaging or clogging their gallbladder sooner or later (use it or lose it!) and the modern-day solution to this problem is the surgical resection of such an important organ that helps absorb much needed nutrition.

Gallbladder surgery is one of the most detrimental and aggressive surgeries done in the world today. The 10 year outcome from this mutilation is fat malabsorption along with its increased risk of pretty much every known disease due to subsequent deficiencies of fat, vitamins A,D,E and K and essential omega-3 fatty acids.

I have also noticed an increase in muscle tone/strength since incorporating more fat into my diet. I have never had a problem gaining weight, quite the opposite; I put on weight quickly & readily & have spent my whole life fighting excessive weight gain! I have always felt it was a curse, but can see that an inability to put on weight is a problem as well.

Never the less, I have noticed increase muscle mass & decrease in fat mass since upping my fat intake. And a little bit of exercise has gone a long way in speeding up this process. Viva la Fat!!! -Lilou

Cholesterol is also needed for proper function of serotonin receptors in the brain. Serotonin is the body's natural "happy" chemical. This is why low cholesterol levels are linked to aggressive and violent behavior, depression and suicidal tendencies (Virkkunen, 1979; Engelberg, 1992; Golomb, 1998; Repo-Tiihonen et al., 2002). Low serotonin in the spinal fluid is associated with suicide, impulsive acts, hostility, and aggression - and yes, low serotonin in the spinal fluid is associated with low cholesterol.

Cholesterol is also needed for the formation of myelin - the coat that insulates the nerves and that facilitates effective and fast conduction of the electrical impulse in nerve tissues.

Furthermore, cholesterol is required for various other brain chemicals whose signaling disruption is associated with anxiety, depression, and aggression. People start losing their memories with cholesterol lowering drugs because the brain gets hungry for cholesterol in order to maintain its basic functions. Learning disabilities in children are directly related to lower cholesterol levels. A lack of the appropriate fats during pregnancy or early development is also a factor behind epidemics such as autism,

ADHD and other neurological syndromes. People with lower cholesterol levels have shorter lifespans.

Cholesterol is not only found in nerve sheaths, but also in the white matter of the brain and in the adrenal glands. Dietary cholesterol is also essential for our gastrointestinal lining, where it keeps cell-membrane integrity and can prevent excessive gut permeability.

Mother's milk is especially rich in cholesterol. Babies and children need cholesterol-rich foods throughout their growing years to ensure proper development of the brain and nervous system. It is not surprising to find that more and more children are diagnosed with ADHD and autism in our low-fat world. Hopefully they will finally find out about the ketogenic diet!

As you can see, fat and cholesterol are the most valuable nutrients for health and for coping with stress. Fat is essential to make your stress-coping and mood-regulating sex hormones and brain chemicals!

Good, Bad and Ugly

When it comes to good fat, think of animal fat and you won't go wrong. Throughout our human history, we have eaten saturated fat from animals which in turn ate a natural diet (i.e. grass!).

Saturated fats contain more hydrogen than non-saturated fats, which gives them greater stability and strength so they won't go

rancid in your body. Upon careful examination we will find exonerating evidence about fat and heart disease all over the place in solid scientific studies (Siri-Tarino et al., 2010; Chowdhury et al., 2014). If we don't hear about it more often, or if we even hear bogus epidemiological studies blaming saturated fat as a culprit, then you have Big Pharma and Big Agra and our lack of awareness to thank for that. Often studies may even say "saturated fat is bad for your health," while not even testing animal fats but rather a poisonous cocktail involving toxic, hydrogenated vegetable oils. Just to make things clear, *hydrogenated vegetable oil doesn't qualify as saturated fat*; it qualifies as a plastic vegetable oil which will go rancid (oxidize) in your body, with serious consequences sooner or later. People who have heart attacks usually ate a meal cooked in vegetable and hydrogenated oils prior to the acute event. I have lost count of how many times media and doctors alike blamed animal fats for what plastic, processed vegetable oils are really doing to this very day.

Saturated animal fats will not go rancid (oxidize) in your body, and if used as a primary fuel for the body it will transform and heal your body with much needed healing ketones.

To recap, saturated fat is the preferred energy source for our hearts because it is a source for ketones which burn at a reliable and much steadier pace than sugar does. Our hearts are surrounded by a big chunk of saturated fat. In your brain and body, saturated fats build protective cell walls. In your skin they keep damaging UV rays from penetrating and keep moisture in.

Saturated fats keep your blood sugar levels steady and rock solid, which keeps your mood solid and stress-relieved. When your brain uses ketones as fuel, it is less prone to the ill-effects of anxiety, anger and other moods that are promoted by having huge unsteady spikes in your blood sugar. This is why the ketogenic diet is used in ADHD, anxiety problems and practically every neurological condition.

I can't believe how amazing my skin looks and feels since being on the keto diet. It is smooth, soft and acne free. I have always had trouble with acne, and now I have really nice skin. The dark circles under my eyes are diminishing as well. It's only been about 5 weeks, but I feel like I am even starting to look a little younger. - Angela

You can safely use saturated fat to cook at heat levels that would toxify and oxidize vegetable oils since the sturdy saturated fats hold up to the heat.

Fat-soluble vitamins crucial for our health - vitamins A, D, E, and K - cannot be absorbed into our bodies without its carrier, saturated fats. The same is true for minerals such as calcium and its appropriate assimilation into the bones, rather than into soft tissues such as the aorta. Nutritional elements in vegetables such as collard greens are not absorbed unless they are eaten with butter or bacon fat. Furthermore, it is worth mentioning that nutrition from animal sources is far more valuable than the ones

from vegetables. This is why our grandmothers' wonderful and delicious cooking always included animal and saturated fat.

We've been replacing those memorable meals with toxic additives and ingredients that try to mimic the real thing, but don't fool one single cell in our bodies. We end up craving more junk food in order to satiate an unquenchable longing for good and REAL nutrition. The fake stuff never does it. Ever since we started eating them, it only has resulted in disastrous consequences for our health.

The key that opens the door to good health lies in knowing and eating good fats while completely eliminating the bad and ugly ones. Therein lies the secret. Let's have a closer look and you'll understand this subject much better than any doctor or nutritionist ever did.

Essential Fatty Acids

These fats are essential because they can't be made by the body, thus we have to ingest them. Mother Nature made us completely dependent on our diet to supply them. There are two of them and their names are linoleic acid (LA) and alpha-linolenic acid (ALA). You will also hear about essential fatty acids referred to as polyunsaturated fatty acids (or PUFAs) because the carbon atoms in the fatty acids have chemical bonds that are not filled by hydrogen. For practical purposes, this means they tend to "curve" and get softer, they are rather flexible. These fats are liquid at room temperature and the more polyunsaturated they are, the more liquid they become. Fish oil is the most polyunsaturated one

and will remain liquid even in your freezer. Essential fatty acids or PUFAs are what people know more commonly as omega-6 and omega-3 fatty acids.

Essential fatty acids are the raw materials for making all prostanoid hormones which are the main vehicles for communication among the trillions of cells our bodies have. Prostanoid hormones (i.e. prostaglandins) are made by just about every single cell in the body. They are critical for bodily processes such as blood sticky-ness, sperm production and brain cell function.

Prostanoids are tantamount to super hormones that control other hormones.

Linolenic acid (LA) is referred to as omega-6 and never in the history of humankind have we consumed such massive amounts of it. It is found in high quantities in several overrated vegetable oils such as corn oil, safflower oil, sunflower oil, cottonseed oil, canola oil, soy oil, sesame oil, wheat germ oil, walnut oil, peanut oil, etc. So why does it matter if we eat lots of vegetable oils rich in LA/omega-6s?

Generally speaking, omegas -6s are the raw materials for many of the prostanoid hormones that make up our body's inflammatory response. Chronic inflammation is promoted by a high intake of the omega 6 fatty acid linoleic acid (Lands, 1992) and chronic inflammation is at the root of cardiovascular disease, insulin resistance, cancer, hypothyroidism, autoimmune diseases,

thrombotic stroke, headaches, asthma, arthritis, depression, psychosis, and every single disease for that matter.

If you heard about the importance of Omega-3 fatty acids in cardiovascular and cognitive health, then you know how essential they are. Omega -3s belong to the family of fatty acids we make from alpha-linolenic acid (ALA).

Omega -3 fatty acids include EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid), and as it happens, omega-3s compete in the body with the omega-6s. Omega-3s are the raw materials for many of the prostanoid hormones that make up our body's anti-inflammatory response. Of all the foods that actively fight inflammation, omega-3 fatty acids are the ones that have been the most studied. It doesn't necessarily mean they are the most anti-inflammatory fats, but since omega-3s were never vilified by the food industry, their research has proceeded more smoothly.

ALA (alpha-linolenic acid), the queen of the essential fatty acids and the mother of Omega-3s, is found in flaxseeds, walnuts and green stuff such as grass, leafy plants, plankton and so forth. When animals eat grass or a fish eats plankton, they transform the ALA into the Omega-3s: EPA and DHA.

Animals make these conversions rather easily, but we humans have much trouble doing so since it is a delicate process and it is further complicated by the extremely poor quality food people have been eating since the Agricultural Re(In)-volution (too much

inflammatory omega-6s!). This is why eating animals that in turn ate grass is so healthy; they provide us with much needed Omega-3s that we often are compromised to make from their mother, ALA.

This brings more of the same problem though. That is, it is rather difficult to get a hold of animal foods that ate only grass or a natural diet while alive. We have agriculture and the food industry to thank for that. They changed the diet of animals who were supposed to graze into something that is completely counter intuitive for them.

Today's cattle are raised on corn or manufactured feed that supplies no omega-3s for the animal to incorporate into its organs and meat. Instead, it supplies more inflammatory omega-6s with serious consequences for the animals and our health. We need to also consider that corn nowadays is mostly genetically modified with unique problems of its own, but more on that later.

The result is a widespread global deficiency of omega-3s in industrialized nations and developing countries alike. Any successful solution to the problems of obesity and chronic inflammation must correct this deficiency by incorporating omega-3 into the diet. This is why supplementing with omega-3 fatty acids has been shown to be beneficial in several diseases either for treatment or prevention, including arthritis, colitis, diabetes, high blood pressure, heart attacks, heart arrhythmias, asthma, dementia, depression, and schizophrenia.

Just to give you an idea, in the Western diet today, the omega 6:3 ratio is somewhere between 17 and 30 to 1. There is too much inflammation fueling cancer, diabetes, obesity, depression, heart disease, autoimmune diseases, ETC! This is without considering the other multiple negative aspects of our modern food.

Hunter-gatherers, coastal fishing populations, and paleo ancestors had a ratio of between 4:1 and 1:2, a far greater balance hard to obtain in the world today!

DHA (Omega-3) is the fatty acid that makes up the highest percentage of the human brain, or at least that is the way it is supposed to be. DHA is found mainly in the grey matter where our thinking takes place. Think of DHA when Agatha Christie's Hercule Poirot says "It is the little grey cells, mon ami, on which one must rely". DHA aids visual and cognitive function, forming receptors for brain chemicals such as serotonin and dopamine. It also helps the hippocampus - our brain's memory headquarters - make new memories. If we are not getting enough Omega-3s, then you can say adios to your memory, your little grey cells, your concentration, your cognitive functions... and this is in fact what has happened in the world today!

There are other important essential fatty acid considerations with regards to Omega-6s. When the omega-6s comes from ALA (alpha linolenic acid - which you might recall is also mother of the Omega 3s) then, it serves as precursor for anti-inflammatory prostanoid hormones. For instance, series-1 prostaglandins arise from GLA (gamma-linolenic acid) which is a unique form of

omega-6 found in evening primrose oil, borage seed oil and black currant seed oil, and from DGLA (dihomo-gamma-linolenic acid) which is naturally abundant in liver and other organ meats. These are all powerful anti-inflammatories. You may have heard of evening primrose oil as a favored treatment for PMS and other reproductive problems.

Series-2 prostaglandins are manufactured from arachidonic acid (AA) which is also considered an omega-6 acid found in organ meats, animal fat (especially pork), eggs, butter and seaweed.

They are considered inflammatory although in an overrated way since it can produce both anti-inflammatory and inflammatory responses. Furthermore, we mentioned earlier Omega-3's DHA as the highest percentage of the essential fatty acids in the brain, especially in grey matter. Well, the other essential fatty acid in the brain is from arachidonic acid which is found all over the brain. AA is essential for healthy cognitive functioning as well as necessary for a healthy inflammatory response following injury. Nora T. Gedgaudas, CNS, CNT writes in *Primal Body, Primal Mind* how up to 20% of the population may actually be deficient in AA and how excess insulin triggered by a high carbohydrate diet strongly influences AA's pro-inflammatory response, especially when coupled with excess omega-6s from vegetable oil.

The good news is that saturated fats support the function of the omega 3s in our brains, reducing the negative effects of the excess omega-6s. They actually lower levels of arachidonic acid. Furthermore, keto-adaptation results in marked changes in how

our bodies construct and maintain optimal cell membrane fat composition. There are less inflammatory markers (ketosis=anti-inflammatory) and less production of reactive oxygen species which oxidizes essential fatty acids.

PUFAs rich in essential fatty acids are very important nutrients in our diet; we can't make them and must rely on dietary sources to provide them. However, if you eat lots of saturated fat, then you need a much smaller proportion of both omega-3 and omega-6 fatty acids to get the same amount of essential fatty acids as a person eating a low fat diet. Jeff. S. Volek, PhD, RD and Stephen D. Phinney, MD, PhD demonstrate this in their book *The Art and Science of Low Carbohydrate Living*. Both human and animal studies show that a low carb diet rich in good fats is associated with increased levels of essential fatty acid products (i.e. Omega-3's DHA) in tissue membranes and blood phospholipids. This occurs without signs of an increased production, suggesting that their rate of degradation goes down when dietary carbs are limited and keto-adaptation promoted. Thus our requirements for anti-inflammatory essential fatty acids are reduced on a ketogenic diet. Think of saturated animal fat as the fat giving stability and support to the essential fatty acids.

Plastic Fat

In the 1950s corn and other vegetable oils came onto a market that previously offered only lard, butter and olive oil. Such oils, extracted from various plants with hot steel rollers and a process that involves dissolving and recovering oils from a solvent which is akin to dry-cleaning fluid, were sold in the market. By the

1960s, vegetable oil and margarine had become staples in the American kitchen, at the cost of a substantial measure of both our health and our happiness.

The oils were developed with the purpose to improve shelf life so that a bottle of vegetable oil that went rancid rather quickly on the shelf of a grocery store would last over a period of months. This was accomplished by removing the vulnerable fraction of the oil, resulting in remarkable stability of the final product. But what they removed was the essential fatty acid alpha linolenic acid (ALA): the queen and mother of the Omega-3s (Oops!), and the ones that remain are incredibly toxic and something akin to eating plastic. They removed ALA because it was the most vulnerable part, with a tendency towards rancidity.

That Americans came to see vegetable oil as the healthiest-possible kind of fat was one of the more astonishing changes in our attitudes about diet in the twentieth century. The change in consumption itself was astronomical: the oils went from being completely unknown before 1910 to representing somewhere around 7 percent to 8 percent of all calories consumed by Americans by 1999. - Nina Teicholz, *The Big Fat Surprise*

Remember that ALA is a flexible polyunsaturated fatty acid and it is precisely its flexibility properties that make it vulnerable to become oxidized or rancid; it is much too unsaturated. This is

why you must never cook with liquid and flexible oils, they become rancid the minute it touches heat!

It is the saturated animal fats along with several other antioxidants that provide stability to the Omega-3s in our bodies, helping them to serve their functions without going rancid.

The essential role of ALA was not discovered until after the manufacture of these plastic oils. But it is downright outrageous and irresponsible that these plastic fats are still for sale today, touted as healthy fats for cooking, ranking in the top in our dietary recommendations for being “low fat” even in the insurmountable and indisputable evidence of their damaging effects to our health.

It's true that vegetable oils had been shown to lower total cholesterol successfully, and this effect held great appeal to a research community obsessed with cholesterol. Yet cholesterol-lowering was just one of the many effects of these oils on biological processes, not all of which seemed to be so beneficial. In fact, no human population had been documented surviving long-term on oils as a major source of fat until 1975, when researchers studied the Israelis, who at the time consumed "the highest reported" quantity of vegetable oils in the world. Their rates of heart disease turned out to be relatively high, however, contradicting the belief that vegetable oils were protective.

- Nina Teicholz, *The Big Fat Surprise* 2014

The bad fats coming from the chemical extraction and processing of vegetable oils have to do with the pressure and heat of the extracting process which causes some of the molecules to rotate at one of their joints. As a result, molecules change shape and this transformation is called a “trans” configuration. Except for those oils that are cold pressed, processed oils with heat and pressure tend to have trans fatty acids. But recall that even if we can get a hold of vegetable oils that are cold pressed, these oils out of seeds, nuts, and beans are very rich in the inflammatory omega-6s. Whilst Omega 6s help us clot our blood, shed the lining of the uterus when we menstruate, and constrict our blood vessels, this inflammation is only useful up to a point. Even though it can kill things like viruses and bacteria, over consuming omega-6s can result in overkill of healthy tissues in our bodies, including the brain. Chronic inflammation of the brain can interfere with brain chemicals. It's the combination of rancidity, excess consumption, and inflammation that makes the omega -6s a serious modern health hazard.

Margarine has a very high percentage of trans fatty acids, but it is especially evil for other reasons as well. Margarine's oils have been intentionally altered by a process called hydrogenation which seeks to imitate artificially an aspect that only saturated fats from animals can have by nature. Remember, the fake stuff is always detrimental. Let's take a look at what is done to these rancid oils, which are liquid by nature, to make them harden into the margarine and shortening that we find in most processed

food and use in our kitchens to "protect" our hearts... What a joke!

Hydrogenation consists of bubbling hydrogen for several hours through an oil until it has changed its essential molecular structure, passing from being a liquid unsaturated oil to being stiff and thick. The toxic implications of these trans fats and of this hydrogenated vegetable saturated fat surpasses by far any dangers wrongly attributed to saturated animal fats. It is a chemical process that a biochemist will describe as a step away from plastic. Even though it looks "solid", it is still very vulnerable to become rancid.

Keep in mind that the damage can happen after these unhealthy fats have reached their destination in our bodies. Rancidity is really bad news. As Sidney MacDonald Baker, MD writes in *Detoxification and Healing*: "[oxidation is] the most globally toxic force affecting all of the molecules of the body, the enemy of youth, the ally of all diseases, and the fundamental mechanism of all injury, deterioration, aging, and death." It is of utmost importance to not allow the body's fats to become rancid.

Numerous studies have described the fatal effects of the hydrogenation in our arteries and hearts. People who eat even a 2% energy intake extra from trans fats can have up to a 90% increased risk of cardiovascular disease (Clifton et al., 2004)! In fact, most of the studies I've seen which find bad things about saturated fat are due to the fact that they use hydrogenated fats in their experiments.

That's been my experience, too. It takes a little while to get the liver kicked back online since most people's livers have gone totally sluggish due to low fat diets. (Hmmm... maybe that's deliberate? If your liver isn't working, you aren't detoxing!) But after awhile of using ox bile and other digestive enzymes, you find that you need them less and less.

Also, the joint pain reduction is marvelous. It sounds silly, but I kind of feel like all the fats I've been eating are lubricating everything, including my joints. Well, it isn't silly because all your cell surfaces are made of fats and when you eat vegetable oils, trans fats, etc, all your cell surfaces turn into hard plastic and don't communicate well with one another. It probably even contributes to insulin resistance.

Good fats make good hormones, too! Imagine hormones made up from vegetable oils and trans fats????!!

Plus, the added benefits of a constant, steady, easy reduction in weight without any dieting whatsoever. It's like the body is seeking and finding its correct level as it gets the ingredients to repair itself.

Then, of course, there is the factor of the brain needing plenty of good, saturated fats to work well so your thinking naturally improves and brain fog disappears. After a few months, you realize suddenly that everything is working better and only THEN do you realize how bad it had gotten and how hard your body had been working to compensate. All kinds of energy is freed up! Geeze, with the low fat, high

veggie diet, we have all been just frogs in a gradually heating pan of water! -Laura

These toxic fats are nearly in every single packaged food and many manufacturers don't list them among their ingredients - including manufacturers of organic foods! - on the contrary, they have the nerve to say "trans fats free". Nowadays, the Food Industry conceals the amounts of trans fats which make people sick and kill them. Why? It is cheaper to use it and it can still be sold as health food with a profit!!

The oxidation of molecules whose integrity is essential to the structure of our cell membranes but also to our DNA, skin or tissues results in damage or disease, especially to the areas rich in fat like your brain. Think of all the degenerative neurological diseases that are plaguing us today, including depression and anxiety problems! Changing the quality of fat in our cell membranes has the potential to affect its permeability which controls the transportation of everything from glucose, signaling proteins, and hormones to bacteria, viruses and cancer-causing agents into and out of the cell.

If you eat vegetable oils that are already oxidized from heat and light in processing, you are exposing your own healthy tissues to a volatile substance that will damage them. You can keep butter on the table for days at a time and it won't spoil because it's not damaged by light and heat since it is mainly a stable animal saturated fat, and it's packed with antioxidants that fight

oxidation. In contrast, vegetable oils have had their antioxidants removed and destroyed in processing. The reason they don't smell rancid is that they've been deodorized by being exposed to high heat. All this processing seriously damages these oils and makes them prone to oxidation. So think of oxidation as chronic inflammation which perpetuates disease (Hakim, 1993).

Oxidation, or rancidity, is a major contributor to most degenerative diseases like heart disease, cancer, diabetes. The oxidative stress may come not only from rancid fats but may also come from physical trauma, a microbe infection, chronic stress, exposure to chemicals or heavy metals such as mercury or lead, the wear and tear of aging, radiation, pollution or even a burn, which is oxidation in its most extreme form. We need to provide for stable raw material for our body's fats so they can endure environmental stress better.

If the fatty acid molecule is nestled among millions of others in the trillions of our cell membranes, the damage is called oxidative damage or peroxidation. If one cell membrane gets oxidized, its neighbors feel the loss and a collective destabilization occurs so that the whole area gets compromised and easily oxidized and thus damaged. It is like a domino effect. This is why it is important to remove ALL plastic fats from our diets, without allowing even minute molecular quantities in. For the same reason, you must never cook with vegetable oils because they burn (oxidize) the minute they heat up with cooking. They are completely unsuitable for cooking at high heat and the more

liquid it is, the more unsaturated it is, the more oxidized it becomes with cooking.

Remember, fat is arguably the most important material in the body. It is responsible for the packaging of every cell and the raw material for making hormones including the ones that communicate between cells. Make sure to eat good fats and don't cook with vegetable oils nor margarine.

It's essential to also reduce your consumption of omega-6s whose excess intake is associated with many inflammatory adverse health effects such as allergy, asthma, immunosuppression, infertility, pre-eclampsia, encephalopathy and cancer (Dam and Søndergaard, 1962; Pinckney, 1973; West and Redgrave, 1977; Simonsen et al., 1998; Clausen et al., 2001; Leitzmann et al., 2004). Israeli Jews have a high intake of omega-6s from grains and soybean oil since they are prohibited to eat some of the best sources of saturated fat there is, and they do have an even higher incidence of cancer and cardiovascular disease compared to most other unhealthy Western countries (Yam et al., 1996). Increase your consumption of omega-3s and the good old animal saturated fat!

Good Old Fat

If you eat lots of natural sources of saturated fats, you will thrive both physically and emotionally. There are several healthy populations eating lots of saturated fat like the Polynesian people from the island of Tokelau who enjoy superior cardiovascular health (Prior et al., 1981). Eating saturated fat is not going to clog

your arteries with blobs of cholesterol. It really is far more complex than that. Saturated animal fat is not the problem, the high omega-6s polyunsaturated and plastic fats in margarine and vegetable oils are. In addition, the cholesterol your body makes from carbohydrates in your diet is highly inflammatory as well.

Bizarrely but consistently, men whose cholesterol had gone down were found to die at significantly higher rates from suicides, accidents, and homicides. Rifkind thought the results were a fluke, yet this strange findings had shown up before in trials that reduced saturated fat, such as the Helsinki Heart Study. In fact, a meta-analysis of six cholesterol lowering trials found that the chance of dying from suicide or violence was twice as high in the treatment groups as it was in the control groups, and the authors posited that the diet might cause depression. (Researchers have subsequently suggested that cholesterol depletion in the brain may lead to impaired functioning of serotonin receptors). Other cholesterol-lowering studies where diet had been the only intervention consistently found higher rates of cancer and gallstones in the experimental group, which is why the NHLBI itself had held that series of workshops on the problem only a few years earlier. In addition, populations found to have very low cholesterol, such as the Japanese, suffer from higher rates of strokes and cerebral hemorrhage compared to groups whose average cholesterol is higher. - Nina Teicholz, *The Big Fat Surprise* (2014)

Saturated fatty acids (SFAs) are those whose chemical structure (carbon bonds) are naturally saturated with hydrogen atoms. That means they're all tied up and there are no openings for rancidity (oxidation) and spoilage. They are shelf-stable and resistant to heat damage which makes them perfect for cooking.

Butter is not only an animal saturated fat, it is also packed nutritionally with vitamins, minerals, amino acids and several types of fats including butyrate which serves as a base for the making of the brain chemical GABA (gamma-aminobutyric acid), our natural valium. The fact that saturated animal fat - like butter or fatty organ meats - contains huge amounts of essential fat-soluble vitamins (A, D, E, and K2) among others that are praised by all, speaks volumes of how healthy these foods are. Why on earth do people fear them? The extent of the brainwashing has indeed been phenomenal.

Short and medium-chain saturated fats are wonderful, steady, stress-relieving energy fuels. They also have potent antimicrobial properties and have strong anti-fungal effects, do not require bile to get absorbed and their chemical structure is such that they usually don't get stored as fat, but in fact are readily available as an immediate source of energy as it enters the bloodstream directly from the digestive system. They don't get stored in fat cells and any excess that is not used as a direct energy source gets converted to readily available ketones. Since medium chain fats do not require bile salts for digestion, it makes them an ideal treatment for those with malabsorption or other intestinal problems.

We are talking here about the saturated fats in coconut oil and butter which enter our bloodstream directly and are raw material for much needed ketone bodies. In fact, these medium chain triglycerides (MCT) or their metabolism's end product (ketones) may not only treat, but also prevent Alzheimer's disease, treat Parkinson's disease, Huntington's disease, multiple sclerosis and amyotrophic lateral sclero-sis (ALS or Lou Gehrig's disease), drug resistant epilepsy, type I diabetes, and type 2 diabetes.

The liver converts readily all MCTs to ketone bodies which then are available for energetic and healing purposes. Oral and intravenous administration of MCT oil produces hyperketonemia or circulating ketone bodies, which then are available for the brain in the absence of glucose and even in its presence. Hyperketonemia results in up to 40% increase in brain blood flow and it appears to reduce cognitive dysfunction associated with systemic low blood sugar (Newport, 2008).

MCT are also the preferred fuel for those who find trouble with fatty cuts of meat after a lifetime of eating carb-based foods rich in anti-nutrients and which make fat digestion difficult at the initial stages, but more information on this later. You can find MCT oils in organic butter which contain 12-15% MCT. Butter's fatty acid chains have strong anti-cancer effects as well. Coconut oil contains about 60% MCTs. MCT oil which is derived from coconut oil contains about 90-100% MCTs.

Caprylic acid, one of the fatty acids found in coconut oil, has been effective in treating intractable conditions such as frequent urination, incontinence, chronic coughing, root canal tooth infection, intractable infections due to candida albicans, helicobacter pylori and cytomegalovirus. It also has anti-cancer, longevity, anti-Alzheimer's disease, anti-autism, anti-infection and general circulation improvement properties (Omura et al., 2011).

A final note needs to be made about other good fats that are also unsaturated such as the omega-9 fats found in olive oil. It is a very stable fat, almost as stable as saturated fat and it has no omega-6 fatty acids, so it doesn't get rancid easily. It keeps well in cool dark places even after it is opened. The omega-9s are very supportive of the omega-3s and they help promote our natural anti-depressant activity in our brains through serotonin.

Olive oil is considered a monounsaturated fat, a fat which also makes up part of the fats found in meats. Since it is monounsaturated, it can be used for cooking at light temperatures. Other monounsaturated fats include avocado oil, walnut oil and hazelnut oil. If you use them, make sure they are organic and cold-pressed. But if you are going to cook at high temperatures, saturated fats are what you are looking for: butter, ghee butter, lard, tallow, duck fat, coconut oil, and palm kernel oil.

Cholesterol Myth and Demonization of Fats

If people let the government decide what foods they eat and what medicines they take, their bodies will soon be in as sorry a state as are the souls who live under tyranny. -Thomas Jefferson.

You can only expect things to get worse once a government gets involved in a problem, including most especially nutritional health. There is hardly a better way to dumb down, appease the masses, and most especially profit and depopulate the world than through the food we eat. But as Gary Taubes, author of *Why We Get Fat* and *Good Calories, Bad Calories* has pointed out,

Indeed, the history of the national conviction that dietary fat is deadly, and its evolution from hypothesis to dogma, is one in which politicians, bureaucrats, the media, and the public have played as large a role as the scientists and the science. It's a story of what can happen when the demands of public health policy--and the demands of the public for simple advice--run up against the confusing ambiguity of real science.

Gary Taubes argued against the saturated fat-heart disease hypothesis after researching the topic most of his life and writing about it in the *New York Times*. In an interview he gives a summary of the ignorant levels of many researchers and doctors who only repeat the lies fed to them by their handlers (i.e. Authorities):

Those previous studies never actually confirmed the hypothesis," *he says*. "... I lectured at the NIH a couple of

years ago and... talked to a guy who ran an NIA-funded childhood obesity research program. He said their primary concern with obese kids is to keep their saturated fat content down... He said there are thousands of studies... confirming the evils of saturated fat.

I said to him, 'The difference between you and I is I actually spent a significant portion of my life reading those studies and 'getting' them all.'

In 1984, when there was a consensus conference by the NIH saying every American over the age of two should eat a low-fat diet, there were actually about eight or nine studies... [but] they could never show that eating a reduced saturated fat diet would make you live longer. It might reduce heart disease rates; it did in some studies, but it increased cancer rates... When you look at the meta-analyses that have been done looking at these issues, and a couple of them came out in the last two years, the results are always the same.

There is not enough evidence to say that saturated fat is bad for you, and there has never been that evidence (Taubes, 2001)."

A few decades ago, top leading nutritional advice committees declared that America should go on a low-fat, high-carbohydrate diet to "improve" health. What it did was destroy people's health. Just look at old pictures from the early 1900s and then have a look

at their equivalent nowadays; you'll be amazed how much a picture says it all!

Despite a lack of any solid scientific evidence whatsoever to support the low fat scam, the government went ahead. Millions would suffer ill-health very dearly from these recommendations, while tens of thousands would die an early death just in the U.S alone. All the major health associations – the AMA, USDA and American Heart Association – supported this dangerous policy.

These are the same entities that promoted the “heart-healthy” vegetable oils that are killing us.

The institutionalized vigilance, "this unending exchange of critical judgment," is nowhere to be found in the study of nutrition, chronic disease, and obesity, and it hasn't been for decades. For this reason, it is difficult to use the term "scientist" to describe those individuals who work in these disciplines, and, indeed, I have actively avoided doing so in this book. It's simply debatable, at best, whether what these individuals have practiced for the past fifty years, and whether the culture they have created, as a result, can reasonably be described as science, as most working scientists or philosophers of science would typically characterize it.

Individuals in these disciplines think of themselves as scientists; they use the terminology of science in their work, and they certainly borrow the authority of science to

communicate their beliefs to the general public, but "the results of their enterprise," as Thomas Kuhn, author of *The Structure of Scientific Revolutions*, might have put it, "do not add up to science as we know it."

-Gary Taubes, *Good Calories, Bad Calories*.

The demonization of cholesterol is largely attributed to the unpopular Seven Countries Study by Ancel Keys in the late 50s which tracked fat intake and cardiovascular disease of various countries. Its name is due to the countries that were cherry-picked to cook up the data of "increased fat intake corresponds to increased heart disease cases". But the study should have been named the Twenty Two Countries Study since more than half of the countries were left out in this "let's make the square peg fit into the round hole" study.

But regardless of how the story went, in that study, the countries with higher fat and animal food intake had longer life expectancies than the rest. Moreover, sugar consumption in the seven countries studied was almost equally predictive of heart disease. How this information got mistranslated into let's avoid animal fats is a convoluted history indeed. What is more, the data for this study came from F.A.O. food balance sheets which tracked how much food was available for consumption in each country, not how much food was actually consumed. It is indeed a totally unreliable way to measure what people eat because it doesn't say what people eat to begin with. In this case, "correlation doesn't imply causation" is more valid than ever

before, especially when it comes to large-scale modifications on the diet we have known for thousands and thousands of years with excellent results.

It bears repeating, these type of studies show correlation and not causation. Despite what the media, government and the bad science say, it is really not the same. Just ask the thousands of women who suffered ill-effects (increased risk of heart attacks and strokes) after taking artificial estrogen therapy which was supposedly good for them because observational studies showed correlation between hormone replacement therapy and less heart disease risk (Stampfer and Colditz, 1991). Well, it turned out to be completely wrong. Oops, we're sorry: Hormone replacement therapy actually *increased* heart disease risk (Rossouw et al., 2002).

What is more, here is what Ancel Keys himself had to say about dietary cholesterol at one point: "the most reasonable conclusion would be that the cholesterol content of human diets is unimportant in human atherosclerosis" (Keys, 1952). Ancel Keys just happened to observe an epidemic of cardiovascular disease and speculated that saturated fat a la fish and chips was at the root. He spent 50 years trying to prove himself right. That doesn't mean he did solid science, much less that we needed to change our diet.

A bird's view from Nina Teicholz's *The Big Fat Surprise* (2014)

It was Ancel Keys himself who first discredited this notion.

Although in 1952 he stated that there was "overwhelming evidence" for the theory, he then found that no matter how much cholesterol he fed the volunteers in his studies, the cholesterol levels in their blood remained unchanged. He found that "tremendous" dosages of cholesterol added to the daily diet – up to 3,000 milligrams per day (a single large egg has just under 200 mg) – had only a "trivial" effect and by 1955, he had already decided that "this point requires no further consideration." [...]

Whereas Americans are presumed to be innocent until proven guilty, scientific knowledge is just the opposite: a hypothesis must not be presumed right until a pile of significant evidence grows up behind it, and even then, you can never be entirely sure. All that one can ever really say is that the preponderance of the evidence tends to support one idea over another. Keys' unwavering belief in his own hypothesis, even in its formative stages and even in the face of conflicting evidence, however, suggests he was willing to stray from these scientific principles to defend it. [...]

[...] Keys, in his ambition for the study, had done everything he could to bury its problems – problems so significant that had they been known at the time, the Seven Countries study might never have been published.

Beyond these data issues, there was also a huge structural limitation to the Seven Countries study: it was an

epidemiological investigation and therefore could show only an association, not causation. In other words, it could show that the two elements occurred together, but it could not establish any causal connection. [...]

Ancel Keys was alert to the idea that sugar might be an alternative dietary explanation to his own as a cause of heart disease. From the late 1950s to the early 1970s, he held an ongoing debate in the scientific literature with John Yudkin, a professor of physiology at Queen Elizabeth College, London University, who at the time was the man behind the sugar hypothesis. "Keys was very opposed to the sugar idea," Daan Kromhout recalled in an interview, though he could not say why. Philosophers of science would say that the job of a scientist is to be as skeptical as possible about his or her own ideas, but Keys was evidently just the opposite. [...]

This practice of using epidemiological data as a basis for official dietary guidelines was pioneered by Keys himself. And it's not hard to understand the motivation. After a researcher has followed a population for ten to fifteen years, one can only imagine the desire to maximize the impact of one's findings in the arena of public health and, upon these laurels, win the acclaim and further funding for research that usually follow. [...]

When I started out my research, I expected to find a community of scientists in decorous debate. Instead, I found

researchers like Ravnskov, who, by his own admission, was a cautionary tale for independently minded scientists seeking to challenge the conventional wisdom. His predecessors from the 1960's onward hadn't been convinced by the orthodoxy on cholesterol; they'd just been silenced, worn out, or had come to the end of their careers. As Keys' ideas spread and became adopted by powerful institutions, those who challenged him faced a difficult – some might say impossible – battle. Being on the losing side of such a high-stakes debate had caused their professional lives to suffer. Many of them had lost jobs, research funding, speaking engagements, and all the many other perks of prestige. Although these diet-heart opponents included a number of researchers who were at the top of their fields, including, notably, an editor of the Journal of the American Medical Association, they were not invited to conferences and were unable to get prestigious journals to publish their work. Experiments that had dissenting results, they found, were not debated and discussed but instead dismissed or ignored altogether. Even being subject to slander and personal ridicule were surprisingly not unusual experiences for these opponents of the diet-heart hypothesis. In short, they found themselves unable to continue contributing to their fields, which of course is the very essence of every scientist's hopes and ambitions. To a surprising degree, in fact, the story of nutritional science is not, as we would expect, one of sober-minded researchers moving with measured, judicious steps. It falls, instead, under the "Great Man" theory of history, whereby strong personalities steer

events using their own personal charisma, intelligence, wisdom, or wits. In the history of nutrition, Ancel Keys was, by far, the Greatest Man. [...]

The year 1961 was an important one for Ancel Keys and his diet-heart hypothesis. He managed three significant coups: one within the American Heart Association, the most powerful heart disease group in US history; another on the cover of Time magazine, the most influential magazine of its day; and the third at the National Institutes of Health, which was not only the leading scientific authority in the land but also the richest source of research funds. [...]

The media was nearly unanimous in its support of Keys's hypothesis. Newspapers and magazines made his diet known nationwide, while women's magazines carried it into the kitchen with recipes to cut back on fat and meat. Influential health columnists also helped spread the word: the Harvard nutrition professor Jean Mayer wrote a syndicated column that appeared twice weekly in one hundred of the largest US newspapers, with a combined circulation of 35 million. [...]

[...] Saturated fat has not been shown to cause the most damaging kind of cholesterol to go up; total cholesterol has not been demonstrated to lead to an increased risk of heart attacks for the great majority of people, and even the narrowing of the arteries has not been shown to predict a heart attack. But in the 1960s, these revelations were still a decade

away, and official institutions, along with the media, were already gathering enthusiastically behind Keys's attractively simple idea. [...]

That is the great strength of clinical trials: unlike epidemiological studies, where researchers must try to think of and then measure all the many things that might be contributing to a disease, a clinical trial, by virtue of its very design, holds all these factors constant, regardless of whether the researchers have thought to account for them. These types of clinical trials on the diet-heart hypothesis started in the late 1950's and they're important to lay out, so that a reader can see for him- or herself, the scientific origins of why we think saturated fat is bad for us, as well as some of the surprising side effects of the diet that Keys proposed. These were not low-fat trials – the idea of avoiding all types of fat only became common decades later. What obsessed researchers during these mid-century years was Keys' idea that a diet low in saturated fat and cholesterol could prevent heart disease. Therefore, the total fat content of these foundational trials was still quite high by today's standards; only the type of fat varied. [...]

Everyone in the field knows these studies, and they have been cited in practically every paper on diet and atherosclerosis for decades, yet every one of these experiments appears upon examination to be riddled with shortcomings and contradictions similar to those in the Anti-Coronary Club trial.

Only recently have investigators begun to reexamine these studies, the actual details of which are a bit shocking, like discovering a foundation made of sand. [...]

margarine "and its kindred abominations" were considered a "mechanical mixture" created by "the ingenuity of depraved human genius," as Minnesota governor Lucius Frederick Hubbard declaimed in the 1880's. It was common to call margarine manufacturers "swindlers" and their trade "counterfeiting." On the other hand, margarine was cheaper than butter, and that was its main appeal for housewives, who slowly began to embrace it. [...]

In England, skepticism and even hostility toward the diet-heart hypothesis were widespread. The passionate embrace of the diet-heart hypothesis by American scientists was something that their British colleagues found perplexing. "There was a very big emotional component into the interpretation in those days," said the influential British cardiologist Michael Oliver. "It was quite extraordinary to me. I could never understand this huge emotion towards lowering cholesterol." His colleague in the United Kingdom, Gerald Shaper, the researcher who studied the Samburu tribe in Kenya, also found the American diet-heart proponents incomprehensible: "People like Jerry Stamler and Ancel Keys raised the blood pressure of British cardiologists to a level which was not believable. It was something strange; it was not rational, it was not scientific."

The Lancet editors sometimes mocked the American obsession. Why would Americans put up with the sacrifices of a low-fat diet? They were appalled that "some believers long past their prime were to be seen in public parks in shorts and singlets, exercising in their free time, later returning home to a meal of indescribable caloric severity [when] there is no proof that such activity offsets coronary disease."

The Lancet also sounded a note of alarm that would soon be picked up by others: "The cure should not be worse than the disease," wrote the editors, echoing the medical dictum, "First, do no harm." Perhaps reducing fat in the diet might lead to some unintended consequence, such as a lack of "essential" fatty acids in the diet (these are fats that the body itself cannot make). In fact, Seymour Dayton was concerned about the extremely low levels of arachidonic acid, an essential fatty acid present mainly in animal foods, among his prudent dieters. Another possible consequence of cutting back on fat was the seemingly inevitable increase in carbohydrate consumption that would result, for the simple reason that there are only three kinds of macronutrients: protein, fat, and carbohydrates. Reducing animal foods (mainly protein and fat) shifts consumption toward the only type of macronutrient remaining: carbohydrate. In practical terms, a breakfast without eggs and bacon (fat and protein) becomes one of cereal or fruit (carbohydrates). Dinner without meat is often pasta, rice, or potatoes. Experts now lament that this dietary

change came to pass in the latter half of the twentieth century, with disturbing results for health. The Lancets fear was therefore clearly justified. [...]

A hypothesis had taken center stage; money poured in to test it, and the nutrition community embraced the idea. Soon there was very little room for debate. The United States had embarked upon a giant nutritional experiment to cut out meat, dairy, and dietary fat altogether, shifting calorie-consumption over to grains, fruits, and vegetables. Saturated animal fats would be replaced by polyunsaturated vegetable oils. It was a new, untested diet – just an idea, presented to Americans as the truth. Many years later, science started to show that this diet was not very healthy after all, but it was too late by then, since it had been national policy for decades already. [...]

Starting in the late 1970's, Congress intervened in the question of what Americans ought to eat, and this involvement by government propelled the low-fat diet down a new path, taking it out of the realm of science and into the world of politics and government. For the previous fifteen years, the research community, having endorsed an idea about diet and heart disease before it had been properly tested, had pretty much failed on its own terms. Whatever chance these experts might have had for self-correction was lost, however, when the federal government got involved. With its massive bureaucracies and obedient chains of command, Washington is the very opposite of the kind of place where skepticism – so

essential to good science – can survive. When Congress adopted the diet-heart hypothesis, the idea gained ascendancy as an all-ruling, unassailable dogma, and from this point on, there has been virtually no turning back. [...]

And ultimately, the USDA was accountable not to academic scientists but to the US Congress, which had ruled definitively in favor of a new low-fat regime.

Thus, in February 1980, despite the lack of an endorsement from Ahrens's committee, Hegsted went ahead with the publication of the Dietary Guidelines for Americans, the first set ever issued to the American public. Eventually, these guidelines became the basis for the USDA food pyramid (which has morphed into the USDA's "My Plate" in recent years). Despite having grown from the work of a single congressional staffer and his single academic advisor and despite the lack of endorsement from nutrition experts, these are the now most broadly recognizable food guidelines in the United States, familiar to all schoolchildren and highly influential in determining school lunches and nutrition education across the country. [...]

Controlled experiments which are considered essential to test a hypothesis and which measured the effects of saturated fat have been inconclusive, poorly designed, biased or completely

unsupportive of the cholesterol myth. There is no evidence for concluding that dietary saturated fat is associated with an increased risk of cardiovascular disease, period (Siri-Tarino et al., 2010; Chowdhury et al., 2014).

While Ancel Keys was getting away with his cooked data, his contemporary, British scientist John Yudkin, was having trouble getting his more compelling connections across. Why? Well, he was finding that sugar intake was linked with heart disease (Yudkin, 1975).

“In other words, is the science at issue based on sound scientific thinking and unambiguous data, or is it what Sir Francis Bacon, for instance, would have called "wishful science," based on fancies, opinions, and the exclusion of contrary evidence? Bacon offered one viable suggestion for differentiating the two: the test of time. Good science is rooted in reality, so it grows and develops and the evidence gets increasingly more compelling, whereas wishful science flourishes most under its first authors before "going downhill." Gary Taubes.

But John Yudkin's views synthesized in *Pure, White and Deadly* where sugar was to be blamed, were ahead of his time, especially in a time where it was not in the food industry's best interests to blame sugar. The sugar lobby industry got rid of him and praised Keys instead. Yudkin was discredited and it was a disaster not only for him, but for the rest of us as well. We carried on eating sugar without awareness of its dangers.

Oriental and European cuisines have followed very closely the same fate, as is the rest of the world for that matter. A great deal of traditional high fat foods have been given up for this low fat scam. Even the highly touted Mediterranean diet keeps quiet about the fact that there were fat loaded recipes that were passed from generation to generation among the Italians, such as Lardo (lard) di Colonnata which is basically cured strips of fatback with herbs and spices. Or how about Greek Barbecue which sometimes involves an entire whole lamb roasted on a spit, plus the kokoretsi which is made from the internal organs of the lamb - liver, spleen, heart, glands - threaded onto skewers along with the fatty membrane from the lamb intestines. Does it sound very Mediterranean to you? Well, it is a traditional Easter meal.

People - and the medical profession - seriously underestimate physiology of mental states. They also don't understand the relationship between physiological states and nutrition, where cholesterol is essential to our bodies' physiology.

Cholesterol is the one unjustly vilified substance which our bodies can naturally make since it is absolutely essential to our bodies. Cholesterol is so crucial, the liver is careful to produce some 1000-1400 milligrams of it each day. We are told by the "Official Thought-Control Institutions" to eat up to 300 milligrams of cholesterol from our diets. But our livers production of cholesterol is controlled by feedback mechanisms of how little or much fat we eat. If we eat too much, we produce less, leaving for instance much needed liver energy for other

important tasks such as detoxification from the gone-mad toxicity of our modern world. So when we eat more fat, our liver makes less, and vice-versa. If we eat little fat, replacing it with carbohydrates instead, then we'll produce cholesterol from carb sources which yields a very bad quality cholesterol profile. But if we are hardly eating any cholesterol and we block its production with drugs, then we are literally screwed. What does that have to say about the most profitable drugs in the history of the world - statins?

Restricting or eliminating cholesterol overburdens the liver which now has to overproduce it through its enzyme - HMG-CoA reductase from carbohydrates in our diet to make up for the deficit. It is this enzyme the one that is blocked by statins drugs at the expense of depleting our bodies from coenzyme CoQ10 which is a key nutrient to our heart and health in general. People typically refer muscle cramps or leg muscle aching while on statins due to lack of energy. Just keep in mind that your heart is a muscle as well. In fact, the incidence of congestive heart failure has spiked during the time statins have been a top seller on the market.

Coenzyme Q10 -- also called ubiquinone, which means "occurring everywhere" - plays an important role in the manufacture of ATP, the fuel which our cells use. It is present in every cell of our bodies, especially in the very active cells of our hearts. Depriving the heart of CoQ10 is like removing its spark, it just won't work. Low levels of CoQ10 are involved in practically all cardiovascular diseases, including angina, hypertension, cardiomyopathy and

congestive heart failure. It is the ultimate joke that statins, for “heart health”, blocks coenzyme Q10. Some people have recalled falling sick after they started statins, while it never happened to them before.

Statins’ many potential side effects range from depression, confusion, memory problems and inability to concentrate. It hinders our bodies ability to fight microbes, liver damage, increased risk of cancer, fatigue, impotence, kidney failure, rhabdomyolysis (destruction of muscle cells), shortness of breath and so forth. Cholesterol levels that are below 150 mg/dL may increase your risk for cancer, hormonal imbalances, depression, sexual dysfunction, memory loss, Parkinson’s disease, stroke, suicide, and violent behavior.

In fact, now that scientists know the intricacies of cholesterol’s role in our trillions of cell membrane functions including the universe of nutrient transportation across membranes, they are starting to realize what a bad idea all this statin thing is. The target of statin therapy –cholesterol - just happened to be vital to all membranes for their proper functioning and structure.

We are making highly unstable and dysfunctional cell membranes with our restriction of animal fats, which then has a toll on our cell membrane’s function. Processes and mechanisms such as “vesicle formation, migrations and *membrane functions throughout the cellular apparatus*” whose implications we are just starting to comprehend (Wainwright et al., 2009).

The past decade of research has exposed the importance of cholesterol rich membranes with fundamental implications for our brains and nervous tissues, immune system and all areas where lipoproteins are created, secreted, delivered and utilized. Cholesterol is vital to the formation and correct operation of neurons to such an extent that neurons require additional sources of cholesterol to be secreted by brain cells. No wonder people lose their memories and brains with statin therapy! Statin drugs also impair the secretion of new myelin. A connection between cholesterol and its fundamental role in the immune system and in the cell membrane's function and structure and its role should not be forgotten when it comes to autoimmune diseases such as multiple sclerosis.

By restricting cholesterol we change the form and function of every single membrane from head to toe. This harmful effect has indeed far reaching consequences.

When I started changing my diet, it was a desperation maneuver after surgery to rebuild a frozen shoulder because my body was so eaten up with rheumatoid arthritis. I hadn't had a pain free day for 40 years. I was a mess. I started detoxing, did veggies, worked my way through a lot of material, and ended up Paleo. (Through all this detoxing I was taking a fortune in supplements!) And then, by experimenting (myself and my extended family - 11 people in total - who all agreed to do the experiment strictly) discovered that the real key to success is MORE FAT. In fact,

when I hit a weight plateau, I just reduced my protein intake slightly, increased fat, and dropped a couple kilos almost instantly. Now it is moving again, though slowly.

Do NOT be afraid of fat!!! I can't say this often or loud enough! If you read paleo-archaeology studies, again and again you see that our ancestors were eating brains and breaking open bones. What is in there? A LOT of fat!

August 1st, 2007 was when I started. I was out of pain in about 10 days, and the only times I've ever had a relapse since then was due to carbs. Nothing else, just carbs - of ANY KIND! I'm 60 years old and my hair, literally, has started turning back to my youthful color and the gray is diminishing! I feel like a 25 yr old. I won't go on about the other family members who have experienced amazing turn-arounds in their health because that would take too long, just suffice it to say that not a single one of us would EVER go back to eating the old way. We never feel cravings, no gas or bloating, recovery from IBS and pre-Lupus type symptoms, eliminated allergies, moodiness, circles under the eyes gone, skin improvements, eat all you want and never gain weight... and so on. And we all pile on the fat. Butter on everything. Extra fat on the cuts of meat. We eat deep fat fried pork fat for snacks fer gawd's sake!

So, yeah, it's the fat. These people still have cravings because they aren't giving their bodies the fat that the body wants and needs and they are using this as an excuse to eat more carbs. There is NO craving for carbs if you are getting enough fat. I've experimented and others have tried it, and it

works. EAT MORE FAT!!!! -Laura Knight Jadczyk.

Modern guidelines say that a level of total cholesterol above 199 mg/dL is high. When I was in med school, which was not that long ago, the upper limit was 240. Once upon a time, it used to be 280mg/dl. Now most doctors try to keep cholesterol below 200 which most people find impossible to achieve, hence they are put on statins with drugs like lipitor as all-time top-selling drugs (Angell, 2004).

Cholesterol drugs have the biggest drug profits in the history of the world! Profits buy a lot of propoganda such as lobbyists, advertising and marketing to doctors, including free continual medical education. And instead of investing all the billions they earn in public education of the importance of fats, they are only seeking to demonize fats and see in what other conditions they can push cholesterol-lowering drugs too to perpetuate their top sales rankings AND the debilitation of people in general. A healthy diet is rich in animal fat, God forbid the masses would switch to their ancestral diet which made them thrive for millions of years. The statin business would certainly not like to see that happen.

It is only your own awareness that can change things around. The public is gradually awakening to the fact that statins are virtually useless for the vast majority of people who take them, but also have significant risks. As a group of eminent doctors including the President of the Royal College of Physicians Sir Richard

Thompson argue in a declaration letter, a doctor making a case for these drugs can quite easily look ill-informed, biased or just plain stupid in the eyes of their patients. From one of the letter's signatories Dr David Newman, Assistant Professor of Emergency Medicine and Director of clinical research at Mount Sinai School of medicine in New York (Briffa, 2014):

“I am always embarrassed when I have to tell patients that our treatment guidelines were written by a panel filled with people who stood to gain financially from their decisions. The UK certainly appears to be no different to that of the United States. The truth is, for most people at low risk of cardiovascular disease, a statin will give them diabetes as often as it will prevent a non fatal heart attack - and they won't live any longer taking the pill. That's not what patients are looking for.”

What exactly are these guidelines all about? Nowadays, if you had a heart attack, the goal is to lower your LDL cholesterol levels below 100, ideally 75 or less!!! And with a profit-making statin, of course! Never mind it is totally useless and downright dangerous to do so! Even the very same experts for the cholesterol guidelines disagree with these figures (Rodney and Krumholz, 2012).

Doctors will see LDL levels at 75 and say to their patients that they are doing great without seeing what is actually in front of them! If they would only care to really see, they would in fact realize that whoever is in front of them with that cholesterol level is the most pathetic ill-looking and terribly nutritionally deficient person they had ever treated. It is astounding to see how doctors

had stopped thinking and seeing what is in front of them by focusing only on mind-job guidelines and lab tests. Talk about massive blind spots induced by decades of anti-fat programming. Even when a patient points out to them the obvious, “but I eat no fats and no salt and I’m getting worse!” doctors still don’t get it.

The use of statin drugs is actually linked with microalbuminuria which is known to double the risk for a heart attack or stroke in patients with type 2 diabetes; it is also a marker of poor endothelial function which determines cardiovascular disease risk (van der Tol et al., 2012). Moreover, more frequent statin drug use is associated with accelerated coronary artery and aortic artery calcification, both of which greatly contribute to cardiovascular and all-cause mortality (Saremi et al., 2012). So doctors are prescribing a medicine for the very thing they are trying to prevent. Congratulations doctors! People are getting increasingly high levels of calcified hearts, and typically during heart surgery “bone eaters” end up being used to replace valves that should have remained silky and smooth. I know of what I speak!

Two top vascular surgeons have summarized statins in a damning report: “The statin industry is the utmost medical tragedy of all times.” “Statins are associated with triple the risk of coronary artery and aortic calcification.” (Sultan and Hynes, 2013).

The decades of massive anti-fat propaganda has brainwashed all of us. Upon being questioned about their dietary habits, a patient might recall only the fats they ate and think that those are to

blame. Never mind that they eat mostly carbs. Then they remove fat and get frustrated when their cholesterol levels remain high or get even higher. Then here is when the statin drug comes. The beginning of the end, since once you start a pill, then comes the other one to counteract the side effects of the first one. And on and on it goes.

Yes there is a teensy percentage of people out there who genuinely have a true genetic high blood cholesterol, familial hypercholesterolemia, which is a condition where there is an impaired or even lack of ability to metabolize cholesterol. This condition can have serious health consequences. But that doesn't mean this can be juxtaposed to families with "elevated" (that is, normal) cholesterol.

Sound and reliable medical research hasn't proved that lowering (or low) cholesterol in and of itself reduces risk of death from heart disease across a population (Siri-Tarino et al., 2010; Chowdhury et al., 2014).

Men with very low cholesterol levels seemed prone to premature death. Below 160 milligrams per deciliter (mg/dl), the lower the cholesterol level, the shorter the life due to cancer, respiratory and digestive diseases, and trauma. As for women, if anything, the higher their cholesterol, the longer they seem to live.

Death from cardiovascular disease according to the CDC, has declined over 60% since its peak in the 1950s, representing according to them the most important public health achievement

of the 20th century. What a joke! The success is attributed to their recommendations (sick bag!); however, what is not told is that their recommendations have made things worse as evidence of increase incidence in cardiovascular disease. Furthermore, when people die, they can do so before arriving to the hospital. Those who arrive to the hospital get subjected to heart surgery with all its sophisticated ways to bypass arteries and interventional cardiology with all their collection of stents, which have become now a number one money-making machine with billions and billions of dollars each year. You see, they need us sick, controlled and extremely ill-informed, basically unable to reclaim our health so they can have a market for their drugs and so they can subject us to their expensive Band-Aid solutions for cardiovascular disease.

Interventional cardiology and its stents are useful in life-threatening situations, but as a therapy for those with chest pains whose problems are non-life threatening, it is really a man-made disease and a myth madness.

"As clinicians we seem to have lost our clinical judgment, let alone our ability to view data and evidence," Yusuf stated. "The whole field of angioplasty has been led astray by a preoccupation with restenosis, for which study after study has shown has no prognostic value. We're chasing problems that are iatrogenic that naturally would not exist in people. We've had a perverse financial incentive on the practice of cardiology. It is time to stop and reevaluate." Dr Salim Yusuf

(McMaster University, Hamilton, ON), World Cardiology Congress (WCC) in Barcelona. September, 2006.

Never had we seen such an unprecedented incidence of diabetes and obesity in our world today. We have literally a tsunami of diabetes, a clear sign that something is very wrong with our diet and dietary recommendations that advocate for a low fat diet. Turn the recommendations around and the problem will solve itself out. Yes, diabetics and obese people improve in cholesterol levels, weight, and insulin levels with a high-saturated fat and low carb diet.

High cholesterol levels have long been singled out as a key player in cardiovascular disease and since saturated fat has been shown to increase cholesterol, so saturated fat was to be avoided. But there is no correlation between high cholesterol levels and heart disease. The key is the raw materials that we eat which will later reflect in our cholesterol panel, plus our environmental interactions which has a great impact on our health. You see, within the context of a person's individuality, past and present history, cholesterol levels gives us a lot of information.

Cholesterol - "bad" (LDL) and "good" (HDL) - and triglycerides gives us a clue to the state of our health.

LDL (low density lipoprotein) has been incorrectly labeled as "bad cholesterol" and HDL (high density lipoprotein) as "good cholesterol". These terms are of course fictitious. In reality there is no such thing as "good" or "bad" cholesterol. It is important to

understand that LDL and HDL is not cholesterol. They are types of lipoproteins which in themselves are spherical fat particles with water-soluble proteins around their exterior so they can travel our bloodstream unencumbered. In short, they transport cholesterol to the tissues. HDL removes cholesterol from the tissues and returns it to the liver for disposal through the bile, or where excess cholesterol is taken care of.

LDL transports cholesterol after production from the liver to the body's tissues. Remember, this is an important job! For instance, in order for cholesterol's anti-inflammatory effects to be utilized in the tissues where inflammation exists, LDL is the essential transport. We just have to make sure that our LDL cholesterol is not prone to get oxidized.

It's not the cholesterol part of the LDL or HDL that is dangerous, but the actual lipoprotein part.

Triglycerides are essentially the form that fat takes as it travels to the body's tissues through the bloodstream. As it turns out, saturated fat doesn't increase triglycerides; on the contrary its levels go down on a high saturated fat diet (Hite et al., 2011).

A high triglyceride level, which is a marker of poor health and an independent risk factor for heart disease, is unequivocally fueled by a high carb diet (including fruit!). It is high when there are problems in the body, particularly insulin resistance (which is a risk of diabetes) as well as inflammation (which is a risk of cardiovascular disease). High triglyceride levels are often seen

with low HDL cholesterol. Low levels of HDL are also bad, and yes, HDL levels go down on a high carbohydrate diet which is what mainstream science recommends. No wonder doctors have such trouble seeing high levels of HDL in their practice!

It is the triglyceride/HDL ratio that is a far more accurate predictor of cardiovascular disease than the so called “bad” cholesterol (McLaughlin et al., 2005). Once again, the high carb diet wreaks havoc, but more on that later.

According to leading dietary researchers Dr. Jeff Volek and Stephen Phinney, M.D. (2011), the strongest correlation between a major dietary nutrient and blood levels of fat is with dietary carbohydrate, not with saturated fat intake! On average, the more carbohydrate you eat, the higher the content of evil fat in your blood.

Saturated fat doesn't decrease levels of HDL, in fact, it increases it (Volek et al., 2005). When you have high levels of HDL, you are less prone to infections or bowel cancer as well (van Duijnhoven et al., 2011).

Saturated fat helps contribute to the subcomponent of LDL cholesterol that is large, fluffy, and almost impossible to oxidize by environmental factors and inflaming damage in general. The image of saturated fat clogging up the arteries and producing heart attack and strokes is now starting to look like a medieval concept as researchers and clinicians finally admit what was

known a long time ago, that it is really all about inflammation (Libby et al., 2002).

An oxidized LDL constitutes the other subcomponent of LDL cholesterol that is inflamed and tends to rise up with a diet rich in carbs, low in good fats, and high in inflammation -as in by eating lots of vegetable oils, rather than healthy saturated fat which stabilizes the Omega-3s in our bodies.

The other factor that can oxidize LDL cholesterol is the amount of time of exposure to oxidants. If it is exposed for a long time, LDL becomes denser (i.e. lipoprotein a) and starts to oxidize.

It is the “denser and small” LDL cholesterol which is a poor marker of heart health and an indication of bad LDL receptor and physiology functioning, an LDL that is prone to oxidation/inflammation. It is the reason why atherosclerosis happens in arteries and not in the veins since it is the arterial blood which is rich in oxygen whereas vein blood is poor in oxygen.

Just like Alice in Wonderland was able to go through the teensy door once she drank the potion that shrunk her, the small LDL cholesterol particles can penetrate more easily the arterial wall leading to atherosclerosis and then a potential heart attack.

These small LDL cholesterol particles are much more vulnerable to glycation – or what can be called caramelization in your body. It is very damaging and it is enhanced by a diet rich in sugar.

Caramelized (glycated) LDL particles stay in circulation much longer, increasing their chance to get oxidized as well.

So keep in mind that there is more to LDL than its wrong reputation of “bad cholesterol”. In fact, a study of almost 50,000 women followed for 8 years showed that restricting fat which lead to reduced LDL cholesterol had no effect on cardiovascular disease outcomes (heart attack, stroke, and overall mortality) (Howard et al., 2006). So don't panic if you get high LDL cholesterol in a high-fat (low carb) diet. See your triglyceride levels instead and keep in mind what Stephen D. Phinney and Jeff S. Volek explain in *The Art and Science of Low Carbohydrate Living* (2011):

Less appreciated are the potential errors associated with low plasma triglycerides, a condition that is highly relevant when interpreting the LDL-C response to low carbohydrate diets since they often result in marked reductions in triglycerides.

For example, a published case report describes a man with plasma triglycerides of 55 mg/dL who had an estimated LDL-C of 172 mg/ dL using the traditional Friedewald equation. But when measured by two separate direct methods, his actual LDL-C proved to be 126 mg/ dL.

In a formal study of 115 volunteers with plasma triglycerides less than 100 mg/ dL, use of the Friedewald formula resulted

in a statistically significant overestimation of LDL-C by an average of 12 mg/dL.

How does this play out if you are on a low carbohydrate diet? Let's assume that a low carbohydrate diet causes a reduction of triglycerides from 200 to 75 mg/dL with no change in total and HDL cholesterol. As a result, the calculated LDL-C from the Friedewald equation would necessarily increase from 100 to 125 mg/dL. How much of this 25% increase is real and how much artifact? That can only be determined by a direct assessment of LDL-C, which most physicians do not bother to do.

In other words, if you have low triglyceride levels, they are most likely overestimating your LDL cholesterol levels which in actuality could be much lower when measured by reliable tests which are never done. A low carb diet brings your triglyceride levels down, and that IS good. Low triglyceride levels are never seen in a high-carb diet which is what mainstream nutritionists recommend.

[The] Women's Health Initiative (WHI), a trial that enrolled 49,000 women in 1993 with the expectation that when the results came back, the benefits of a low-fat diet would be validated once and for all. But after a decade of eating more fruits, vegetables, and whole grains while cutting back on meat and fat, these women not only failed to lose weight, but they also did not see any significant reduction in their risk for

either heart disease or cancer of any major kind. WHI was the largest and longest trial ever of the low-fat diet, and the results indicated that the diet had quite simply failed. -Nina Teicholz, *The Big Fat Surprise* (2014)

Studies that also suggest a link between saturated fat and cancer are purely observational, that is, studies that can't be used to derive causes of what they are observing because they are simply unreliable and way too uncontrolled for those conclusions.

For decades, enormous human and financial resources have been wasted on the cholesterol campaign, more promising research areas have been neglected, producers and manufacturers of animal food all over the world have suffered economically, and millions of healthy people have been frightened and badgered into eating a tedious and flavorless diet or into taking potentially dangerous drugs for the rest of their lives. As the scientific evidence in support of the cholesterol campaign is non-existent, we consider it important to stop it as soon as possible.- The International Network of Cholesterol Skeptics

Conclusion: Don't be Afraid of Animal Fat!

When you think of cardiovascular disease (strokes, heart attacks, atherosclerosis), think of inflammation. Inflammation is the number one thing in heart disease. Modern (medieval) dietary recommendations don't address it and neither does treatment or any preventive recommendations we hear.

Nearly every study suggests that LDL cholesterol is only a true problem when it's oxidized (inflamed). Perhaps you can't do much about the tons of flammable toxicity emitted every single day, but having enough anti-oxidants and foods that are anti-inflammatory for you is one of the keys. Avoiding oxidized fats is essential to solve the problem as well.

A cholesterol panel is influenced by several conditions including stress, liver problems, thyroid problems, leptin resistance, etc. If you are a fan of laboratory tests as markers to get a better idea of your risks for cardiovascular disease, try getting instead inflammatory markers such as C-reactive protein and the ones showing levels of carb metabolism (Ridker et al., 2003). But we'll dig into this subject later on.

Also, keep in mind that if you are losing weight as you do on the ketogenic diet, your cholesterol levels might be somewhat chaotic as fat gets poured from your fat stores into the bloodstream for usage. Wait until your weight is more stabilized for a more accurate reading.

It really boils down to inflammation from which the immune system plays a center role. What is more, a research team from the University of Zurich has recently unveiled a mystery that provides them with the one clue they might need to catch up. They solved the puzzle surrounding the origins of key immune cells which play an important role in many autoimmune, infectious diseases and chronic inflammatory diseases. The team demonstrated that these cells came from cells located in the walls

of blood vessels, i.e the so called arteries that get clogged with atherosclerosis (Krautler et al., 2012).

The precursor cells of this immune system component exist in the walls of arteries so that they can reach a broad range of organs during inflammatory conditions; arteries are after all present in most organs of the body. Thanks to these findings, scientists now have the means to investigate key features of the development of autoimmune diseases and chronic inflammation that leads to heart disease and every single disease known to man. Perhaps one day scientists will be able to catch up with “you are what you eat” and “let food be thy medicine”, but don’t hold your breath over it.

Heart health means keeping inflammation at bay which is what this book is all about. If you have high cholesterol, protect yourself from oxidative damage with the information and recommendations that have proven useful and therapeutic for thousands of people around the world.

The lack of exposure-response in the trials between changes in LDL-cholesterol and clinical and angiographic outcome, the inverse association between change of cholesterol and angiographic changes seen in the observational studies, the significant increase in complicated atherosclerotic lesions in the treatment group after cholesterol lowering by diet, and most of all, the fact that high cholesterol predicts longevity rather than mortality in old people, suggests that the role, if any, of high cholesterol must be trivial. The most likely explanation for these findings is that rather than promoting

cholesterol may be protective, possibly through its beneficial influence on the system (Ravnskov, 2003).

Hunter-gatherer populations selected their animals very carefully. The ones with huge slabs of fat that could be rendered and stored were especially valuable. Most pre-agricultural populations got most of their caloric-intake from animal fat sources (Cordain et al., 2000).

It is important to avoid grain-fed animals which then make its fatty composition much more inflammatory. Mark Sisson, author of *The Primal Blue Print* emphasizes the importance of eating organic animal fat sources. While he agrees that 100% grass-fed steak are leaner than grain-fed cuts, but not by much, they still have a fair amount of fat on certain cuts, including organs.

Hunter-gatherers use the entire animal, especially the fatty organs. It is interesting to see that for the most part, fatty organs have been systematically eliminated from traditional recipes nowadays. They used to be so valued, and now they are hardly if ever eaten. Less good food for our nutritionally depleted bodies!

The long journey of humanity's history has been accompanied by animal fat, until very recently at the great expense of our bodies' physiological craving which can never be satisfied by what modern food and dietary recommendations have to offer. On the contrary, we are now living the consequences of such ill advice. We are the sickest society that has ever lived, a veritable sign of the times if there ever was one.

We have eaten a diet rich in saturated and monounsaturated fats and essential polyunsaturated fats such as omega-3 throughout our history with no ill effects. On the contrary, these fats were crucial for our development as human beings. Some of these fats (i.e. medium-chain saturated fats) actually have antimicrobial properties and provide an immediate source of energy. In addition, their structure makes it unlikely for them to be stored as fat deposits in our bodies.

Longer-chain saturated fats fuel the muscles, assist in protein metabolism, assist in brain structure and function, protect our lungs from damage and protect the more vulnerable polyunsaturated essential fatty acids in our bodies from damage and rancidity.

Cholesterol is essential for our bodies and the cholesterol myth has clearly driven the obesity figures to disproportionate levels. As so-called Western civilization spreads its influence, we are now unhealthier than ever thanks to the cholesterol myth.

The bottom line is this: it is mainly the carbohydrates and the unnatural fats that make you fat and unhealthy, not the natural fats that actually fuel us and make us healthy. The unnatural fats are highly polyunsaturated vegetable oils which are very unstable and prone to rancidity. Bad fats also are found in grain or corn-fed meats, farmed seafood (yes, they feed them corn), hydrogenated and partially hydrogenated vegetable oils or trans fats (margarine, vegetable shortening, soy-bean and canola oils,

etc.). These unnatural fats contain mainly pro-inflammatory omega-6 fatty acids. Inflammation can be highly disruptive and toxic to our body and it makes fat loss basically impossible.

If you eat these unhealthy fats, the fats in your body including those in your brain and in all the cell membranes of your body will have an unhealthy and pro-inflammatory rancid signature. No doubt there is a correlation between consumption of these unhealthy fats and the astonishing increase in Alzheimer's disease and early-onset senile dementia. It is also very bad considering that cell membranes have amazing abilities and a crucial role for our health and wellbeing.

Cell membranes not only allow for nutrients to get into the cell, they are also an electrical insulator that keeps the cell from being overwhelmed by every molecule in its environment. It is the cell membrane's structures which allows for the reading of environmental signals which will then lead to the "reading" of genes so that worn-out proteins can be replaced or new proteins can be read. A healthy state of our cell membranes is essential for much needed healing DNA changes. But no cell can be healthy without the proper fats to build itself with. After years of consuming bad fats, vegetable oils, and so on, most people's cell membranes are more plastic-like than living things. And as far as dietary recommendations of carbs go, by their fruits you shall know them. Let's have a look!

Carbohydrates

We can be blind to the obvious, and we are also blind to our blindness. - Daniel Kahneman.

We live in a world where sugar highs are systemically encouraged by our health care providers, culture and family. In fact, it is difficult to walk 100 feet without being bombarded with “get your sugar fix” propaganda. Walking into the supermarket is like walking into a drug cartel, only that this one is not considered morally criminal by our society although we could easily argue otherwise. If you are lucky, you might be able to find some deli meat without sugar added. More often than not, you won't find any. Even up in the air it is nearly impossible to avoid it. You take an airplane and they will offer you a sweet or salty snack which is basically pastry or crackers, sugar none the less. Plus the fruit juice or soda drink or alcoholic beverage. That is all a significant load of sugar as well!

In short, sugar highs all day long all year round for everybody on this planet regardless of their age: the elderly, the children, the sick, the “healthy”, the newborns and even the non-borns. Just take a look at the results. Our body shape has changed forever; the 12-size hourglass figure has become an endangered species. I personally haven't seen a woman with that shape in ages, if ever. Even the so called celebrities have for the most part the boy-ish squared shape.

Not too long ago we used to be naturally slim and fit without overdoing never-ending stressful aerobic exercises. Not anymore.

Now people sign up to impossible marathons just to be acceptably fit regardless of the strain to their prematurely aged joints and body, without mentioning that quite a few had dropped dead at a very early age while pursuing these activities. And we can all be grateful to our sugar culture for this disconnection.

Yes, you know that sugar high after drinking some soda which skyrockets your mood only to crash below ground level afterwards. Sluggishness, fogginess, crankiness or simply trouble focusing is all part of the package. Then you reach out for another sugar or stimulant (i.e. coffee) to recover and on it goes again and again.

Recovering from sugar highs is like recovering from drug withdrawal. You've seen drug addicts recovering from their heroin withdrawal? They can get very shaky and desperate. In order to get cured, they could stop using the drug with a proper detox program. Or they could avoid the swings by getting a constant flow of the drug into their bloodstream. They could start early in the morning and then continue several times a day in order to get this constant fix at steady levels.

In fact, heroin addiction treatment involves giving the drug again, or another one similar to it, in a "controlled" setting. That is, through a methadone medical prescription so that the person can have a constant flow of the drug in his or her bloodstream. In that way the withdrawal is avoided in a legal way. So you see, the person never gets cured.

Sugar is a simple carbohydrate. Put together a stack of sugars and then it will be called a starch or complex carbohydrate. We were lead to believe that complex carbs are super healthy and should constitute our staple food, but from a metabolic point of view, there is absolutely no difference between sugar and starches. It is that simple. The only difference between simple and complex carbs is how quickly they get into your bloodstream: now or later. So if you are diabetic or are just trying to avoid sugar swings, just remember that when health authorities tells us to eat complex carbs instead of sugar, it is much akin to telling a heroin addict to have methadone in a legal way instead of heroine illegally. A person never gets cured.

You might feel righteous eating pasta or rice because it is not sweet and it is encouraged by the several government agencies as superfoods, but the components that make up these complex carbohydrates are evil sugar. Once your digestive system gets done metabolizing these ever so righteous foods, they are simply sugar in your bloodstream up to no good.

If you had a bowl of pasta for dinner, then that means that you had a bowl of sugar. Whether you ate vegetables, pasta, crackers or table sugar, your body ends up absorbing sugar.

So when you hear about carbs and sugars, we are essentially talking about the same thing. All carbohydrates are made up of individual sugar molecules (i.e. monosaccharides). Table sugar is made from glucose and fructose monosaccharides bound together

into a disaccharide called sucrose. Mono- and disaccharides are simple carbohydrates, a.k.a. sugars. If more monosaccharides get stacked together, the name changes to oligosaccharide, oligo meaning few. Starches have hundreds of monosaccharide units connected together and are called "complex." And by the time your digestive system is done snipping these stacks of sugar molecules apart, it will all be reduced to sugar in your bloodstream.

Foods like bread, pasta, potatoes, tomatoes, beans and rice are little more than the means to carry sugar into your blood. A seven-ounce serving of cooked spaghetti is converted into the amount of sugar contained in four 12-ounce cans of Pepsi. Whether the rice and bread are white or brown, whether the starch is in the form of breakfast cereal or tortilla chips, pasta or pancakes, complex or simple, you're mostly eating sugar. Two slices of bread or a single small bagel contain about 6 teaspoons of sugar – six times the amount normally allowed in the bloodstream which is no more than 1 teaspoon of sugar to maintain an optimal range between 70 and 85 mg/dL of blood glucose levels. Cereals and potatoes can raise blood sugar levels even faster than a candy bar! And the candy bar is already bad enough.

What about an apple a day keeps the doctor away? Well, for the most part one apple a day is already way too much sugar per day. Yes, unfortunately fruit has become something akin to a purposely-sweet-made strange hybrid which we never had access to in our evolutionary past.

Fruit has been hybridized to offer the sweetest flavor. It might come as a surprise to a lot of people to know that fruit is a big source of sugar in our modern world. Oftentimes we hear about the goodness of fruits and vegetables, yet fruit contains a lower nutrient content than vegetables. The latter are thus more nutritious, provided you manage to find some that are not loaded with pesticides and self-defense anti-nutrients!

Even fruits which are touted as highly nutritious (i.e. blueberries) are full of sugar. And those that are supposedly low sugar such as citrus are basically a load of sugar with very little nutrients. With all that sugar, fruit just doesn't qualify as a health food, period. Fruit might be better than a candy bar, and sometimes not even that. And fruit juice might be better than soda. But when it comes to it, it is like choosing between the lesser of two evils and having a heck of time figuring out which one that is.

Fructose, the simple sugar in fruit, is extremely damaging and the only sugar that raises uric acid levels which is related to metabolic syndrome and gout (Johnson et al., 2007). Both fruit juice and soda are linked with high triglycerides levels, fatty liver and high uric acid. These are all markers of extremely bad health. As scientists are admonishing more and more often, "we would urge medical practitioners to encourage individuals exhibiting metabolic syndrome to strongly limit the consumption of dietary fructose and other high-glycemic-index carbohydrates, and to stop discouraging them from consuming foods rich in cholesterol." (Seneff et al., 2011)

Take for instance Foie gras, a French gourmet delicacy. It is delicious and extremely fatty. Foie gras translates literally to “fatty liver” and in order to make it, geese or ducks are forced-fed large amounts of a wet mash of corn. Their livers balloon up to about 6-10 times their normal size, all packed full of fat. This serves as a clear picture of the fattening effects of carbs and how it promotes a fatty deposition in the liver. It also explains the epidemic proportions of nonalcoholic fatty liver disease (AKA fatty liver) that we are seeing nowadays. It is so incredibly common, that some doctors just ignore it when they see ultrasounds reporting fatty liver. Some actually tell their patients that the ultrasound is normal and that the fat in the liver is nothing! Yet, it is an independent predictor of cardiovascular disease, even more so than obesity (Schugar et al., 2012).

According to MyPyramid.gov, we should eat about 2 cups of fruit per day as a part of a healthy diet. But keep in mind that we've been cultivating fruit -and only some fruits- for only the past few thousand years, many fruit trees for only the past few hundred years and the fruit that we see today - Fuji apples, Bartlett pears, navel oranges - have been recently bred to be far sweeter than the wild varieties and hence, they are more fattening due to their higher fructose content.

I have encountered many people who defend their consumption of fruit based on the evolutionary point of view "Out of Africa" theory -or hypothesis I should say. They claim that in African savannahs there were plenty of tropical fruits which made our

monkey ancestors happy. Well, not so fast. First of all, the Out of Africa hypothesis is just that, a hypothesis. And as virologist Nessa Carey, PhD says (2012), all we need is one instance in which Poirot or Miss Marple reveal that the doctor was a perfect suspect for murder, but the killer was the vicar, and our hypothesis is shot to pieces. The best scientific experiments are designed to disprove, not to prove an idea. And as it happens, there is a study which just shot the Out of Africa hypothesis into pieces (Klyosov and Rozhanskii, 2012). As it is clearly stated here:

The ecological factors contributing to the evolution of tropical vertebrate communities are still poorly understood. Primate communities of the tropical Americas have fewer folivorous but more frugivorous genera than tropical regions of the Old World and especially many more frugivorous genera than Madagascar. ...Neotropical fruits have higher protein concentrations than fruits from Madagascar and that the higher representation of frugivorous genera in the Neotropics is linked to high protein concentrations in fruits. Low fruit protein concentrations in Madagascar would restrict the evolution of frugivores in Malagasy communities (Ganzhorn et al., 2009).

That is to say that eating fruits wasn't the main diet of primates in Africa. The main element sought by the consumers, leading to their development as species, was protein. Further, I should point out that fruit-eating creatures didn't evolve into human beings as primates exposed to harsh or unusual conditions did. The Aquatic Ape Hypothesis is far more compelling for how and why

humans evolved as they did, eating plenty of seafood that made us human with bigger brains containing fish-derived fats. In short, if you want to devolve to a monkey, eat more fruits.

Don't get worked up about the so called nutrients and minerals in fruits. When it comes down to it, fruit is mostly sugar with very little of anything else.

Dietary carbohydrates including vegetables and fruits (with the exception of fiber), are all converted to the simple sugar glucose by the time your digestive system or liver is done with it, and that glucose is then released into the bloodstream.

Here Comes the Insulin Shock

According to health authorities we should be eating a diet with 60% carbohydrates. Authoritarian followers often consume that amount and much more. Our bodies then have to convert all that into sugar and such high levels of sugar in our blood are very toxic. It would lead to coma and death if we didn't have any means to process it, but thankfully we do have a means to deal with it - a mechanism that we nowadays wear out to the max with loads of sugar and more often from an earlier age in life.

Elevated sugar levels stimulate the pancreas to produce insulin which is a hormone responsible for nutrient storage. Its primary function is to carry sugar, amino acids and fats out of the blood and into the cells including the crucial metabolic ones of the liver, muscle and fat cells. Insulin's role as a storage hormone makes it

so that eating more carbs results in more insulin production and more energy storage in the form of fat for later use in case of famine.

There are actually several hormones which will raise blood sugar levels and only one -insulin- which will actually lower them. This is because carbohydrates used to be an extremely limited commodity in our evolutionary past, and as such, our ancestors didn't or very rarely had an "emergency" need to lower blood glucose levels, as is so common today. The ability to hormonally raise blood sugar levels in an emergency situation, however, was essential to survival. This is why we have several hormones to increase blood sugar when we need it: glucagon, epinephrine, norepinephrine, cortisol, and growth hormone.

Excessive levels of insulin triggered by a high carb diet causes sugar to be removed so quickly and efficiently from the bloodstream that it results in a sugar crash. This is when mood swings, mental and physical fatigue comes in and you suddenly crave and reach out for the next high sugar meal.

Insulin, by default, does lower blood sugar (very crudely), but insulin's primary purposes are actually to simply store away excess nutrients in case of a famine and to regulate the coordination of energy stores with lifespan and reproduction. Blood sugar lowering is a trivial sideline for insulin, a key hormone that has much bigger fish to fry. This is hugely important to understand and a key factor in new

understandings by scientists in the quest for advancing human longevity. –Nora Gedgaudas, *Primal Body, Primal Mind*.

This spike is a shock to our genes, which are accustomed to slower-burning foods – fats. The destruction of human health is largely due to the 300 or more grams of carbohydrates we consume each day. It's not unusual for an average American to consume 500 or 600 grams of insulin-generating, fat-storing carbohydrates a day. Keep in mind that our cave man ancestors probably worked very hard to gather an average daily intake of about 60 grams max on the best of days, if ever.

When we produce so much insulin over time, as we all do thanks to the food industry and health authorities who impose mainstream diet through police-style guidelines, there are several things that go very wrong. First, muscle and liver cells aren't able to store that much glucose which it does in the form of glycogen. Maximum capacity is easily surpassed with a moderate to high carb diet as the average person can only store about 400 grams of glycogen in liver and muscle tissue. So when you max out your glycogen storage capacity, any sugar remaining in the bloodstream that isn't used energetically in "real time" gets converted into triglycerides in the liver and sent to fat cells for storage.

When your blood insulin levels are high, those same fat cells store not only the excess unutilized sugar but the fat you ate at your last meal as well. This is why it is a very bad idea to eat excessive

sugar with fat. High insulin signals your fat cells to hold on to the fat and not release it for energy.

If this doesn't sound like bad news then this probably will. With constant high levels of insulin in our bloodstream we become insulin resistant. That is, insulin's receptors on cells become desensitized to insulin's storage signal, leading to more and more insulin release needed to accomplish the same job. Over time, cell receptors become increasingly resistant to insulin's persistent message and type 2 diabetes becomes the problem. When insulin's key doesn't unlock the cell membrane to allow nutrients into the cells, all things go wrong. This locked door causes sugar to be turned away due to insulin resistance and tricks cells in your liver into believing they are starving for sugar. In turn, the cells' genes signal to begin creating sugar (gluconeogenesis) and thus, even more sugar gets dumped into the bloodstream despite the fact that the initial problem was that there was too much to begin with.

So here comes even more sugar which will stay in your bloodstream even longer, causing you to AGE, literally. In fact, advanced glycosylation end products (AGEs) are chemical reactions that occur when blood sugar binds with important proteins, making them useless from a functional point of view, and increasing inflammation and the risk of chronic diseases.

High blood sugar levels are very bad indeed, but high levels of blood insulin on a long term basis is actually worse. What happens is that genes responsible for insulin receptor sites turn

themselves off or “down-regulate” in response to – and in defense against – the excessive insulin in your bloodstream. It is only when insulin levels are moderated with a low carb diet and/or exercise, that your liver and muscle cell receptor sites become insulin sensitive again – more effective at absorbing ingested nutrients transported by insulin. Insulin is the perfect example of how a good thing turns into a very bad thing when stimulated in excess.

Higher than physiological levels of insulin are very inflammatory. Those who stimulate the least amounts of insulin throughout their life live longer and remain healthier. Type 1 diabetics who don't produce insulin due to an autoimmune condition are actually unhealthy due to excessive supplemental insulin injections to counteract excessive intake of carbs promoted by mainstream guidelines. I know for a fact that in some parts of the world diabetic type 1 patients are encouraged to eat 5 meals with carbs each time just to avoid low blood sugar levels caused by their insulin prescription. The concept of injecting less insulin by avoiding carbs doesn't even enter the picture even though that was the treatment initially when insulin medicine didn't exist.

Drugs that are designed to manage diabetes completely fail to address dietary issues and instead focus on lowering blood glucose, typically stimulating more storage of sugar as body fat with insulin. This does nothing to restore healthy cellular communication or reduce mortality from the disease. Thus, diabetes drugs ultimately worsen the progression of the disease

all the while missing the root cause of the disease: carbohydrate intolerance!

Diabetics were once treated with carb restriction in a time when insulin shots were yet to be discovered, with reports of people living well into their 80s with an excellent quality of life. Type 1 diabetics are able to adjust their insulin downwards as carbohydrate is restricted. So they have much better blood sugar control, lower risk of complications, and less need for medication by adopting a lower-carbohydrate diet (Nielsen et al., 2012)

In type 2 diabetes, the overtaxed pancreas may ultimately lose its ability to produce sufficient amounts of insulin and may end up requiring insulin injections as well. Once thought to be a disease of older adults, type 2 diabetes is increasingly becoming prevalent in young children. Even if a diabetic person has normal blood sugar levels with insulin treatment, he or she would still see the unhealthy diabetic complications in the long run due to the insulin itself. In fact, researchers following the effects of using insulin treatment to lower blood glucose levels in diabetic patients were surprised to find that increased insulin use to lower blood sugar caused an increase in death from heart attack and stroke (Gerstein et al., 2011).

Excessive insulin has a key role in the development of atherosclerosis and thus cardiovascular disease. It enhances platelet stickiness which makes them clot more readily and it also promotes the conversion of macrophages into foam cells which are found in the atherosclerotic plaque which clogs our arteries.

Insulin also reduces your levels of nitric oxide in the arteries lining – the endothelium. Nitric oxide aids in tissue recovery and regeneration, enhances blood flow, dissolves plaques, and dilates blood vessels. This is why insulin contributes to the rigidity of arteries and cardiovascular disease. A weak endothelial nitric oxide system also contributes to cold hands and feet, the loss of hair and weak nails prone to fungal infections.

Insulin resistance also creates havoc on key hormones such as the growth hormone (GH) which is made in the pituitary gland. GH stimulates the production of insulin-like growth factors (IGFs) in the liver which will then do their job in cells throughout the body. Because of its similar structure, insulin binds to IGF receptors and prevents growth hormone's IGFs from doing their job.

Thyroid hormone T4 is essential for energy metabolism; it gets converted to the active form T3 by the liver. When the liver become insulin resistant, this conversion from T4 to active T3 declines dramatically. This further contributes to fat storage, low energy levels and cognitive decline.

Insulin resistance also interferes with sex hormone synthesis, causing levels of testosterone, DHEA (our rejuvenating hormone from earlier on), and other sex hormones to decline.

When there is excessive insulin in the blood, globulin -a protein which transports sex hormones through the bloodstream and delivers them where they're needed - holds on to its sex hormone.

No matter how much money you pay for a rejuvenating program, if you are insulin resistant because you eat a high carb diet, you will not bypass this undesirable sex hormone-binding-to-globulin condition caused by excessive insulin. If sex hormones don't reach their final destination so they can effect their functioning, you will not be a happy camper.

There is also a strong link between attention deficit/hyperactivity disorder (ADHD) and the intake of processed carbs and subsequent insulin production. High blood sugar levels are linked with cognitive decline in diabetics (Yaffe et al., 2012). "Because insulin can penetrate the blood - brain barrier, the hormone may signal neurons to trigger reactions that disrupt learning and cause memory loss," Prof. Gomez-Pinilla - member of UCLA's Brain Research Institute and Brain Injury Research Center - says, "Insulin is important in the body for controlling blood sugar, but it may play a different role in the brain, where insulin appears to disturb memory and learning (UCLA Newsroom, 2012)."

A high carb diet, followed by the secretion of lots of insulin causing a drop in blood sugar levels is perceived as a very stressful event by your body. It makes your body's homeostatic overseer - the hypothalamic-pituitary-adrenal (HPA) axis - go bonkers triggering the flight or fight response and causing your adrenals to release epinephrine ("adrenaline") and cortisol into your bloodstream. Cortisol breaks down muscle tissue in order to extract from them amino acids which will be utilized by the liver

to make sugar (through gluconeogenesis). Now you have sugar again at the expense of your muscle tissue and if you had not reached out for your constant supply of candy, carb bars, etc.

People often get sick by striving to eat the recommended amounts of “safe” carbs which modern diet gurus recommend. To stay alert, people often eat sweet snacks several times a day. Health minded people will skip the candy and choose instead “healthy” stuff such as fruit or energy bars. They think they are doing the right thing for their bodies, while something altogether different is happening inside of them. As it is with the reliance of chronic overstimulation of insulin to power up our bodies, people eventually deteriorate over the years with typical signs and symptoms of hypoglycemia such as feeling tired, hungry, shaky, nauseated before meal times, etc. being the norm and prevalent way of feeling around food nowadays. These feelings come from an adrenaline rush which forces the liver to pump out more sugar (gluconeogenesis) while also making us shaky, nauseous and panicky.

Where fueling the fire of our brain and body's metabolism is concerned, carbohydrates can best be described as kindling. Whole grains and legumes are somewhat like twigs; starch, such as in cereals and potatoes, and simple sugars are like paper on the fire; and alcohol might best be described as gasoline on the fire.

If you're relying on carbohydrates as your primary source of fuel, you need to feed that fire often, regularly, and

consistently. You will be craving that fuel. Unfortunately, most people today have forcibly adapted their bodies to this sort of an unnatural dependence by over-consuming carbohydrates in their diet. -Nora Gedgaudas, *Primal Body, Primal Mind*.

As blood sugar levels drop below 60, our brains feel deprived of glucose – the basic sugar fuel- triggering the flight or fight response from the adrenal glands which in turns release adrenaline and like glucagon, instructs the liver to release stored glucose. Adrenaline also tells our brains to make us feel anxious, shaky and even nauseous. “It’s time to eat or die!” kind of feeling. It is what is actually known as the “flight or fight response”. Keep in mind that blood sugar levels need to remain within range, not too much or too little, otherwise it is an emergency situation which requires emergency measures. That is what adrenaline is for. The flight or fight response forces energy out of storage, getting you ready for action. As Lierre Keith (2009), a lifetime vegetarian, says,

That's fine for the occasional sabertooth tiger attack, but eating a high-carbohydrate diet is a tiger attack three times a day, every day. You can damage your stomach's ability to produce hydrochloric acid, and anyone with blood sugar problems is at risk. The resulting condition is called gastroparesis, and I gave it to myself. Writes Dr. Tom Cowan: “*One of the clues to healing gastroparesis is the fact that it most commonly occurs in those who are either diabetic or who have hypothyroidism. Blood sugar regulation is intimately tied to*

the functioning of the stomach and the health of the nerves. Very low-carbohydrate diets have been successfully used in virtually all stomach disorders because it has been found that insulin is intimately tied up with acid production, the pressure at the esophageal-gastric sphincter and the hormonal control of other stomach functions. Lowering insulin levels through a low carbohydrate diet ... is the first step in resolving this disorder”.

[...] So here are some questions for you, vegetarians. Do you feel sick when you eat? Specifically, does your stomach feel distended, bloated, or like it takes a long time to empty? It's not your blood type and it's not because you're "naturally" meant to "eat light" – two things I've heard a lot from vegetarians afflicted with mysterious stomach ailments. If you can't eat the food your body needs, it's because you've damaged your digestion, from too many blood sugar highs and lows, and too much adrenaline. It can be fixed, but you're going to have to eat real protein and fat and not sugars. You need to leave adrenaline for emergencies only: can we agree that breakfast shouldn't be one?

As if modern life is not stressful enough, over time this added abuse of the stress response system leads to adrenal fatigue, paving the way for health problems like chronic fatigue, inflammation (both of which are an issue in ALL diseases) and weight gain.

You might be familiarized with the concept that we gain ten pounds a decade after age 35 and that we can't eat like we used to

without gaining weight. Think of sugar making us insensitive to insulin.

Many people don't think of grains as sugar, so it might come as a surprise to know that whole wheat bread increases blood sugar to a higher level than sucrose does. Eating whole wheat bread is often worse than drinking a can of sugar-sweetened soda or eating a candy bar.

While there might be people who do remain skinny and healthy on a high carb diet, that doesn't mean that they still don't pay for unseen ill-health and loss of productivity. You might say, yeah but I don't get fat or have a sugar crash from eating too much carbs so obviously none of this applies to me. Wrong!! In fact, you may as well have it worse. You might be among those who one day just drops dead with an obstructed coronary or brain artery. Or one day you might come down with a diagnosis of cancer. Excess insulin creates havoc whether you notice or not. Insulin and insulin-like growth factor, both promote cancer growth. In fact, obese people have a better prognosis in a host of conditions including diabetes and heart disease. It is the skinny ones who die earlier (Barclay, 2012).

You have to understand that our metabolism comprises anabolic ("building up") and catabolic ("breaking down") forces which the body strives to keep in balance. When you throw in excessive amounts of insulin –an anabolic hormone- in some people, what happens is something akin to ending up reducing other hormones on the anabolic side (such as sex hormones, growth hormones) in

order take-off the weight on the balance that was tripped over due to insulin. According to your individual make-up, you might have another way to cope with too much anabolism due to insulin, such as to increase and overtax the catabolic side (thyroid and corticosteroid hormones) which for instance weakens your immune system in the long run. So there seems to be two ways that insulin works on people: in one way, it causes immediate storage of carbs as fat; in other people, it causes major burn off of energy. So if you are not eating fatty meat for breakfast, eliminating grains and most carbs, you are really just burning your reserves off by triggering the insulin. If you are too skinny and want to put some weight on, insulin concerns you as well.

A prolonged stress response diverts energy resources away from processes like digestion in order to make energy with the production of cortisol which is a potent immune suppressor. Sugar also impairs the immune system's ability to deal with viruses and bacteria for hours after its consumption.

Excess sugar also prevents vitamin C's transport into cells where it has important functions since both molecules use the same entry port. This is when your defenses let you down through excess sugar, and oxidative stress and inflammation take over.

I hope you are keeping in mind that ALL carbs stimulate insulin secretion including bread, cereal, rice, granola, dried fruit, juices, candy, chocolate, alcoholic beverages, desserts, fresh fruit, avocados, potatoes, beans, but also vegetables and excess consumption of protein.

The concept of carbohydrate intolerance is a manifestation of insulin resistance and is associated with high blood pressure, high blood triglycerides which has bad consequences on cardiovascular health and in its most extreme form, type 2 diabetes. The solution to it is to remove what is not tolerated: carbohydrates! But what do dietary guidelines for diabetics emphasize? Carbohydrates! Shame on them who give science a really bad name.

This is why some dietary experts are always telling you to eat every two hours or to eat "numerous small meals throughout the day," If you're sugar dependent – and almost everyone in this culture is victim to that unnecessary reality – then frequent small meals become necessary to maintain an even keel.

If you have ever heated your home with a woodstove, then you know what I mean with the following analogy: If you had to heat your home with that woodstove using paper, twigs, and lighter fluid all day, you'd be a slave to that fire, and you'd need a mountain of fuel handy to constantly feed that hungry beast. You'd be forever preoccupied with keeping that fire going, and you'd have little other life.

In effect, most people in this culture are similarly enslaved by the preoccupation with where their next meal or snack (or caffeinated boost) is coming from.

- Nora Gedgudas, *Primal Body, Primal Mind*.

If you eat a high carb diet you will gain weight slowly but surely unless you exercise like mad, activating your inflammatory stress response (fight or flight!) on a constant basis. Then you will certainly risk developing any health problem related with oxidation and inflammation which is pretty much every single disease out there. This flight or fight response is also at the root of a whole range of digestive problems, and for a good reason it is said that good health starts with a healthy gut.

Evolutionary History

Just as there are essential fatty acids (that is, they're essential to eat because we humans can't make them), there are also essential amino acids, the so-called building blocks of protein.

But there is no such thing as an essential carbohydrate. According to Dr. Eades, author of *The Protein Power*, "the actual amount of carbohydrates required by humans for health is zero." Our bodies are perfectly capable of making sugar to sustain our bodies without carbs from our diet.

Despite the propaganda to declare complex carbs as good and sugar as bad, all carbohydrates amount to sugar. The only difference is whether they are individual sugar molecules or a string of sugar molecules. Glucose is the simplest one; sucrose which is regular table sugar is made of two molecules - a disaccharide. Trisaccharides are three sugar molecules. Sugars

with more molecules are called polysaccharides – grains, beans, potatoes, etc.

The reason all carbohydrates amount to sugar is because our digestive system can't digest long strings of sugars, so we break them down into simple sugars and each one of them hits the bloodstream sooner or later triggering insulin:

So whether it began life as a fat-free bagel, a quarter cup of sugar from the sugar bowl, a canned soft drink, a bowl of fettuccine, a baked potato, or a handful of jelly beans, by the time your intestinal tract gets finished snipping the links of those starch and sugar chains, it's all been reduced to ... sugar. Specifically, to glucose. And in the end there's very little metabolic difference between your eating a medium baked potato or drinking a 12-ounce can of soda pop. Each contains about fifty grams of easily digestible and rapidly available glucose. It may surprise you to know that the potato might even be slightly worse in terms of the rise in blood sugar that follows it (Eades and Eades, 2001).

This non-essentiality of carbs to our bodies is related to our ancestral past and the medium in which our brains and bodies thrived where carbs were really a dispensable food. There is a very good reason why no other species on earth is a farmer. We really should have paid better attention!

It is recognized that the change in diet since the Agricultural Revolution, Industrial Revolution and the Modern Age has

systematically destroyed our health and that the mismatch between our ancient physiology and current diet is at the root of many so-called diseases of civilization: coronary heart disease, obesity, hypertension, type-2 diabetes, cancer, autoimmune disease, osteoporosis, etc. which are virtually absent in hunter-gatherers and non-westernized populations (Carrera-Bastos, 2011). Most of the human genome has ancestral genes that adapted for over millions of years to a caveman diet.

Just about every arable land in the world is under cultivation, yet agriculture began just a few thousand years ago, a breath ago if we consider our Earth's time and our evolutionary history. Basic human physiology goes back hundreds of thousands of years, if not a million or two. Did we think that human physiology was going to be changed in order for us to consume vast amounts of sugar in the span of a few thousand years with the agricultural revolution, or a few hundred years with the industrial revolution, or even a couple of decades with the surge of Frankenfoods including high fructose corn syrup? No, that is only an infinitesimal part of a drop in a vast ocean.

We are here today because our ancestors survived prolonged periods of fasting while they hunted for foods and they were able to thrive on animal foods under very interesting conditions.

We are children of the Ice Age. That is, our ancestors survived major cooling and glacial ice sheets which began and ended roughly every 11,500 years. Each time climate change occurred, it

did so within the span of a very few years. Imagine this world freezing over into full-blown glacial severity almost overnight.

This had a major impact on our human physiology; it is what made us human. We have spent a significant amount of time in an Ice Age with only very brief periods of warmer weather which was when edible plants could have grown over a significant part of the Northern Hemisphere. Only those who adapted under such frigid and difficult conditions survived. It is certainly food for thought as the next ice age will certainly one day come.

Animal fat was our primal energy, as it was - and still is - the most efficient, dense and long-burning fuel. It is agreed by experts that our extended dependence on meat and animal fats (i.e. fish fat) throughout these continual freezing epochs actually encouraged our brains to enlarge and develop so that we became human. We became smart - Homo sapiens - *because* we ate animal fat and meat. Thus, it is not surprising to note that evidence is growing that vegetarians and members of agrarian societies have smaller brains.

For the vast majority of mankind's presence on this planet, he rarely if ever consumed cereal grains. With the exception of the last 10,000 years following the agricultural 'revolution', humans have existed as non-cereal-eating hunter-gatherers since the emergence of Homo erectus 1.7 million years ago [...]
It is apparent that there is little or no evolutionary precedent in our species for grass seed consumption. Consequently, we

have had little time (=500 generations) since the inception of the agricultural revolution 10,000 years ago to adapt to a food type which now represents humanity's major source of both calories and protein. The sum of evidence indicates that the human genetic constitution has changed little in the past 40,000 years. The foods which were commonly available to pre-agricultural man were the foods which shaped modern man's genetic nutritional requirements. Although our genetically determined nutritional needs have changed little in the past 40,000 years, our diet has changed dramatically since the advent of agriculture 10,000 years ago. Cereal grains as a staple food are a relatively recent addition to the human diet and represent a dramatic departure from those foods to which we are genetically adapted. Discordance between humanity's genetically determined dietary needs and his present day diet is responsible for many of the degenerative diseases which plague industrial man. Although cereal grains are associated with virtually every highly developed civilization in mankind's history and now occupy the base of the present day food selection pyramid in the United States , there is a significant body of evidence which suggests that cereal grains are less than optimal foods for humans and that the human genetic makeup and physiology may not be fully adapted to high levels of cereal grain consumption. -Lorain Cordain, *Cereal Grains: Humanity's Double-Edged Sword* (Simopoulos, 1999).

300,000 year old specimens of some 500 human coprolites (poo) from a French Mediterranean site, Terra Amata, contained no plant remains (Bryant and Williams-Dean, 1974). What it did contain was "grains of sand, which are almost inevitably ingested at the seashore, flecks of charcoal, which indicate the use of fire in the preparation of food, and fragments of mollusk shell, which point to one food resource that may have been exploited by the inhabitants."

During our evolutionary history, we had to survive for prolonged periods of time largely on meat and fat of animals that were hunted. In fact, there is a strong argument that our dependence on these foods through never ending rough winters is what allowed for a rapid enlargement and development of the human brain. It is certainly interesting to note that we live in a time where the opposite is true. Our cognitive decline is the norm as we age and "survive".

As Nora Gedgudas puts it, "Hunting also helped facilitate and develop the very human qualities that we most intrinsically value - cunning, cooperation, altruism, sharing, advanced creativity, the power to foresee the future and to be able to call upon the past in terms of the future, the capacity to evaluate with complexity, and the ability to imagine solutions - qualities not found in other primates." Or psychopaths for that matter!

At some point in our evolution, essential fatty acids like DHA (docosahexaenoic acid) - from meat and organs of wild game and other grass-fed meats and wild-caught cold-water seafood - had a

dominant role in our diet to the extent that it is thought that they alone were responsible for the significant increase in the size of the human brain. DHA makes up the highest percentage of the fatty acids in the human brain, facilitating visual and cognitive function, forming brain receptors for neurotransmitters such as serotonin and dopamine, and serving as a storage molecule that the body can reconvert to another essential fatty acid - EPA (eicosapentaenoic acid) - if needed. So if anything, it seems that we need plenty of land animal fats AND fish oil. This is our evolutionary heritage as human beings, not monkeys. Nor vegetarians for that matter, who have smaller sized brains.

Our high carb diet is strictly a modern aberration, one that our ice age human physiology continues to struggle with in ways that we know as “chronic diseases.”

It bears repeating, between protein, fats and carbohydrates, the only ones for which we have no actual need are carbohydrates.

I suffered from Premature ventricular contractions (over 3000 per day, confirmed by a cardiologist) for over one year and by avoiding carbohydrates in my diet, I could entirely -- 100.0% -- cure myself from this condition. When asking the cardiologist for a cure, he said, don't bother, it's normal, just don't stress out -- unbelievable! -Data, 20th of August, 2012.

The case for our evolutionary history is a strong one and it is made by evolutionary biologists who have been researching and

writing about this for a long time with no agenda to support the food industry as the medical profession researchers have.

Grains and processed sugars were absent from human nutrition until the invention of agriculture some 10,000 years ago. This is common knowledge in the anthropological literature but is mostly virtually absent from the obesity and medical literature, with the exception of the low-carb science.

Essentially, we are much more alike physiologically than not and even though we all have our own genetic susceptibility and biochemical individuality, we all still have the same fundamental anatomic and physiological landmarks and laws. There are basic principles that must be considered. For instance, genetically speaking, we are essentially the same with respect to genetic expression to those humans living over 40 thousand years ago. Our physiology is the one of those people who lived during the Paleolithic Era, which refers to the human evolutionary time spanning from around 2.6 million to 10 thousand years ago right before the Agricultural Revolution. We are not alien bodies from a different planet meant to be eating processed foods for astronauts; we are simply the direct descendants of our paleo ancestors eating something which was aberrant until very recently.

We are highly optimized and geared by nature to be hunter gatherers from a biological, genetic and physiological point of view. As for human evolution, we have been mostly skilled hunters eating high-quality animal foods that were hormone,

antibiotic and pesticide free with no genetic alteration. It was very high in fat, which was held very dearly, and low in carb. The little carb, if any, ingested was eaten as seasonally available.

For most of us, from an evolutionary perspective, a high sugar diet is a metabolic challenge that some find difficult as early as they are born and many fail to meet as early as adolescence. It is evident that these negative consequences can be counteracted or greatly reduced with avoidance of carbs, intermittent fasting, resistance training and stress reduction through meditation and play. Arguably how our ancestors lived.

The Role of Big Agra

Agriculture, far from being a natural and positive evolutionary step, in fact led towards an enslavement of civilization. In fact, there is a very strong argument that civilization arose to deliver a fix. Yes, our hierarchical civilization could well be a mad dream of drug addiction since between cocaine and sugar, sugar is far more addictive:

In most mammals, including rats and humans, sweet receptors evolved in ancestral environments poor in sugars and are thus not adapted to high concentrations of sweet [compounds]. The supranormal stimulation of these receptors by sugar-rich diets, such as those now widely available in modern societies, would generate a supranormal reward signal in the brain, with the potential to override

self-control mechanisms and thus to lead to addiction (Lenoir, 2007).

In fact, we live in a world where drug consumption is ubiquitous, highly encouraged and stepping away from it is looked upon as a pathological disease. The inmates have taken over the asylum!

Imagine all our efforts to keep our children away from drugs all the while we fill their lunchboxes with Twinkies, coke, potato chips and sandwiches. And even when we don't, they are surely bound to find a sugar drug before they walk 20 steps out of home. Don't think sweet fruits are exempted. They are often enough to get an insulin surge of the kind that will make you rationalize your fruit consumption with a thesis in a court of judges.

It is really more addictive than cocaine! We have created an entire culture around sugar and we are now paying the consequences of such stupid mistake with our brains and with our lives and those of our children.

According to Dr. Catherine Shanahan, author of *Deep Nutrition: Why Your Genes Need Traditional Food* (2011),

Sugar is the ultimate gateway drug. We now have research showing that exposure to sugar early in life has lasting effects on the brain that can make us more prone to developing chemical dependencies. When researchers gave young rats a steady supply of chocolate they found "daily consumption alters striatal enkephalin gene expression." In

other words, the study rats were programmed to consume substances that stimulate their opiate receptors. Sugar acts as a powerful epigenetic instructor, telling your child's genes to construct a brain with a built-in hankering for drugs.

As Michael Pollan points out in *The Botany of Desire*, by producing chemistry desirable to humans, certain plants have domesticated us, turning people into pawns in their Darwinian battle to rule the landscape. Like THC in marijuana, the sugar in fruit and sugarcane entices humans and other animals to spread the plant's DNA. But this relationship is taken to dangerous extremes as the need for sugar commands us to reorder the surface of the planet; millions of acres of tropical rainforest are burned every year to sustain the ongoing habit of a growing population. We work for corn too. Each step in the production of high-fructose corn syrup is a giant leap forward in corn domination of the planet. Sugar-producing plants like corn, cane, beets, berries, and mangoes give us a legal high every bit as addictive as a hit of crack cocaine, though less intoxicating. What I am arguing, however, is that sugar's hold on us is actually more dangerous than any illegal substance due to the hidden nature of its incremental and chronically damaging effects on human physiology.

If a child were given a dose of heroin, the chemical would trigger a flurry of neural activity in the pleasure centers of his brain. Sugar, whether juice, pureed pears, or infant formula, results in the very same kinds of responses "via the

release of endogenous opiates triggered by sweet taste". And if you regularly give kids sugar-rich commercial juices, sweet cereals, or daily cookies and candy, you're inadvertently playing the role of 'enabler.' Though sugar doesn't actually contain opiates like heroin, it affects us in very much the same way because it makes us release our own endogenous opiates.

The effect is powerful enough for solutions of sugar to work as a pain reliever. In a common practice, called "sucrose analgesia". Nurses give a sip of sugar water to infants to calm them during heel sticks, injections, and other painful procedures newborns routinely undergo. It works well and has the benefit of reducing fussiness for up to a week after the procedures. In 2002, a group of neonatal nurses at several intensive care units throughout hospitals in Montreal, Canada wondered if there might be a downside to this common practice. Specifically they worried about the effect on the babies' developing brains. In spite of the convenient benefits, the nurses were granted permission to give half the babies in their study plain water, while the other half got sugar water. They found that infants who got sugar in their first seven days of life suffered neurological effects that were still measurable when the study ended, eleven weeks later. "[Higher] number of doses of sucrose predicted lower scores on motor development and vigor and alertness and orientation...and higher NBRS [NeuroBiological Risk Score, a reflection of processes deleterious to brain development]."

What does this study indicate? Little nips of sugar water given to alleviate pain impair a baby's cognitive development.

How could sugar have such powerful effects? As I mentioned earlier, sugar induces endogenous opiate release. The study authors postulate that repeated artificially induced stimulation of the immature brain with endogenous opiates interferes with normal development of alertness and arousal systems, so much so that babies who got the most sugar became lethargic. Endogenous opiates normally play a role in making us feel okay after something bad happens to us. The authors suggest that using sugar to induce the brain to release endogenous opiates during trauma prevents the brain from developing strategies to deal with pain normally.

It will get better later on as we review the opioid-heroin properties of our daily bread! For the time being, think well of Dr. Cate's wise words before you decide to reach out for your next sugar fix:

Life is full of stresses and trials. Normally, we deal with them and move on. But studies like this suggest that, when we offer kids sweet treats as an incentive to settle down, we're rewiring their brains, potentially preventing them from learning normal, healthy, and more socially appropriate coping strategies than screaming for a box of juice. I have personally spoken with several child

psychologists who feel that discipline among children is fast on the decline. For whatever reason, more and more adults seem unable to control their kids. My feeling is that if you start loading kids with sugar as a way of controlling behavior, you are not only training them to rely on external chemicals to feel good, you are training them to manipulate you to provide them with their fix. Sorry Willy Wonka, but my patients who've taken their kids off sugar tell me they can't believe what a better, more balanced, healthier family life they now have.

It is not only our health; it is practically our entire civilization as we now know it. We haven't known any other way of living for the longest time and look what it has brought to us: deteriorated health, wars, famine, slavery, never ending suffering. According to Greg Wadley and Angus Martin from the University of Melbourne (Wadley and Martin, 1993):

Within a few thousand years of the adoption of cereal agriculture, the old hunter-gatherer style of social organisation began to decline. Large, hierarchically organised societies appeared, centred around villages and then cities. With the rise of civilisation and the state came socioeconomic classes, job specialisation, governments and armies.

The size of populations living as coordinated units rose dramatically above pre-agricultural norms. While hunter-gatherers lived in egalitarian, autonomous bands of about 20

closely related persons, with at most a tribal level of organisation above that, early agricultural villages had 50 to 200 inhabitants, and early cities 10,000 or more. People 'had to learn to curb deep-rooted forces which worked for increasing conflict and violence in large groups' (Pfeiffer 1977:438).

Agriculture and civilisation meant the end of foraging - a subsistence method with short term goals and rewards - and the beginning (for most) of regular arduous work, oriented to future payoffs and the demands of superiors.

'With the coming of large communities, families no longer cultivated the land for themselves and their immediate needs alone, but for strangers and for the future. They worked all day instead of a few hours a day, as hunter-gatherers had done. There were schedules, quotas, overseers, and punishments for slacking off'.

If you thought of civilization as the great accomplishment of humanity, think again. There was a period in time when our ancestors lived in harmony without waging wars. Can you imagine how our world would be if no wars had been waged in the last couple of thousand years? How about in the last century? Where would we be now? As G.I. Gurdjieff says, modern civilization is based on violence and slavery and fine words. But all these fine words about 'progress' and 'civilization' are merely words (Ouspensky, 2001).

For a food that we have no need whatsoever to consume, the amount of sugar consumption in the US alone today is completely unacceptable and outrageous. This is thanks to the industrialization and commercialization of the American food system. It is all a gigantic business at the expense of your health, the consumer. It is hard to imagine how things were before the agricultural revolution, but without even going near that, consider that today we have a massive divergence in how we used to eat just a couple of hundred years ago.

According to neurobiologist Stephan Guyenet, U.S sugar consumption has increased steadily in the U.S. In 1822, Americans ate the amount of added sugar in one 12 ounce can of soda every five days, while in 2005 Americans were eating that much sugar every seven hours. The worst part is that his numbers don't even factor in the amount of sugar in fruit and "safe" starches which is basically what our governments recommend: rice, pasta, bread, cereals, potatoes, etc. According to Guyenet's numbers, the increase is so steady that if current trends continue, by 2606 the US diet will be 100% sugar. But since we are brainwashed to get our energy sources from carbs other than maple syrup, cane sugar and high-fructose corn syrup, then you can see how we are already basically there. We are now living a Greek tragedy thanks to our fatal romance with agricultural carbohydrates.

Our physiologies have basically no defense against this sort of onslaught. This doesn't even consider excess protein consumption which significantly converts to sugar.

The sugar load in our diet has grown unnaturally, exponentially, and grotesquely from the diet our Paleolithic ancestors once knew. This includes starchy or complex forms, as well as simple carbohydrates found in fruit. Wild fruit was a very different food from what we find today. It used to be significantly less sweet, usually much smaller and was only seasonally available, at best. But Big Agra strikes again to provide you with sweetness in all fruits available all year round.

Generally, in most parts of the world, whenever cereal-based diets were first adopted as a staple food replacing the primarily animal-based diets of hunter-gatherers, there was a characteristic reduction in stature, an increase in infant mortality, a reduction in lifespan, an increased incidence of infectious diseases [19–22], an increase in iron deficiency anemia, an increased incidence of osteomalacia, porotic hyperostosis and other bone mineral disorders and an increase in the number of dental caries and enamel defects. In a review of 51 references examining human populations from around the earth and from differing chronologies, as they made the transition from hunter-gatherers to farmers, Cohen concluded that there was an overall decline in both the quality and quantity of life [...] Agriculture is generally agreed to be responsible for many of humanity's societal ills including whole-scale warfare, starvation, tyranny, epidemic diseases, and class divisions [...] Because of cereal grains mankind has dramatically altered his original culture; moreover cereal

grains have fundamentally altered the foods to which our species had been originally adapted over eons of evolutionary experience. For better or for worse, we are no longer hunter-gatherers. However our genetic make-up is still that of a paleolithic hunter-gatherer. -Lorain Cordain, *Cereal Grains: Humanity's Double-Edged Sword*

Agriculture has displaced and mass-murdered endless amounts of species, communities and their habitats, displacing animal nutrient-rich diets with sugar and starch which then led to a drop in human stature as agriculture became pervasive. Meat contains protein, minerals and fats, fats that we need to metabolize those proteins and minerals. Grains are basically sugar with low quality protein which lacks essential amino acids, come wrapped in indigestible fiber and contain enough drug properties to make them addictive.

As if the 12,000 year old agricultural revolution wasn't bad enough, starting from the early 70s we now have the giant industrial farming with its mass production of "get big or get out". Small farms gave way to fence road to fence road farming where they keep producing as much as they can and no land is left unused. A farm of 20 acres will become one of 3000 acres in order to grow more corn than has ever been produced before. And with the surge in farm production came the surge in obesity (For a great depiction of this process, watch the BBC documentary "The Men Who Made Us Fat").

Dangerous Grains

Cereal grains contain no vitamin A or its precursor beta-carotene except for corn, which is for the most part downright dangerous since for the most part it is genetically modified to produce abnormal chemicals to our human bodies. As Loren Cordain, MD explains, “In some countries of Southern Asia, Central America, the Far East and Africa cereal product consumption can comprise as much as 80% of the total caloric intake, and in at least half of the countries of the world, bread provides more than 50% of the total caloric intake. In countries where cereal grains comprise the bulk of the dietary intake, vitamin, mineral and nutritional deficiencies are commonplace.” And he was publishing his research back in 1999. He adds:

Again, since cereal grains contain undetectable amounts of vitamin C and carotenoids [...] Cereal- and pulse-based diets of the third world generally tend to be considerably lower in both total fat, saturated fat and cholesterol than the meat-based diets of western countries, yet paradoxically, coronary heart disease mortality is in some cases either higher or similar to that in western countries.

After our fat review, we now know that animal fats are not to be blamed. This only shows how useless it is to eat whole grains to prevent heart disease.

Diets based primarily or wholly upon plant food sources tend to be either low or deficient in vitamin B12, since this nutrient is found exclusively in animal products. Vitamin

B12 deficiency causes a megaloblastic anemia which ultimately results in cognitive dysfunction via its irreversible impact on the neurological system. Additionally, it is known that a chronic B12 deficiency produces elevated homocysteine levels which are an important risk factor for arterial vascular disease and thrombosis.

Vegetarians, I'm sorry, you are in the wrong diet. Those elevated homocysteine levels due to a deficiency of animal-based vitamins increase the risk of ischemic events is the ultimate joke considering that doctors recommend restricting animal products to supposedly avoid ischemic heart disease.

A deficiency of vitamin B6 also increases homocysteine levels, which happens to be the case for grain consuming populations. Biotin is another B vitamin that is typically very low on cereal foods whereas animal foods have a high biotin bioavailability. A biotin deficiency is linked with scaling, seborrheic skin problems and hair loss. Those on a low fat diet based on cereal grains develop ridges on their fingernails. Forget about all the beauty products, if you are not eating animal foods, you are toast!

A diet rich in cereals also impair bone and teeth metabolism since it is really the least ideal source for minerals, but also by messing up vitamin D metabolism. Have you heard of the increasing deficiencies of vitamin D lately and the dozens of diseases it is related with?

Dr. Weston Price was a dentist who started practicing in 1893 – just before the surge of industrial food. Over the course of the next 30 years, he saw children’s teeth health go down the tubes along with their overall health. There were suddenly children whose teeth didn’t fit their mouths, distorted jaws and of course, lots of cavities. He noticed that nasal passages were also too narrow and that children had more asthma, allergies, and behavioral problems. He started thinking that these deformities and deteriorations were caused by nutritional deficiencies and to test his hypothesis, he traveled around the globe looking for cultures in good health. In the 1930s, things were still not near as bad as it is today and such cultures still existed. He also found people whose kids had displaced their traditional foods with modern foods with the same consequences he noticed: cavities, deformed teeth, bone deformities, cancer, and a full host of degenerative diseases (Price, 2006).

Herdsmen-hunter-fishermen were among fittest. Weston Price noticed that in Australia, coastal Aborigines eating seafood were the healthiest. But when their diet was displaced by processed agricultural food, tuberculosis and crippling arthritis became common.

So much trouble with grains is largely due to the high levels of anti-nutrients they contain. Phytates, to name one, are present in all seeds including nuts, legumes, and grains. This is the seed’s protection against predators, its self-defense mechanisms. Keep in mind that plants don’t want for the most part to be eaten. Instead of running away as mammals do, they put up their fight with

chemicals. Phytates bind with minerals in our digestive tracts, making them inaccessible. As a consequence, minerals needed for the proper digestion of such indigestible foods and to run things smoothly are lacking.

Seeds soaked in warm water may neutralize phytates as the seed is fooled into thinking it is in soil, ready to ripen. Weston Price found that cultures who used sprouting, rinsing, soaking, grinding and fermenting were only seeking to make seeds more digestible. But understand that the lengths to which plants have gone to protect themselves and their seeds and the great length we have to go to just partially neutralize their anti-nutrients is counterintuitive.

Cereal grains which are the seeds of grasses contain a wide variety of toxic anti-nutrients. Putting together research from hundreds of sources, Loren Cordain documents how some of these anti-nutrients have been found in human poo in an intact and biologically active way even after it was cooked and gone through the entire digestive breakdown in human guts. What this means is that all the trouble we take with neutralizing techniques such as soaking, fermenting, etc. simply doesn't work.

GMOs

Now, if there is a reason to loathe modern Big Agra for messing up with Mother Nature, it is GMOs.

A GMO (genetically modified organism) is the product of a laboratory process where genes from the DNA of one species are extracted and artificially forced into the genes of an unrelated plant or animal. The foreign genes may come from bacteria, viruses, insects, animals or even humans. Since this involves the transfer of genes, GMOs are also known as "transgenic" organisms.

It was in 1976 that the infamous herbicide Roundup was made by biotech company, Monsanto. They later developed genetically modified crops after finding bacteria in a chemical waste dump that was not dying in the presence of their herbicide. The bacterial gene that produced the protein to survive the herbicide was inserted into soy, corn, cotton and canola. When these crops were introduced and sprayed with Roundup, all existing plants except the GMO plant were killed.

According to Jeffrey Smith, author of *Seeds of Deception* (2003), some 258 million pounds of Roundup have been used in the last 11 years alone.

GMOs don't require any safety evaluations because the company says it is safe and because Monsanto's people are at the head of regulatory organisms such as the FDA. Internal memos made public from a lawsuit revealed that GM crops were having unpredictable side effects such as allergies, toxins, nutritional effects and new diseases as dangers. But the FDA went along and supported GMOs despite the fact that the complex biology of GM crops produces far more side-effects than drugs. If you want to

get an idea of how dangerous this is, just take the information sheet of any drug regardless of how harmless it is marketed and read through the potential side effects.

If you have eaten processed foods, then you have eaten GM foods which are not labeled or monitored. Among commercialized GM crops in the U.S. we have soy (91 percent), cotton (71 percent), canola (88 percent), corn (85 percent), Hawaiian papaya (more than 50 percent), zucchini and yellow squash (small amount) and sugar beets (90 percent).

The American Academy of Environmental Medicine (AAEM) warned about the serious health risks associated with GM food including infertility, immune problems, accelerated aging, faulty insulin regulation and changes in major organs and the gastrointestinal system.

I found a clear difference in behavior when kids get say bacon and eggs for breakfast and good meaty-with-fat meals than when they get carbs. The kids are not scrounging in cupboards an hour after they eat! I used to have to continually tell the little kids not to dig in fridge and look for snacks between meals when they for example had porridge or wheetabix with yogurt in morning, or bread and cheese for lunch or whatever. Now when they get meat and fat at each meal, they play for hours without asking or sneaking in the cupboards for food (well if they know there happens to be cookies in the house, they'll find them and eat

them no matter if craving carbs or not, so best not to have cookies or sweets around at all - kind of dull at dad's eh? - Jefferson

In fact, there is enough research to suggest that GMOs might be contributing to the epidemic of autism and anti-social behavior seen around the world (Smith, 2012). Pigs that were fed GMO corn as part of their diet went mad and turned cannibalistic. It makes you wonder about the numerous examples of truly mad behavior in the public sphere, including zombies and the increase in reports of human cannibalism, and so forth.

Rats fed GMOs go off by themselves and get irritated, they don't get along with each other; they are more distressed and get anxious and aggressive. Pigs raised on GMO corn go cannibalistic; they would consume each other – ear biting and tail biting. Some would get a condition like Alzheimer's. When farmers switch to non-GMO feed, the problems go away. The stomachs of pigs fed GMOs get inflamed and ulcerated. Some suspect that GMOs are a major contributor to the increase in inflammatory bowel disease in the US population which has skyrocketed by 40% since the introduction of GMOs.

Physician Gary Gordon puts it this way: “If [Bt-toxin] is causing an increased propensity for our intestine to become permeable or leaky and for foods to be presented to our bloodstream in a premature fashion, the havoc that it will cause will be across the

entire spectrum of disease, from premature aging and Alzheimer's to Parkinson's to autism to cancer to asthma." (Smith, 2012).

Due Roundup's antibacterial properties in normal and healthy gut flora, the overuse of Roundup is likely the reason for an apparent rise in botulism poisoning in livestock, and possibly humans.

Moreover, the only human GMO feeding study ever published does show horrifying interactions between GMOs and our gut flora. British scientists found that part of the DNA inserted into GMO crops can actually transfer into the DNA of our gut bacteria (Netherwood et al., 2004). People showed Roundup Ready (from Monsanto's soybeans) gut bacteria suggesting that the transferred genes may continue to function inside us. In other words, we may have GM proteins continuously produced inside our intestines long after we stop eating GMOs (Jeffrey, 2012). But that is not the most alarming prospect. According to Jeffrey Smith:

A more dangerous scenario would be if the Bt-gene produced in Monsanto's corn were to transfer to our gut bacteria. If so, it might convert our intestinal flora into living pesticide factories. With the inside of our intestines continuously exposed, Bt-toxin might erode the integrity of our GI tract, leading to widespread gut permeability and dysfunction

The real bad news is that 93% of pregnant women might have Bt-toxin from Monsanto's corn in their blood and so does up to 80% of their unborn children. Yes, a study examining the blood of 30 pregnant women and 39 non-pregnant women revealed that Bt GMO toxins were showing up in nearly all non-pregnant women, pregnant women and their unborn children (Mesnage et al., 2012). These toxins are used in pesticides for very good reasons, indeed they can cause toxic effects such as burns, pain, redness in eyes, abdominal cramps, shortness of breath, ETC. They also trigger a strong immune reaction and contain a gene for antibiotic resistance. And Bt-toxin genes transfer from corn chips or tortillas into our gut bacteria!

France, Germany, Russia, Greece, Austria and Luxembourg have banned GMOs whereas in the U.S. they continue to be planted without more testing and research. And even when there is plenty of research and evidence concerning the devastating effects of GMOs, it is typically denied and the researchers attacked, leaving us at risk and at the mercy of Franken grains and other GMOs.

Animal studies have shown pre-cancerous cell growth, small brains, livers and testicles and damaged immune systems in rats fed GM potatoes within 10 days. Jeffrey Smith (2012) reports:

When a Danish pig farmer switched to non-GMO soy in April 2011 for his 450 sows and their offspring, within two days the animals' serious diarrhea problems virtually disappeared. During the following year, death from ulcers

and bloat, which had claimed 36 pigs over the previous two years, vanished. Conception rate was up, litter size was up, diseases were down, and birth defects were eliminated.

An Iowa farmer saw immediate changes in his 3,000 pig nursery after switching to non-GMO corn last December. Not only is there a lower rate of disease and medical bills, he says, "Our pigs are happier and more playful."

A feedlot operator with 5,000 head of cattle also switched to non-GMO corn and reported, "We've had a lot less pneumonia and health issues since that time." Like the pig farmer, the behavior changed noticeably. His "cattle have been a lot calmer." Many farmers who were struggling with high rates of infertility and miscarriages in their livestock say they turned the situation around after switching to non-GMO feed.

A keen observation from a friend living in the Pyrenees as a farmer comes to mind regarding being able to gauge the health effects of what we eat by looking at what happens in animals. He said that when farmers changed the feeds of their sheep in order to make things easier, the sheep's health went down the tubes and they started to produce milk full of bacteria. Mind you, it was basically the same *natural* feed, only that it was not cured properly before winter time. Suddenly farmers had to use hydrogen peroxide in order to wash away the massive quantities of bacteria for the "traditional" cheese they were making.

Scientists voicing their concern in public get fired, silenced with threats of lawsuits, and their reputation destroyed (Smith, 2011). And this only the tip of the iceberg! GMOs are linked to organ disruption in 19 animal studies that could well be the onset of chronic diseases (Séralini et al.,2011). In the authors' words which fall short, "this is socially unacceptable".

Soy, corn, canola and cotton, including their oils and derivatives such as soy protein, soy lecithin, cornstarch, corn syrup and high fructose corn syrup among others – are all sources of GMOs. But also meat, eggs and dairy products from animals that have eaten GM feed. The majority of GM corn and soy is used for feed. Let's not forget about the dairy products from cows injected with rbGH (a GM hormone), food additives, enzymes, flavorings and processing agents, including the sweetener aspartame (NutraSweet®) and rennet used to make hard cheeses, and honey and bee pollen may have GM sources of pollen as well. It does seem that this alone is good reason enough to save money by eliminating processed food and carbs and switching to organic foods.

It is not just the health effects; it is everything concerning GMO that is just plainly wrong: its psychopathic policies, the corruption of science, the disregard for human nature as well as Mother Nature. Howard Straus, president of Cancer Research Wellness Institute, synthesizes the GMO controversy rather well:

-Depending on which poll, and how the question is asked, between 75% and 95% of Americans believe that foods

containing GMOs ought to be labeled or identified, so they have a choice about consuming them or feeding them to their children. They are opposed by giant agribusiness corporations in league with captive government regulatory agencies, who maintain, with no evidence whatsoever to support them, that GMO foods are safe for human consumption.

-Pesticide-producing GMO corn crops are failing due to the very pest they were intended to kill, resulting in huge price increases as corn supplies dwindle.

-Farmers in India who believed the representations of the biotech industry are committing suicide when their crops either fail or fail to come up to the outlandish promises of the manufacturers, leaving them bankrupt. An estimated 1,000 farmers a month are committing suicide. In the past ten years alone, about 200,000 have died, landless and bankrupt.

-Monsanto illegally tested GMO cotton in India, endangering the rest of the Indian cotton crop by not troubling themselves to take any containment precautions to prevent accidental spread of the plants to non-test fields. When farmers found out about the illegal fields, they uprooted and burned all the plants in the fields.

-The government of France fined Monsanto tens of thousands of euros for lying about the safety of its best-

selling herbicide, Round-Up. After appeals reaching the French Supreme Court, all of which Monsanto lost, they were left without further places to appeal.

-Monsanto's GMO seeds are often sold in conjunction with Round-Up on the premise that weeds cannot survive high doses of the herbicide, while the GMO crop plants can.

-The government of Hungary burned a thousand acres of GMO corn planted illegally without testing or permission. Many more farmers are alarmed that the seeds they bought might have been secretly replaced with GMO seeds.

-In many European countries, consumers given the choice of purchasing foods with or without GMOs, as evidenced by mandatory labeling, avoid these so-called "Frankenfoods" by the millions. Americans can't. When is the last time you saw the words "Contains genetically modified ingredients" on a food label? (Straus, 2012)

Let's not be lab rats with shrunken brains and destroyed health for the benefit of Big Agra. Just say no to GMOs. You are far better off without carbs and processed foods anyway, we have just started to appreciate the implications and the reasons of humanity's catastrophic state of health will make much more sense as you continue to read on.

The Obesity Epidemic and the Low Fat Scam

If you love old movies, you've noticed that women back in the old days tended to have beautiful hour glass body shapes, a la Marilyn Monroe. Nowadays, such figures have become a rarity because women have become "boxy" in shape. Research suggests there are now five times as many "rectangular-shaped" women than those with the classic Marilyn Monroe hourglass shape. Almost one in two British women fall into the rectangle category, a boy-ish body shape where there is little difference between the bust, waist and hip measurements.

According to the CDC, about one-third of U.S. adults (33.8%) are obese and approximately 17% (or 12.5 million) of children and adolescents aged 2 - 19 years are obese. In 2010, no state had less than 20% obesity prevalence. Another statistic tells us that over two-thirds of adults in the United States are overweight or obese.

Two thirds! In the country where the USDA food pyramid and low fat eating has guided food choices for at least two generations!

Employing data from the United Nations and World Health Organization, researchers from the London School of Hygiene and Tropical Medicine have concluded that the adult human population weights over 316 million tons, of which 7 million tons are due to the overweight and 4 million tons to the obese. The United States has 6% of the world's population but 34% of the world's biomass due to obesity. Asia has 61% of the world's population but only 13% of the world's biomass due to obesity. If

all countries had the same average BMI as the United States, the total human biomass would increase by 64 million tons.

Worldwide, with the spread of Western lifestyle (including diet), obesity has more than doubled since 1980. In 2008, 1.5 billion adults, 20 and older, were overweight and nearly 43 million children under the age of five were overweight in 2010. We got very fat and very fast!

According to MyPyramid.gov, you should be consuming at least 3 oz. of whole grain cereals, breads, crackers, rice, cereal or pasta; ideally 6 oz. However, many people consuming exactly the recommended amounts see no weight loss at all and may actually see their weight go up. Our cholesterol levels have been going down, and we have been smoking less, and yet the incidence of heart disease has not declined as would be expected. They were hardly the core problem to begin with!

A high carb diet promotes visceral fat storage. It's what gives women an apple shape and makes them lose the classic hourglass figure that has become an endangered shape in this sugar society. Visceral or omental fat puts you at risk of developing a host of chronic diseases and insulin resistance which leads to metabolic disorders. It is a very unhealthy form of fat that people eating a high carb, high trans-fat and high vegetable oil diet develop which pretty much involves the vast majority of the world today. This is why women's body shape has changed throughout the last decades as Big Agra has pushed its food down our throats.

The food industry has essentially changed the very nature of what we eat, especially in the last 40 years, and it has changed our shape just as the agricultural revolution changed our destinies.

Until the 1970s and the beginning of the obesity epidemic, carbohydrates were widely, if not universally, considered fattening. The dietary cause of obesity, as Brillat Savarin suggested in 1825, appeared to be "the floury and feculent [i.e., starchy] substances which man makes the prime ingredients of his daily nourishment" and this "fecula produces its effects sooner and more surely in conjunction with sugar." By the 1960s, biochemists and physiologists had elucidated the hormonal and enzymatic regulation of fat tissue, and this research implied that carbohydrate-rich foods should be fattening because these are the foods that drive insulin secretion and insulin drives fat accumulation.

By then, however, our health authorities were already suggesting, based on the slimmest of evidence, that the hormonal regulation of fat tissue was irrelevant to a disorder of excess fat accumulation, and that the conventional wisdom of the prior century and a half was simply wrong. By the 1970s, they were officially recommending that we make carbohydrate-rich foods the staple of our diets.

The U.S. Department of Agriculture in its Dietary Guidelines for Americans and food guide pyramid, the National Institutes of Health, the Surgeon General, the American Medical

Association, the American Heart Association, and even the American Diabetes Association took to promoting starches and bread as the staples of heart-healthy reducing diets.

Influential food and health writers like Jane Brody of the New York Times told us to "live the high-carbohydrate way," the subtitle of Brody's 1985 bestselling Good Food Book, and here we are, three decades later, fatter than ever before in history. Simultaneously, much of the sugar in our diet was replaced by a sweetener – high fructose corn syrup – that was effectively identical to sugar in its chemical makeup, which also promoted fat accumulation and insulin resistance, but could be perceived and marketed as a healthy alternative. Our consumption of what the USDA calls caloric sweeteners increased by 20 percent, an increase that had no precedence since the early years of the twentieth century. And, here we are, fatter than ever.

How complex does the answer have to be to explain why we get fat, and why we've waxed so much fatter since the mid- to late-1970s? –Gary Taubes, Good Calories, Bad Calories

Those who think they are “average” are being plagued more and more with what is called invisible fat where we might have low levels of fats underneath our skins but considerable amounts of fat surrounding our viscera inside our abdomens. Researchers can see this fat with the use of Magnetic Resonance Imaging where our organs appear swimming on fat. Yet others are plagued with what is called “MONW” or metabolically obese normal weight,

meaning that you are under-lean but over-fat – not enough muscle and too much fat (especially belly fat.) So many new overweight terms appearing during the last years are a veritable sign of our age.

The average person is overweight, sleeps very little, drinks too much sugary and alcoholic beverages and works long hours. This is a recipe for disaster which is what we see in our world today. We are cavemen in a supermarket. Genetically we haven't changed, but our environments have drastically changed and we've been bombarded by the food industry to consume more and more food we don't need nor can process. It is really like a war waged against our bodies.

With the giant industrial farming came a surplus waste of grains such as corn that would have gone rotten if it not for the scientists who discovered how to make high fructose corn syrup (HFCS) which in 1980 became the number one substitute for sugar. And it transformed the American diet and ultimately its waistline. The metabolism of fructose is such that it is very easy to convert it to fat. It is like a tsunami of sugar delivered to the liver. As a Stanford University diabetologist says, if you want to cause insulin resistance in laboratory rats, feeding them diets that are mostly fructose is an easy way to do it. "It's a very obvious, very dramatic effect." Humanity has become a giant rat lab feeding on carbs and yes, the effect has been very obvious and dramatic as well!

Physicians and medical authorities would never discuss abnormalities of human growth – gigantism, for instance, or dwarfism – without focusing attention on the role of the hormones, growth hormone, in particular, that regulate growth. How can these medical experts discuss the excessive accumulation of fat (or its opposite, anorexia, a deficit in fat accumulation) without focusing attention on the role of those hormones – now insulin, in particular – that regulate fat accumulation? [...]

[If] obesity is a disorder of excess fat accumulation, what regulates fat accumulation? As the 2001 textbook, 'Endocrinology: An Integrated Approach' (available online and free of charge through the U.S. National Library of Medicine's PubMed digital archive, www.pubmed.com) explains, in somewhat dry, technical language, "The overall action of insulin on the adipocyte [the fat cell] is to stimulate fat storage and inhibit mobilization."

With that physiological fact as a given, any explanation for obesity or the obesity epidemic that looks beyond the influence of carbohydrates on insulin is one that is willfully trying to complicate an explanation when a simple one might suffice. –Gary Taubes, *Good Calories, Bad Calories*.

But HFCS is only the tip of the iceberg. Corn actually contains almost no fructose. It does have starch as a complex carb. In order to make HFCS, an enzymatic breakdown of cornstarch into its single sugar molecule - glucose - is made just as it happens in your intestinal tract when digestion occurs. Then, manufacturing

of HFCS proceeds by adding another enzyme which converts glucose to fructose, creating HFCS. Fructose in HFCS is like the fructose that is found in fruit or grain but without nutrients. Before HFCS came into the field, fruit and grains were the main sources of fructose. Now it is the grains and its breads, pastas, cookies, etc. plus the HFCS and fruit as well. And if this was not enough, there is also all the corn used to feed animals which transforms its fatty composition into a more inflammatory one.

HFCS can be found in all processed foods and its greatest impact was when it was put in soft drinks which are the largest single source of calories in the American diet. By 1984, Coke and Pepsi had replaced sugar with HFCS since sugar pricing was going up and the savings were justified as HFCS was 1/3 cheaper. With the extra money, more aggressive marketing began and 2 decades later, average consumption of soft drinks doubled from 350 cans a year to 600 and America got fatter. HFCS is sweeter than sucrose, so you would think that people will use it less, but in fact, more is used. In 1994 obesity rates went out of control at the same time the HFCS market spiraled out of control.

But as Dr. Robert Lustig, leading expert in pediatric hormone disorders and childhood obesity explains, sugar is not just an empty calorie; its effect on us is much more insidious. It's not about the calories; it has nothing to do with the calories. Sugar is a poison by itself (Taubes, 2011). Lustig's use of the word sugar refers to both sucrose - beet and cane sugar, whether white or brown - and high-fructose corn syrup. The two sweeteners are effectively identical in their biological effects. According to

Lustig, whether it is HFCS or sugar, it makes no difference; they are both equally bad, equally poisonous.

Health advisers, who believe that animal fat causes heart disease and high cholesterol, and that carbohydrate in grains and vegetables are The Healthy Solution, discourage a diet restricted in carbohydrates and rich in fat. We are supposed to be consuming most of our calories as carbohydrates where most of it should come from vegetables, fruits, and whole grains. This diet philosophy is dominant in our world today despite the facts and despite the fact that the obesity epidemic has come upon us in lock-step with this dietary philosophy.

As we have seen, our body's primary response to carbohydrates is the release of the hormone insulin into the bloodstream. All carbohydrates break down into glucose in the intestines and stomach and insulin's primary role is to sweep away the glucose into the cells to be used for energy. Insulin's second role is to help convert and store the sugar as glycogen in the liver and muscles and as fat in fat cells. The fat is stored in the form of triglycerides in adipose tissue. If we eat too many carbs, everything that our cell doesn't use up as energy right away ends up as fat in our bodies thanks to insulin. That is, without the action of insulin, there would be no fat on our bodies. Are you getting a clue?

Even though other hormones can get out fat from the fat tissue, they can do this only when insulin levels are low. So if you keep eating lots of carbs such as whole grains, fruits and vegetables,

you'll keep releasing insulin. Don't be surprised if you don't see any weight loss.

Carbohydrates promote trunk obesity. That is, extremes of blood sugar and insulin promote growth of visceral organ fat. Over time, visceral fat and omental fat accumulates. Visceral fat is inflammatory and it is related to insulin resistance, diabetes, hypertension, heart disease, dementia, rheumatoid arthritis, and colon cancer. In fact, waist circumference is proving to be a very important predictor of all these conditions, other than a mortality predictor.

So bye-bye to women's hour-glass figures and hello to man-boobs and belly fat for both sexes.

We are simply having massively disproportionate amounts of fattening sugar whether it is sucrose, HFCS, fruit, flours, grains, vegetables. It all breaks down to glucose which will end up stimulating insulin. This is driving the metabolic syndrome with its increased levels of triglycerides, low levels of HDL cholesterol, high blood pressure, insulin resistance, and loads of visceral fat. Heart disease and a host of other diseases including cancer are the consequences.

And the food industry has been all too happy to see this happening. Starting with the promotion of snacking, having sugary treats between meals which was not seen as cool until the 70s in the UK, a gap was created in the market of 60 billion pounds a year. The invention of the freezer paved the way to

processed food loaded in sugar and high street fast food quadrupled.

The food industry has fueled and supported the caloric lie regarding people's lack of discipline in terms of eating huge amounts of calories while doing little or no exercise to spend them. They refuse to accept that energetic output is inhibited on diets that are rich in carbs they so strongly promote because carbs lead to storage through insulin. Forget about calories! Physical inactivity is not the cause of obesity. Obese people have lost weight eating a restricted carb diet of over 3000 calories because they are able to maintain low levels of insulin. We are still seeing a massive increase in obesity even though there have never been more gyms, marathons and triathlons. Children's level of activity in the UK has remained essentially the same as 30 years ago. Yet they are getting fat.

We are a wildly exercising society with unprecedented places to do sport, workout, gyms and record numbers of marathon participants. And even those who are sedentary can't really be blamed. One doesn't become lean because of exercise, rather one does exercise because we're lean and have the energy. If we don't have the energy to exercise because a high carb diet stores the energy as fat through insulin, then your muscles and organs will feel semi-starved no matter how much food you eat. You'll definitely not feel like working out unless you are willing to stress your body even more with the fight or flight inflammatory response! Removing carbs from the diet lowers insulin levels,

which will then cause fat to be freed from its deposits and be ready for energy supply.

Fatty liver

Fatty liver represents a liver manifestation of the metabolic syndrome which features insulin resistance at its core and which includes central obesity, high blood sugar, low good cholesterol (HDL), high blood pressure, and hypertriglyceridemia. People on a low carb diet have better liver function compared to those on a high carb diet for weight loss, despite when both groups may equally lose weight.

In most case series of fatty liver, diabetes is present in 30% to 50% of patients. High blood cholesterol also is associated commonly with fatty liver, found in up to 92% of patients who have fatty liver.

Obesity itself represents a chronic, inflammatory condition where there is an expansion of central/visceral fat which is infiltrated by inflammatory cells, which then leads to fatty liver and a state of heightened insulin resistance and increased oxidative damage (McCarthy, 2012). Fatty liver is an independent predictor of cardiovascular disease – a stronger predictor than peripheral or visceral fat mass (Schugar et al., 2012).

Moreover, in study involving 11,091 individuals, it was shown that fatty liver, as diagnosed by ultrasound, strongly predicts the development of type 2 diabetes regardless of insulin

concentration. That is, in a large population of relatively healthy individuals, identifying fatty liver by ultrasound predicts the development of type 2 diabetes in five years (Sung and Kim, 2011).

The role of fructose and sucrose (which is 50% fructose) in metabolic disorders has been reviewed extensively. Dietary fructose consumption in industrialized countries has increased in parallel with the increase in fatty liver, obesity, and diabetes and there is a direct association. The increased consumption of high fructose corn syrup, primarily in the form of soft drinks, is linked with complications of the metabolic syndrome and an increase in liver enzymes. Unlike glucose, fructose stimulates de novo fatty acid synthesis directly and promotes weight gain.

Fructose is also different from glucose in its ability to induce features of metabolic syndrome (insulin resistance, fatty liver, dyslipidemia, and intra-abdominal fat accumulation) both in humans and laboratory animals. The mechanism whereby fructose induces fatty liver appears to be independent of total energy intake (Lanaspa et al., 2012).

Data from prospective and intervention studies clearly point to high fructose consumption, mainly in the form of sweetened beverages, as a risk factor for several metabolic diseases. In a short (2 wk) dietary intervention study in fatty liver subjects, it was shown that carbohydrate restriction (<20 g/d) was significantly more effective in reducing liver fatty content than the restriction of calories to 1200-1500 kcal/d (55% vs 28%,

respectively), despite the fact that both interventions similarly reduced body weight (by about 4.3%)(Rebollo et al., 2012).

Dr. Robert H. Lustig from the University of California had the following comment published in the prestigious journal *Nature* (2012):

Last September, the United Nations declared that, for the first time in human history, chronic non-communicable diseases such as heart disease, cancer and diabetes pose a greater health burden worldwide than do infectious diseases, contributing to 35 million deaths annually. This is not just a problem of the developed world. Every country that has adopted the Western diet – one dominated by low-cost, highly processed food – has witnessed rising rates of obesity and related diseases. There are now 30% more people who are obese than who are undernourished.[...]

Over the past 50 years, consumption of sugar has tripled worldwide. In the United States, there is fierce controversy over the pervasive use of one particular added sugar – high-fructose corn syrup (HFCS). It is manufactured from corn syrup (glucose), processed to yield a roughly equal mixture of glucose and fructose. Most other developed countries eschew HFCS, relying on naturally occurring sucrose as an added sugar, which also consists of equal parts glucose and fructose.

Authorities consider sugar as ‘empty calories’ – but there is nothing empty about these calories. A growing body of scientific evidence shows that fructose can trigger processes that lead to liver toxicity and a host of other chronic diseases. A little is not a problem, but a lot kills – slowly (see ‘Deadly effect’). If international bodies are truly concerned about public health, they must consider limiting fructose – and its main delivery vehicles, the added sugars HFCS and sucrose – which pose dangers to individuals and to society as a whole.

NO ORDINARY COMMODITY

In 2003, social psychologist Thomas Babor and his colleagues published a landmark book called *Alcohol: No Ordinary Commodity*, in which they established four criteria, now largely accepted by the public-health community, that justify the regulation of alcohol – unavailability (or pervasiveness throughout society), toxicity, potential for abuse and negative impact on society. Sugar meets the same criteria, and we believe that it similarly warrants some form of societal intervention.[...]

Now, let’s consider toxicity. A growing body of epidemiological and mechanistic evidence argues that excessive sugar consumption affects human health beyond simply adding calories. Importantly, sugar induces all of the diseases associated with metabolic syndrome. This includes: hypertension (fructose increases uric acid, which raises

blood pressure); high triglycerides and insulin resistance through synthesis of fat in the liver; diabetes from increased liver glucose production combined with insulin resistance; and the ageing process, caused by damage to lipids, proteins and DNA through nonenzymatic binding of fructose to these molecules. It can also be argued that fructose exerts toxic effects on the liver similar to those of alcohol. This is no surprise, because alcohol is derived from the fermentation of sugar. Some early studies have also linked sugar consumption to human cancer and cognitive decline.[...]

Specifically, sugar dampens the suppression of the hormone ghrelin, which signals hunger to the brain. It also interferes with the normal transport and signalling of the hormone leptin, which helps to produce the feeling of satiety. And it reduces dopamine signalling in the brain's reward centre, thereby decreasing the pleasure derived from food and compelling the individual to consume more.[...]

The long-term economic, health-care and human costs of metabolic syndrome place sugar overconsumption in the same category. The United States spends \$65 billion in lost productivity and \$150 billion on health-care resources annually for co-morbidities associated with metabolic syndrome. Seventy-five per cent of all US health-care dollars are now spent on treating these diseases and resultant disabilities. Because 75% of military applicants are now rejected for obesity-related reasons, the past three US

surgeons general and the chairman of the US Joint Chiefs of Staff have declared obesity a “threat to national security” [...]

But the problem doesn't end with sugar. While a diet high in carbohydrates leading to chronically elevated levels of blood sugar and insulin is at the main root of fatty liver, there are other culprits, such as trans fats.

Trans fats typically found in animal products do not have adverse effects on cholesterol profiles. On the other hand, trans fats from hydrogenated oils such as margarine, induces endothelial dysfunction and unfavorably alter cholesterol levels by increasing the bad: good cholesterol ratio and the total cholesterol: good cholesterol ratio. (LDL:HDL, TC: HDL) (Zivkovic et al.,2007) Excess insulin triggered by a high carbohydrate diet strongly influences a pro-inflammatory response in the body, especially when coupled with excess omega-6s fatty acids from vegetable oil and hydrogenated oils.

People who get at least 25% of their daily calories from added sugars of any kind -fructose or other sugar sweeteners used by the food industry and consumers as ingredients in processed or prepared foods - are 3.1 times more likely to have low levels of so-called good cholesterol in their bloodstream than people who get less than 5% of their calories from added sweeteners. Additionally, those who consume more than 17.5% of their calories from the sugars – be it ordinary table sugar derived from sugar cane or sugar beets, high fructose corn syrup or any other caloric sweetener – are 20% to 30% more likely to have high

levels of blood fats called triglycerides than people with the low-sugar diets (Welsh et al.,2010) The American Heart Association suggests no more than 5 percent of calories come from sugar. On a 2,000 calorie diet, that's 24 grams, or the equivalent of six teaspoons. A can of Coke has 39 grams of sugar; a regular size frozen yogurt has 40 grams...

Dracula in Charge of the Blood Bank

In the BBC documentary "The Men Who Made Us Fat", Jacques Peretti refers to America as the home of the most profitable food industry in the world. He goes there to find out about the low fat scam since if there is a way to get us to buy more food it's probably being tried in America first. He interviews Pierre Chandon, visiting professor at Harvard Business School who has studied The Paradox of Low Fat Food and High Fat People. He noticed how people basically tried so hard to lose weight and trying to eat the right things (recommended by their caring governments) and they still couldn't manage to lose weight. He thought, there is a problem with the healthy food! Well, yes of course there is!! Chandon perfectly summed up the problem thus: if people think something is healthy, they think it has fewer calories and eat more of it. Never mind that the root of the problem is not really about quantities of calories but qualities of calories. According to Chandon, "Today it's almost impossible to buy food that's not saying it's healthy. The paradox of low fat food and high fat people is not going to go away. I think it's going to get worse." And the greatest mistake was to believe that it was solely our fault when it is clear that it wasn't.

People do lose weight when they eat the appropriate foods. It is the pervasive corruption of science that undermines us. For instance, in a study with encouraging results where a comparison between the Atkins diet (which allows for gradual increase of carbs) and the standard low-calorie, low-fat diet beloved of academic weight loss clinics was made (published in the May 22, 2003, issue of the *New England Journal of Medicine*), the following warning was issued:

"The recipe for effective weight loss is a combination of motivation, physical activity, and caloric restriction...until further evidence is available regarding the long-term benefits of a low-carbohydrate approach, physicians should continue to recommend a healthy lifestyle that includes regular physical activity and a balanced diet (Foster et al., 2003)."

Typical. Despite the evidence, they don't seem to be able to deal with it. This is a very dangerous, criminally negligent situation. Especially, since the standard dietary advice with caloric restriction in a low fat diet makes your body behave in a starving way and making you prone to put even more weight on over time.

There is a huge financial and personal interest on the "it is your fault" propaganda by the drug companies, weight loss centers, academics, governments, food industry, federal agencies etc. which use research that is more for public relations and conflicts

of interest than real science. They depend on you being worried about the risks of being obese and on you worrying that it is your fault. It is always the same with the standard dietary guidelines: participants lose some weight, and then most gain it back.

The sugar lobby once threatened the World Health Organization of withdrawing their 406 million funding if they set a limit on sugar, so they didn't. See how food policy gets dictated? As Professor Simon Capewell from the University of Liverpool puts it, putting the food industry at the policy table is like putting Dracula in charge of the blood bank. Their money resources are of massive proportions and they are able to stop dissent by tactics such as menace of removing food jobs in the constituency areas of politicians if they carry on with a policy that will affect the food industry. It is really a laser-like precision to remove dissent against the Giants – The Food Industry.

The conflict of interest is humongous. Instead of admitting that the Food Industry is part of the problem, it is flagrantly allowed to provide the solution: “From your shareholder perspective, would you like to suggest how we take forward food policy in this country?”

Not remotely interested on health, but on business profiting, the Food Industry is capitalizing both on the obesity epidemic and your suffering, by manufacturing processed foods which are dubiously marketed as healthier. Saying that a cereal “contains calcium” in glowing letters in the front of a cereal box is

outrageous to say the least, when in fact it is full of sugar that will cause you osteoporotic bones.

Or how about the epitome of the faux health propaganda: the Olympic Games celebrated in London courtesy of your sponsors: chocolate brands, sugary drinks, etc. Or the UK government endorsed Cadbury's sporting campaign where you have to eat a ton of chocolate in order to get a basketball for free. It is a profit scheme in the middle of a health catastrophe which only has an obligation to the shareholders and their profits.

A study which analyzed the relationship between research funding and outcome in the area of nutrition related with soft drinks, milk and fruit juice illustrates these points:

Of 206 relevant studies, 111 declared their source of funding. Of this 111, more than half (53 per cent) were funded in full or in part by the food industry. 52 studies had no funding from the food industry. [...] In studies which were interventional in nature (which usually meant giving a beverage to individuals to assess its effects), 37 per cent of non-industry-funded intervention studies showed evidence of adverse effects. In contrast 0 out of 16 (0 per cent) industry-funded intervention studies found evidence of adverse effect. Studies funded entirely by industry were more than 7 ½ times more likely to report favorable results than those which received no industry funding.

Evolution is the best guide of what should be our optimal diet. Our Paleolithic hunter-gatherer diet where the type and quantity of fat consumed changed with season, latitude, and the coming and going of ice ages is the diet which has defined human history. It takes time for any given population to adapt to any new factor in its environment. The longer we've been eating a particular food as a species, and the closer that food is to its natural state, the less harm it is likely to do. We've been eating as cavemen for the entire course of our human history. It has made us who we are. It's what the British epidemiologist Geoffrey Rose meant when he wrote his seminal 1985 essay, "Sick Individuals and Sick Populations," and described the acceptable measures of prevention that could be recommended to the public as those that remove "unnatural factors" and restore "biological normality – that is...the conditions to which presumably we are genetically adapted."

"Such normalizing measures," Rose said, "may be presumed to be safe, and therefore we should be prepared to advocate them on the basis of a reasonable presumption of benefit (Taubes, 2008)."

The sicker and fatter we are, the greater the needs to eat a physiological diet according to our bodies' make-up. That is, a Paleolithic diet. Why would excluding or restricting animal fats be expected to return us to "biological normality"? This exclusion is precisely what brought us to the current mess and health catastrophe. Why would 'safe starches' within vegetables, fruits, tubers, legumes and grains restore us to health when carbs are precisely the one food group that is not needed to run human physiology?

Health gurus recommend 120 to 130 grams of carbs minimum in order to give our brains sugar that it doesn't need when there are no carbs in the diet, provided enough fat is consumed. Our brains heal and run the best on fat fuel – ketones. It seems that the whole scientific body has turned against us. The psychopaths have taken over the asylum, while humanity suffers as it has not suffered before. But don't expect anyone taking responsibility any time soon, as Gary Taubes explains, "A simple answer, after all, implies that it should have been known all along; it implies that somewhere along the way our public health authorities had led us astray. A complex answer allows considerable leeway in the assignment of responsibility; it also allows for an indefinite postponement of any action or acknowledgment of error." It is up to us to take the matter of our health into our own hands.

In *Rethinking Thin*, Gina Kolata reviews the research of why standard mainstream diets fail. Shrunken adipose tissue over the entire body behaves in a very different way and restores itself. For instance, a weight loss program involving 4 to 5 months of a liquid formula providing only 600 calories a day and achieving a weight loss of 100 pounds on average will see that the results will not stick. They all regained. The results were the same as the experiment was repeated again and again. The weight, so painstakingly lost, came right back.

Fat people who lose large amounts of weight may look like someone who was never fat, but they are very different. In

fact, by every measurement, they seemed like people who were starving. Something was driving people to regain their weight, and it was not a deep-seated desire to be fat.

Their bodies, for example, had changed so that they hung on to, clung to, every calorie that was eaten, making it harder and harder for them to stay thin. Before the diet began, the fat people had a normal metabolism – the number of calories burned per square meter of body surface was no different than it was for people who were thin and had never been fat. That changed substantially when they lost weight, with the formerly fat people burning as much as 24 percent fewer calories per square meter of their surface area than the calories used by those who were naturally thin.

A psychiatric syndrome was coined, "semi-starvation neurosis." This referred to patients who dreamed of food; they fantasized about food or about breaking their diet. They were anxious and depressed – some had thoughts of suicide. They stashed and hid food in their rooms.

The removal of obesity by means of caloric deprivation led to behavioral alterations similar to those observed in the starvation of non-obese individuals. It is entirely possible that weight reduction, instead of resulting in a normal state for obese patients, results in an abnormal state resembling that of starved non-obese individuals.

There were a very few who did not get fat again, but they made staying thin their life's work, becoming Weight Watchers lecturers, for example, and always counting calories and maintaining themselves in a permanent state of semi-starvation.

We don't hear about this, perhaps because their results cast into question everything that is commonly believed about gaining weight, they have become known mainly to research scientists and ignored by the general public.

The opposite seems to be the case as well. Students who had never been fat and had no family history of obesity and who were willing to make a serious effort to try to become fat were recruited. To the researchers' surprise, these students found it all but impossible to gain much weight; no matter how much they tried to eat, they just could not become obese. Some increased their weight by 20 to 25 percent, but it took four to six months for them to do this, eating as much as they could every day. Some ended up eating 10,000 calories a day, an amount so incredible that it would be hard to believe, were it not for the fact that the research study had attendants present at each meal who dutifully recorded everything the men ate. They were gaining much less than would have been predicted and that different men gained at different rates.

When the thin men got fat, their metabolism increased by 50 percent. They needed more than 2,700 calories per square

meter of their body surface to stay at their obese weight, but just 1,800 calories per square meter to maintain their normal weight. Obese people who got that way naturally turned out to have perfectly normal metabolic rates, no different from the average metabolic rate of a thin person who is at a weight that feels comfortable and easy to maintain.

The implications were clear. There is a reason that fat people can't stay thin after they diet and that thin people can't stay fat when they force themselves to gain weight. The body's metabolism speeds up or slows down to keep weight within a narrow range. Gain weight and the metabolism can as much as double; lose weight and the metabolism can slow down to half its original speed. That, of course, was contrary to what every scientist had thought.

The message never really got out to the nation's dieters. An extra 100 calories a day will pile on 10 pounds in a year, public health and obesity experts are fond of telling us. Keep it up for five years and you'll be 50 pounds heavier.

The feeling of hunger is a potent drive as the drive to breathe or drink when one is thirsty. This is the feeling the obese must resist after they have lost a significant amount of weight by starvation.

Yes, there is an epidemic of obesity right now but this only began precisely at the time when the American diet changed

from one that emphasized animal fat, and particularly fat from pork, to one with more corn or vegetable oils and low fat foods: carbs.

Obese people really do not eat significantly more than the non-obese, it is what they eat that drives the fat.

The admonitions to eat less and exercise more are not making a discernible difference in the weight of Americans. And it is not for lack of publicity about how important it is to lose weight. "You can't possibly saturate the country with any more warnings," Jules Hirsch says, from the University of Rockefeller. "I don't think anyone can say, 'Gee, I don't know about this.'"

That, of course, does not keep anyone from admonishing the public. And there's a reason for that, says Eric Oliver, a political scientist at the University of Chicago who studied the obesity epidemic. Obesity, he says, has something in it for everyone. "If you are on the political right, obesity is indicative of moral failure," he says. "If you are on the left, it means rampaging global capitalism."

The Candida Epidemic

Candida overgrowth is also another consequence of a diet rich in carbs. This yeast problem is extremely common nowadays, stemming from the fact that we have a sweet tooth for carbs, something that candida loves and thrives on. Symptoms of yeast overgrowth include post-nasal drip, rectal itching, chronic sinus infections, sinus headaches, congestion, gas, bloating and

heartburn, brain fog or spaciness, white tongue, vaginal yeast symptoms, frequent urination, constipation or diarrhea, skin eruptions, water retention, and cravings for sweet, starchy, or "yeasty" foods like breads, alcohol, and pizza. Complete avoidance of carbs in addition to most cheeses and sour cream, pickled or fermented foods (including soy sauce), and vinegars is often necessary to get Candida overgrowth under control.

Alcohol comes from sugar and its transformation requires the assistance of the fungi yeast. Consider this from *Buzz: The Science and Lore of Alcohol and Caffeine* (Braun, 1997):

"The process starts with glucose, which is the sugar both humans and yeast use to power their bodies. Like humans, yeast cells prefer to burn their glucose with oxygen to produce energy. But yeast cells sometimes find themselves in situations where oxygen is scarce - for instance, when they are trapped in the bottom of huge vats of grape juice. [...]

The details of that process are interesting in their own right, but all we're really concerned with here are those two shards remaining after the glucose is finally split. Those shards are molecules of ethanol.

The birth of alcohol via this inefficient splitting of glucose has one very salient consequence for humans: most of the chemical energy of the original glucose molecule remains bound up in the ethanol fragments. That energy equals

calorics: about seven per gram - which works out to about a hundred calories in a standard drink from the alcohol alone.

Alcohol, in other words, is no diet drink.

Alcohol's origins also explain some facts about the alcohol content of some common drinks. Yeast cells struggling to survive under suffocating conditions quickly excrete the ethanol fragments **because they are basically poisonous**. Ethanol interferes with many of the reactions vital to the life of a cell. As a result, yeasts excrete ethanol, which slowly builds up in the surrounding liquid - exactly where the brewer or vintner wants it. Given an adequate amount of glucose, the ethanol content of a fermenting liquid rises until it reaches about 12 percent. At this point, it starts to back up inside the yeast cells because it can no longer diffuse across the cell wall. Unable to dispose of the poisonous waste, the yeasts shut down and become dormant.

All activity stops, including the production of new ethanol. This is the reason that most table wines have roughly a 12 percent alcohol content: that's as high as it can go before the yeasts throw in the towel. Some wines can achieve slightly higher values if they are unusually rich in glucose, but the only way to get significantly higher ethanol levels is by distillation."

And here's some perspective about the reputed benefits associated with moderate alcohol drinking, also from *Buzz*:

"With all this evidence suggesting that moderate consumption of wine - and probably other forms of alcohol as well - confers protection against heart disease, why isn't everyone reaching for their favorite bottle of cabernet? There are several reasons.

The French, while enjoying their much reduced rates of heart disease, develop liver disease at a rate that is roughly twice that of Americans (Dolnick 1990). In addition to taxing the liver, moderate drinking has been associated with a slightly increased risk of breast cancer and cancer of the bowel. And, of course, even a single shot of liquor consumed quickly can produce transient blood alcohol levels high enough to reduce reaction times and impair coordination, thus increasing the risk of accidents.

Second, advising abstainers to begin drinking could lead to increased alcoholism because it is not yet possible to predict who will succumb to alcohol's addictive potential. Other methods, such as losing weight and exercising, offer even greater benefits and have fewer associated risks."

It will surprise you to realize that some people have so much yeast overgrowth in their guts, that they have alcohol levels in their blood that will make them unqualified to drive their cars even if they didn't consume any alcohol at all! It is the yeast in their guts that are producing all that alcohol from the sugar diet they eat!

Overgrown yeasts might make people sick by invasion, allergy and toxicity. According to William G. Crook, M.D. (2005), 90% of the “healthy” population may have a delayed allergic or hypersensitivity reaction to yeast which helps the body fight yeast overgrowth. Those who have an immediate hypersensitivity or the classic allergic reaction may wind up with chronic vaginitis, hives, asthma, eczema, diarrhea and abdominal cramps. Other types of unusual or abnormal allergic reactions to yeast may trigger autoimmune diseases like arthritis or thyroiditis or celiac disease. In fact, a study showed that candida contained a protein called HWP-1, which is similar in its structure to gluten (Nieuwenhuizen, 2003). When most of the world is eating gluten loaded bread and pastas and loading on carbs which fuels candida, this finding is problematical to say the least. Think of the epidemic of autoimmune diseases which includes an unprecedented incidence of gluten intolerance and its hundreds of manifestations other than celiac disease. I have yet to meet the person who hasn't benefited from removing gluten and restricting carbs in their diets. An unhealthy gut is an unhealthy person indeed.

Candida is capable of producing around 180 different toxins that are capable of shutting down your thyroid, throwing your hormones off balance and causing you to crave even more sugar and alcohol as well. In fact, one thing that could benefit alcoholics in their fight against their addiction is a low carb diet rich in good fats and anti-candida treatment (for more information see the next document). The problem in alcoholism isn't really alcohol by

itself, but severe carbohydrate addiction. Alcoholics are always in search of carb rich foods, craving sweets and relying on stimulants such as caffeine to constantly keep their sugar levels up. Once the cravings for carbohydrates and the dependence on carbohydrates as the primary source of fuel are eliminated and dealt with, so are the alcohol cravings.

Your health problems might be yeast related if you crave and eat lots of sugar, have food sensitivities, digestive problems, depression, irritability, headaches, sensitiveness to tobacco smoke, perfume or other chemicals, fatigue, muscle aches, have taken antibiotics or birth control pills or steroids. Amoxicillin is an antibiotic which people typically associate with fungal infections.

Candida infection may weaken your immune system enough to give you a higher risk of infections and hormonal dysfunction. Candida overgrowth in the intestinal tract may create what has been called a “leaky gut” where the gut lining between the intestine and the bloodstream breaks down, allowing harmful toxins and allergens to enter the bloodstream. Once in your blood, harmful substances can further weaken your immune system.

Millions of people suffer from chronic sinusitis all of which can be helped with a low carb diet and a sniffing of powdered nystatin – an antifungal. In a research study involving people with chronic rhinosinusitis, investigators found an allergic reaction to fungi in the sinuses of 96% of the patients (Ponikau, 1999). It is really

astounding that these people are given antibiotics which will then make their fungal infections worse.

According to James H. Brodsky, MD from Georgetown University Medical Center, *Candida Albicans* is one of the most allergy-inducing substances known and that short-term and long-term super sensitivity to candida is very common among people. And there is a remarkable connection between environmental toxins, food sensitivities, yeast overgrowth and diet rich in carbs loaded with anti-nutrients. But a 100% sugar-free diet will restrict not only yeast-related products; it will also cut down the yeast's main fuel, sugar. The body will then depend on ketones rather than sugar for fuel. Children with autism often have candida problems and have an improvement of symptoms with anti-fungal treatments.

What about Fiber?

Oh yes, the highly touted super healthy fiber. Carbohydrate in green vegetables contains indigestible fiber that slows down the digestive process. As a result, blood sugar levels remain relatively low after eating veggies. But some people have become so sensitive to carbohydrates that even green veggies might be a problem when it comes to weight loss.

Additionally, there are actually many studies which indicate that excess intake of fiber may be harmful, particularly for gut health. Chris Kresser L.Ac. (2012), practitioner of integrative medicine, synthesizes the research rather well with the following:

“The majority of the research supporting the benefits of dietary fiber come from epidemiological studies that link the consumption of fiber-rich fruits and vegetables with a lowered risk of certain diseases such as obesity, heart disease and cancer, particularly colon cancer. Yet when tested in the lab, controlled intervention trials that simply add fiber supplements to an otherwise consistent diet have not shown these protective effects. [...]

Tan and Seow-Choen, in their 2007 editorial on fiber and colorectal disease, call insoluble fiber "the ultimate junk food", as "it is neither digestible nor absorbable and therefore devoid of nutrition." Excess insoluble fiber can bind to minerals such as zinc, magnesium, calcium, and iron, preventing the absorption of these vital nutrients. Large excesses of certain soluble fibers like pectin and guar may also inhibit pancreatic enzyme activity and protein digestion in the gut, leading to an anti-nutritive effect. The addition of insoluble and soluble fibers to processed foods may actually cause these foods to be even less nutritious than if they were not enriched with any fiber at all.

A high-fiber diet has also been described as a preventative strategy for the development of diverticulosis, a disease that is markedly more common in Western countries. However, when researchers tested the theory that a high-fiber diet prevented diverticulosis, they not only found that a high intake of fiber did not reduce the prevalence of diverticulosis, but that a high-fiber diet and greater number

of bowel movements were independently associated with a higher prevalence of diverticula. Interestingly, this study found no association between the presence of diverticulosis and red meat intake, fat intake, or physical activity, which are other factors commonly attributed to diverticulosis. [...]

This hypothesis brings up another side to the fiber debate: the effect of dietary fiber on beneficial gut bacteria, as well as the bacterial fermentation of undigested soluble fiber into short-chain fatty acids such as butyrate.”

What is absolutely amazing is that, right after citing the above facts, Chris Kresser then proceeds to recommend vegetables like everybody else does! The brain-washing job of the USDA "food pyramid" is so ubiquitous that even experts who can read and understand the research, can't break free from the influence of this totally wrong dietary advice. After all, the government tells us that they are so nutritious! Never mind that good quality meat and their fats can be far more nutritious than vegetables. In fact, butyrate itself is found in high-fat dairy products such as butter.

In fact, the dominant diet philosophy of the Western world that has held sway for the past two or three generations - the generations in which obesity and illness have overtaken the populations following this advice - is slowly but surely coming under critical review, being debated and questioned, as more and more people reclaim their health and their figures with a diet rich in healthy fats and low in carbohydrates.

For hundreds of thousands of years, our ancestors practiced hunting and herding, eating a low-carb diet. It is not necessarily that they didn't like carbohydrates or considered them unhealthy, more the case that we have spent most of our human evolutionary history in ice age conditions where vegetables and fruits were simply not available, and when they were, they were vastly different from the fruits and vegetables available today. The fact is, our bodies are designed to live and thrive without consuming any carbohydrates whatsoever, as long as there is plenty of nutritious protein and fat available, and water to drink. This is how we evolved and it's now apparent that there are drastic and far reaching consequences for deviating from this evolutionary adaptation.

What is so disconcerting is that the alleged evils of animal fats and proteins have been drilled so heavily in our collective minds that most people are scared to death of eating what helped us become human without experiencing intrusive thoughts of a heart attack or stroke - even the so-called health experts who cite the evidence as noted above! They just can't shake the idea out of their heads that vegetables are needed "for vitamins and fiber" despite the fact that they have read the studies that show that all the nutrients you need are in animal proteins and fats.

If you ever had a colonoscopy done, try to recall the specific instructions you received to prepare for it. You will have been told to eat no grains or nuts, no fruit or vegetables, no breads or cereals, and no fiber supplements. This is called a low residue diet, since fiber irritates the colon and it leaves lots of residue that

makes the visualization of the colon very difficult. What does that tell you about the highly touted fiber?! In fact, it was when one of our forum members nearly died from a colon infection that we realized just how evil fiber was. It was then when the forum's research into low carb diets and their benefits in gut and health problems in general took a whole new level.

The List (as opposed to the list, a list, shopping list, unordered list, and sales list) is a mysterious and powerful thing, mysterious in that no-one knows where it came from or how it works, or what's on it exactly, except that you can be pretty sure that whatever you are thinking about putting in your mouth is not on The List.

I should give a bit of backstory to The List, and talk some about its genesis, but I won't bore you with a) things you know or b) things you'll have to pretend to care about for the sake of being polite.

I was fat for a long time, I tried everything to not be fat. Being fat is hard. Wanted to die, almost died, didn't die. 27 years of my life now casually summed up in three sentences, let's skip to the good stuff.

There I was, sitting at my computer, I had not so long ago gotten out of the hospital where stuff took place (almost dying painfully, almost having my entire colon removed, luckily due [my family] fighting with the Doc to try Antibiotics first, that wasn't the case) that has already been talked about, and I may write about at some point in a future piece I am calling "Atreides 'End' or The six million dollar colon", and I was in a slump. I had come up with a pretty serious problem.

I had never really thought

about why I was fat, at least not in the sense of real thinking. Usually when you think about something, it's really just like playing a recording of other peoples thoughts and ideas, at least I think that applies to me, I won't suggest that other people suffer that same problem, but most of what goes through your head are all kinds of pop ideas about fatness, and meaningfulness, meaningless platitudes (it's what's on the inside that counts) and so on and so forth.

At this point I was pretty much back where I had always been in regards to my body, feeling essentially weak and worthless, unloved and unliked, and more importantly not deserving of love and like. It's really important to understand these two basic things:

1. The mind is not about rational stuff, and neither are feelings, especially for people who have a noticeable problem, like over-eating, over drinking and so on. The worst thing you can say to a person who thinks they don't deserve love is "I love you just the way you are." Because now all they think is that you're a liar. It's not supposed to make sense, in fact, the less sense it makes the deeper the problem is rooted and the worse you make it by trying to apply rational arguments to the problem.

2. Somethings are so deeply rooted in the mind that they really can't be fixed or fought, they need to be redirected in the right way and constantly monitored.

So, where was I? Oh yeah,

wallowing in self pity and contemplating going on an ice cream and cake bender and finally doing myself and my colon in for good, actually part of me was like: "What effing luck, death by cake, no wrist slitting or hanging or nauseating drugs, this is like the suicidal jackpot!"

I had been up to this point eating very well by most standards in the house and was well on the way to recovery and losing weight at a decent pace, but had more or less plateaued on that front but I still had this hole inside. Where before I could fill it with snacks and tranquilizing delicious chemicals and sugars and get all higher to tranquilize myself from the horrifying emptiness inside, now I was screwed and couldn't do that anymore but lacked any established

method for preventing it, or preventing the night irresistible desire.

There was nothing to stop me from going to the store and buying something evil, I could do as I had done before and eaten at the park and then drive home, pretending as if nothing happened. This presented itself as a problem. One that I had wrangled with, and lost, for all of my adult life up to this point. The truth of the situation is this: What is right is never enough, saving yourself is never enough, at that moment the prospect of killing myself with a delicious éclair, of giant subway sandwich seemed like a kind of heaven.

In the end, you have to do it for other people, but that is hard, especially when you can't actually put yourself in another's shoes, but luckily by

this point I had detoxed enough that I was freeing my mind from the perpetual emotional deadness that I had been feeling most of my life. It's not that I didn't care about other people, it's more like there was only so much room in my brain for thinking about the reality I lived in and too much of it was taken up with hating myself and everyone else for not admitting how much they hated me. Yeah, the mind's a pretty kooky-fun place, remember, it's not supposed to make any sense at all.

At this point I caught myself in my downward spiral of self-loathing and wallowy goodness and changed gears, which is where I try to find fun and inspiring things online to read or watch to bring myself around. While on youtube checking out the

latest Lady Gaga videos and jamming to Katy Perry, I noticed a video in my list from Carnegie Mellon. (I have most of the Unis subbed for their open courseware lectures and such) it was called the last lecture [Randy Pausch Last Lecture: Achieving Your Childhood Dreams, youtube.com]. By a professor at CMU who was terminally ill, and was giving his "last lecture". I watched it probably 10 times as it was very inspiring. It might not be so for you, I think it's mostly nerdy stuff, but there it is.

The way it inspired me at the moment I watched it was this idea of brick walls, and that they are there for people to prove how much they want something, how dedicated they are to a goal. I began to think about all kinds of philosophical and spiritual

concepts, and especially about various ideas of what the next level of existence would be like and I began to think along the lines that it must be more difficult than this level of existence, and that although there may be variable physicality, I imagined that willing matter into a different shape would probably be pretty hard, in fact, if you can't do it here, then you probably can't even do it there etc. I began to think about what it takes to control matter in the here and now, and how that might be represented symbolically as a basic kind of transformation from one thing to another, or one form to another, and that the method is rather arbitrary in the end.

I cursed myself as being weak willed, and thought that will must have something to do with it, as well as intent, and

the problem began to flesh itself out.

I love problem solving, it's a bit of an obsession, but I had until this point always hit a brick wall when it came to health issues, mainly because I was going about it all wrong. This of course was the culmination of years and years of thought on the problem (I am a very very very slow thinker.) But brick walls are there for a reason, overcoming them is important practice for life.

Needless to say I was at a point where it was either just go and die, or do something about it, and what really clinched it was a basic desire to do something good and worthwhile. I looked back on my life and saw and felt that I was in every sense I could find a complete and utter

failure at everything I had ever tried, at least that is how I felt, I wanted to at least do something right, and I felt that that something shouldn't just benefit me. Suddenly solving the problem of being obese and all self-hatey was more about finding a way out to help other people and not so much about helping myself.

Not too long after that I was starting to venture out a bit, and I was driving to town for something or other and I kind of had a moment of complete and total divine inspiration, or at least that's what I like to call it, it's was probably just gas. I had a total moment of clarity where for a brief instant all of the entirety of the universe seemed to make a kind of twisted sense, and I realized that what I fundamentally lacked was religion in any real sense.

That is, I found it very difficult to act because the framework of my mind was not "bound" together for support by some fundamental belief, I didn't believe in anything or anyone, least of all myself.

More to the point, the binding element of my mind was eroded from years of whatever it is I was doing to erode it, so I decided that I needed to church up a bit. It suddenly dawned on me that the way I looked at life, and food, and everything was completely retarded, and that I had never been able to change it because I was like a man trying to push a boulder out of the way without anything fixed to prop my feet against. But from my years of thinking I had come to the conclusion that things like the truth and facts were about as useful as balls

on a priest when it comes to fighting erroneous thought patterns. What I needed was a powerful and convenient lie. Well, not a lie per se, but I needed an unverifiable and unquestionable belief in a higher power that could tell me to do what I already knew I should be doing.

Yeah, crazy. Crazy like a fox.

So I had to do a bit of cosmology and mythology and generally create some ambiguous but strong religious beliefs, then one kind of just popped out of its own accord, I never actually planned it, it was called The List.

This seems like it might have taken a bit of time, but I was at The List by the time I got back home. For awhile I kept it to myself, The List was my

only comfort and helped guide my decisions when it came to eating. The List is not an actual list, it's much more than that, it's the representation of an entire philosophy about life and food. The List talks about food, but there is more on The List about what not to eat than there is to eat.

The List is direct and stern, there is no arguing with The List, there is no discussion with The List, The List speaks and you damn well better do what The List says.

So what does The List actually say?

The List says: Everything that exists serves a purpose, it was designed for that purpose, and almost everything in the universe doesn't have a damned thing to do with you,

and certainly wasn't made for you to put it in your mouth. The Goddess didn't go about looking for new ways to fill your plate, your culinary enjoyment was actually the least of her worries. You are meant to only eat something that is obviously there for you to eat. It turns out, that's pork chops. Human beings are the Pork Chop's only natural predator. Whenever you are sitting there thinking: "Hmm what should I eat today?" Stop! Is there a pork chop in your vicinity or could you with little effort acquire a pork chop? If so, then your question is answered.

But wait you ask, what if I don't have access to a pork chop?

Is there any part of a pig at hand to consume? No? Then don't eat. Because if it isn't a

pork chop, or part of a pig, then it's not on The List.

Basically, at this point, as The List has revealed itself, the only things you are allowed to consume are things from Pigs, tea, xylitol, and water. In fact a lot of The List has to do with under what conditions you can actually eat something.

The List says: You should never eat anything that isn't the product of some kind of naturally occurring reproduction, nor can you eat a thing that has been intentionally altered, or fed things that are not natural for it to consume, or are not products of a natural and undisturbed reproductive process. You cannot eat anything sold in a plastic container, with a barcode (the mark of the beast!).

While we've covered what is on The List, you should know that The List is predominantly about what is NOT on The List.

Vegetables of any kind are strictly forbidden by The List. Bird products of any kind are forbidden, if you must use duck fat, do so, but lard is preferred. Variety is strictly forbidden by The List, Recipes are forbidden. Herbs, flavorings, and seasonings of any kind are forbidden. Preparing food in any way, or by any method, for the purpose of "enhancing" the taste is strictly forbidden. The only things you may add to your food are salt.

The List says: People are strange. They must invariably live on the death of something else. Instead of minimizing what they kill, they are always

looking for new things to kill and put in their mouths, and always trying to find new and innovative ways to derive pleasure from it. How exactly is this not the definition of sadism? Why do people think that of the multitude of rights a person has, the right to tasty food is of any importance at all in the grand scheme of things? Food is a necessity, and there are things put on this earth that are perfect for nourishing you, they have come to life with the knowledge that part of their purpose is to be eaten by you. There are still other things where part of their purpose is to be eaten by another creature, and another and so on. Each creature has only certain things that it is meant to eat, all the creatures of nature follow this rule, they have one, two, maybe three things on which they seek out

and feed. While they may eat a varied diet at one time or another, when their preferred meal is present, they will always go for it.

But humans, they want to eat everything. They want to participate in the wholesale slaughter of just about everything that isn't poisonous, and some things that are, then they want to spice them up and shove them down their gullets, and they make this an almost defining aspect to their lives. They reminisce about the delights of past feasts, and spend endless hours planning new ones. Some are so gluttonous that they pay teams of people to prepare their meals, always demanding more and more and more gastronomical delights.

Many people have asked the

question: Is x on the list.

The List says: No. If you have to ask at this point just remember that the default answer is no. If you aren't absolutely sure that The List will approve of what you are trying to eat then don't put it in your mouth. Maybe is not on The List.

But x is really delicious.

The List says: Delicious things are not on The List.

Can't we add x to The List?

The List says: Adding things to The List is not on The List.

Well x is on my list.

The List says: Good luck with that.

The List thrives on belief in

itself. Once I began following the list I lost another 10 kilos and am still losing, I began to feel much better, much more active, and was able to focus to a greater degree. I have found myself much more capable of understanding others and how they feel, I have become more sensitive and dedicated, and am rarely depressed at all, and when I am depressed, it's never the doom and gloom I hate myself and everyone and the world can go to hell kind of depression I was used to.

In the end, the whole point of The List is about changing how you think about food, in a fun and kooky way, it's a kind of misdirection for the mind. It's about making a conscious choice to think a specific way, something I think very few people ever do. It's about taking complete

control of your mind and convincing it to do what you need it to do to accomplish your goals. Instead of berating yourself, or hating yourself, you simply give your mind a reason, totally illogical, to counteract the already illogical and unreasonable ideas in your head.

It also helps to counteract reasonable ideas built on logic and based on wrong assumptions, they are totally obliterated by The List.

When it comes to bad thinking, think of it a bit like a garden with weeds that grow so fast that by the time you get to the end, you have to start back at the beginning and you are always trying to pull up one weed or another and it's a constant chore. You can't win by doing the same things over and over again, you need

something completely radical and way out in left field, something the weeds didn't expect.

The List may seem pretty specific to me, but there is a lot about The List that you might not understand from first looking at it, it's not really so much about what you should eat, but what you shouldn't eat, and even more importantly why you shouldn't. The List is about minimalism and, it's like dietary Aikido, and mental Aikido, and a whole bunch of do's. It's about making your life not have anything to do with your food. About separating your emotions from your food, that's not their purpose, animals aren't here to die so you can feel better about yourself. You should feel better about yourself because you do better

things, doing things is what will actually help you feel better about yourself, food is a cheap way of getting your emo-yayas off.

Most people try to add things to The List, that's because they don't grok the purpose of The List, they want to make it into a justification for their same old bad ideas about food.

They want to maintain their current way of thinking and The List becomes The Justification. In the end, The List is a kind of monodiet, that is what is meant by "Variety is not on The List." Saying you are bored with your food is also not on The List. Boredom isn't permitted because you can only be bored with your food if you are still thinking about food in the wrong way. I eat Pork Chops every day, day in and day out, sometimes I have a bit of bacon, or a

piece of pork sausage, but generally speaking, I prefer the Pork Chop.

Now I don't want you to think that I always follow the list, I have been known to have a bit of lettuce now and again, and I once put some vinegar on my Pork Chop, but every single time I deviate from The List, I feel it almost immediately and I always regret it.

Finally, there is the idea of food and social-ness. I can generally only eat Pork Chops, it's the only thing I want to eat, I am never bored with them, I always prefer them, there are a great many things that I cannot eat, but I have yet to meet a single person who really cannot eat a Pork Chop. The List is about the least common denominator, the food that everyone can share together, that no one has

to turn down because they are allergic, or know they will have a bad reaction.

So what have we learned?

The List is not a list, it's not a series of things or bullet points, or numbers. You can't write it down, you can't add to it, or take away from it, it's not that kind of thing. The List is like a fulcrum, you provide the lever and with it you can move your mental world. Once you learn and understand what The List is, you won't have to ask "Is this on The List" because you will understand why it's not on The List.

People from all over the world are reporting how their dietary supplement needs and intake dropped and even disappeared after embarking on a low-carb, high-fat diet in the forum.

To many people's surprise, life-long problems also went away after adjusting to a diet with almost no fiber whatsoever! Minor

quantities of fiber from natural, unprocessed food (mostly soluble) will not be a problem for the digestive system. But major quantities of fiber like that recommended by so many health authorities can be a big problem as fiber expands four to five times its original size inside the digestive system and creates a condition of constant intestinal irritation. Expanded fiber can potentially create damage to the delicate digestive mucosa which then becomes inflamed. No wonder that numerous individuals, including myself, experienced extremely negative reactions to doing the highly touted fiber-based colon cleansing. Dietary fiber is the bull sh...t in the China shop as nutritionist and author of *The Fiber Menace* Konstantin Monastyrsky (2008), puts it and who tells us:

Bulls feast on grass and hay — as fibrous a diet as it gets. Not surprisingly, bulls' droppings are large, and somewhat similar to the fiber-laden stools of humans. This 'in-your-face' title is wordplay on three concurrent ironies — health-conscious Americans falling for popular 'bull' about fiber, eating a bull-like diet, and suffering from bull-like stools, — the 'genesis' of practically all colorectal disorders. [...]

Dietary fiber, eight glasses of water, and a low-fat diet — the sacred cows of American nutritional dogma — break natural bowel movements, and cause hard stools, irregularity, constipation, or constipation-predominant IBS. When patients seek medical help, they are routinely recommended to add more fiber, drink more water, and reduce fat even further.

This misguided and harmful advice guarantees hemorrhoids and diverticulosis to virtually anyone and it is behind the epidemics of inflammatory bowel disease and colon cancer.

Insoluble fiber is just very bulking and thus damaging to the gut and intestine lining. I remember the one time I did a colon cleanse based on fiber which involved a fasting and having apple juice with fiber and herbs. It was an absolute killer; my colon was in pain for over a month after that.

And I was not the only one! I know at least of a dozen members of the cassiopaea forum who had similar experiences and even worse ones. Some had to stop altogether the cleanse prematurely for the issues that it was creating. All this time we were blaming the wrong foods (i.e. meats) but it turns out it was still the carbs. When you go low carb/low fiber, you can actually lose bacterial weight that generally sit in your intestines and are fermenting indigestible fibers, causing gas and bloating.

We have found that the less carbs we eat, the more fat we eat, the better our bowels work. On a paleo diet, people tend to bloat and slow down with too many carbs including vegetables. You really have to eat plenty of fat and restrict the carbs in order to get things flowing smoothly.

When you are eliminating bulk from indigestible plant material, the stool volume goes down since when you eat meat there isn't much that isn't digested, or shouldn't be. This is a relief for an anus that was not meant to be stretched to the bulking

proportions that fiber provides. Passing poo becomes then easier when it is lubricated by enough fat from the diet.

The history of medicine has more skeletons in its closet than causalities from all wars combined. All deadly medical "innovations" begin with good intentions, conceived and promoted on seemingly logical, reasonable, and scientific principles. Only after millions of deaths does it become obvious that the logic was wrong, the reasoning - opportunistic, and the science - pure quackery. If it could have happened before, it can still happen today. And it does...- Konstantin Monastyrsky, *Gut Sense*(2011)

Straining eventually causes an enlargement of internal hemorrhoids in the anal canal which will then further constrain an already narrow canal. This is when it becomes painful or anal fissures develop which then makes emptying the bowels become a pain in the behind... Then you become constipated, eventually diverticular disease develops. Then the thought police dietary guidelines prescribe fiber plus the already extra fiber from a diet rich in carbs. You will keep yourself regular by expert straining and dependent on fiber laxatives, but eventually you'll need more and more fiber as time goes by to in order to get the "kick in the butt."

As Monastyrsky (2008) explains,

And don't expect the myth of "fiber keeps the colon cleaner" to be true, either. Fiber is fiber - no matter its solubility. Unless it causes profuse diarrhea, it ferments 24/7 inside the large intestine with all of the usual after-effects: flatulence, bloating, and cramping. All three result from copious gases, acids, and alcohols produced by bacterial fermentation.

This process isn't any different from turning grapes into vinegar - except that your colon isn't a stainless steel tank! The acids and alcohols produced by fermentation cause inflammation of the intestinal lining, which is just as delicate and sensitive as the lining inside your mouth.

The intestinal inflammation interferes with the absorption of gases back into the bloodstream, and you end up even more bloated, more flatulent, and more miserable. This, of course, describes the classical symptoms of irritable bowel syndrome, or IBS.

Soluble fiber slows down intestinal absorption of water, gases produced normally during digestion, and essential nutrients such as vitamins, minerals, and microelements. The irritation that indigestible plant matter effects on the colon, not to mention the fact that plants ferment in the intestines and a lot of toxins are re-absorbed by this slowing down and bulking up in the colon is certainly something that should make us weary about this so called "healthy" food.

Tsunami of Chronic Diseases

We have grown accustomed to diseases that are due to a high carb diet, rationalizing ailments as genetic quirks, bad luck or normal aging. But this shouldn't be the case. Many people suffer the ill-effects of high insulin levels in their blood without being considered sick or at risk of developing chronic and established diseases such as diabetes. Considering this, it is staggering and flabbergasting to realize that we have now an unprecedented amount of diseases never seen in the history of the world before. We have a tsunami of diabetes and obesity ravaging the entire world, but also unprecedented quantities of autoimmune diseases and other so called rare diseases which are not rare anymore but used to be only a few decades ago.

In 2011, diabetes alone caused the death of more than 3.5 million people in middle-income countries, of which 1.3 million were in China alone and just less than a million were in India. Big Agra industries should be very proud of their profits, eh? A weapon of mass destruction if I ever saw one and one that is coated with sugar promoted and known both as healthy and unhealthy.

The number of people living with diabetes across the world is shocking: 90 million Chinese live with diabetes and 23% of Qatari adults have developed diabetes. Even more shocking, it is estimated that 25% of diabetics and 90% of pre-diabetics are not diagnosed. In developing countries, less than half of people with diabetes are diagnosed. Undiagnosed diabetes accounted for 85% of those with diabetes in studies from South Africa, 80% in

Cameroon, 70% in Ghana and over 80% in Tanzania and these estimates are not even from the latest *IDF Diabetes Atlas* edition. So much for the tropical genes which can handle sugar better.

The situation has ceased to be critical; we are now in a disaster zone paying the consequences of the high carb diet with our lives and with our brains.

For the same reasons sugar makes us insulin resistant thus jamming hormone signals, it also disrupts nutrient channels, weakening bone and muscle and slowing down communication between brain cells which then impair mood and memory and leading to dementia.

Sugar also stiffens the collagen in your tendons, joints and skin causing arthritis and premature aging, while interfering with the production of new collagen and its elasticity throughout your body. Sugar changes the surface markers in your immune system cells which then misfire to contribute to cancer and infection.

The rising and falling of sugar causes other hormones (such as progesterone, estrogen, testosterone made also by the adrenal glands) to go off balance. The mixed signals from high levels of insulin which then causes a drop in sugar which then triggers glucagon and adrenaline to release even more sugar (perpetuating thus the vicious cycle) ultimately can derange people's health in a huge way as it often does. Some can suffer from the typical headache to the excruciating painful migraine or cluster headache. Others can develop short circuits in their brains

- i.e. seizures- or their brains might become insulin resistant, in fact, Alzheimer's disease is now considered as type 3 diabetes, one where your brain becomes insulin resistant. Basically, Alzheimer's is a metabolic syndrome of the brain.

Sugar creates havoc within the entire nervous system to the extent that a nervous disorder is always within a person who eats plenty of sugar or just the standard carb recommendation nowadays. There are entire modern "caveman" tribes where depression is unknown and even though it might have to do more with their lifestyle than their choice of food, the extent and the number of diseases into which the ketogenic diet is useful is certainly food for thought.

Polycystic ovary syndrome is considered by some as "diabetes of your ovaries" which become resistant to insulin. Other diseases accompanied by high insulin levels includes heart disease, elevated levels of highly oxidized cholesterol and triglycerides, high blood pressure, blood clotting problems, colon cancer (and other cancers also), type 2 diabetes, gout, sleep apnea, obesity, iron-overload disease, gastroesophageal reflux and its heartburn, peptic ulcer disease, etc. All are ill-compounded by sugar: infections, joint problems, allergic reactions such as eczema hives, runny noses.

Palpitations - heart rhythm disturbances - occur often in people who eat lots of sugar and/or drink coffee. Chemical-derived or sugar induced surges in insulin and energy levels irritates your

nerves, including the ones of your heart and whenever sugar drops caused by high levels of insulin, the palpitations can start.

These are serious diseases and they are endemic to civilized cultures. We accept them as normal because they are ubiquitous. We eat the foods our culture provides; we get sick. But then everyone is sick – who doesn't know someone with diabetes, cancer, heart disease, arthritis? – so no one questions it. And it's a lot to question, from the USDA food pyramid, to the righteous aura with which the Left has infused plant-based foods, to civilization itself. These are powerful forces to which our own native intelligence – both personal and cultural – has long been subordinated. – Lierre Keith, *The Vegetarian Myth*.

High fasting blood glucose levels can be an indicator that you might soon become resistant insensitive to hormones including youth hormones such as DHEA and testosterone responsible for libido. Think of vital receptors becoming jammed up by the sugar so the ultimate magic pill or fountain of youth of the century will not work.

You know when you overtaxed your insulin stimulation when your fasting glucose levels are over 85mg/dl which then invites the risk of heart attacks or strokes. Men with fasting glucose levels over this level may have up to a 40 percent increase in risk of death from cardiovascular disease (Bjørnholt et al., 1999). You know then it is time to cut down on sugar to below 100 grams per day. Although fasting glucose levels below 126mg/dl are

considered typically normal, levels of even 95 might be already too high because it invites problems.

You don't have to feel on the verge of dying in order to get to this point. As it happens, more often than not, people can be feeling just great and discover the horrible truth in a medical check-up required for a job.

People might start with a routine check-up with their primary care doctor who then orders some tests to see if everything is okay. If there is something off, a visit to another specialist such as the cardiologist, cardiovascular surgeon or neurologist might be in order. Depending on the seriousness of the situation, the person might then become a candidate for a stent or worse, bypass surgery. There might be a clear indication for these procedures, but as it happens, the side effects and disadvantages far outweigh the benefits. The procedures are still recommended nonetheless and failing to go along with them will be going against doctors' advice with all the programming and angst that implies.

Then, when the doctor typically explains to you the pros and cons of the procedures, such as dying on the operating table, you know that time has come for a reality check. For some people it sets-in abruptly, but unfortunately, most of the time people just follow mainstream's rule which is usually the beginning of a very slow and hard end. Once you start one drug, and then comes the other one to counteract the side effects of the first one, and then written

guidelines specify that another one has to be introduced based on rigid criteria that doesn't even take you into account.

Sometimes a medical procedure is clearly indicated and you will be out of your mind to refuse it. But oftentimes the opportunity for it doesn't even present itself. Before a person arrives to the emergency room, she or he will just drop dead after an exercise routine or during a normal job day where the person was even feeling physically fine.

Those who don't want heart surgery or take their health in their own hands before it is too late, and even when it is already too late are the few ones that set themselves on the lucky path.

It is ideally optimal for healthy individuals to have blood glucose levels of no more than roughly 70 to 85 mg/dL at any given time and without any symptoms of a sugar crash – hypoglycemia. For some, a sugar crash may set in with a fasting glucose level of 90 or 100 and may even cause seizures in someone who is used to levels of 400 mg/dL, as with some diabetics. But for someone used to functioning between 85 and 100 mg/dL, a sugar crash may manifest as mental fogginess, emotional lability, shakiness, fatigue or irritability at levels of 70 mg/dL. This explains why so many people feel tired and lethargic on strictly reduced carbs since they are used to very high levels of blood glucose and all the body's systems are geared to that. A healthy person maintaining consistently low sugar and insulin levels may not exceed 90 or 100 mg/dL after eating, and may feel absolutely great and symptom-free with fasting blood glucose levels at 70. That person

is likely running smoothly on fat fuel instead. The lower you can maintain your blood glucose levels in a healthy and functional way without experiencing sugar crashes, the better off you are.

Keep in mind that the body is adamant about maintaining the minimal necessary levels of sugar in the blood at any given time because it is inherently damaging to vessels, organs, and tissues in the body. The less glucose that is absolutely necessary, the better.

Fasting blood sugar of over 100 mg/dL is already reflective of dysregulation at a functional level even though it is considered normal in mainstream medicine. The ability to sustain a fasting blood glucose level between 70 and 85 mg/dL without any problems and not allowing glucose to spike higher than 40 mg/dL over your fasting value after eating has a favorable effect in activating our longevity genes.

AGE's are Bad for You

Dr. Catherine Shanahan (2008), author of the *Deep Nutrition: Why Your Genes Need Traditional Food* has described her own experience with a high carb diet and its consequences very succinctly:

While far from fat at 5 foot 4 and 125 pounds, my waistline was surprisingly unflattering. Underneath rock-hard abs (I also did hundreds of sit ups a day) my intestines were coated in omental fat, a very unhealthy form of fat that develops in everyone eating low-nutrient, high-carb, high

trans-fat, high vegetable oil diets. This gave me a classic "apple-shaped" figure even though I wasn't overweight. At age 35, when I started eating better, I finally lost that omental fat and developed a more feminine waistline. (I also grew an inch taller!)

Yes, that is very impressive indeed. In fact, we all noticed since we started a low carb diet how our bodies reshaped to a healthier look and how our quirky health problems gave way to wellbeing and miraculous results that had doctors scratching their heads.

As sugar creeps into your tissues, it coats the surface of cell membranes already impoverished in much needed healthy fat from a low fat diet. This has life-changing consequences, interfering with your connective tissues in your joints and disrupting hormone signals and physiological reactions thanks to sugar encrusted cells.

The process by which sugar sticks to stuff is called glycation. It is basically glucose modification of proteins and fats which cause them to deteriorate. Think of caramelized proteins. Glycation reactions are reversible, but with enough heat or time and plenty of sugar, it becomes irreversible due to oxidation reactions. The products of these later oxidation reactions are called advanced glycation end products, or AGE's. Very appropriate indeed since AGEs make you age prematurely. Catherine Shanahan (2008) explains:

When you toast bread, oxidation reactions generate AGEs in the proteins and sugars present in wheat. These AGEs change the bread from soft, pliable, and pale to hard, stiff, and brown because the proteins and sugars form cross-links that stiffen the bread. The same thing happens inside your body as AGEs cross-link normally mobile proteins. This hardens your cells and tissues, making them brittle and stiff. Fortunately, at normal blood sugar levels, the reactions occur so slowly that cleanup crews of white blood cells keep them under control by breaking them down. The kidney cleans these AGE's from the blood and excretes them from the body. It is these waste chemicals that give urine its characteristic yellow color.

The clinical implications of having your tissues hardened by sugar-protein cross-links are vast and far-reaching. Cross-links turn the semipermeable surfaces of arteries into impervious walls, preventing nutrients from exiting the bloodstream. When trapped nutrients can't escape your bloodstream, where do you think they end up? Lining your arteries.

What we are seeing here is relevant to the number one killer today - cardiovascular disease. And it is not due to our good old cholesterol; the root lies in an inflammatory diet rich in sugar and bad vegetable oils, and free radicals. Yes, the real culprit is inflammation and think of carbs and hydrogenated and vegetable oils, not good old animal fat.

The same AGE's create havoc in other parts of your body. Think of arthritic and creaking joints from glycation of cartilage proteins, cataracts from glycation of lens proteins, kidney disease, atherosclerosis from LDL glycation and components of the arterial wall, and many other conditions. Sugars and processed carbs are at the top of the perpetrators, but also grains and starches. Complex carbs, even though they don't trigger your insulin levels so strongly as simple sugars, have the capacity of staying in your blood longer, allowing for glycating reactions and AGES to occur.

We need some sugar to fuel our red blood cells, but that our bodies are perfectly capable of providing that fuel even when we eat zero sugar is a clue of its non-essentiality. The lower the levels of blood sugar we are able to maintain and the less insulin we produce, the longer and healthier we live, aging in a more graceful way. Glycation and its damaging consequences are a cumulative process, so every bit of sugar or starch we eat gets factored in. Every time you eat cookies, bread, potato chips, honey, soda, etc. gets accumulated to effectively shorten your life.

AGE's are the main reason why diabetics develop circulatory problems. Over the life of a red blood cell (three months or so) that constitutes our blood; the protein-rich red cell gets loaded in excess blood sugar. It is the job of the spleen to clear away damaged red blood cells, but when you have high sugar levels all the time, the spleen can't keep up and they end up clogging tiny capillaries. Then, diabetics will typically go blind and develop numbness and infections in their feet. What's true for these red

cells is true of every single cell in your body including defense-immune cells, hormones and other vital chemicals that are needed unimpaired for your body and mind to just work properly. Glycation of endothelial cells contributes to endothelial dysfunction which sets the stage for a heart attack. Now you might guess why real men don't gorge in carbs: endothelial dysfunction is at the root of erectile dysfunction.

AGE's accelerate the aging process in the functioning of all cells and tissues and they cause mutations in DNA. When AGE's bind with certain receptors in the bloodstream, appropriately called RAGE's, they induce systemic inflammation, leading to more advanced cardiovascular disease. Diseases linked with RAGE's include atherosclerosis, peripheral vascular disease, myocardial infarction, congestive heart failure, diabetic retinopathy, diabetic neuropathy, diabetic nephropathy, Alzheimer's disease, and psoriasis.

With the current evidence that even modestly elevated "normal" glucose levels significantly increase disease risk we can all be seen as having diabetes to some degree or another. In a study of 33,230 men, high glucose levels (>110 mg/dL) were independently associated with a significant increase in deaths from digestive tract cancers (Matthews et al., 2010). Other studies involving diabetics definitely show that they are at even greater risk for cancer!

A simple, inexpensive blood test that can measure up to three-month blood sugar fluctuations is hemoglobin A1c since

hemoglobin in red blood cells is irreversibly glycated by blood glucose. This test can be used to monitor glycation tendencies over time. Fasting blood sugar as a marker is not sufficiently accurate for this. But don't be falsely reassured by not having a HbA1c that meets official criteria for diabetes. An upper normal high limit of almost 6% is already too much glycation that puts you at risk of osteoarthritis, atherosclerosis, cataracts, etc. And while less than 5% has the lowest rates of cardiovascular disease and deaths, an increase of 1 percentage point is associated with a risk of death regardless of your age, weight, blood pressure, cholesterol levels, cigarette smoking and history of heart attacks in your family (Khaw et al., 2004).

If the damage to fully developed cells is catastrophic enough, think of the damage done to developing cells. The implications are far reaching for a mother-to-be who forces herself to eat plenty "safe" starches, vegetables and sugar all the while thinking that it is good for her baby and her body. After all, the doc and about everybody else recommended it. We are now seeing an unprecedented incidence of autism spectrum disorders and ADHD that were relatively rare not too long ago. If we are avoiding much needed fat to make healthy babies and their brains, of course we are going to see a lot of trouble. It is a medical fact that diabetic mothers are more likely to have babies with major birth defects including cleft palate, heart defects, spine malformations, limb reduction defects, etc (Balsells, 2012). Uncontrolled sugar levels during gestation have a profound effect on the baby and its organs, but also on the babies' growth after he or she is born.

From 2000 to 2008, the number of teenagers aged 12 to 19 with pre-diabetes or diabetes increased from 9% to 23% in a study which included over 3 thousand kids. Just 15 years ago, less than 3% of new cases of childhood diabetes were Type 2 diabetes, a disease that was typical of adults and a rarity in children, which is why it was called adult onset diabetes. Now it is nearly 50%. Moreover, 13% of kids within normal weight range had either pre-diabetes or diabetes. Kids who had normal weight also had higher rates of diabetes and heart disease risk factors such as high blood pressure or high LDL and low HDL cholesterol, increased C-reactive protein (an inflammatory marker in the blood). Among the “fit” kids, 18% had elevated blood pressure, 13% had elevated blood sugar, 10% had elevated cholesterol (May et al., 2012). So while most of those overweight in the U.S. have high blood sugar, so do a significant part of adults and children who are within normal weight range. What is more, if you have a normal weight and get diagnosed with diabetes, you have twice the risk of death than if you are overweight (Carnethon et al., 2012). This goes to show how high insulin levels in your body are creating even much more havoc, even when you are not getting fat. How is that for a giant sugar disaster?

The Anti-Elixir of Life

Sugar is what AGEs us, it is what degenerates and kills us. As Nora Gedgaudas author of *Primal Body, Primal Mind* puts it, “Aging is now being understood by people researching longevity as essentially a gradual process of glycation of all tissues, including the brain. Chronic diseases associated with aging and

certain forms of mental decline may be directly associated with these processes. The lower we maintain our blood sugar levels, the slower this process occurs and the longer and healthier we live – and the more gracefully we age.”

Professor Cynthia Kenyon, Nobel Prize winner for her research into ageing, has discovered that the carbs we eat – from bananas and potatoes to bread, pasta, biscuits and cakes – directly affect two key genes that govern youthfulness and longevity.

By tweaking a worm’s genes, she has been able to make these worms live up to six times longer than usual like healthy youngsters. Prof. Kenyon’s work has been reproduced successfully in labs around the world and the genes modified are the same found in animals and humans as well. She says, “In human terms it was the equivalent of talking to someone you thought was about 30 and finding they were actually 60 (Burne, 2010).” Caloric restriction of up to $\frac{3}{4}$ of the normal amount turns down the gene that controls insulin, which in turn switches on another gene – DAF 16 - which acts like an elixir of life with all the anti-ageing benefits. It sends a whole set of instructions for repair and renovation of genes. Our supply of natural anti-oxidants goes up, damping down damaging free radicals. The elixir gene also boosts compounds that make sure the skin and muscle-building -proteins are working properly, the immune system becomes more active to fight infection and genes that are active in cancer get turned off.

A remote community of dwarves from Ecuador and who are cancer-free provide another clue. They are missing part of the gene that controls insulin-like growth factor. They only grow to 4 ft tall because the hormone is needed for growth, but the positive side is that they don't develop cancer and are less likely to suffer from heart disease or obesity. As we have seen earlier, insulin-like growth factor is linked with a host of problems, including prostate, breast and colon cancer. And it is the carbs that are driving insulin and IGF and this killer gene. It is starting to look more than ever before that the key for longevity and fulfilling life lies in a rather carb-free diet.

Kenyon's discovery has prompted her to dramatically cut back on carbs since triggering insulin means a more active gene that controls insulin which then shuts off the elixir gene. In fact, when Kenyon added a teensy amount of sugar to the worms' diet that she had genetically engineered to live much longer, the effect was evident. The glucose just blocked the youthful engineered genes and they lost most of the health gains (Lee et al., 2009). This study has clear and direct implications for us, shedding light on our physiological mechanisms, pointing that carbs and insulin is what is driving our miserable short-lived lives. And yes, as we have seen, the most potent triggers of hormonal dysregulation are the blood sugar surges that result from chronic carbohydrate consumption!

In fact, when Cynthia Kenyon reviewed the genetics of ageing for *Nature* (2010), it became clearer and clearer that it is all linked to carbs and its insulin stimulation and she herself then went low

carb. As she herself wrote, “Inhibiting insulin/IGF-1 signaling extends lifespan and delays age-related disease in species throughout the animal kingdom (Kenyon, 2011).” And how do you inhibit insulin and insulin-like growth factor? By cutting down carbs!!! That a leading expert on the subject is providing all this data and it is for the most part largely ignored is simply freaking unbelievable.

It is known that many disease associated genes occur also in other organisms distant to humans, such as the fruitfly *Drosophila* or the round worm *Caenorhabditis*, but this is systematically true for the vast majority of these genes. Genetic-based human diseases are an ancient evolutionary legacy since the majority of genes were already in existence since the first known cell in existence, for instance one billion years ago around the first appearance of multi-cellular organisms, as well as at the time of origin of bony fishes about 400 million years ago (Domazet-Loso and Tautz, 2008). The improper functioning of our genes will never be beaten completely as long as we are in the wrong diet, because they are linked to ancient evolutionary processes that require the right food for the proper physiological functioning. Cynthia Kenyon’s discoveries have far reaching implications for the rest of us.

The latest fashion of telomere length for longevity is not what we should be focusing on. Telomere is that which protects the end of a chromosome from deterioration, and it is shortened or compromised with an increasing rate of cell replication, like the

one seen when there is unrelenting levels of IGF and insulin and inflammation.

Those who live long and healthy lives have some common physiological effects including lower circulating insulin and IGF concentrations, increased insulin sensitivity, lower body temperature, lower thyroid function and decreased oxidative stress. It is interesting to note many of these effects. It seems that a lower thyroid metabolism isn't necessarily a bad thing!

Other than the longevity genetic implications of a restricted carb diet by decreasing insulin and insulin-like growth factor, consider also the hormone leptin. As it turns out insulin and the hormone leptin are birds of a feather. Leptin is a very interesting hormone which a lot of people haven't heard about since no drug is able to tame it. Leptin is critical to our health and it has a role in regulating glucose.

The same things that tend to disrupt insulin also powerfully impact leptin: starch or sugar in the forms of bread, cereal, potatoes, vegetables, pasta, rice, and alcohol (including wine and beer!)

Honey, agave (which has more fructose than high fructose corn syrup), maple syrup, are equally problematic. Medications of all kinds also contribute to leptin and insulin signaling problems.

Caffeine and other stimulants also increase blood sugar levels. Caffeine stimulates the pancreas and messes with blood sugar levels and can cause fat deposition in lumpy bumps. That's the

hidden effect of coffee that you get even if you don't get an initial "reaction" to it. And when sugar in blood goes up, leptin levels go up as well which then overwhelm cellular receptors in such a way as insulin resistance happens. That is, eventually, the receptors stop hearing leptin's messages (Morton et al., 2006). Leptin is deeply linked with the suffering implications of aging and all degenerative diseases. Let's have a closer look as to why.

Found in our fat cells in 1994, leptin proved to be a major hormone that ultimately influenced all other hormones and also the functions of the master gland of the endocrine system, the hypothalamus in the brain. A main role for leptin is to coordinate the metabolic, endocrine, and behavioral response to our most basic survival instinct – starvation. As such, it makes a profound effect in our emotions, craving and behavior. To our primitive instincts, everything is secondary to survival.

There is not a single endocrinologist in the world, no matter how brilliant or talented, who could possibly replicate the intricate and delicate balance that is orchestrated by the interrelationships of your own innate endocrine symphony, nor is there a single "bioidentical hormone" that can be prescribed that can truly replace what the body does naturally.
-Nora Gedgaudas, *Primal Body, Primal Mind* (2011).

Who would have thought, body fat is now understood as a complex, sophisticated endocrine organ where dozens of other hormones other than leptin are produced. Many of these

hormones are proinflammatory, including leptin itself. This is the reason why overweight and obese people have too much systemic inflammation going on. But body fat has also the capacity to behave like pluripotential stem cells which can potentially be used to create any cell in the body with the appropriate signal. We'll get into this fascinating subject later. For the time being, let's have a closer look at leptin, the master hormone that regulates the rest of the hormones, potentially stabilizing how you feel and whose right signal is vital for health and longevity. Having healthful levels of leptin is a key to prevent most aging diseases and extend life span. Excessive levels of leptin have been linked with most degenerative diseases and inflammation, as well as obesity and a short life span. The more you are sensitive to leptin's signals, the better. Omega three fatty acids improve leptin sensitivity. Another good reason to eat your sardines!

You might be leptin resistant if you are having high fasting triglycerides, over 100 mg/dL, have a tendency to snack after meals, have problems falling or staying asleep, have no change in how your body looks despite how much you work out, are overweight, get tired after meals, have "love handles", have high blood pressure, constantly craving "comfort foods", feel consistently anxious or stressed out, feel hungry all the time or at odd hours of the night, have osteoporosis, are unable to lose weight or keep weight off, regularly crave sugar or stimulants (like caffeine) (Rosedale, 2004).

“Here's a study that raised eyebrows (Bouret et al., 2004). After you're born, everybody thought your brain had fixed neuron connections and they showed that leptin actually changes nerve endings in the brain to do its bidding. If it wants to make you hungry, it doesn't just do it by neurotransmitters. The "fat brain" actually changes the anatomy of the brain, and leptin is a crucial regulator, including synaptic plasticity and axon guidance within the hypothalamus. [...] leptin makes you hungry, it actually changes the anatomy of the brain. Ron Rosedale, MD, DrRosedale.com, 08 Nov 2011

Leptin essentially controls mammalian metabolism. Leptin controls the thyroid which then regulates the rate of metabolism. Leptin also regulates appetite, deciding whether we should be hungry and store more fat or burn fat. Leptin also orchestrates our inflammatory response and can control the stress response vs the relaxation response in the autonomic nervous system, that is, it can promote the sympathetic (flight or fight) and diminish the parasympathetic (cool down) response. If any of the hormones of the endocrine system are meant to stabilize (i.e. sex or adrenal, thyroid hormones), you have to restore leptin functioning first and the way to do that is through carb restricted diet.

A ketogenic diet – a diet rich in fat in absence of dietary carbohydrates - is the optimal key to unlock our capabilities for a healthy life and to increase our lifespan. Fat is telling our primal genes that they are living through survival times, not stressful nor starving times as carbs do.

Protein

Protein is essential for building and repairing body tissues. It is an essential nutrient unlike carbohydrates, which is a nonessential nutrient, that is, you don't have to have any. With protein, you have to take some in. If you heard that amino acids are the building blocks of protein, then you know why it is a required nutrient. Even though we are able to synthesize and recycle many proteins and amino acids, we can't make certain amino acids and it is only dietary protein which provides them. We can't live without protein and the good news is that its most healthy kind is very delicious.

Yes, quality matters and the unquestionably best sources of protein are found exclusively in animal foods, i.e. meats and organs. Combining vegetarian protein sources such as brown rice and beans does not mean that you will have better protein sufficiency. It actually provides mainly for a starchy meal, regardless of the amino acid profile of the whole meal. The trade is the excessive amounts of carbs to meet a basic protein demand. It will stimulate insulin unnecessarily. This brings us to the potentially bad side of protein.

If you eat an excess quantity of protein, there will be excess stimulation of the transport to the liver. You flood the liver with amino acids and it's got to go somewhere. You either make more protein to replenish the parts that have been worn out, or you can

burn it for fuel. You have to use it all, since you don't really excrete the excess and actually protein in the urine is a sign that something is wrong. So your liver makes glucose when there is increased high protein intake, which will then stimulate insulin. Moderating the protein intake in diabetics decreases blood sugar regardless of their diabetic treatment (Lariviere et al., 1994). Moderating protein intake also decreases visceral fat and preserves insulin sensitivity and reestablishes proper functioning of insulin like growth factor without undergoing necessarily caloric restriction (Malloy et al., 2006).

Other than stimulating insulin, high protein intake also increases the levels of the hormone leptin. Continuous high levels of insulin and leptin cause insulin resistance and leptin resistance. So you might get a short term benefit from eating loads of protein, but it may be at a price of a long-term detriment, if you keep those levels high. If you raise leptin through a high protein or carb diet, you're going to be temporarily less hungry until your hypothalamus becomes more resistant to leptin's action which will happen due to overexposure (Zhang and Scarpace, 2006). Just as a smelly room, eventually you can't smell it the longer you are in that room.

Eating lots of protein also increases glycation and insulin-like growth factors. So in the end, a high intake of protein ends up behaving like a carb diet. But there is something peculiar about a rich protein diet as well and it has to do with a specific longevity pathway.

Rapamycin, a natural substance made by soil bacteria, has some powerful anti-cancer properties. As it happens, our bodies have a metabolic pathway for said substance, called the mammalian target of rapamycin or mTOR for short. Just as insulin is our sugar sensor and leptin is our body's fat sensor, mTOR is our body's protein sensor. It monitors the availability of certain amino acids for growth and reproduction. That is, if there is a surplus of protein, it tells the body, "It's time to reproduce or make more cells". You need to make more cells when you are growing up, but also when you are developing a cancer. Then, as for reproduction, think of wild animals having fewer babies or no babies at all when there is scarcely any food available. But this is not a bad thing because what tells your body not to reproduce, tells your body to regenerate, repair and increase mitochondrial function.

Turning off the mTOR pathway decreases mitochondrial damage. It is like activating ancient mechanisms that were designed to outlive a famine, which then shuts down cellular proliferation (i.e. cancer and aging) and turns on repair and regeneration genes. These signals our bodies to stay healthy long enough so that we can reproduce when times get better, saving all energy resources to repair cells instead of making new ones.

When excess levels of protein are detected, the activity of the mTOR pathway goes up, stimulating cellular proliferation and mitochondrial changes that are not welcomed from a longevity point of view. It is also influenced by increased insulin, impacting then insulin-like growth factor activity, and mTOR also increases

leptin activity (Roh et al., 2003). They are all part of the same gang, leptin being the master signal which communicates whether or not the body is in a state of abundance.

The crucial “elixir of life” genes are all impacted by the same gang. The solution does seem to be a high fat diet moderated in protein intake and restricted in carbs, which then mimics what is seen in longevity research with caloric restriction diets (Rosedale et al., 2009). Only that you don’t restrict calories, you eat as much good fat as you want. In other words, leptin is not dictated by how fat you are. It's dictated by what you eat. You are not at the complete mercy of your genes either. You are what you eat!

Sugar increases leptin resistance and turns off the “elixir of life” genes, and amino acids from high protein intake also increases leptin resistance as well, other than inhibiting mTOR. It is important to note again that this dietary recommendation differs from other ketogenic diets in that it puts a limit in protein intake other than restricting carbohydrates, though not total fat intake. A high fat diet will then guarantee a source for ketone bodies, the ideal long burning fuel which helps heal mitochondria – our energy factories.

In fact, people on this ketogenic diet are able to do resistance training exercise and intermittent fasting that speed up the mitochondria healing process and gives the right signals to your body to heal your genes while retaining good energy levels and without suffering. In our experience, not putting a limit to your protein intake is only required for a period of time at the

beginning when you first start to cut down on carbs. It is to say as well that a person, who is accustomed to burning sugar as a primary source of fuel, will have the tendency to more efficiently convert protein intake into sugar. Eventually as your body transforms and shifts away from a carb metabolism and starts to pump out the required enzymes and processes to use fat as an energy fuel, the protein intake can be lowered down and the fat intake increased. Arriving at this stage provides you with unprecedented energy levels never experienced before and cravings and food issues are not an issue anymore. Eat to live, not live to eat as it were.

With the cutting-edge longevity research, it is clear that carb restriction is essential, but eventually, also moderation of protein intake is required since limiting dietary amino acids inhibits the signaling through mTOR (mammalian target of rapamycin).

But exactly how much is a moderate protein intake on a low carb diet?

It isn't a good idea to exceed roughly 25g of actual protein in a meal since this has been estimated to be the mTOR-stimulating threshold. We can really start picking our brains trying to figure out how much a reasonable intake of protein is. Some say that it is on an average between 1.5 and 2.0 grams per kilogram of ideal body weight (0.7 to 1.0 grams per pound of ideal body weight). Keep in mind that when we're talking about grams of protein, we're not saying grams of meat or fish. Protein is only a part of what makes up meat or fish. Fat, water, are other components.

It is estimated that a person needs about 0.5 gram of protein per pound of ideal weight to maintain “structure” and healthy body composition. If you are even moderately active, you need closer to 0.7 gram per pound, and if you work out regularly or are under a fair amount of stress, you need as much as 1 gram per pound of ideal body weight. The rest of the energy is most welcomed from fats.

Daily current USDA’s recommended daily allowance (RDA) for protein is 0.8 grams of protein for every kilogram (1 kg = 2.2 pounds) of ideal body weight. That means that the average would lie somewhere between 45 and 60 g of actual protein per day for the majority of adults, that is, between 1.6 and 2.1 ounces per day. Higher intakes were thought to impact negatively bone metabolism. But we now know that this is not the case and that diets richer in protein are associated with healthier bones as people age.

Still, this last quantity might not sound like a lot, but as Ron Rosedale, MD said during a talk at the American Society of Bariatric Physicians (ASBP) meeting Oct 31, 2006:

But if I’ve got a diabetic, and I really want to reverse their aging, which means reverse their diabetes, because diabetes is a model of aging, I’ll put them down to .5 or .6 grams per kilogram of lean body mass per day.

So what’s left to eat?

We know that sugar, foods that turn into sugar, raise insulin, IGF accelerate aging, worsens diabetes. It's horrible for you. Now I'm telling you that extra protein isn't good for you either. It appears to accelerate the MTOR pathway and has all kinds of debilitating effect, not the least of which is stimulating cancer.

Fat. Eat fat.

Fat appears not to stimulate insulin. It does not stimulate the MTOR pathway. It does not cause an increase of leptin and in fact it keeps it down. And our health is going to be dependent on what our hormones tell our brains to do, whether to be hungry or not. If you keep leptin down and your hypothalamus can listen to leptin, you are not going to overeat. When leptin is down it stimulates fat burning. It helps diabetes. It helps all sorts of things. I've been doing this for over two decades now, and I can tell you for sure it happens.

You have to regulate the hormones that regulate your brain, and you do this by diet, and then you can affect the rate of aging and the incidence of the diseases associated with aging.

Eat good fats! It is possible to restrict protein while compensating with lots of fat-rich broths, coconut custards, or fat milkshakes which happen to be low in the amino acids that may trigger mTOR.

Keep in mind that the lowest references of protein intake come from people who still eat some amount of carbs in their diets and that animal models are less than ideal when it comes to figure out quantities required for human.

Even when carbs are restricted, we do not start losing muscle mass or have less ability to do exercise. As Jeff Volek, PhD, RD and Stephen D. Phinney report in their ground breaking book *“The Art and Science of Low Carbohydrate Living”*, muscle mass is preserved when there is an appropriate period of ketosis adaptation and that properly formulated ketogenic diets have a remarkable ability to protect muscle and exercise performance during periods of caloric restriction or intermittent fasting when there are sufficient minerals provided (i.e. potassium, magnesium, sea salt).

They report on their own studies and those of many others to conclude that resistance training is a potent stimulus to protect lean body mass in men consuming a low carb ketogenic diet while still allowing for significant weight loss and thus, better insulin and leptin signaling. Based on their significant research, these authors recommend daily protein intakes of no more than 1.5 and 2.0 gram per day per kg of reference or ideal weight (Westman et al., 2010). They say that higher intakes reduce or suppress entirely one’s keto-adaptation. This typically translates to somewhere between 15% and 25% of your daily energy intake coming from protein, that is, something between 90 and 120

grams maximum per day. This reference is already what the average adult in the US is eating. Volek and Phinney (2011) say,

In short term studies, taking away dietary carbohydrate and replacing it with fat reduces our body's efficiency in using protein. Put another way, when you first take away dietary carbs, you need more protein to maintain muscle and other protein-containing tissues. But when you observe a human over a number of weeks of adaptation to a low carbohydrate diet most of this initial inefficiency in protein use goes away. Thus, once you are keto-adapted, your body's need for protein isn't much higher than during a "balanced diet".

If you eat lots of fats, you'll find it hard to reach that amount of protein intake. A reference of 1.5 g/Kg of ideal weight a day is what physical endurance performers require after full ketosis adaptation. An average person, who is keto-adapted, is able to preserve muscle and actually feel much better with a protein intake of **0.8 to 1 g/Kg a day**.

But bottom line is: let's not get worked-up with numbers and go into hairsplitting debates. We generally do better with rough estimates that we don't have to stress about. A guide will be provided to give you an idea of how much protein your meals should ideally have, and especially how much fat they should have once you are keto-adapted. Please note that overt protein restriction is really not recommended for those starting a diet because they have to get unused to a lifetime of carb eating. Once keto-adaptation is achieved, people can restrict their protein

according to the formula to have longevity benefits. Pregnant women and children should not have their protein intake restricted.

Even when you fast a day or two occasionally and, are restricting carbs and provided you don't over-exercise on fasting days, you can easily preserve muscle using the body's tendency to retain protein stores in the short term, but also relying on your body's ability to use ketones as an energy source. If you are eating plenty of fat, it is likely that the protein you consume will go first toward the repair or building of cells or enzymes. On the other hand, if you have a high protein intake one day, it will convert to glucose and if you are carb restricted or having no carbs at all, it should not be a great issue, especially if you do resistance training – as we should all do if we are going to repair our beaten-up mitochondria.

But isn't protein poisonous for the kidneys?

An ignorant doctor will say yes and dismiss a low carb diet right away based on no sound science or common sense at all. First of all, you don't consume much more meat than the average person. As it happens, you can't tolerate a lot of protein without feeling lethargic and sick to your stomach. Not without reason there is something called, "rabbit starvation", and the name coming from the nausea and diarrhea from excess consumption of fatless meats described by early American explorers.

The belief of “protein is bad for kidneys” was based on studies with severely damaged kidneys. It is not the case for people with a normal kidney function. What is more, the longest and most comprehensive study comparing the effects of low-carb high-protein diets on the kidneys showed no harmful effects on kidney function in obese people (Friedman and Ogden, 2012).

How about gout?

Well, in that case, if you have a predisposition to gout, any wide swings in uric acid levels will trigger an attack. It can be either an abrupt rise at the beginning of the diet or an abrupt fall if ketosis is stopped by breaking a carbohydrate restriction. Uric acid levels tend to normalize as you continue on the diet. Basically, if you are predisposed to gout, you might need treatment to start the diet. But cutting down on carbs should be done since it is really the fructose and the carbs that fuel uric acid levels. Eventually, you'll achieve optimal uric acid levels as unseen before.

The Animal Kingdom

When it comes to it, there is nothing more nutritious than animal food sources. Animal products contain all the amino acids, minerals and vitamins essential for life, except perhaps for vitamin C. But the vitamin C in meat products is more than sufficient for health as long as carbohydrates are restricted. People's requirement for vitamin C typically goes down or gets eliminated altogether when they restrict their carb intake and

their blood sugar and insulin levels get stabilized. Gorge on carbs and you'll likely need a generous quantity of vitamin C.

In addition to that, when you cut out nutritionally devoid food such as sugar, flour, potatoes and beer, you satiate your appetite with meats, eggs, leafy green vegetables which will have all the essential nutrients.

As a challenge to the conventional wisdom on diet, obesity, and chronic disease, however, it presents a dilemma to public-health authorities; to nutritionists and physicians who believe that the advice they have been giving for the past few decades has been correct and based in sound science; and to all of us who simply want to eat healthy but have trouble accepting that everything we have come to believe could be as misguided as I have portrayed it. The resolution to this dilemma is to test the carbohydrate hypothesis rigorously, just as the fat-cholesterol hypothesis of heart disease should have been tested forty years ago. -Gary Taubes, *Good Calories, Bad Calories*.

Moreover, you won't find a single food source which is so nutritionally packed with the things we need for our bodies than animal foods. We thrive on animal fat. It is literally what made us human. But the cholesterol myth has shaped not only our dietary choices, but also the behavior of animals per se. As it is reported by Temple Grandin and Catherine Johnson (2004):

American breeders have started selecting for much leaner pigs, because Americans want to eat leaner cuts of meat. So far the leaner pigs are healthy, but their personalities are completely different. They're super-nervous and high-strung. No one knows why this happens, although it might have to do with myelin, which is the fatty sheath surrounding the nerve cell axons that helps signals pass from one brain cell to another. Myelin is made of pure fat, so it's possible that when you breed a pig to have less fat you interfere with myelin production in some way. Lower myelin levels could produce jumpy animals because inhibitory signals – the chemical signals that tell other neurons not to fire – don't get through from one neuron to another. The animal can't calm itself down. That's one theory, anyway [...]

In the past, the organs and the fat were highly valued and the meat typically discarded for the dogs or other scavengers, or even anecdotally reported to be given to your enemy neighbors. Sausages and puddings made with intestines stuffed with mixtures of blood, liver, lungs, heart, marrow, brains, and tongues then simmered in stews were part of the Early English diet (McLagan and Beisch, 2011).

Weston Price expressed his concern that unless humans return to the ancestral diet rich in fat and animal foods, mankind will continue to deteriorate as a species. If he would be alive today, he would have received the shock of his life. He determined that “fat-soluble activators” were not available in modern foods and

they were available only in animal foods. He referred to these vitamins as the “catalysts” or “activators” upon which the assimilation of all the other nutrients depended: protein, minerals and vitamins. In other words, without the stuff found in animal fats, all the other nutrients go largely to waste.

Some will argue that protein leaches calcium from bones and that is why eating meats is not a good idea. Or that you can eat meat, but accompanied with fruits and vegetables. The latter will provide an alkaline load that will counterbalance meat’s acidity in the body, or so it is thought. But it is actually the protein from PLANT-based foods that leach calcium from bones, and not the animal protein (Promislow and Goodman-Gruen, 2002).

Dietary animal protein has a protective role in bone health. I find this very interesting, since a whole lot of people are out there discouraging meats due to its acidity and effect on the bone. Well, they are all wrong. If you want to have healthy bones like our paleo ancestors did, eat fatty meats. If you prefer the osteoporotic agricultural version, go ahead. It is actually the sodas and the grain-based diets which has the worst acidic effect in our bodies.

There is fivefold increase in fractures among high school girls who drink the most sugar sodas (Wyshak, 2000). Whole grains are acid-charged; inducing what is called acidosis. As Dr. William Davies (2011) asks, “What do acid rain, car batteries, and wheat have in common?” Wheat is among the richest sources of sulfuric acid, yielding more sulfuric acid per gram than any meat

(Massey, 2003). Oats produce even more. Animal protein exerts a bone-strengthening effect which leads to increased bone health.

When it comes to meat, the crucial thing is its consistency and texture. Cooking food is a form of pre-digesting it and takes a lot of burden off the digestive tract. Overcooked charcoaled meat is tough because its fat, protein and sugar molecules (yes, there are also minimal amounts of carbs in meat) get tangled up and fused together in what Catherine Shanahan (2008) calls a “wild, heat-crazed chemical orgy.” This is a little bit harder to digest to say the least, but the worst part is that for the most part its nutrients get lost. Dr. Shanahan adds,

When heat kills nutrients, it does so by causing reactions between nutrients, forming new chemical compounds including known carcinogens (such as aromatic hydrocarbons and cyclic amines), as well as other molecular fusions that damage your kidneys and blood vessels.

When it comes to steaks, there should be a little bit of juice when you slice it, if not, it is probably way overdone. When it comes to other meats that require thorough cooking, then slow cooking is the best way to go. Not only will the meat taste better, it will have far better nutrition. Never cut the fat off! You can either use a slow cooker or just cook meat slowly, all you need is moisture, time and as many healthy animal parts as possible: bone, fat, skin, ligament, etc.

Cooking releases trapped flavor because, during the process of hydrolytic cleavage, some proteins are chopped into very small segments, creating short strings of amino acids called peptides. Peptides are tiny enough to fit into receptors in our taste buds. When they do, we get the sensation of savorness food manufacturers call the "fifth flavor," or umami. – Catherine Shanahan, MD. *Deep Nutrition*.

By now it should be superfluous to say that you should never cut the fat out. Not only it is nutritious, it also allows for the meat moisture to stay in while cooking which will result in a nutritious and flavorful cooked meat. Organic animal foods have higher omega 3 contents, but since it is a vulnerable fat, the highly stabilizing saturated fat of the animal should be available in order to reap its good effects.

Another good thing about animal foods is that you can use literally all the parts, and the more parts you use, the more nutrition you will get. For instance, your joints depend on the health of the collagen in them. Collagens are the stuff that is available to your body when you eat soup and stock made from bones all the time. There is a market of supplements containing collagen. Guess what, they don't work or not nearly as well as having the real stuff from animal foods!

Then, probably the best part of the animal is the offal which includes just about everything inside the animal except for muscle meat. It is named after the fact that when a deer was killed

and lifted on a hook, the insides fell to the ground when it was dismembered – off fall.

In this “modern” era, we have grown largely unaccustomed to offal that used to be highly appreciated in the past. It is present in almost every traditional cooking of not too long ago. Catherine Shanahan describes how her 1953 edition of *Joy of Cooking* lists Calf Brain Fritters and ten other brainy recipes with other instructions on how to make liver, kidney, tongue, heart, head and thymus.

If you dig further back to cookbooks printed before the Industrial Revolution, you'll find ghastly instructions requiring a witch's arsenal of implements, large cauldrons and bone-splicing hatchets. From *The Ladies New Book of Cookery*, published in 1852, listed under preparation of beef, we learn the private housewife was to "take a green tongue, stick it with cloves and boil it gently for three hours." Also included are practical tips on how to estimate internal temperature without a meat thermometer: "When the eyes drop out, the pig is half done." Plus pointers on mannerly kitchen protocols: "It is better to leave the wind-pipe on, for if it hangs out of the pot while the head is cooking, all the froth will escape through it." [...]

The prudent housewife of the 17th, 18th, and early 19th centuries would want to make use of every last scrap and, nutritionally speaking, nothing would better prepare her family for the long winter ahead. Offal meats are rich in

vitamins, especially fat-soluble vitamins, which can be stored in our own fat reserves for months. - Catherine Shanahan, MD. *Deep Nutrition*

Liver is nutritionally packed, making liver paté one the most outstanding foods you can probably eat. Fish head soup is another one. Consider this from Shanahan as well:

The Latin name for the retina of the eye is macula lutea. (Lutea is Latin for yellow.) This thick, membranous yellow layer of the eyeball is a rich source of the nutrient lutein, a member of the retinoid family of vitamin A precursors. Lutein supplements are now promoted as being good for prostate health and for preventing macular degeneration. The fat behind the eyeball is a rich source of vitamin A and lutein. (If you think you'd rather swallow a supplement than pop an eyeball after breakfast, remember that vitamins are heat-, light-, and oxygen-sensitive and unlikely to survive processing.) And while you're digesting the idea of eating eyeball fat, consider that the gooey juice in the eye is primarily hyaluronic acid, rich in glycosaminoglycans. You can get hyaluronic acid injected into your lips (to fill them out), your knee (as a treatment for osteoarthritis), and even your own eye (to treat certain ocular diseases) for \$200 a dose (twenty one-thousandths of a gram). It's called Restylane. But you can get this useful nutrient into your body just by eating the eyes you find in your fish head soup, and the glycosaminoglycans will find their way to the parts of the body that need them most.

Brain and nervous tissues are fantastic sources of omega-3 and other brain-building fatty acids and phospholipids [...] Eating Eyes is good for your eyes. Eating joints is good for your joints.

We are designed to eat animal foods and benefit from their nutrients for the protein and fat they provide. Michael R. Eades, M.D.(2009), author of *The Protein Power*, has brought to the attention of a wider public what has been known in anthropological circles for a very long time. Citing the “Expensive-Tissue Hypothesis” he explains how we didn’t evolve to eat meat but evolved because we ate meat (Aiello and Wheeler, 1995). And what is more, eating animal foods was essential in the evolution of a larger human brain which then made us human. The Expensive Tissue Hypothesis explains how our brains became bigger at the metabolic expense of our guts, which became smaller as the brain became larger. It has worked like a charm since our gut is geared to digest animal protein and fat (unless it is screwed up from a lifetime of eating carbs) and our brains are made out of a significant amount of fat. The author of the Expensive Tissue hypothesis writes (Aiello, 1997):

The size of the gastro-intestinal tract is dependent on both body size and the quality of the diet. It is argued that humans (and other primates) could not have developed a relatively large brain without also adopting a high quality diet that would have permitted a reduction in the relative

size of the gastro-intestinal tract. Dietary change is therefore viewed as a prime releaser in brain evolution. [...]

The change to a high quality diet, which involved increased reliance on animal products, appears to have been in place by the time of *Homo ergaster* (early *Homo erectus*). *Homo ergaster* has a cranial capacity of just over 800 cm³. This is about 70% larger than the average cranial capacity of adult australopithecines. This marked increase in cranial capacity occurred shortly after 2.0 million years ago.

2 million years ago!! And we suddenly decided a few decades ago that it was a good idea to eat less animal foods?! Now get this; it appears that 4 million years ago, Australopithecines, our species' forerunners, already was eating meat. It should not come as a surprise to learn that our brains are getting smaller and we are not close to getting a handle on a host of cognitive decline and neurodegenerative diseases that are the norm as we age, but also since we are born with epidemic proportions of autism spectrum disorders and ADHD. We lost our heads! Barry Groves (2010), author of *Eat Fat, Get Thin* explains:

With such a small gut with which to absorb all the nutrients and energy our bodies need, a modern low-calorie, low-fat, fibre-rich, plant-based diet is woefully inadequate as an energy source for our energy-hungry system to function at peak efficiency. That lack has begun to show.

Since the advent of agriculture, there has been a worrying trend as our brains have actually decreased in size. A recently updated and rigorous analysis of changes in human brain size found that our ancestors' brain size reached its peak with the first anatomically modern humans of approximately 90,000 years ago. That then remained fairly constant for a further 60,000 years. Over the next 20,000 years there was a slight decline in brain size of about 3%. Since the advent of agriculture about 10,000 years ago, however, that decline has quickened significantly, so that now our brains are some 8% smaller. [...]

It is obvious that we need to be eating more, not less, meat and animal-sourced foods.

If vegetarians — and vegans in particular — berate you for 'murdering' and eating animals, please be kind to them.

They are almost certainly suffering from self-inflicted brain atrophy, and have little recognition of both the damage they are doing to themselves and the harm that are doing to others who follow their advice.

Oh yes, you can always count on fervent vegetarians to ignore the facts and hold on to their beliefs. We have had quite a few in our sites over the years and it has always been amazing how difficult it is for them to open up to the data.

Essential fatty acids from animal sources -omega-6 arachidonic acid (AA) and especially omega 3s- are found in our brains. These fats are essential for our brain's proper functioning as we saw

earlier. Fish is exceptionally rich in Omega 3s, that is, when it is not corn fed. These fatty acids make up over 90% of the fatty acids found in the brain matter of all mammal species (you might want to consider that fish head soup again). This is very interesting since it is strongly argued that we evolved from an Aquatic Ape with lots of sea food around. Among the essential nutrients for our brain's optimal functioning we have vitamins, essential fatty acids and minerals like zinc, selenium, omega 3s, etc. that are found classically in a rich concentration in sea food.

Scars of Evolution – The Water Theory

The Aquatic Ape Hypothesis proposes that we evolved from primate ancestors who dwelt in watery habitats. First thought of by marine biologist Alister Hardy in the 1930s, it is scientist theorist Elaine Morgan who is probably the strongest proponent of this hypothesis (Morgan, 1990). Her adventure was chronicled by the 1998 BBC documentary *The Aquatic Ape* and in 2009, Morgan presented her lifetime research at TED. It is really worth watching this adorably charming lady who is in her 80s.

Morgan keenly points out how different we are from chimpanzees. For instance, we are hairless and walking on two legs and chimpanzees are hairy and walking on four legs. The official version has it that we had to get on our legs to peer over the tall grass of the savannah while the apes stayed in the trees. Or that we had to free our hands to use weapons and since it was

so hot, we had to get rid of our fur coat. But in the 90s, it came out that the accompanying microfauna that lived at the same time and place as the hominids, was not one from the grasslands. Fossilized pollen from that time was showing that some of it came from the jungle. As Morgan said in her TED talk (2009):

Professor Tobias came over from South Africa and spoke to University College London. He said, "Everything I've been telling you for the last 20 years, forget about it. It was wrong. We've got to go back to square one and start again." It made him very unpopular. They didn't want to go back to square one. [...]

I mean, it's a terrible thing to happen. You've got this beautiful paradigm. You've believed it through generations. Nobody has questioned it. You've been constructing fanciful things on top of it, relying on it to be as solid as a rock. And now it's whipped away from under you. What do you do? What does a scientist do in that case?

Well, we know the answer because Thomas S. Kuhn wrote a seminal treatise about this back in 1962. He said what scientists do when a paradigm fails is, guess what -- they carry on as if nothing had happened. If they haven't got a paradigm they can't ask the question. So they say, "Yes it's wrong, but supposing it was right ..." And the only other option open to them is to stop asking the questions. So that is what they have done now. That's why you don't hear them talking about it. It's yesterday's question. [...]

The same insidious mental inertia and conformism which is part of the Corruption of Science is found again and again in all scientific fields. Let's have a look at some of the hallmarks that have made us human.

We have our naked skin among the main things that made us human. The original assumption that hominids shed their body hair to avoid overheating ignored the fact that depilating an animal on the savanna raises its core temperature. All desert animals have retained their fur. It protects against the overexposure dangers to ultra-violet light. Water is the only environment in which a naked skin is known most frequently to have evolved. Mammals without body hair are aquatic ones: the dugong, the walrus, the dolphin, the hippopotamus, the manatee, the babirusa. Even the elephant had an aquatic ancestor. Every animal with a naked skin has been conditioned by water in its own lifetime or that one of its ancestors.

Sebum problems are among the consequences of leaving a water environment, including acne, oily skin, cysts and black-heads. Sebum keeps the fur of mammals slick and waterproof. It seems we lost our fur while we were in a water-based evolutionary path. And with no hair, sebum is pretty useless and its problems are compounded by a waterless environment.

We walk on two feet, something that is a complete inconvenience. As functional anatomist Owen Lovejoy commented, "For any quadruped to get up on its hind legs in order to run is an insane thing to do. It's plain ridiculous." As a gait it is far more unstable

than walking on 4 legs; it is hard to learn, increasing the period we have to stay with mothers having to carry us; it is a completely impractical defense posture, not only exposing vital organs to evisceration but also leaving our spine vulnerable to wear and tear which often happens very early on in life; we have also varicose veins and hemorrhoids. Apes and monkeys stay on two legs only briefly before they go back on four legs. But only when they are wading through water do they always walk on two legs.

Then, there is a fat layer underneath our skin. As it happens, fat in aquatic mammals are underneath the skin. In land mammals, it is around their viscera. The percentage of fat in a baby is far greater than that of any other newborn land mammal. Babies will happily adapt to water if introduced early enough, think of underwater birth. Fat provides buoyancy, a baby will float. A baby monkey would sink.

Perhaps most interesting of all is speech, which is unique to humans, although the anatomical modifications that made it possible are not. We speak because we can control consciously our breath and the only creatures that have conscious control of their breath are the diving animal and birds. It was an absolute prerequisite for our speaking capabilities. We (and the diving animals) are able to control consciously the volume of air we inhale, retain, and the time duration we exhale it. Apes can't do this, and they can't speak. Now we can mouth-breathe and inhale large quantities of air very quickly. In primitive animals, i.e. reptiles, the larynx passes through the soft palate and is

permanently locked into position there. This is why they are unable to breathe through their mouths and they cannot utter any vocal sounds. They are indeed very unsocial predators.

Unique to us (but to no other land mammal) is a descended larynx – the top of the windpipe - which has lost its connection with the palate separating the mouth cavity from the air passages. This is very impractical because it means that the food we eat and the water we drink has to pass over the orifice of the trachea, with some risk of it falling into the lungs. It is also why we can have sudden instant death syndrome or sleep apnea. But it is the one thing that allowed us to control our breathing and to speak; something that has fundamental implications to what made us social beings capable of empathy. The proper stimulation of the neural aspects of these anatomical and social features allows us to balance and unlock our social engagement capabilities and heal imbalances of the autonomic nervous system which are related with depression, anxiety, trauma, etc. It is in fact one of the reasons as to why our breathing program has had profound healing effects in its practitioners. We'll explore the fascinating possibilities in our Éiriú Eolas Breathing and Stress Control chapter.

Bottom line is, the next time you think of apes and evolutionary models, think of sea food rich in zinc, selenium, Omega 3s, magnesium, vitamin D, vitamin B12, good protein and all the good stuff for our brains and bodies. Don't think about fruits, and sugary stuff with hardly any nutritional value at all, which will devolve you into a monkey.

The Vegetarian Myth

In one of the best books we've read on the subject, Lierre Keith puts forward *The Vegetarian Myth* (2009). A lifetime of being a vegetarian thinking it was in the animal's best interests, and after a long and painful awakening, she puts all the facts together and her struggles in facing them.

While we don't necessarily adhere to her current activism ideologies, it is worth sharing what she has hard-earned throughout her journey and the grave consequences vegetarianism has had on her health:

The truth is that agriculture is the most destructive thing humans have done to the planet, and more of the same won't save us. The truth is that agriculture requires the wholesale destruction of entire ecosystems. The truth is also that life isn't possible without death, that no matter what you eat, someone has to die to feed you. [...]

The reality is that agriculture has created a net loss for human rights and culture: slavery, imperialism, militarism, class divisions, chronic hunger, and disease. [...]

We can't survive on cellulose since we literally can't stomach it. Remember, we have smaller guts and we need packed-nutrient rich in energy for the whole body to work properly. This is why our brains grew bigger: we ate fat and meat. We have teeth to eat

meat, not cellulose, and our stomachs secrete acid and enzymes to digest meat and fat. A vegetarian low fat diet doesn't have enough nutrition for our long-term body maintenance and repair. It doesn't have the nutrients required to nourish your brain. It has long been known that a lack of active vitamin B12 -found universally only in foods of animal origin - makes your brain shrink (Vogiatzoglou et al., 2008). Cognitive decline - a polite way to say that you become stupid - can be found with levels of vitamin B12 that are above the cutoffs of deficiency (Smith and Refsum, 2009). And even when minimal quantities of animal-based foods are consumed along with traditional grains, intestinal infection, which is widespread in the third world, has been shown to worsen an already compromised B12 status and result in widespread B12 deficiencies (Simopoulos, 1999).

Our happy mood brain chemical - serotonin - is made from the amino acid tryptophan, and there are no good plant sources of tryptophan. Plus, animal fat is required to actually make our brain chemicals work properly. Vegetarians eating mainly food sources from soy, corn and wheat other than nutrient deficient veggies and fruits, are in for mood problems including inflexibility in their thinking, anger, depression, anxiety, insomnia and bulimia. Women suffering from eating disorders are four times more likely to be vegetarian than women without eating disorders (Bardone-Cone and Fitzsimmons-Craft, 2012).

Nutritional psychotherapist Julia Ross, author of *The Mood Cure* (2002), has helped thousands of people with eating disorders and drug or alcohol addiction problems with a diet rich in animal fats

and protein which provide for all the amino acids required to make the very brain chemicals these people are either lacking or have in such an unbalanced state.

Gorillas are vegetarians and they have the smallest brains and largest digestive tracts of any primate. We are opposite.

Ruminants do have the guts to eat grass though, which then make most of the soil's potential available when they digest it and convert it into nutrients that not only are available to us, but will be available to the soil again through manure and also blood and bone - dead carcasses- which provide for phosphorous and other things plants need. Without ruminants, plants would die.

They [plants] need our excrement – the nitrogen, the minerals, the microbes – and our flesh and bones. There is a reciprocal relationship between animals and plants: predator and prey, until the prey becomes predator. It is only our attempt to remove ourselves from that cycle that destroys it. [...]

This is what agriculture is: you take a piece of land and you clear every living thing off it, down to the bacteria. Then you plant it to human use with a tiny handful of species, often endless miles of a single plant like corn, soy, wheat. The animals are killed, often into extinction. They simply have nowhere to go. There were somewhere between 60 and 100 million bison in the United States in 1491. Now there are 350,000 bison, and only 12 to 15,000 of those are pure bison

that were not crossbred with domestic cattle. The land held between 425,000 and a million wolves; only 10,000 now remain. Some species of ground-dwelling birds were wiped out before they even had names (European names, that is; I'm sure the indigenous peoples knew what to call them). The North American prairie has been reduced to 2 percent of its original size and the topsoil, once twelve feet deep, can now only be measured in inches.

Agriculture is based on annual monocrops, the precise opposite of perennial polycultures, and it does the opposite of what nature does: it destroys topsoil. [...]

Agriculture is a catastrophe that never allows the land to heal. And keeping the ground bare involves enormous effort. Because life wants to live. The trees keep trying to make a forest, the grasses want their prairie, and the waters ache for a wetland. [...]

Agriculture is more like a war than anything else, an all-out attack on the processes that make life possible [...]

Agriculture is carnivorous: what it eats is ecosystems, and it swallows them whole.- Lierre Keith, *The Vegetarian Myth* (2009).

We have become a species that is dependent on mass scale destruction, dishonoring and disrespecting the lives of those that make our survival possible. Humans and animals were not naturally in competition for the same food, until the industrial

culture dictated it. It is not only soy, corn and other agricultural aberrations that are fed to us; they are also forced-fed to animals who by nature were not meant to eat them. There are serious health consequences for animals and for us in this regard. It is completely unacceptable to give the world destroying grain and destroy human's health with it. It is also completely unforgivable to give it to an animal that would have happily lived from those now gone forests, grasslands, and wetlands while sustaining the topsoil's potential and species diversity.

Anti-Nutrients

Grass contains no chemical toxins, none for the ruminants anyway. They very much want to be grazed for their own subsistence. But grains, plants and seeds are another thing entirely. Just because they can't run away like animals to protect themselves against predators, doesn't mean they are not actively defending themselves.

Antinutrients such as enzyme blockers in the plant kingdom, act as a pesticide against us other than the insects that eat them. Our guts use digestive enzymes to break food down. When the food is seeds, i.e. beans, grains, potatoes, they resist by blocking digestive enzymes such as pepsin, trypsin and chymotrypsin which digest protein. This is partly why it is really not a good idea to eat loads of carbs based on grains with your fatty meat.

Then there is phytic acid found in rich concentrations in grains and legumes. It binds to minerals preventing their absorption in the gut and resulting in widespread deficiencies of calcium, zinc, magnesium and iron.

Goitrogens are anti-nutrients which affect the thyroid and are a source of allergies and sensitivities which can lead to both physical and mental or emotional problems.

Phytosterols are another class of anti-nutrients which are structurally similar to cholesterol and are considered “healthy” because they impair cholesterol absorption from the gut, thereby decreasing its levels in the bloodstream. It’s been discovered that when heart cells incorporate these phytosterols, it’s at the expense of cholesterol, thus reducing their metabolic activity and capacity for growth (Danesi, et al., 2011). What did they expect? That a poison will suddenly morph into a healthy compound?

When Weston Price made his tour around the world studying food traditions and healthy cultures, he failed to find indigenous groups that achieved perfect health and good physical bodies on only plant foods.

I hope no vegetarian will end like the 88 year old Chinese woman who ended up in the emergency room in a myxedema coma – a thyroid problem induced condition – when she ate 2 to 3 pounds of raw bok choy on a daily basis for several months thinking it would help her diabetes. And she had no previous history of thyroid problems! The anti-nutrients "killed" her thyroid gland

(Chu and Seltzer, 2010). The worst part was that even when she was at the hospital, the family kept insisting on feeding her bok choy!

I like to say now and again, plants are evil little things to eat!

Take for instance potatoes which so many cultures eat on a daily basis. They naturally produce solanine as a defense mechanism against insects, disease and predators (humans included).

Solanine is poisonous and not only potatoes produce them; so do tomatoes, eggplants and peppers (including paprika) which belong all to the nightshade family. It causes stiff joints and muscles, and disrupts the gut tissue potentially causing stomach cramps, nausea, and diarrhea. But also headaches, dizziness, heart rhythm problems and so forth.

Oxalates - found in high concentrations in spinach, soy protein and peppercorn - are extremely painful when deposited in the body. People who have candida issues often have high oxalate contents as well since oxalate crystals are produced in high quantities by molds and fungus. There is a curious report of a British medical doctor who successfully treated not only her fibromyalgia, but one of her patients with a fruit and vegetable free diet. She reports:

I diagnosed myself with fibromyalgia, a chronic, unexplained condition that can affect anyone, but is

particularly common in women. It causes a range of symptoms, most notably disabling muscle pains.

It is generally incurable, and frequently causes a profound loss of function, with many sufferers having to give up work and normal activities.[...]

So I decided to keep a food diary (something I sometimes suggest to patients) and worked out that I was also badly affected by potatoes, green beans, carrots, almonds and tomatoes. I searched the internet and found that, among many different theories, some suggested a link between fibromyalgia and dietary oxalate, though this isn't recognised by the medical profession.

Oxalate can be thought of as a 'natural pesticide', an integral constituent of many plants, including root vegetables, stems, leaves, nuts and fruit. In fact, in some plants it forms the bulk of their dry weight. Oxalate is very effective at deterring small insects and pests from damaging the plant, but even in large animals such as cows, horses and sheep it can cause problems if they ingest high-oxalate plants such as sorrel. Farmers and vets have noted that if animals are put in high-oxalate pasture, they can develop staggering, stiff legs, weakness, depression and diarrhoea. If they eat very large quantities, they can even die of kidney failure.[...]

More in desperation than expectation, I tried a low oxalate diet, cutting out virtually all 'healthy' food – I avoided most

fruits and vegetables, salads, beans, nuts, wheatgerm, soya – as well as tea, coffee and chocolate.[...] Within a few days the symptoms were totally gone; I could walk without pain and sleep normally. My motivation came back – in the eight months since starting the diet I've painted the house, landscaped the garden and booked a holiday.[...]

In my role as a GP, I have since seen several female patients in their 40s and 50s with similar complaints. Buoyed by my own response, I recruited five such patients to an unofficial 'trial' of a low oxalate diet. They had all presented with at least four of the following symptoms: muscle pain, tingly legs, fatigue, irritable mood, bladder irritation, poor concentration, restless legs and poor sleep. I asked them to score the severity of these symptoms before and after changing to a low oxalate diet. They duly followed the complete opposite of all accepted dietary wisdom.[...] To my delight, all the patients improved significantly – on average their symptom score halved after three weeks of the 'unhealthy' diet. Some may argue that this could be the placebo effect but, in my opinion, the results were too impressive and sustained for this to be the case (Morrison, 2012).

Even though Dr. Morrison was not particularly eating a diet rich in animal foods, she still had the courage to go against the ignorant tide by deciding to cut out veggies and fruits, and to her surprise these "healthy" foods were causing havoc to her health. Blessings for Dr. Morrison for following her common sense and

her brain. Nowadays mainstream doctors discourage patients from using the web, or they encourage them to use only official super-duper sites of our governments and medical establishments. Are they afraid to be discovered for the quacks they are?!

Lectins

Among all the antinutrients, lectins deserve a special emphasis since it is the major antinutrient of food. Lectin is actually a protein and it binds to carbohydrate-containing molecules with far reaching consequences. As nutritionist Krispin Sullivan (2012) explains:

Think of a lectin as a protein containing a key that fits a certain type of lock. This lock is a specific type of carbohydrate. All life forms, plant and animal, insect and fungus have cell membranes that contain carbohydrates that sit within and project from the membrane. If a lectin with the right key comes in contact with one of these 'locks' on the gut wall or artery or gland or organ it 'opens the lock', that is disrupts the membrane and damages the cell and may initiate a cascade of immune and autoimmune events leading to cell death.

They also play a key role in processes which involve biological recognition with perhaps even far reaching consequences. . In fact, lectin is derived from the Latin word *legere*, meaning to read, pick out, and choose. For example, viruses use lectins to attach themselves to us during infection. Lectins are very teensy

and accumulate in tissues where they interfere with normal biological functions.

Lectins are usually of plant origin and it is argued that a great part of the benefits from a paleo diet come from eliminating the most problematical lectins which include grains –especially wheat and wheat germ, also quinoa, rice, buckwheat, oats, rye, barley, corn, etc. Also legumes (all dried beans including soy and peanuts), dairy (especially when fed grains instead of harmless grass), and the nightshade family (potato, tomato, eggplant and pepper).

Lectins are incredibly evil because they are particularly resistant to stomach acid and digestive enzymes. At least 60 percent remain biologically active and immunologically intact, a combination that can represent a time bomb in the digestive tract, reports Kaayla Daniel, PhD, CCN (2010).

Lectins bind to the gut lining where they contribute to their disruption and cell death leading to impaired digestion and absorption and changing the gut flora composition. Moreover, lectins from the diet travel through the damaged “leaky gut” into the bloodstream, reaching organs and provoking allergic reactions and immune system dysregulation. Lectin’s destructive capabilities lie in the autoimmune response they can trigger. The protein sequence in some lectins is practically the same as the tissues of our bodies. That is, our defense system attacks the foreign proteins, and also the tissues in our bodies that have similar sequences. For example, joint cartilage and the myelin that

coats our nerves mistaken for the lectin in wheat. Other examples are lectins that are closely related to the filters of our kidneys, the cells in our pancreas that produce insulin, the cells in our thyroid gland and the lining of our intestines. Lectins increase histamine secretion which then stimulates acid secretion. In fact, the three main factors involved in peptic ulcer are all linked with lectins – acid stimulation, disruption of gut lining, and abnormal bacterial proliferation (i.e. *Helicobacter pylori*). Other results are dental cavities, Diabetes type 1, rheumatoid arthritis, thyroid problems, multiple sclerosis, kidney problems, rashes, asthma, lupus, ulcerative colitis, ankylosing spondylitis, etc. Multiple sclerosis is mostly prevalent in cultures where wheat and rye are staple foods. According to allergist David L J Freed (1999):

Many lectins are powerful allergens, and pro-hevein, the principal allergen of rubber latex, is one. It has been engineered into transgenic tomatoes for its fungistatic properties, so we can expect an outbreak of tomato allergy in the near future among latex sensitive individuals. Dr. Arpad Pusztai lost his job for publicising concerns of this type.

He wrote this in 1999 and one thing is true: we have seen a rise in latex allergies. Once our immune system turns on, it doesn't turn off, at least not while you are eating these lectins. Autoimmune disorders do not seem to have plagued humans prior the adoption of an agricultural way of life.

Have you ever heard of the Autoimmune Epidemic? (Jackson Nakazawa, 2008) We are what we put into ourselves and our

environment. “The way in which our bodies are turning against themselves when autoimmune disease strikes serves, sadly, as a disturbing modern analogy for what we are doing to ourselves as a society” says Donna Jackson Nakazawa.

According to Stephen Edelson, M.D. (2003), more than 40 million Americans suffer from autoimmune disease. Edelson has already doubled the estimation, and since mainstream medicine is ignorant of the diet and environmental role in our bodies, obfuscating the pathophysiological mechanisms of disease; I would say that is the tip of the iceberg. This is true today more than ever as more researchers understand that neurodegenerative diseases such as Parkinson’s disease have an important autoimmune component (Cebrián et al., 2014).

Here's what I do. I can't eat pork yet, and I'm allergic to eggs, so I'm kinda iffy on trying the egg yolks. I can eat beef, and beef tallow, and that's what I do. I eat beef and beef tallow. And I eat that like 8:00 or 8:30, I go until 4pm and eat similar things, and then I don't eat again until the next morning. And I don't need the fat bomb because I'm eating the lard with the meat. That generally sounds gross, but I've gotten used to it. And I feel full. The only thing I seem to be able to eat right now is the beef because anything else affects my sinuses. -Lynne++ on her management of a very debilitating autoimmune disease

Mainstream medicine, with its compartmentalized thinking remains downright medieval and for the most part ignores cutting edge research that is published. For the last three decades lectin has been recognized as toxic and inflammatory. Lectins are potentially toxic to our defense system, brain, cells, hormonal system, heart, guts. And not only that, **they interfere with gene expression and have virus-like properties.**

Moreover, remember our master hormone leptin? (not to be confused with the natural pesticide lectin). Well, it turns out they might not be unrelated after all (Jönsson et al., 2005). Recall that lectin is a protein that binds carbohydrate-containing molecules. Well, as it happens, leptin's receptor is such a carb containing molecule. The insulin receptor is another one. Leptin resistance and insulin resistance all over again. Adios to our good health, good shape and longevity capabilities!

It really is completely disturbing to see how cereal grain proteins can interact with our human physiology and alter it altogether. We have virtually no protection against cereal's evil effects and to our own detriment; it's become our staff of life.

A Cereal Killer

Of all the grains, wheat constitutes the main source of so-called nutrition. It is our staff of life. There is an ancient Sufi legend which says that the Fall in Eden occurred because of the introduction of agriculture, specifically the growing of wheat.

Now people have wheat for breakfast, lunch, dinner, and snacks. It is even found in shampoos and medicines and most processed foods. What many people don't know is that wheat stimulates the appetite because wheat gluten is a morphine-like chemical that creates havoc in our brains. Wheat produces blood sugar surges that trigger cycles of satiety alternating with heightened appetite; it promotes glycation ("caramelization") in our bodies that is at the root of disease and aging; it activates unbalanced immune responses, and more. Wheat consumption is related not only to celiac disease, but also to neurological disorders, heart disease, arthritis, peculiar skin rashes, schizophrenia and many other conditions.

There is no lack of scientific background when it comes to the dangers of gluten-containing foods and its role in our modern age catastrophic health. There is however Big Agra's psychopathic greed when it comes to make a profit out of your suffering. Since the introduction of agriculture, humanity's health has only deteriorated. We are now witnessing an unprecedented state of affairs and it is not only our health; it is practically our entire civilization as we now know it. We haven't known any other way of living for the longest time and look what it has brought to us: deteriorated health, wars, famine, slavery, and never-ending suffering.

Just who says that grains are essential for a balanced diet? Big Agra of course! The Food Pyramid has guided food choices for at least two generations. Just look where it has led. The U.S. Department of Agriculture has no business in determining and

dictating health and dietary advice. The evidence is begging us to return to our original diet - one that is rich in animal fats and low in carbs. This is what people need to be concentrating on if we are ever to recover the health we once had.

In *Wheat Belly*, Dr. Davis (2011) describes how wheat strains have been hybridized and crossbred to make the wheat plant resistant to environmental conditions, such as drought and pathogens, and to increase yield per acre. The average yield on a modern North American farm is more than ten times greater than that of only a century ago. This is because during the latter part of the 20th century, an upheaval in hybridization methods transformed wheat into a 'frankenrain' whose safety for human health is highly questionable to say the least. As Dr. Davis argues, small changes in wheat protein structure can spell the difference between a devastating immune response to wheat protein versus no immune response at all. He reports:

Wheat gluten proteins, in particular, undergo considerable structural change with hybridization. In one hybridization experiment, fourteen new gluten proteins were identified in the offspring that were not present in either parent wheat plant (Gao and Liu, 2010). Moreover, when compared to century-old strains of wheat, modern strains of [wheat] express a higher quantity of genes for gluten proteins that are associated with celiac disease (van den Broeck et al., 2010).

Multiply these alterations by the tens of thousands of hybridizations to which wheat has been subjected and you have the potential for dramatic shifts in genetically determined traits such as gluten structure.

Wheat is mostly carbohydrate and the minor percentage of protein it has is mostly gluten. But over a thousand other non-gluten proteins are also part of wheat which can be problematic for some people. And the bad news is that gluten-like proteins, non-gluten proteins and anti-nutrients are found in ALL grains. AND, it is now believed that you don't have to be intolerant or vulnerable to them in order to suffer from their ill effects. So much for the "gluten-free" industry with its billions of profits, they are selling you gluten products with lots of sugar on them!

The gluten-free industry is thriving by promoting foods that are worse than table sugar. We shouldn't be surprised. When it comes to Food Industry, everything is permitted and you don't matter to them. Consumers are buying into the lie that they are getting a healthier product when in actuality, they are only compounding the plague of modern diseases. Every starch, "gluten-free" or not, becomes a sugar as far as the body is concerned, once it's digested. What they are selling amounts to sugar!

That is, they are desperate to see their corporate gains thrive no matter the circumstances. People want gluten-free foods because they are becoming more and more aware of the dangers of gluten. The industry won't criticize the anti-gluten science because it is solid and obvious for everyone to see. People are letting go their

sacred cows as they realize that our modern diet has led to nothing but unnecessary suffering. The new awareness of the necessity of going gluten free has brought to the market a whole range of products that are equally bad or even worse. The food industry is only obfuscating the science to offer products that are rich in sugar and thus toxic to our health. There is not such a thing as a gluten-free grain. Don't buy into Big Agra's BS. They are selling products which still contain gluten and which amounts to sugar. If people don't become aware of how they are being taken advantage of, then we will only fuel Big Agra's profits and psychopathic greed based on lies and more suffering. The Food Industry is clearly finding this whole new situation highly convenient. They can sell the same unhealthy products but at a greater cost. They don't care about you, nor your children nor the suffering. It amounts to crimes against humanity, but just as long as they can make a profit, it is alright with them.

WGA- Bread's Evil Lectin

WGA is wheat's personal lectin, the destroyer of health, often in a very subtle way. It stands for wheat germ agglutinin. Whole wheat and its sprouted form are very rich in WGA. WGA is special because it can inflict damage in practically all the human body without calling for a specific combination of genetic susceptibilities or without self-attacks to our joints from the part of our immune defense system. This means, everybody can suffer from its ill-effects. It is no wonder why chronic inflammation and degenerative diseases are endemic to populations where wheat is the main food source, even when acute allergies and sensitivities are very rare.

WGA loves to bind to a compound – N-acetylglucosamine - which is the building block of several tissues in our bodies: the linings of our gut, arteries and throat, but also our bones, joints, etc. Lectins' disruption of the mouth lining makes us very vulnerable to throat infections either by viruses or bacteria (Freed, 1999). But WGA's painful effects on our joints make it so that people are often on NSAIDs drugs (i.e. ibuprofen) which by themselves increase gut permeability and disrupt the gut lining. This by itself makes it even easier for WGA to reach our joints to perpetuate the vicious cycle of damage and pain and dependence on dangerous drugs that only compound the problem. As Sayer Ji (2010) explains,

The disruptive and damaging effects of whole wheat bread consumption are formidable in someone whose protective mucosal barrier has been compromised by something as simple as Non-Steroidal Anti-Inflammatory Drug (NSAID) use, or a recent viral or bacterial infection.

Sayer has put a lot of the research together, explaining how WGA is pro-inflammatory, immunotoxic, cytotoxic to normal and cancer cells and toxic to the cardiovascular system. It can cross the blood brain barrier, meaning that it may attach to the myelin coat that insulates nerves.

Gastroenterologists don't realize that gluten insensitivity far exceeds their area of focus. According to the work of Dr. Marios Hadjivassiliou in England, there are a large number of people

who have reactions to gluten that have absolutely nothing to do with the gastroenterologist. Manifestations can occur anywhere in the body (Perlmutter, 2013).

As the lectin par excellence, WGA may cause you to gain weight and have insulin resistance through its disruption of the receptor or through mimicking effects. WGA also loves particularly the thyroid tissue and it is also related with infertility problems. WGA affects the digestive system, leaving its cells vulnerable against the harmful content in the gut lumen. Furthermore, WGA may prevent DNA replication and it may influence both genetic and epigenetic factors. It should be emphasized that both the influenza virus and WGA gain entry through sugar containing molecules in our mucous membranes, and once they reach our bloodstream, both are capable of blurring the line of self and non self. That is, they can trigger an autoimmune disease and there are over 150 autoimmune diseases.

Since there is really no genetic predisposition in order to suffer wheat's lectin ill-effects, all the genetic testing for gluten intolerance doesn't make any sense when you can just go gluten free and watch your health get better.

Gluten Intolerance

Gluten, from the Latin word for *glue*, is a protein found in wheat, but also in rye, barley, oats, spelt, kamut, among others. Gluten is made up of gliadin and glutenin, which make up a great percentage of the protein content in grains. Gluten is what gives

dough its glueyness which makes it perfect for baking goods. It is also used as an additive in most processed foods and personal-care products. It is even in drugs. Since labeling gluten is not necessarily mandatory, you can safely assume that it is present in all processed foods even when it is labeled “gluten free”.

**I used to be a bread addict. I couldn't sleep at night if there was no bread in the house. I'd get out of bed and go to the all nite deli to buy some so I could be sure to have toast in the morning. I started the diet and had such good results low carbing that eventually I decided my body didn't need grains at all so I quit them completely. Just the freedom from cravings alone would have been worth it, but in addition I've experienced increased energy, decreased weight, vastly improved blood tests, my asthma seems to be gone and I have a new feeling of overall well-being. I too view grains as poisons now and have no desire for them whatsoever.-
Leonore41**

Celiac disease is what comes to mind when you speak of gluten intolerance. But nowadays, more and more people are getting familiarized with the benefits of a gluten-free diet, so it would not come as a surprise to many to know that there are varieties of gluten intolerance that include those who don't have any overt symptoms, or have latent celiac disease or “out of the intestine” gluten intolerance – non-celiac gluten sensitivity. In fact, if we speak only of celiac disease, we are missing about 90% of all gluten intolerance diseases.

We have to understand that a seed is meant to survive in order to feed the embryo, so it is difficult to digest. We are so ignorant of so many basic facts that we simply do not understand how something as ordinary as our daily bread will cause so much havoc in our health. People have difficulty with the digestion and biochemical processing of the gluten found in grains like wheat, barley, and rye. It constitutes part of your daily bread if you eat taco shells, pizza, pasta, pastries, cakes, crackers, pretzels, oatmeal, bread, processed foods, breakfast cereals, wraps, rolls, oreo cookies and other wheat-flour based products, etc.

But what might come as a surprise is that gluten is in ALL grains. Yes, gluten is like a hydra monster with hundreds of heads, that is, subfraction proteins. That this is largely ignored is a huge convenience of the gluten-free industry which can then offers you a different type of gluten product. ALL grains contain prolamine – a subfraction of gluten – including wheat, rye, oats, barley, millet, corn, rice and sorghum. And while it is true that wheat, rye and barley have the highest concentration, 5 parts per billion of gluten can produce a reaction (Osborne, 2011). Consider rice, which has the smallest quantity of gluten and it was found to be a common and severe cause of food protein-induced enterocolitis syndrome – an inflammation of the colon and small intestine - among kids (Mehr et al., 2009).

There is a genetic predisposition where HLA-DQ genes located on chromosome 6 makes you vulnerable to gluten intolerance. HLA stands for the human leukocyte antigen (HLA) system

which is also known as the major histocompatibility complex (MHC). The important thing to know about this system is that it contains a large number of genes related to immune system function in humans (not just a teensy one). This brings the subject of the fixed genetic myth, which should make you think twice before ordering that lab test for gluten intolerance. The absence of genetic markers for gluten intolerance doesn't make you invulnerable to its toxic effect.

We now understand that it is really the epigenetic factors, the ones that are beyond the control of the gene, that are determining how DNA will be interpreted, translated and expressed. It is the epigenetic factors – regulatory proteins and post-translational modifications – that are determining which genes will turn on and which ones will shut-off. And it is the diet and our environment along with its tons of pollutants influencing the epigenetic factors. That is, our food sources and our environmental exposure affect our DNA and its expression. As Sayer Ji (2010) writes,

[N]utritional deficiencies of selenium, zinc, riboflavin, vitamin e, etc. in the womb or early in life, may “trigger” the faulty expression or folding patterns of the Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) gene in Cystic Fibrosis which might otherwise have avoided epigenetic activation. This would explain why it is possible to live into one's late seventies with this condition, as was the case for Katherine Shores (1925-2004). The implications of these findings are rather extraordinary: epigenetic and not

genetic factors are primary in determining disease outcome. Even if we exclude the possibility of reversing certain monogenic diseases, the basic lesson from the post-Genomic era is that we can't blame our DNA for causing disease. Rather, it may have more to do with what we choose to expose our DNA to.

In view of this information, Sayer argues with common sense that is very rare nowadays, how celiac disease is an expression of a natural, protective response to the ingestion of something that the human body was not designed to consume. He adds:

If we view celiac disease not as an unhealthy response to a healthy food, but as a healthy response to an unhealthy food, classical CD symptoms like diarrhea may make more sense. Diarrhea can be the body's way to reduce the duration of exposure to a toxin or pathogen, and villous atrophy can be the body's way of preventing the absorption and hence, the systemic effects of chronic exposure to wheat.

The disruption of the gut lining will then result in a prolonged though relatively malnourished life. Unfortunately, there are those who are less unfortunate and don't have any overt symptoms to gluten intolerance, that is, they don't have the typical manifestations yet may suffer the same or perhaps even more through other non-digestive organs. The nervous system is one, where people develop neuropathy and other neurological conditions. The kidney is another organ, where people can have

over 90% risk of developing kidney cancer if they eat a lot of bread (Bravi and Bosetti, 2007).

Wheat's gliadin protein is the most known for its toxic effect. Gliadin increases the production of a protein known as zonulin, which is involved in leaky gut. Gut dysbiosis where gut bacteria becomes detrimentally unhealthy becomes another contributing factor in leaky gut when billions of gut bacteria starts to feed on gluten. The chemical byproducts can result in IBS-like symptoms with constipation, diarrhea, bloating and pain. Zonulin and gut dysbiosis basically disassembles the gut lining and foods and other things that shouldn't have passed to the blood unchecked by the digestive system, end up gaining access to the bloodstream. Moreover, zonulin is now thought to be linked with leaky blood-brain barrier syndrome which is why it can affect so many people's minds and it is also linked to leaky skin which is where we can start to develop skin disorders like eczema or psoriasis.

Zonulin has been involved with autoimmune disorders such as type 1 diabetes and celiac disease, but leaky gut is linked with quite a large number of diseases including cardiovascular disease, and liver disease. Among the diseases that have been linked with gluten we have autism spectrum disorders, developmental disorders, infertility, chronic infections, eczema, asthma, psoriasis, failure to thrive in babies, epilepsy, folliculitis of the back in arms and legs, facial rosacea, abdominal pain and bloating, small stature, behavioral disorders, spontaneous nose bleeding, severe allergies, foggy mind, depression, anemia,

numbness in the legs, arms or fingers, joint pain, muscle cramps, chronic fatigue, dermatitis herpetiformis, gluten ataxia, schizophrenia, ETC (Sapone et al., 2012). As nutritionist Peter Osborne (2010) says, “We have actually linked over 300 conditions to gluten sensitivity.” He shared with us a couple of striking stories that you will never hear in mainstream medicine:

Probably the most striking that I have seen is one man who had kidney failure and when he came to me he had diabetes, he had high blood pressure, heart disease. I think they had told him his kidney function was down to 20%. We changed a lot of things about his diet, it wasn't just gluten, he had also other food sensitivities as well. And we did some supplementation to correct vitamin and mineral deficiencies. We did a lot of changing in his lifestyle. It took about 4 months and he went back to see his kidney and eye doctor. His eyes were normally functioning. He had retinal damage from the diabetes. That had improved or actually had reversed. His diabetes was gone, his blood sugar levels were normal, his hemoglobin A1c lab tests were normal. His blood pressure was way down, his weight dropped about 60 pounds. His kidney function has returned to full normal, which you never hear of something like that happening.

Another case I had was a young boy - he was actually terminal when he came to see me. He had been granted the Make-A-Wish Foundation wish because he didn't have long to live. I think they had given him 6 months. This was years ago when I first started really looking at gluten as a culprit.

And we did a lot of the serum lab testing and we looked at anti-gliadin antibodies, and anti-tissue transglutaminase antibodies to identify reactions to gluten. His serological markers came back negative but his genetic markers came back positive. It took me several months to convince his mom to get him gluten-free. [...] But actually what finally convinced her - she went gluten-free herself first, and she had rheumatoid arthritis and she got so much better. That's what gave her the confidence to take him fully off of it. Now this young boy had juvenile rheumatoid arthritis, he had a permanent stent embedded in his arm because he was in and out of the hospital every week. And that was about 6 years ago. Today he is growing and he is perfectly normal. Stent is out of his arm and his disease is well controlled.

A woman, who has infertility problems and uses treatment to conceive, is a woman who was not healthy enough to sustain pregnancy in the first place. They have a higher chance of having babies with developmental problems, thanks in part to the low fat scam and the fertility drugs per se which lowers cholesterol - essential for brain development. It is common to hear stories nowadays of women who have all the classical symptoms of gluten intolerance, yet no doctor is able to diagnose them. They can have multiple sclerosis and infertility problems, and then try artificial insemination to conceive, then they have hyperthyroidism, and their kids have neurodevelopmental delays. This should not be happening, AT ALL.

Even when gluten intolerance is recognized by mainstream medicine, some hospital practices are primitive enough that after the patient stopped all gluten, they hospitalize him or her, and give them cookies to see how they react. That is pretty barbaric!

Gluten can shut down the blood flow to the prefrontal cortex (PFC) in a person intolerant to gluten, leading to ADHD, anxiety and depression. In a study, up to 71% of celiac patients have impaired blood flow to their brains (Usai et al., 2004). The PFC just happens to be the part of the brain which allows us to control our emotions, consider alternative perspectives and also allows us to focus on and consider the consequences of our actions.

As Nora Gedgaudas (2011) says, “the weight of the scientific evidence supporting concerns associated with gluten is suffocating, while it is oddly and rather inexplicably ignored or even absurdly disputed by those in mainstream medicine.”

Food intolerances, including gluten intolerance, comprise a wide range of diseases that are the product of delayed sensitivity or allergic reactions. If you eat even minute amounts of gluten today and then stop, it might still have repercussions in your immune system 6 months down the road. That is why it is essential to stay clear completely without cheating at all, eliminating even gluten on beauty-care products. When you stop gluten, it is gone forever!

Wheat Belly

William Davies, M.D. (2011), author of *Wheat Belly*, is another doctor with a rare common sense that is so lacking nowadays. He asks us to look into our parent's or grandparent's families photo albums to appreciate how thin they were and how it all changed so suddenly. He was one of those who faithfully adhered to mainstream dietary advice of eating whole grains, all the while he got fatter and fatter. He even jogged 3 to 5 miles every single day. The days he had bacon and eggs for breakfast, he would feel guilty, but he couldn't help but realize how much better he felt those days. In his words, "[t]oo many of us, stricken with an unsightly wheat belly, blame ourselves: too many calories, too little exercise, too little restraint. But it's more accurate to say that the advice we've been given to eat more 'healthy whole grains' has deprived us of control over appetites and impulses, making us fat and unhealthy despite our best efforts and good intentions." It's not your fault! It is your responsibility though to take matters into your own hands with this knowledge you are acquiring. Knowledge protects.

If carbs are fattening, then wheat is exceptionally fattening. It contains the complex carb amylopectin and the linear glucose chain amylose which are broken down to sugar very readily by our saliva and stomach enzyme amylase. Legumes and other plant-based foods contain amylopectin, but wheat has the most sugar enhancing amylopectin. In fact, whole wheat bread increases blood sugar to a higher level than table sugar (Foster-Powell et al., 2002). Eating whole wheat bread is basically as bad as or even worse than drinking a can of sugar-sweetened soda or eating a candy bar.

Take for instance the American Diabetes Association recommended foods: whole grain breads, such as whole wheat or rye; whole grain, high-fiber cereal; cooked cereal such as oatmeal, grits, hominy, or cream of wheat; rice, pasta, tortillas; cooked beans and peas, such as pinto beans or black-eyed peas; potatoes, green peas, corn, sweet potatoes, winter squash; low-fat crackers, snack chips, pretzels, and fat-free popcorn. In other words, eat wheat, wheat, corn, rice, and wheat; all loaded in gluten. And get very fat and more diabetic by doing so; yet we will blame you for your lack of will and discipline.

Diabetics have been reported to reduce their insulin treatment dose by 50% on the very first day they reduce carbs from their diets.

As visceral fat –gained whether from wheat or any carb- gets accumulated, estrogen levels increase. Estrogen dominance worsens conditions such as premenstrual syndrome, endometriosis, uterine fibroid tumors, fibrocystic or painful breasts, but also ovarian and other female reproductive problems and cancers, and systemic lupus erythematosus. It should not come as a surprise that woman in a carb restricted diet often report going through menopause without noticing it, or no longer having PMS problems. Women in certain primal cultures reported almost no child birth problems at all. It is the hormone dysregulation caused by a high carb diet fueling the massive problems in all things related to hormones. In the gentlemen, estrogen opposes testosterone, causing depression, low libido,

emotionality and weight gain. Sugar enhancing carbs such as wheat increases prolactin to be released, causing “man boobs”. You can see more and more ads for male breast reduction surgery nowadays.

Grain Brain

In *Grain Brain: The surprising truth about wheat, carbs, and sugar; your brain's silent killers*, neurologist Dr. David Perlmutter (2013) explains how carbohydrates, even the whole-grain carbs that many of us think of as the good ones, are the cause of almost every modern neurologic malady. That includes dementia, decreased libido, depression, chronic headaches, anxiety, epilepsy, and ADHD. In combination with carbs, gluten's influence on our diets explains why we get dementia - and every other common neurologic problem. "Inflammation is the cornerstone of Alzheimer's disease and Parkinson's, multiple sclerosis - all of the neurodegenerative diseases are really predicated on inflammation.

"The biggest issue by far is that carbohydrates are absolutely at the cornerstone of all of our major degenerative conditions," Perlmutter says. "That includes things like Alzheimer's, heart disease, and even cancers. What we know is that even mild elevations in blood sugar are strongly related to developing Alzheimer's disease. That was published August 8, 2013, in *the New England Journal of Medicine* (Crane, 2013). Even mild elevations in blood sugar compromise brain structure and lead to shrinkage of the brain. That's what our most well-respected, peer-reviewed journals are telling us."

Carbohydrate consumption leads to blood sugar elevation obviously in the short term, but also, in the long term as well. Persistently challenging the pancreas to secrete insulin to deal with dietary carbohydrate ultimately leads to insulin resistance, a condition directly associated with increased risk for dementia. What's worse, insulin resistance is the forerunner of type 2 diabetes, a condition associated with a doubling of Alzheimer's risk. In a recent report in the *Journal of Alzheimer's Disease*., Mayo Clinic researchers showed that individuals favoring carbohydrates in their diets had a remarkable 89% increased risk for developing dementia as contrasted to those whose diets contained the most fat. Having the highest levels of fat consumption was actually found to be associated with an incredible 44% reduction in risk for developing dementia.

So-called "complex carbs" may actually represent a more significant threat to health than simple sugar in that they may not only raise blood sugar, but keep it elevated for a more prolonged period of time. Foods can be evaluated by their glycemic index which measures not only how high blood sugar will be elevated by the consumption of a particular food, but also takes into account how long it will have this effect. So the higher the glycemic index, the more damaging are the effects of elevated blood sugar. Whole grain bread for example has a dramatically higher glycemic index when compared to pure table sugar.

Ultimately, continued challenges of our bodies with high glycemic index foods leads to elevation of fasting blood sugars. This is of paramount importance as recently published in New England Journal of Medicine. In this report, researchers found that a fasting blood sugar even in the range that most doctors would consider to be normal, levels far below what would qualify for the diagnosis, are powerfully associated with developing dementia. – David Perlmutter, Your "healthy" diet could be quietly killing your brain: Q&A with David Perlmutter, author of *Grain Brain* by Max Lugaver, *Psychology Today*.

The work of Dr. Alessio Fasano at Harvard suggests that all humans have some negative reaction to gluten. Gluten induces brain inflammation. It causes leakiness of the blood-brain barrier. The blood-brain barrier is a network of endothelial cells that prevents undesirable substances in our blood from getting into our brain tissue.

Cheaper than Heroin- The Opiate of the Masses

Gluten can be highly addictive and so can its equivalent: casein from dairy products. They both can influence behavior and mood. Schizophrenic and autistic patients have improved dramatically after removal of gluten and casein from their diets.

People eating wheat may have drug-like neurological effects that can be reversed with medications such as naloxone and

naltrexone which are usually used to counter the effects of narcotic drugs! Have you ever heard of low-dose naltrexone as a therapy for all kinds of autoimmune diseases, cancer, lung emphysema and even the common cold? In fact, a weight loss drug containing naltrexone seeks to decrease food addiction. Perhaps all of these people should stop eating morphine-like foods (i.e. gluten and casein) instead of taking a drug to counter the effects of their addiction!

We may actually be anesthetizing ourselves against the evil effects of wheat's lectin with these pharmacologically active, opiate-like proteins in gluten -gluten exorphins and gliadorphins. That is, we are self-medicating ourselves against the ill-effects of our daily bread with the opioid activity of bread itself! Moreover, these gluten proteins seem to have a key role in autism, schizophrenia, ADHD and other neurological diseases.

Wheat also has high levels of aspartic and glutamic acid, amino acids that are potentially excitotoxic; that is, they are capable of exciting our neurons to death. These amino acids may also contribute to neurodegenerative diseases such as multiple sclerosis, Alzheimer's disease, epilepsy, ADHD and migraines. Gluten sensitivity which manifests as seizures are typically of the brain's temporal lobe (just beneath the ears) which manifests as hallucinations of smell and taste, overwhelming feelings of fear for no good reason, repetitive tics such as hand movements or smacking the lips. Dr. Davies reminds us, "For wheat, nothing is sacred. Not your cerebellum, not your cerebral cortex. While it can't read your mind, it sure can influence what goes inside of it."

Within days or weeks after eliminating gluten, people often report better mood, less mood swings, better mental concentration and more restorative sleep. They also see a wide variety of health problems improve and feel better in general. But getting off grains and dairy really is like going through drug withdrawal and many people just can't do it without the appropriate knowledge and guidance, so they continue to eat the very things that are making them sick and fat, while taking more and more medication to counter the effects of the damage their food is doing to their bodies.

I have been a bread junkie all my life up to last summer. And I mean really addicted!!! I remember reading about someone talking about his wife having stomach problems, and she said she needed the bread to suck up the acid feeling in the stomach. And I thought "this is precisely how I used to feel about bread." To anybody who feels like that, I can only say that for me the acid feeling went away once the bread was gone.

I am NOT the dieting type! If someone would have told me about not eating everything I don't eat now, a year or two ago, I would have thought they were another species, like people who never allow themselves any pleasures of life, or who don't enjoy eating (and perhaps whip themselves too to get rid of their sins)

Any ways...what I wanted to say was that to all you bread/pasta/sugar junkies out there, who think that living without the fix will mean missing it forever.

The cravings DISAPPEAR COMPLETELY once you go into ketosis. The meat and the fat becomes MORE satisfying than bread and cheese and candy used to feel. I have not been able to find ANY disadvantage about this diet. Even when eating with other people who eat all the stuff I used to, while I eat my fat and meat, I don't feel I'm missing out!!

....Well yes when I hear them at the table talking about their stomach problems, and weight problems, their children having mood related problems, and 1000 other health related problems, that I have either cured or bettered by changing my diet, or read about here, that people have cured or bettered by this diet. Then I feel like I'm missing out on a lot of bad and unwanted stuff. -Miss.K

Casein Intolerance

The lactose intolerance epidemic and its lactose-free industry, has distracted much needed attention into deeper problems associated with the casein protein found in cow's milk and dairy products in general - including cheese, yogurt, ice-cream, etc. Adults lack enough of the enzyme lactase that breaks down lactose -the sugar found in milk products. Lactase begins to decrease in our bodies as we grow older. This means that milk is something babies drink, not adults. In other words, lactase is an

enzyme that is not required by adults. The only period of time when we should be consuming milk is when we are babies and then it has to be breast milk. We were not meant to drink the milk of other animals. You are not such a baby or animal baby!

Milk has opioid-like substances which will soothe a baby when young and who can digest milk properly as they are breast-feeding. The morphine-like substance in cow's milk is much stronger than the one found in women's breastmilk. We have seen the worst cases of self-denying addictions in those who typically consume tons of dairy products. It has pain-relief effects and anxiety-relieving properties related with opioids. They need it for the grand damage that is caused by the grain's and dairy's lectins and the aging effects of sugar.

But other than opioid-like substances, both wheat and milk also have dopaminergic substances that is rewarding for those who consume its products. That is, it hooks you right in. Most common drugs are either opioid (i.e. heroin and morphine) or dopaminergic (i.e. cocaine and amphetamine). Reward, motivation, anxiety-relief and a sense of wellbeing are the trade-offs of consuming such poisonous foods.

Those who have intolerance to casein or other foods have it worse, as they usually crave the very foods that cause them problems and experience withdrawal symptom when attempting to come off from them (Wadley and Martin, 1993). Comfort foods take on a whole new meaning!

Not only they can cause changes in perception, mood and behavior like drugs often do, but the protein casein in dairy products creates serious problems just like the protein gluten in grains like wheat. Removing casein and gluten from the diet has become a priority for those who suffer from schizophrenia or autism. Symptoms may recede entirely if done on time. Dairy products are also rich in lectins. It can trigger an autoimmune attack, just as surgeon Hiromi Shinya (2007) painfully learned:

I came of age in Japan just after the war, when American technologies and customs were transforming my native land. I wanted to study medicine in America. I took a medical degree in Japan, then, in 1963, moved to the United States with my young bride to start the surgical residency program at the Beth Israel Medical Center in New York. [...]

Neither my wife nor our baby daughter did well in the United States. My wife was sick much of the time, weak, and she couldn't breast feed, so we gave our daughter baby formula made from cow's milk. I would work all day at the hospital and come home and help my wife who was pregnant again. I changed the diapers and gave the baby a bottle, but my daughter cried a lot and then she developed a rash all over her skin. She was itching and miserable.

Then my son was born. His arrival was a joy, but before long he developed rectal bleeding. About that time I had acquired the first primitive colonoscope, so I was able to examine my

little son and found an inflammation of the colon, or ulcerative colitis.

I was devastated. Here I was, a doctor, but I couldn't cure my beautiful young wife or relieve the suffering of my son or daughter. I hadn't learned anything in medical school that would tell me what was causing them to be sick. I consulted other doctors, the best I knew, but no one could help me. Being a skillful surgeon or giving medicine for symptoms was not enough. I wanted to know what caused disease.

In Japan I had never seen the kind of atrophic dermatitis that my daughter had, so I started investigating what in the U.S. could cause my daughter to have this. In Japan we didn't have much dairy food so I thought perhaps it was the cow's milk in her baby formula. When we took away the milk she quickly improved, and I realized she was allergic to the cow's milk. She couldn't digest it and undigested particles that were small enough to pass from her intestines into her blood were attacked by her immune system as if they were foreign invaders. The same thing turned out to be true with my son. When we stopped giving him milk his colitis disappeared.

My wife's illness was finally diagnosed as lupus. Her blood count would drop and she would become pale and anemic. She was in and out of the hospital as we struggled to save her life. She died before I knew enough to help her. [...]

Because of these experiences, I began to understand how vital diet is to our health. That was over fifty years ago and in the years since, I have examined the stomachs and colons and taken the dietary history of more than 300,000 patients.

According to Shinya, there is no other food that is difficult to digest as milk. He is talking of casein, the equivalent of gluten, which with its gluey consistency clumps together once it enters the stomach, making digestion difficult. And there are some who drink chunks of it at a time. Not for nothing is casein and gluten used to make glue.

If anybody had ever told me ten years ago that we would be eating high fat/protein diet, eliminating gluten and dairy, and having all kinds of disorders clearing up, I would not have believed it. What is SO fascinating is the fact that so many things just sort of clear up! Rashes, indigestion, breathing problems, aches, pains, palpitations, hormone imbalances, insomnia and so on and on. -Laura Knight Jadczyk.

Of great concern is the increasingly questionable livestock used to obtain milk. Dairy products can have hormones, chemicals, pesticides, antibiotics, blood, pus, toxic lectins from consumed grains or GMO foods among other things. Today, one cow can produce the milk that it once took 10 cows to produce once upon a time. There has also been concern of viral infections with bovine leukemia virus (related to leukemia and lymphomas) or an AIDS-

like virus. Salmonella, E. coli, and staphylococcal infections can be traced to milk as well. Milk that is homogenized and pasteurized, destroying enzymes, its protein – including casein – is changed. Dr. Shinya shares how he heard that if you feed milk sold in stores to a calf instead of milk straight from the mother cow, the calf will die within several days.

Osteoporosis is another big issue relating to the health myth regarding dairy products. It is calcium in small fish such as sardines that is better available to our bodies since it has other needed nutrients that will help with its proper metabolism. Bone formation has to do with vitamin D, magnesium, vitamin K, and other nutrients other than calcium. Dr. Shinya reminds us that “all of the four big dairy countries - America, Sweden, Denmark and Finland - where a lot of milk is consumed every day, see many cases of hip fractures and osteoporosis.” While the Japanese, with their small fish and seaweed which they have been eating for ages have hardly any cases of osteoporosis, at least during the time when people did not drink milk. Now with their westernization and nuclear disaster, it might be an altogether different story.

Yogurt is another healthy myth which people usually consume for gut health. Shinya himself arrived to a conclusion after seeing the insides of hundreds of thousands of colons and questioning his patients about their dietary habits:

What I often hear from people who eat yogurt is that their gastrointestinal condition has improved, they are no longer

constipated, or their waist has gotten smaller. And they believe these results are due to the lactobacilli found in all yogurts.[...]

The first line of defense is stomach acid. When lactobacilli from the yogurt enter the stomach, most are killed by stomach acid. For that reason, there have been recent improvements made and yogurts are being sold with the catchphrase, "lactobacilli that reach your intestine." [...]

Yogurt contains a lot of lactose. Thus, when you eat yogurt, it cannot be properly digested owing to the lack of lactase enzymes, which in turn results in indigestion. In short, many people develop mild diarrhea when they eat yogurt. Consequently, this mild diarrhea, which is really the excretion of stagnant stool that has been accumulating in the colon until then, gets mistakenly characterized as a cure for constipation.

Your intestine's condition will worsen if you eat yogurt everyday. I can say this with confidence based on my clinical observations. If you eat yogurt everyday, the smell of your stool and gas should be increasingly pungent. This is an indication that your intestinal environment is getting worse. The reason for the smell is that toxins are being produced inside the colon. Thus, even though people talk about the health effects of yogurt in general (and yogurt companies are more than pleased to tout their own products), in reality,

there are many things about yogurt that are not good for your body.

When there are food sensitivities such as gluten or casein intolerance, usually they are of the delayed reaction type. You may experience symptoms after two hours, but frequently they don't show up until one day to three days after you eat the food in question. It can cause just about any symptom and may take weeks or months to get better even after weeks or months of avoiding the culprits.

Remember that these problems apply to all dairy products including, milk, cheese, cottage cheese, yogurt, kefir, ice cream, etc. When casein is the problem, raw milk with all its benefits is NOT going to help. Think of it as an addictive opioid drug which delivers a fix.

Only butter has proven the safest for most people, after they have spent some time healing their gut lining. Organic raw butter is among the richest of animal food sources. A good alternative for butter in those who still don't tolerate it is ghee butter.

Soy

Big Agra has done every possible thing to brainwash us about soy's health benefits. If casein and gluten are used to make glues, it should not surprise you that soy protein is used to make super-glues. Just imagine the digestive exertion to break down soy which can result in diarrhea, cramping, bloating, leaky gut, etc.

Soy is so toxic, that it prompted a prisoner's lawsuit in Illinois when they got sicker and sicker on a rich soy diet - used to cut food costs in prisons (Billups, 2012).

Soy's history started as green manure in Asia, it was not used for consumption. The reason being that it contains an incredibly amount of anti-nutrients that it is simply inedible without requiring a lot of fermentation. Even then, anti-nutrients will still survive. Soy can adversely affect mood-regulating sex and thyroid hormones, but also adversely affects the brain and digestion.

Among babies fed soy milk, diabetes rates are twice as high as among those who are breast-fed, and soy milk inhibits thyroid function in infants as well. The ratio of available tryptophan, a source of serotonin, in soy milk is lower than in breast milk, setting infants up for the misery of mood problems and sleepless nights.

Soy is hard to digest and can damage your digestive tract, and it can also impair further protein absorption. As little as 3 to 4 tablespoons of soy per day can suppress your thyroid function and lower your metabolic rate. Soy is also a goitrogen, that is, it can damage your thyroid irreversibly. Nutritionist Kaayla Daniel (2005), author of *The Whole Soy Story*, reports that Chinese, Japanese and other Asians eat small quantities of soy; and as condiments, not as staple foods, nor at the massive quantities Western countries do. And while it is true that Asians show lower rates of breast, prostate and colon cancers – reasons why soy is promoted - they do suffer higher rates of thyroid, pancreatic,

liver, stomach and esophageal cancers. Hashimoto's thyroiditis – the autoimmune form of hypothyroidism – was first detected in Japan, and their high prevalence of thyroid problems has prompted the Japanese to research about the adverse effects of soy on the thyroid gland.

Soy is not only a common allergen; it also increases estrogen, which further feeds the estrogen dominance epidemic. For example, soy is associated with increasing risks for breast cancer and other reproductive diseases. Menstrual problems are also thought to be related to soy. Phytoestrogens -which lower testosterone levels- were used in the form of tofu, which is not fermented, to help monks keep their vows of sexual abstinence. What a masterful health food indeed, a plant that makes its consumer unable to reproduce. Lierre Keith (2009), shares a story of an old friend of hers who had endometriosis in *The Vegetarian Myth*. She tells us, "We now know she got it from soy. The pain is debilitating, and there is no cure. It began a few months after she adopted soy as a dietary staple. Soon after the condition developed, she spent a year in Europe – a year with no soy milk, tofu, or fake meat. Miraculously, the endometriosis disappeared. On her return to the United States, and not knowing better, she went back to eating soy. The endometriosis returned with a vengeance."

Neuro-epidemiologist Lon R. White who studied surviving patients from a study designed and established in 1965 and which followed thousands of people, linked tofu consumption as an independent risk factor of cognitive impairment and brain

atrophy in late life (White et al., 2000). Why on earth world people eat tofu instead of animal fats to help with their memory!?! What the hell is soy doing in kid's formulas? It is not only downright irresponsible, it is evil! It seems that we have indeed lost our minds for the benefit of Big Agra and GMO companies.

According to Dr. White, soy isoflavones – a class of phytoestrogens - can block the enzyme needed by the hippocampus – the brain area for memory and learning – in order to work properly. The phytoestrogen genistein interferes with the brain's DNA synthesis, thereby decreasing production of new brain cells and increasing cell death. “The bottom line is these are not nutrients. They are drugs”, he says.

Soy-based infant formula is packed-full with isoflavones, and it is the phytoestrogens that can mimic hormones and might be responsible for our girls' increasingly early puberty along with all its behavioral and health implications. And soy is in nearly 70% of all processed food now. Try to buy a ham without soy added to it. You'll spend some time reading labels before you find your soy free choice....IF you find it.

The processing required to make soy milk is outrageously unhealthy; you know that we really lost it in this world when you find it sold as a health product. It is basically a chemical orgy of rancid fats from which there are no safe levels to our bodies, with added sweeteners and flavorings to mask its awful taste. Plus, hazardous titanium dioxide to keep it all together. Soy cheese is equally or actually worse. Petrochemicals are used in order to

process soy protein and soy protein concentrate and isolate for soy burgers, hot dogs and bacon, etc. In the end, from an unhealthful soy product, you end up with an extremely hazardous soy protein whose amino acids are destroyed, toxic or pro-cancer. This is the kind of stuff you may find added to pork bacon. Refuse to eat bacon with added soy!

The Weston A. Price Foundation summarizes soy dangers as follows (2014):

High levels of phytic acid in soy reduce assimilation of calcium, magnesium, copper, iron and zinc. Phytic acid in soy is not neutralized by ordinary preparation methods such as soaking, sprouting and long, slow cooking. High phytate diets have caused growth problems in children.

Trypsin inhibitors in soy interfere with protein digestion and may cause pancreatic disorders. In test animals soy containing trypsin inhibitors caused stunted growth. Soy phytoestrogens disrupt endocrine function and have the potential to cause infertility and to promote breast cancer in adult women.

Soy phytoestrogens are potent antithyroid agents that cause hypothyroidism and may cause thyroid cancer. In infants, consumption of soy formula has been linked to autoimmune thyroid disease.

Vitamin B12 analogs in soy are not absorbed and actually increase the body's requirement for B12.

Soy foods increase the body's requirement for vitamin D.

Fragile proteins are denatured during high temperature processing to make soy protein isolate and textured vegetable protein.

Processing of soy protein results in the formation of toxic lysinoalanine and highly carcinogenic nitrosamines.

Free glutamic acid or MSG, a potent neurotoxin, is formed during soy food processing and additional amounts are added to many soy foods.

Soy foods contain high levels of aluminum which is toxic to the nervous system and the kidneys.

Bottom line is, do not eat soy!

Our Toxic World

Environmental toxins are absolutely everywhere. There are disturbing levels of man-made chemicals in wildlife, fish, waters, plants, even in the frozen Arctic. Household cleaning products, kitchenware, house insulations, carpet outgases, paints, solvents, insecticides, greases, lawn mower, gas water heater, heated car engine, gas dryer, wallboards, pressed wood, plywood,

wallpaper, mattresses, pillows... You name it, and it has a toxic chemical. And it is not one or two toxic chemicals. Take for instance carpet emissions, which emanate over 200 volatile organic compounds which then overload your liver. When some toxic chemicals are broken down by detox pathways in the liver, they become oxidized, and therefore more reactive and more toxic than the original toxin. These reactive compounds can trigger cancer or DNA changes before they are fully broken down. Toxins can get stored in your fat potentially for years if not permanently. Biopsy studies of fat deposits had found chemicals in 100% of those studied including things like styrene, dichlorobenzene, dioxins and PCBs - which are among the strongest causes of cancer known to man.

It is not only the food we eat, it is the environmental medium we live in and while we can't do much to avoid taking in thousands of pollutants every time we take a breath or every time we take shower for that matter, understanding how we got here is essential if we are to take some steps to recover our health and counteract the environmental impact on our genes.

Let's review some of the main culprits of our toxic world so we can have an idea what we are up against and why switching to a diet that is the most physiological one for the bodies is the best option we have.

The Petrochemical Industry

I believe that much of the environmental science (and social sciences as well) is being held hostage by powerful interests vested in oil, petrochemicals, the auto industry, and other corporations that grow rich on polluting our commons – the air, water, and soil we all share freely. It is not in corporations' best interest to have science educate society about the true risks – the threat to life on earth – posed by side effects of their businesses. So these corporations buy scientists, university professors and others, to spin counter stories, create public confusion, and stall unfavorable policy changes. "Whose truth are we talking about, your truth or my truth?" public relations specialist, John Scanlon, retorted to a reporter who had asked him whether he served his clients or the truth. Until science deals with its Achilles' heel of advocacy science, it cannot meet society's needs to protect life and we will continue to pollute our soil, air, and water, ourselves, and other life on this planet. Like lemmings, we are all racing towards the cliff. -Riki Ott, Ph.D. (2005) *Sound Truth and Corporate Myth\$: The Legacy of the Exxon Valdez Oil Spill*.^[1]

Mainstream medicine doesn't recognize diseases that are due to environmental toxicity of even very low levels of everyday chemicals. These ailments can manifest in a myriad of different ways including physical, mental or emotional symptoms. It is all too easy for a doctor to dismiss them as "all in your head", when in reality most physicians are neither trained nor educated in environmental toxicity. Doctors tend to concentrate only on recent chemical exposures, and not on the toxic load we have

accumulated throughout our lives. Medical treatment, which only hides the symptoms with drugs, is a totally incorrect approach. You don't cover up chemical sensitivities, or add to them with chemicals in drugs. You must treat the root cause of the problem.

Or how ignorant it is to see a young woman with multiple chemical sensitivities as crazy for “making stuff up”? A young person, who is beating herself up because she can't keep up with friends and feels like she is missing out on life?

In fact, mainstream doctors are not only untrained in multiple chemical sensitivities and environmental medicine; they are woefully ignorant of nutrition and the crucial role it plays in health. Lacking the training to diagnose and treat chemically sensitive patients, doctors try to fit the symptoms to their limited knowledge. Doctors will often give a diagnosis of "delusional" for a real clinical manifestation of which they are simply unaware. This lack of education is partly due to the fact that critics of chemical sensitivity often have financial ties to the chemical and drug industries, and the traditional allergists, which then go on to sponsor medical education.

Chemical injury to our bodies is often mistaken for colds, flu, stress or other medical conditions. These symptoms can be the first signs of chemical exposure, but if doctors are not trained to diagnose occupational or environmental diseases that are the result of exposure to toxic chemicals, they dismiss them and thereby contribute to the under-reporting of the very real effects of chemical exposure. Despite this, there is scientific data that

demonstrates that exposure to very low doses of certain chemicals can result in serious health problems including nervous system damage, reproductive disorders, endocrine disorders, immune system effects, and birth defects.

As toxicologist Riki Ott (2005) reports,

Dr. Rea [expert in multiple chemical sensitivity] witnessed the slow emergence of chemical sensitivity as a new disease paradigm, and its slow acceptance within the scientific and medical communities, during his pioneering quarter century career in the field. Dr. Rea and his colleagues had dubbed this "the petrochemical problem," because the increasing incidence of chemical sensitivity seemed to parallel the growth of the petrochemical industry and the increased use of synthetic products such as pesticides, plastics, food additives, synthetic textiles, and particleboard.

The nervous system is able to amplify our body's responses to chemicals that are perceived as dangerous to the organism. It is the toxic-induced loss of tolerance.

"Forget the standard 70-kilogram human (150-pound man) used in risk assessment; we need a system that protects the most vulnerable among us." [...]

"Chemical sensitivity and the emerging new disease paradigm these symptoms represent - toxic induced loss of tolerance or TILT - are slowly breaking through a wall of

recognition-resistance formed by traditional doctors, allergists, and the petrochemical industry." [...]

"There is a deep-seated societal bias against the recognition of chemical illnesses in general, primarily because of liability concerns by the petrochemical industry, health insurers, and the federal government. The medical profession with its attendant drug industry and insurance providers has grown huge, and it has much to lose by people and doctors who claim that debilitating illnesses are caused by chemicals at trace levels far below regulated levels.

"The drug industry is part of the revolution in synthetic organic chemical production, which had soared from less than 10 million tons per year in 1945 to over 100 million tons by 1980. Over 1,000 new chemicals a year were entering U.S. markets by the 1990s. Production - and profit - overwhelm common sense and societal safeguards.

"The health effects and toxicity of the vast majority of the chemicals in commerce - drugs, pesticides, cosmetics, food additives - are unknown, and what is known was from research mostly sponsored by the drug and chemical industries.

"People with chemical sensitivities are the undesired and silent side effects of this chemical-based prosperity.

Chemical sensitivity is an emerging area of both medicine and law, and it is extremely controversial in both arenas.

"The often vague and multi-system symptoms associated with chemical sensitivity pose a problem for health care professionals and create a field day for corporate lawyers. Environmental doctors such as Dr. Rea find themselves

constantly pitted against legions of other physicians, primarily allergists and psychiatrists who believe that chemical sensitivity is psychological, a view that serves corporate interests and infuriates patients. Professional jealousies and rivalry from the traditional practices, inflamed by corporate lawyers, hamper understanding of the new disease process and hold patients and public policy hostage. -Riki Ott, Ph.D.(2005)

Outdoor air contains some of the nastiest cocktails of pollutants. Most people tend to think of air pollution as having effects on the lungs but, exposure to road traffic and air pollution may be a trigger of acute myocardial infarction (Mills et al., 2011). But people are right; air pollution does cause lung cancer. A much-anticipated government study of more than 12,000 miners – whose publication was delayed by litigation from a group of mining companies – has found that exposure to diesel engine exhaust significantly increases the risk of lung cancer. For the most heavily exposed miners, the risk of dying from lung cancer was three times higher than it was for those exposed to low doses. For NON-smokers, the risk was seven times higher (Morris, 2014).

You have no idea how many times we have found again and again the protective properties of tobacco smoking. When it comes to hard-core petrochemical industry pollution, smoking is a blessing from above. Take for instance this report by Riki Ott (2005) from *Sound Truth & Corporate Myth\$: The Legacy of the Exxon Valdez Oil Spill* :

Workers in jobs with high oil exposure to oil fumes, mists, and aerosols have a greater prevalence of self-reported symptoms of respiratory problems, neurological problems, and chemical sensitivities than unexposed workers. Among workers with high oil exposure, **nonsmokers reported a greater prevalence of symptoms of chronic bronchitis than smokers**. Symptoms of chronic airway disease included sleep apnea, pneumonia, other lung conditions, chronic sinus and/or ear problems, asthma, persistent hoarseness. [...]. [Annie O'Neill, a graduate student at Yale Medical School's Department of Epidemiology and Public Health, conducted an internship with ACAT and AFER, the two nonprofit organizations investigating the health effects of the EVOS cleanup. She conducted independent research on Exxon's cleanup and an investigation of self-reported chronic health problems among EVOS cleanup workers for her master's thesis.]

Doctors and anti-smokers are completely deluded. They really are. They say things like "smoking is bad because it has thousands of chemicals including arsenic and cadmium." For God's sake, there are far more toxic levels of arsenic in the chicken they eat! Factory poultry farms produce shitloads of concentrated waste and poultry processing byproducts which are later fed to pigs, cows and fish are loaded in arsenic (Nachman et al., 2012). Arsenic in the water is a global threat, and it induces both genetic and epigenetic changes related with lung cancer and other diseases (Martinez and Vucic, 2011).

Yes, tobacco has pollutants, but they are also in the water, the air, in baby food, and often in even higher concentrations. A conservative estimation puts more than 80,000 chemicals introduced into our society since 1800s, which doesn't even take into consideration nanotechnologies and only a few hundred have been tested for safety. According to the U.S. Environmental Protection Agency (EPA) about 2.5 billion pounds of toxic chemicals are released yearly by large industrial facilities. And doctors get preoccupied with nicotine: a plant that produces learning and memory-enhancing? It is really laughable. You see what mainstream education does to your brain? You breathe thousands of chemicals every time you inhale air whether you like it or not, and whether you are sitting next to a smoker or not.

Chemicals found in carpets, leather, insecticides food packaging and Teflon and which are known to be toxic to the liver, among others, have been found in 100% of 299 umbilical cord samples of newborn babies (Apelberg and Goldman, 2007). Another study made by the Environmental Working Group (2005) found 287 toxic chemicals in umbilical cord samples, from which 217 were known to be toxic to the brain and nervous system. And we still wonder why we have so many neurodevelopmental problems?! Of 28 pesticides tested, 21 came back positive. Even when pesticides are banned, they persist for decades in the environment. According to environmental doctor Sherry Rogers, M.D. (2002), "After over 30 years in medicine, I can safely say that I believe the number one culprit that has damaged the largest number of people has to be pesticides."

Bottom line is, detoxify or die!

Our Plastic Lifestyle

Plastics come in all sorts of shapes and colors to make our lives easier and more convenient, containing certain substances that improve their performance and also makes them less expensive. Plastics contain toxic substances -bisphenol A (BPA) used to strengthen some plastics and phthalates used to soften others- which at small concentrations cause a lot of problems.

BPA is found in baby and water bottles, can linings, laboratory flasks, plastic food containers, dental sealants, CD cases, eyeglasses, dollar bills and receipts, cans of infant formula and thousands of household products. It is a “high production” chemical that is also used in plastic and epoxy resins.

Phthalates are found in children's toys, vinyl shower curtains, salad dressings, cooking oil bottles, medical devices, building materials, personal-care products, food packaging, pharmaceutical materials, some medication coatings such as -theophylline (for asthma and lung disease medication), omeprazole (an ulcer treatment), mesalamine (used to treat colitis)- and cleaning materials.

These chemicals are found everywhere in the environment and they enter our bodies through food, water, bits of household dust we consume, or they are absorbed through the skin. When

researchers examined the water of the Pacific Ocean back in 2008, they found it contained 8 times as much plastic as plankton by weight! Eventually they get stored in fat cells making us unable to get rid of them.

According to a Centers for Disease Control (CDC) study, BPA was found in the urine of 95% of the people tested (Calafat et al., 2005). This is alarming to say the least, since BPA leads to insulin resistance and development of type 2 diabetes (Silver et al., 2011)! People who have a house full of plastic stuff are at a substantially higher risk for metabolic syndrome which can lead to stroke other than diabetes and heart problems. In fact, high levels of BPA in the urine are linked with severe coronary artery stenosis - narrowing of the arteries, which then leads to heart attack or sudden death (Melzer et al., 2012). And they have the nerve to blame animal fats for it?!

BPA and phthalates are endocrine disrupting chemicals which mimic hormones such as estrogen and they're linked with breast and prostate cancer, early onset puberty, type 2 diabetes, inflammation, attention deficit, hyperactivity, inability to handle stress, violence, increased mental disease, decreased intelligence, drug addiction, loss of normal parental instincts, infertility, abnormal sexual behavior, altered immune function, increased fat formation, structural damage to the brain, heart disease, developmental problems, male genital defects, reduced testosterone levels, liver function problems, liver cancer, ETC! By mimicking estrogen, it compounds the estrogen dominance epidemic we see nowadays, with children being most vulnerable

to be affected. BPA is by itself so powerful that even at extremely low levels -parts per billion or even parts per trillion – it can cross the placenta and alter the mammary gland of a developing fetus, increasing breast cancer risk later in life.

Even the so called “BPA-free” plastic food containers and baby bottles were found to have estrogenic activity (Yang et al., 2011). In fact, most plastic products you buy at stores have chemicals with estrogenic activity.

In addition, phthalates have been found to exacerbate skin problems and allergic reactions. Notice how allergic skin conditions are on the rise!

Plastics that are worn out or that are heated in the microwave or just by drinking a hot cup of coffee from a plastic-lined paper cup you could be exposed to 55 times more BPA than usual thereby constituting the greatest threat (Le et al., 2008). Just imagine unfreezing plastic bagged meat in hot water, or boiling to sterilize baby bottles and thus exposing your baby to BPA’s estrogenic bioactivity and neurotoxic effect. Makes the load of bacteria look harmless!

Despite efforts to ban BPA and phthalates, keep in mind that it is ubiquitous and that we live in a plastic world.

Heavy Metals

The impact of heavy metals is a particularly charged subject full of hypocrisy, corporate interests, massive ignorance and self-

denial. It is a subject that is not even murmured in medical circles, but others have been paying attention for quite some time.

Heavy metals -such as cadmium, aluminum, mercury, antimony, lead and arsenic - are added to our food from upstream industrial discharges, pesticide runoff, incinerator emissions, manufacturing smokestacks, vehicle exhaustion (including aviation, auto and commercial ones), etc.

Aluminum

We get aluminum into our bodies from common cosmetics, deodorants, baking powders and anti-acids, kitchen utensils, aluminum lined juice boxes and cans, aluminum foil, hot water heaters, thermos, anti-caking agent added to sugar and salt, vaccines, etc.

Aluminum likes to attach itself with phosphates that form an active part of our DNA and stick there until the DNA-carrying cell dies. Aluminum has been linked with Parkinson and Alzheimer's disease. According to a study, children up to 6 months of age receive 14.7 to 49 times more aluminum from vaccines than the U.S. Food and Drug Administration (FDA) safety limits allow - a limit established since greater levels were linked to brain and bone toxicity (Tomljenovic and Shaw, 2011). The FDA warned that tissue loading may already occur with lower levels than the ones they set. And they are only starting their lives... IF they were allowed to live to old age, chances are they'll end up with degenerative disease. That is not to say they

will be unaffected earlier. As the researchers of the study wrote, "aluminum adjuvants have a potential to induce serious immunological disorders in humans. In particular, aluminum in adjuvant form carries a risk for autoimmunity, long-term brain inflammation and associated neurological complications and may thus have profound and widespread adverse health consequences." The only way to avoid aluminum toxicity is to avoid it altogether in as much as you can.

Lead

The good thing about lead is that there is no government agency, professional society, or industrial group insisting that lead be consumed in medications, dental fillings, or children's vaccines. The reality is altogether different. Lead has been found in toys and backpacks in US stores, and also in all of 22 different brands of lipsticks tested. Even minute levels of lead cause brain damage in children and predispose them to adult criminal behavior. There is really no safe exposure for heavy metals like this one. Lead is easily absorbed in children with low calcium levels because lead is taken in as a calcium substitute. It can lead to seizures, headaches, abdominal pain, irritability and problems of learning and behavior (Canfield et al., 2004). The good news is that it can be removed from the body with the same detox protocol for mercury, which will be described in the Supplements section.

Mercury

According to the European Commission (2014), “Mercury and most of its compounds are highly toxic to humans, animals and ecosystems. High doses can be fatal to humans, but even relatively low doses can seriously affect the nervous system and have been linked with possible harmful effects on the cardiovascular, immune and reproductive systems. In the presence of bacteria, mercury can change into methylmercury, its most toxic form. Methylmercury readily passes through both the placenta and the blood-brain barrier, so exposure of women of child-bearing age and of children, is of greatest concern.”

Pediatrician Sidney MacDonald Baker, MD reports how mercury at very low doses may be harmful to one person but not to another (2003). There is at least a thousand fold difference in individual thresholds for mercury poisoning; one researcher has measured differences of even one million fold. So knowing how much mercury it takes to poison the average person is of very little help when the average is somewhere within a range that starts at one and goes to one million.

Mercury's toxicity also differs depending on its form. Metallic mercury (quicksilver) causes little absorption when touched or swallowed, while mercury vapor and organic forms of mercury (methylmercury found in fish; ethylmercury found in Thimerosal, used in vaccines and eyedrops) are practically completely absorbed.

But mercury in and of itself is extremely toxic, and at very low levels can cause neurological and other damage. Dentists use

approximately 300 metric tons of mercury annually for amalgam. The International Academy of Oral Medicine and Toxicology (2007) actually made a video where mercury emanations – which usually are invisible – are exposed through a special screen. They showed how rubbing mercury amalgams (i.e. chewing gum) or drinking a hot beverage, releases mercury levels that are enough to evacuate an industrial factory. The guys were wearing gas masks as they conducted their illustration. It doesn't make things better to think that you are often stuck in a room with a dozen people with a mouth-full of mercury.

Mercury is emitted from coal-burning industrial facilities at the rate of 2,900 tons per year. Compact fluorescent lamps contain small amounts of mercury, which creates a headache when you have to discard over 600 million bulbs every year. Multiple dose vaccinations still contain mercury in the form of Thimerosal.

The Autism Research Institute (2005) has been reporting for years how children with autism have symptoms consistent with that of mercury toxicity. For instance, the US Agency for Toxic Substances and Disease Registry gives the following summary about the symptoms of mercury toxicity in children:

“Mercury is considered to be a developmental toxicant. ... The symptoms observed in offspring of exposed mothers are primarily neurological in origin and have ranged from delays in motor and verbal development to severe brain damage.”

“The infant may be born apparently normal, but later show effects that may range from the infant being slower to reach developmental milestones, such as the age of first walking and talking, to more severe effects including brain damage with mental retardation, incoordination, and inability to move.”

“Other severe effects observed in children whose mothers were exposed to very toxic levels of mercury during pregnancy include eventual blindness, involuntary muscle contractions and seizures, muscle weakness, and inability to speak.”

Infants are at a particular risk. For example, the developing fetus is 5-10 times more sensitive to mercury. Also, the human brain undergoes tremendous growth and maturation the first year of life. Mercury is known to interfere with these growth mechanisms. Exposures that occur during critical “Windows of Development” are more damaging. Consider also that in animal studies, infants do not excrete mercury until weaned and a milk diet increases gut absorption of metals.

Dairy products are very damaging in more ways than one, through its lectins, its casein protein, and by making us absorb more heavy metals that we are already breathing. It is one of the reasons why removing dairy (and gluten) from the diet is so useful in treating autism. Mercury toxicity also causes gut problems, impairing the proper functioning of important digestive enzymes and peptides needed to disassemble and digest gluten and casein.

Mercury causes pervasive disruption within our bodies by binding to sulfur, which then makes a whole range of vital sulfur-containing enzymes, transport mechanisms and structural proteins to malfunction. This is why a list of symptoms for low-level mercury toxicity covers just about any complaint you could possibly name: speech and hearing difficulties; numbness in the mouth, hands and feet; cardiovascular disease; bronchitis and lung inflammation; sensitivity to loud noises; aversion to touch; muscle wasting and weakness; social withdrawal and anxiety; obsessive-compulsive disorders; disruption of serotonin, dopamine and acetylcholine – essential brain chemicals for learning, good memory, good mood, attention, and motivation.

Mercury toxicity causes damage to the immune system and triggers autoimmune disorders. Mercury exposure increases our susceptibility to viruses which will further compound a misfiring immune reaction. Autistic children are often found to have chronic viral infections.

Oral antibiotics greatly increase the toxicity of mercury to brain cells. Mercury in the brain targets cells in the amygdala and hippocampus – both part of the limbic system: the heart of the emotional response - as well as the cerebellum. A low carb diet is particularly helpful in dealing with mercury toxicity in that it helps to heal the gut and it deals with yeast overgrowth, something that autistic children often have. But a low carb diet also provides for the best sources of nutrients that the body can

assimilate and that are effective against mercury. It also prevents the wasting away by a high carb diet of such nutrients.

Fish is a significant source of mercury exposure. Mercury in seawater is passed up the food chain, so the bigger the fish, the more mercury it will have. But when it comes to fish, remember that we probably were once Aquatic Apes and that sea food is particularly rich in all of what our brains and bodies need in the right quantities and in the forms that can actually be utilized by our bodies. Selenium and zinc protect against mercury toxicity and they are part of the mercury and lead detox protocol that has been used by thousands of people with excellent results. Mercury tends to bind to selenium better than to the sulfur in our bodies, thus eating sea food rich in selenium protects us against mercury toxicity (Ralston and Raymond, 2010).

As it happens, selenium is found at particularly rich concentrations in sea food. Oysters are not only super rich in selenium; they are the best source for zinc. As it happens, fish that have higher concentrations of mercury than selenium are the super big predatory ones: whale, shark, swordfish, marlin, tarpon. That is not exactly what people have in mind when they go to get some fish for dinner. So I would eat seafood with tranquility knowing that our Aquatic Ape ancestors also benefited from their protection against mercury toxicity. As the authors of this risk assessment study concluded, "the benefits of fish intake exceed the potential risks. For women of childbearing age, benefits of modest fish intake, excepting a few selected species, also outweigh risks (Mozaffarian and Rimm, 2006)."

Consider shellfish and the world's healthiest foods rich in selenium: sardines, shrimp, organic cod, tuna, halibut, and salmon among others. Beware of the source of your fish. Eat less fish and you get less good Omega 3 oil, but you will be spared the burden of mercury, the radiation from the Pacific and the petrochemicals from the Atlantic. Many limit their fish consumption, especially avoiding larger fish and sticking to small ones like sardines which are usually safe to eat, while taking instead fish oil as a supplement which is generally sourced from small fish as well.

Fluoride

"We would not purposely add arsenic to the water supply. And we would not purposely add lead. But we do add fluoride. The fact is that fluoride is more toxic than lead and just slightly less toxic than arsenic." Dr. John Ambiance

Fluoride is a compound containing fluorine combined with any other element. Fluorine alone is a highly toxic and corrosive gas. It is actually the most reactive element on the periodic table. There was no US commercial production of fluorine before World War II, when it was manufactured for the atomic bomb. The chemical that is now added to water in some countries including the US, is a fluoride compound that is generated as a by-product

from the phosphate fertilizer industry as well as in the manufacturing of steel, aluminum, glass, and cement. These industries have saved themselves a lot of money by selling fluoride byproducts to governments for the purpose of water fluoridation. Yet, it is illegal to dump it into the sea. It is really raving mad.

Fluoride in the human body is cumulative and the daily amount of fluoride that any single person gets from the water, showers, medicines (including Prozac), toothpaste, fluoridated salt, tea, pesticides, mouth rinses, etc. acts as a non-dosed medication in people's body without their consent. Among some of the potential significant side effects we find: dental fluorosis, renal osteodystrophy, brain damage, thyroid problems, reproductive problems, endocrine problems, bone cancer, bladder cancer, increased bone fracture, skeletal fluorosis which at initial stages may be confused with arthritis, osteoarthritis and rheumatoid arthritis. Fluoride and chlorine interfere with the thyroid since both chemicals can be mistaken for iodine and, therefore, displace iodine in your thyroid. Harmful hydrocarbons in unfiltered water have also shown to suppress the thyroid gland.

Preventive medicine physician Paul Maher, MD sent sott.net an article he wrote with highlights of the 500 pages review of water fluoridation health effects compiled by the rather conservative *National Academy of Sciences* (NAS) and released in 2006. I was staggered to realize that despite the overwhelming and crushing evidence that fluoride makes you downright stupid at much lower levels than the Environmental Protection Agency considers

safe, fluoride's poisoning effect is still pretty much allowed. It is really food for thought to read the warning labels on fluoridated toothpastes, which are most of them, and then to try to connect the dots by realizing that fluoride is in the water!

In most European countries, water fluoridation is not allowed due to the physical health concerns. What is more, the science behind as to whether fluoride reduces the rates of dental cavities is dubious to say the least.

But the most disturbing finding is the effects on our behavior and from which Harvard trained toxicologist Phyllis Mullenix, PhD. had the opportunity to first study quite a while ago. She reported on animal studies where fluoride was accumulating in the brain when it was not even supposed to cross the blood brain barrier (Maher, 2011). It was making the animals hypoactive, like "couch potatoes" and with decreasing dosages with increasing age. But when exposed before birth, in-utero, it made the children hyperactive.

Due to differences in metabolism between humans and animals, the fluoride levels Dr. Mullenix used translates into a much lower level of fluoride in the water in order to see fluoride in human blood levels of concern.

Considering the pervasive and widespread sources of fluoride and the already reported lowering IQ effects in humans, it should not come as a surprise that fluoride accumulates in the pineal gland where it is associated with its calcification. Also called the "third eye", the pineal gland is light sensitive with cells that

resemble the human eye retina, and it produces melatonin - our good night sleep and restoring hormone. Our "seat of the soul" as a philosopher put it. Sayer Ji (2012) has compiled a number of research studies where pineal gland calcification is of concern, including Alzheimer's disease, bipolar disease, insomnia, Parkinson's disease, schizophrenia, stroke, circadian dysregulation . Sayer Ji explains that if modern psychiatry views depressive disorders -"dark night of the soul"- as an organic disorder, then treating them with fluoride (anti-depressant Prozac is about 30% fluoride by weight) poisons the pineal gland resulting in people's dissociation from their psycho-spiritual conflicts so they can better fit a dumbed-down society. In fact, Prozac doesn't work in animals that have had their pineal glands removed.

Certain fluoride compounds (silicofluorides) in the water also make it so that more lead is absorbed from the environment (Masters et al., 2000). Recall that lead leads to behavioral problems such as hyperactivity and violent crime. High concentrations of these same fluoride compounds have properties that insecticides and nerve gases do, and it might be associated with dementia and decreases in cognitive function.

Animal studies researching the combination of sodium fluoride with aluminum had found that fluoride potentiates aluminum toxicity. It seems that aluminum fluoride complexes are more toxic and that fluoride allows aluminum to cross the blood brain barrier more easily. Pathological changes seen in rats given aluminum fluoride complexes closely resemble those seen in

Alzheimer's disease (Varner et al., 1998). It is of no consolation that aluminum, like fluoride, is often added to the water to improve appearance. As Dr. Paul Maher says, "I hate to imagine what a six pack of bud light made with fluoridated water and packaged in aluminum cans does to cognition."

"In point of fact, fluoride causes more human cancer deaths than any other chemical. When you have power you don't have to tell the truth. That's a rule that's been working in this world for generations. There are a great many people who don't tell the truth when they are in power in administrative positions. Fluoride amounts to public murder on a grand scale. It is some of the most conclusive scientific and biological evidence that I have come across in my 50 years in the field of cancer research." - Dr. Dean Burke, Biochemist, Former Chief Chemist at the National Cancer Institute of Health

The Nuclear Complex

Foot-dragging in recognizing obvious problems and the resultant delays in preventing exposure and mitigating the effects lies at the door of nuclear power advocates more interested in preserving the status quo than in helping millions of innocent people who are suffering through no fault of their own. - Nesterenko, A. V., Nesterenko, V. B. and

Yablokov, Chernobyl: Consequences of the Catastrophe for People and the Environment.

Soon after the Fukushima catastrophe in Japan, I decided to have a look at the documented history in order to have a better idea of what to expect. What I found was shocking to say the least. Several thousand cited scientific papers and other materials were made available by the highly conservative *Annals of the New York Academy of Sciences*, and it described large-scale devastating consequences for one single event, the Chernobyl disaster (Nesterenko et al., 2009).

And it was only the teensy tip of the iceberg. As Laura Knight-Jadczyk (2011) explains:

Well, thinking about that and the fears about nuclear fallout from a power-plant meltdown made me ask the question: why didn't anybody get excited about all the nuclear bomb tests that were being done all over the planet since WW II? I mean, just take a look at this time-lapse map of every nuclear explosion since 1945 and ask yourself if that is not one heck of a lot of radioactive fallout to be dumping on our planet - sometimes right in our back yard - and nobody was saying a thing about it? Say what? [...]

In short, while I think that what is happening as a result of the Japan nuclear reactor disaster is a lot worse than the authorities are saying, I don't think that is any reason to get hysterical right now. The time for hysteria was long ago. You are already poisoned and don't know it.

The time-line she is referring to is the “1945-1998” by Isao Hashimoto (Hashimoto, 2003). It documents 2053 nuclear explosions conducted in various parts around the world, and it doesn't even cover the tests made by North Korea. It is based on a report made by Nils-Olov Bergkvist and Ragnhild Ferm (Bergkvist and Ferm, 2000).

So much for the anti-smoking campaign where we are practically led to believe that it is the sole cause of all humanity's problems. While once upon a time, Spain, Italy and France were chain smoking, they were having much longer life expectancies than the US with its fewer smokers. As it happens, the US has dropped more nuclear bombs than any other country.

Professor Chris Busby, Scientific Secretary of the European Committee on Radiation Risk, explains how the traditional models can't be used to predict health effects of exposures of radioactive particles. In a meeting which took place in Stockholm 2009, he puts things into perspective:

"The global death yield of the nuclear age to 1992 has been horrifying. According to objective calculations by the European Committee on Radiation Risk (using weapons fallout radiation exposure) there have been (2003) 61 million cancer deaths; 1,600,000 infant deaths; 1,880,000 fetal deaths. There has been a loss of life quality of 10% (in terms of illnesses and ageing effects). The blame for this can be squarely placed at the door of those scientists and

administrators (WHO, UNSCEAR, ICRP) who developed and supported the scientific risk models. This is a war crime far greater in magnitude than any that has occurred in recorded human history."

Let's see some more figures from the Chernobyl disaster so we can have an idea of the effect of over 2000 bombs and the Fukushima disaster.

The Chernobyl disaster resulted in levels of radionuclides that were hundreds of times higher than that from the Hiroshima atomic bomb, and more than 20 years after its catastrophe, due to the natural migration of radionuclides, the dangerous consequences in its surrounding areas have not decreased, but have actually increased and will continue to do so for many years to come. As a result of the Chernobyl catastrophe, 40% of Europe was contaminated with dangerous radioactivity.

The radioactive elements Caesium-137 (Cs-137), Strontium-90 (Sr-90), Plutonium (Pu), and Americium (Am) released in Chernobyl concentrate in the roots of plants and it is now known that they will continue to be mobilized for decades, even up to several hundreds of years into the future. Agricultural products have contained - and will continue to contain - radioactivity in all of the Northern Hemisphere countries contaminated by Chernobyl.

The level of radionuclide incorporation in our bodies varies according to each organ. In Chernobyl the most affected organs (from autopsies) were the thyroid gland, the adrenal glands, the

pancreas, the thymus, the skeletal muscle, the spleen, the heart and the liver (in decreasing order).

The affliction of the adrenals is worthy of attention, since there were many "new" diseases that emerged after the Chernobyl disaster whose symptoms resemble those of adrenal fatigue. The total Chernobyl death toll for the period from 1987 to 2004 has reached nearly 417,000 in other parts of Europe, Asia, and Africa, and nearly 170,000 in North America, accounting for nearly 824,000 deaths worldwide. This number of Chernobyl victims will continue to increase for several generations.

Radiation poisoning damages organ tissues by excessive exposure to ionizing radiation. Ionizing radiation consists of particles or electromagnetic waves that are energetic enough to detach electrons from atoms or molecules, thus ionizing them. Direct ionization from the effects of single particles or single photons produces free radicals, which are atoms or molecules containing unpaired electrons, and which tend to be especially chemically reactive due to their electronic structure.

This means that they become chemically unstable and highly reactive ions as free radicals are formed. These unstable metabolic by-products strive to stabilize by 'stealing' a replacement electron from any neighboring molecule, leaving even more damaged molecules in their wake. This is how free radicals in our bodies are produced and cause inflammation, a process that is best known as oxidative stress, oxidative damage or lipid peroxidation. Oxidation can cause debilitating permanent

changes to your DNA. This is why anti-oxidants are so important. Antioxidants help to counteract or neutralize the free radicals before they can damage our healthy cells by lending a hand (actually, an electron) when stabilization is needed. This is the reason why we are fond of so many antioxidants such as vitamin C, E, carotenoids, resveratrol, taurine, coenzyme Q10 and melatonin, to name but a few.

Every single organ from head to toe is affected and after the Chernobyl disaster, several new diseases appeared including “Early aging syndrome”, and “Chronic fatigue syndrome”. Chernobyl fallout created mutant viruses, bacteria, fungi and protozoa which then became more infectious, plus the fact that debilitated people became more vulnerable as well.

In 1986 the levels of irradiation in plants and animals in Western Europe, North America, the Arctic, and eastern Asia were sometimes hundreds and even thousands of times above acceptable norms.

Already an estimate of 14,000 excess U.S. deaths was linked to the radioactive fallout from the disaster at the Fukushima nuclear reactors in Japan (Mangano and Sherman, 2012). This estimate covers only the 14 weeks after the Fukushima meltdowns and is comparable to the 16,500 excess deaths in the 17 weeks after the Chernobyl meltdown in 1986. The rise in reported deaths after Fukushima was largest among U.S. infants under age one. We see again and again how our youngest are left the most vulnerable in all this giant disaster that the world is in right now.

Among the best documented dietary choices to counteract radiation poisoning were pork, and liver and fats from any animal. More reason to go keto! On the other hand, milk always contains high levels of radiation.

Toxic Waves

“I have no doubt in my mind that at the present time the greatest polluting element in the Earth’s environment is the proliferation of electromagnetic fields” -Dr Robert O Becker, M.D.

There has been a massive surge of electronics, computers, and communication devices in the last 3 to 4 decades that has maximized our exposure to increasing levels of electromagnetic fields. The health implications are for the most part shoved under the rug. But epidemiologist Samuel Milham, MD, MPH (2010) gives us a hint of the health consequences:

In 2001, Ossiander and I presented evidence that the childhood leukemia mortality peak at ages 2–4 which emerged in the US in the 1930s was correlated with the spread of residential electrification in the first half of the 20th century in the US. While doing the childhood leukemia study, I noticed a strong positive correlation between level of residential electrification and the death rate by state due to some adult cancers in 1930 and 1940 vital statistics. At the time, a plausible electrical exposure agent and a method for

its delivery within residences was lacking. However, in 2008 I co-authored a study of a cancer cluster in school teachers at a California middle school which indicated that high frequency voltage transients (also known as dirty electricity), were a potent universal carcinogen with cancer risks over 10.0 and significant dose-response for a number of cancers.

Among the many devices which generate dirty power are compact fluorescent light bulbs, halogen lamps, wireless routers, dimmer switches, and other devices using switching power supplies. Any device which interrupts current flow generates dirty electricity. Arcing, sparking and bad electrical connections are also a source.

Here, Cancer is not the only problem; also anxiety disorders as it overtaxes our flight or fight response. We get radiation everywhere from microwave ovens (which destroys nutrients and alters proteins in your food), computers, TV, radios, cars, alarm clocks, washing machines, irradiated food, etc. Just imagine the implications! As neurofeedback specialist Nora Gedgudas puts it (2011):

The human body is a bioelectrical system; we are “electric” beings. Our bodies and even our DNA transmit and receive frequencies like any other antenna. Our brains are extremely vulnerable to any technology that emits EMFs.

The Health Protection Agency (2012) states that radio-frequency fields leads to DNA damage, impairing the DNA repair mechanism, and affecting gene expression.

If you have a mouthful of silver amalgam fillings or other metal-containing dental work, you might be a walking antenna for EMF as well. The tip of the ice-berg indeed, in every field and subject we put our eyes on.

Your cellphone and wireless technology may alter parts of your brain including your frontal lobe and hippocampus, that is your memory and learning capabilities among others (Fragopoulou et al., 2012). Brain plasticity may be altered, explaining why people have headaches, sleep problems, fatigue, memory problems, and brain tumors at the long-term. Already in 2009, Lloyd Morgan, member of the Bioelectromagnetics Society said:

Exposure to cellphone radiation is the largest human health experiment ever undertaken, without informed consent, and has some 4 billion participants enrolled. Science has shown increased risk of brain tumors from use of cellphones, as well as increased risk of eye cancer, salivary gland tumors, testicular cancer, non-Hodgkin's lymphoma and leukemia. The public must be informed.

You are very likely to get a malignant brain tumor after 10 years of using your phone (Calberg and Hardell, 2012). There won't be enough brain surgeons to deal with the new epidemic that is arising!

Retired Electrical Engineer Larry Bowers and member of our research group, has dedicated a great deal of time to the research of EMF and its impact on our health. His conclusion is worth reading as an end note to EMF (Bowers, 2014):

Throughout millions of years of evolution humans have enjoyed very low electromagnetic field (EMF) background levels. These natural EMF background sources are associated with the cosmos, the sun, and the planet; each of these dominating various parts of the spectrum from extremely low frequency (ELF/ULF) to gamma rays of the very highest energy. To the best of our collective knowledge, this spectrum has remained relatively stable over millions, perhaps billions of years with the exception of solar events (magnetic field effects) and cosmic supernovae (gamma radiation).

Only in the last 100 years or so has this spectrum come to be overwhelmingly dominated by the electronic products of an increasingly technology-based civilization. For instance, in 1977 the average power density across 15 cities (dominated by the UHF/VHF bands) was found to be 50 million times greater than natural background. Since 1977 we have seen an explosion of electronics, computers, and communication devices that have brought us increasing levels of EMF exposure in the forms of dirty power (50/60 Hz), ELF AC magnetic/electric fields, and a huge array of wideband digital RF (radio frequency) wireless signals.

Can we really expect that this exposure level to EMFs will have little or no effect on our collective health – not to mention all the plants and animals that depend on a relatively clean environment to thrive? The latest independent and unbiased studies say no, there are measurable detrimental health effects in every category of

EMF exposure – in plants, animals and humans. Interestingly (or maybe predictably), many of those “scientific” studies that measured little or no effect involved industry participation or funding. These same industries stand to lose the most should the results reflect detrimental health effects due to EMF exposure and become widely disseminated. Although the threat is clear, our collective fascination with anything from the latest iPhone/app to the countertop whiz-ma-jig blinds us to the risks to our environment, ourselves, and especially our children – a situation where wishful thinking may prove very deadly indeed.

In the last two decades there has been a significant increase in the number of electro-sensitive (ES) individuals. These patients suffer rapid deterioration in a host of symptoms after relatively short exposure times. The effect is so direct and overwhelming that some of these people can directly detect AC magnetic fields, dirty power, and wireless signals in their environment. ES requires many of them to plan their trips carefully so as to minimize EMF exposure and thereby minimize recovery time. [...]

The importance of natural EMF variations to circadian rhythms in animals and humans has been established by many epidemiological studies that address abrupt changes in the natural background EMF due to abnormal solar activity. It may be that the “masking” of the natural EMF by man-made EMF plays a causative role in some disease conditions and symptoms of electrosensitivity, but clearly,

the natural EMF plays a significant role in healthy metabolism and systemic function. The symptoms and disease conditions associated with EMF exposure very nearly overlap those of chronic dietary deficiency and exposure to toxins. These serious systemic impacts suggest that a three-pronged approach may be necessary to recover from chronic disease and maintain vibrant health in the body/mind – that is, diet/nutrition, detoxification, and EMF exposure should be addressed together in any health plan. In doing so, you thwart the agenda that is clearly in play (through governments and multi-national corporations) to control and exploit the human population.

Nanotechnology

Nanotechnology involves designing and manufacturing materials on the scale of one-billionth of a meter. Nanoparticles are absolutely everywhere: cosmetics, clothes, food additives in soda and snacks, sunscreens, vitamins, fertilizers, exhaust gases, etc. They end up polluting our environment. People consume about 100 trillion nanoparticles every day and their ultra-small size and amazing qualities makes them increasingly common in food and pharmaceutical products.

These tiny particles, even in low doses, have a big impact on our long-term health, disrupting our ability to absorb nutrients from foods. Nanoparticles also impact heart health by not allowing vessels to constrict or dilate properly (Nurkiewicz et al., 2011).

Nanoparticles have a clear link with autoimmune diseases as well (Mohamed et al. 2012).

Nanotechnology is linked among others with damage to the DNA, disruption of cellular function and production of reactive oxygen species, asbestos-like pathogenicity, neurological problems, organ damage including significant lesions on the liver and kidneys, gill damage and respiratory problems and oxidative stress in fish. Diseases associated with nanoparticles include asthma, bronchitis, emphysema, lung cancer, Parkinson's and Alzheimer's diseases, Crohn's disease and colon cancer, heart diseases, lupus erythematosus, scleroderma, and rheumatoid arthritis and other autoimmune diseases.

It is estimated that about 300 nano-food products were available on the market worldwide in 2005. It is predicted that by 2015, nanotechnology will be used in 40% of the food industries. Yet even more reason to stick to organic foods!

DNA-based electronics is an emerging field that aims to create nano scale electronic circuits by adopting DNA as a template. It involves the process of attaching metal nanoparticles to DNA. For instance, gold nanoparticles can unzip the DNA's double helix (Soutter, 2012).

If that doesn't sound creepy enough, this probably will. There are now nano-antibodies made up from plastic that are intended for medical purposes (Hoshino et al., 2012).

Big Pharma

If you have 6 prescription drugs that need to be taken 3 times a day, and you have to take them for the rest of your life, and say you start at around 50 years old and lived to be 70 years old, then that means your body has to metabolize around 132 thousand pills and each one of them entails between 4 and 14 side effects, at the very least. That is what we could call, an extra toxic burden. And some take much more drugs. Think of the poor liver! These are the figures for just one single person. Think of the mass scale profits of the ones selling these drugs! There are so many people taking so many drugs, that now Big Pharma has the 3 in 1 combo you can get.

Academic medicine was sold out a long time ago to the highest bidder - Big Pharma. What should have offered mankind the guidance to fulfill its greatest potential, has turned into its ultimate destroyer. I'm not exaggerating. I can only look nostalgically back to my wishes to go to medical school to get the best preparation in order to help others. Instead, it turned out a deeply traumatizing experience, which has taken me since then to assimilate. Let's see the tip of the iceberg when it comes to Big Pharma and its bedtime lover, The Medical Establishment.

U.S. pharmaceutical industry spends more on marketing than research; they value their spending habits and profits above any patient's life or value. For Big Pharma, the medical research area is the means for smart sounding marketing in order to prove that their drugs are beneficial and desirable. Sales tactics have the

priority, and it spins research for the corporations best interests, fooling naïve doctors and patients alike with junk science. In fact, Americans pay more for prescription meds than anyone else in the entire world. Advertisement actually works! Big Pharma wouldn't be spending over \$4 billion a year on it if it didn't bring back massive profits.

Shahram Ahari, who spent 2 years selling fluoride-rich Prozac and Zypraxa for Eli Lilly, a pharmaceutical company, told a Congressional committee how his job involved “rewarding physicians with gifts and attention for their allegiance to your product and company despite what may be ethically possible.” Ahari explains how drug companies hire former cheerleaders and ex-models, as well as former athletes and members of the military - many of whom have no background in science - to wine and dine doctors, exaggerate the drug’s benefits and underplay their side-effects (Baram, 2008). Ahari tells us how they are taught how to exceed spending limits for important clients, being generous with free samples to leverage sales, using friendships and personal gifts and how to exploit sexual tension. He has heard stories on how a doctor was routinely taken to a nightclub where a hostess was paid to keep him company.

Marcia Angell, M.D. (2010), former editor-in-chief of the New England Journal of Medicine, explains how medical centers act as though meeting industry’s needs is a legitimate purpose of an academic institution:

Grant support, financial ties to the companies that sponsor their work, they serve as consultants to the same companies

whose products they evaluate, join corporate advisory boards and speakers bureaus, enter into patent and royalty arrangements, agree to be the listed authors of articles ghostwritten by interested companies, promote drugs and devices at company-sponsored symposia, and allow themselves to be plied with expensive gifts and trips to luxurious settings. [...]

At Harvard Medical School, for example, few conflicts of interest are flatly prohibited; they are only limited in various ways. Like Hollywood, academic medical centers run on a star system, and schools don't want to lose their stars, who are now accustomed to supplementing their incomes through deals with industry.

Schools, too, have deals with industry. Academic leaders, chairs, and even deans sit on boards of directors of drug companies. [...]

Increasingly, industry is setting the research agenda in academic centers, and that agenda has more to do with industry's mission than with the mission of the academy. Researchers and their institutions are focusing too much on targeted, applied research, mainly drug development, and not enough on non-targeted, basic research into the causes, mechanisms, and prevention of disease. [...]

Conflicts of interest are equally troubling in medical education, where industry influence is perhaps greatest and least justified. The pharmaceutical industry devotes much, if not most, of its vast marketing budget to what it calls the

"education" of doctors. The reason is obvious: doctors write the prescriptions, so they need to be won over.

Big Pharma backing continual medical education has created an unprecedented and massive conflict of interest, making doctors their very best profit-making and non-healing agents at the cost of our well-being and lives.

Back in 2000, Israeli doctors went out on strike for three months. Guess what happened, death rates dropped considerably in most of the country when thousands of visits to outpatient clinics were cancelled or postponed along with tens of thousands of elective surgeries (Siegel-Itzkovich, 2000). "The number of funerals we have performed has fallen drastically," said Hananya Shahor, the veteran director of Jerusalem's Kehilat Yerushalayim burial society. Meir Adler, manager of the Shamgar Funeral Parlour, which buries most other residents of Jerusalem, said quite clearly: "There definitely is a connection between the doctors' sanctions and fewer deaths. We saw the same thing in 1983 [when the Israel Medical Association applied sanctions for four and a half months]." I've heard of similar drops in death rates when doctors went on strike in Canada and Los Angeles.

A 2006 Institute of medicine report found that medication errors harmed at least 1.5 million people every year. 400,000 drug-related injuries occur each year in hospitals alone, 800,000 in long-term care settings, and 530,000 in outpatient clinics (Stencel, 2006). The sixth leading cause of death in America are due to doctors, just after heart disease, stroke, cancer, and chronic lower respiratory disease - which are all due to Big Agra, Big Pharma

and Big Industry combined. No wonder most people are afraid to read the side effects of drugs. But remember, knowledge protects, ignorance endangers.

The Food and Drug Administration (FDA) has huge conflicts of interest with Big Pharma. FDA advisory panels recommend drugs that later prove unsafe or downright deadly. Voting advisors have either business connections, or have done work for the drugs' manufacturers or have had licensees or research funding from pharmaceutical companies. The birth control pills Yaz and Yasmin come to mind. Women taking it were nearly 7 times more likely to have thromboembolism and it was approved by the FDA.

More than half of US drug safety studies never see the light of day. Companies like Merck have manipulated dozens of publications to promote one of its products – rofecoxib (Vioxx). It has been reported how Merck actually downplayed the deadly risk of their drug by manipulating medical statistics (DeAngelis and Fontanarosa, 2008). They made over 11 billion dollars in Vioxx sales and have only paid about half of it in litigation settlements and criminal fines. They can get away with murder but seem just fine with a profit.

Scientists feel more and more the need to publish in a recognized journals. A single paper published in a prestigious journal can get a doctor their chair and lots of money. Don't worry, Big Pharma will exploit their egos and see that papers get published. In fact, a study by the University of Edinburgh examined more than 4,600

scientific research papers published between 1990 and 2007 and found a steady decline in studies in which the findings contradicted scientific hypotheses in the fields of clinical medicine, psychiatry, pharmacology and molecular biology (other than economics and business) (Kelly, 2011). Scientists increasingly make studies where positive results are produced through re-interpretation, selection or manipulation of data. Publication bias, ghost writing (paid by Big Pharma), and undeclared interests are pretty much endemic in medical research.

Pediatric psychopharmacology is a billion-dollar business that sustains Big Pharma and their investors at the expense of your own distress and those of your kids. The next, 5th edition, of the *Diagnostic and Statistical Manual of Mental Disorders* is expected to include about everybody as suffering from a psychiatric illness. According to Marcia Angell, MD., of the 170 contributors to the current version of the DSM (the DSM-IV-TR), 95 had financial ties to drug companies, including all of the contributors to the sections on mood disorders and schizophrenia. Since practically the majority of people are already taking a pill, we can say this is a Zombie World. People are so out of touch with themselves that they think they have to use anti-depressants in order to go back to “normal”, not realizing that the shitty reality is sending a strong signal to take notice. But instead taking numbing drugs makes them ignore what is going on at their own peril.

By turning people into patients, screening has also become a money-maker for Big Pharma and pals. The chief medical officer

of the American Cancer Society once pointed out that his hospital could make around \$5,000 from each free prostate cancer screening (PSA blood test), thanks to the ensuing biopsies, treatments and follow-up care. Never mind that a US government panel said it is pretty useless since tumors are too slow growing to even represent a threat (Neegaard, 2011). Yet routine screening often leads to death because of the resulting treatment.

What about vaccines?! The new HPV shot Gardasil is made by Merck, the same company of the Vioxx scandal mentioned above. It has skyrocketed their sales, despite the fact that its benefits are questionable, to say the least, and the dire side effects some have had – including debilitating and strange syndromes – should make everybody think twice before subjecting their little girls to it. The MMR (measles, mumps, rubella) vaccine is probably the one vaccine where “science” is being used to silence anyone who speaks against it. It is appalling to see how some parents are labeled as hysterical with a bullying tone when they speak out about how the vaccine caused their child’s illness or change in behavior.

If you have heard about the controversy, then you have heard about Andrew Wakefield who has been the most blamed doctor for any mistrust in the MMR vaccine. He published a study linking MMR with autism and bowel disease. His reputation was basically destroyed for daring to speak out the truth, with what amounts to bullying and accusing him of the very things they were doing (conflict of interest, “crimes against humanity”)

instead of any real science at all. All at the expense of our children.

Remember the flu scaremongering? Well, this is what the super conservative *British Medical Journal* had to say about it:

‘A joint investigation by the *BMJ* and the Bureau of Investigative Journalism has uncovered evidence that raises troubling questions about how WHO managed conflicts of interest among the scientists who advised its pandemic planning, and about the transparency of the science underlying its advice to governments. Was it appropriate for WHO to take advice from experts who had declarable financial and research ties with pharmaceutical companies producing antivirals and influenza vaccines? Why was key WHO guidance authored by an influenza expert who had received payment for other work from Roche, manufacturers of oseltamivir, and GlaxoSmithKline, manufacturers of zanamivir? And why does the composition of the emergency committee from which Chan sought guidance remain a secret known only to those within WHO? We are left wondering whether major public health organisations are able to effectively manage the conflicts of interest that are inherent in medical science.’ [...]

The investigation by the *BMJ*/The Bureau reveals a system struggling to manage the inherent conflict between the pharmaceutical industry, WHO, and the global public health system, which all draw on the same pool of scientific experts. Our investigation has identified key scientists

involved in WHO pandemic planning who had declarable interests, some of whom are or have been funded by pharmaceutical firms that stood to gain from the guidance they were drafting. Yet these interests have never been publicly disclosed by WHO and, despite repeated requests from the BMJ/The Bureau, WHO has failed to provide any details about whether such conflicts were declared by the relevant experts and what, if anything, was done about them (Cohen and Carter, 2010).

After a 20-fold increase in miscarriages and stillbirths among women vaccinated with the flu vaccine for H1N1, public health officials were still urging pregnant women to be vaccinated with the H1N1 and seasonal flu vaccines.

Personal integrity, love of truth, fairness, conscience, no conflict of interest, taking responsibility, unbiased scientific research, etc. These are pretty words that we have come to associate with members of the scientific and medical community. And why not? After all, they are supposed to be the brightest of us all; the ones that help to create a better future.

The problem with such associations is that they are no more than illusions, and dangerous ones at that, especially when we provide scientists and whoever funds their research with silent consent to shape, control and influence our lives in any way they see fit. The depth of moral depravity and criminal negligence in the scientific community and their actions keep us in the dark and often put our lives in harm's way.

I hope you and your loved ones will come to realize what “modern” medicine is for the most part: a big business where primitive and medieval treatments and practices provide only Big Pharma’s enslaving Band-Aids with a profit, shoving under the rug people’s problems at a very great cost indeed.

Excitotoxins

Food additives -including MSG (monosodium glutamate), aspartame (brand name Nutrasweet) and L-cysteine - are added to a wide range of foods to enhance their taste and give them a delicious taste. They are called excitotoxins because these food additives damage the brain by exciting brain cells to death. Excitotoxicity is a term that is used within neuroscience and thought to be the central mechanism in a broad number of neurodegenerative diseases including Alzheimer’s disease, Parkinson’s disease and amyotrophic lateral sclerosis; heavy metal toxicity (mercury, lead, cadmium and aluminum); infectious brain diseases (encephalitis and meningitis); autism; brain trauma; multiple sclerosis; and strokes.

According to brain surgeon Russell L. Blaylock, M.D. (1996), author of *Excitotoxins: The Taste that Kills*, early exposure in life to high doses of excitotoxins, could theoretically produce a whole array of disorders much later in life, such as obesity, impaired growth, endocrine problems, sleep difficulties, emotional problems including episodic anger, and sexual psycho-pathology.

He explains how certain parts of the brain are particularly vulnerable to excitotoxins, including the leptin related hypothalamus - our master controller of the endocrine system - and the pineal gland, “the seat of our soul”. We are also more vulnerable if we have a leaky blood brain barrier due to damage from cereal grains. As Dr. Blaylock says:

One characteristic of the obesity induced by excitotoxins is that it doesn't appear to depend on food intake. This could explain why some people cannot diet away their obesity. It is ironic that so many people drink soft drinks sweetened with NutraSweet® when aspartate can produce the exact same lesions as glutamate [from MSG], resulting in gross obesity. The actual extent of MSG induced obesity in the human population is unknown.

He also says that MSG-induced obesity is characterized by a preference for carbs and an aversion for more nutritious foods (Blaylock, 2006).

MSG causes glutamate receptors in the brain to fire until the excited neurons get exhausted and die. Zinc and magnesium are among the minerals that can counteract the effects of excitotoxins in the brain, but they are typically low in the American diet. Also vitamin C, E, K, D and A. Brain areas which are rich in receptors for glutamate are at a particular risk: cortex, hippocampus, hypothalamus, thalamus, cerebellum and visual and auditory systems. Excitotoxins MSG and NutraSweet activate brain

systems that affect sensory perception, memory, orientation to time and space, cognition and motor skills.

MSG is found in practically all processed foods under labels such as hydrolyzed vegetable protein, vegetable protein, natural flavorings and spices. Taste enhancers can be up to 60% MSG and not be disclosed on a food label. Soups are particularly loaded since liquid MSG is readily absorbed into the blood and carried to the brain. This is also the case of diet sodas containing NutraSweet. Drugs contain aspartame, particularly those for children.

Children are 4 times more vulnerable to excitotoxins than adults. This is catastrophic for a developing brain and it can lead to dyslexia, autism, schizophrenia, outburst of anger, criminal behavior, etc. later in life. Infants can have MSG-induced seizures. Animal studies have shown problems with short stature, obesity, earlier onset of puberty, hyperactive behavior, inability to focus, lowered intelligence and frontal lobe damage. The consequences for our children are far reaching since frontal lobe damage may lead to an inability to see the big picture, control emotions or show empathy towards others. There is a link between excitotoxins and fibromyalgia and irritable bowel syndrome (Holton et al., 2012).

Restaurants often use enough MSG to produce brain damage in animals or children. Those who drink 3 or 4 Nutrasweet sodas per day will have continuous levels of excitotoxins in their brain. Excitotoxins are practically in all processed foods: ready-made

soups, salad dressings, steak sauce, gravy mixes, chips, cream sauces, gourmet foods.

Don't let your family, and particularly the children vulnerable to these dangerous brain killers, be exposed. Avoid the following foods and food labels like the plague: soy milk, kombu, miso, soy sauces, soy burgers, etc. Soy is a source of glutamate.

Names for MSG include monosodium glutamate, hydrolyzed vegetable protein, vegetable protein, hydrolyzed plant protein, plant protein extract, sodium caseinate, calcium caseinate, yeast extract, textured protein, autolyzed protein, autolyzed yeast, and hydrolyzed oat flour.

Additives with MSG include malt extract, malt flavoring, bouillon, broth, stock, flavoring, natural flavoring, natural beef or chicken flavoring, seasoning and spices, carrageenan, enzymes, soy protein concentrate, soy protein isolate, protein concentrate.

More reason to make your own broth! Or even better, eat like a caveman. If it was not available to them, it is not good for you.

Inflammation as the Common Factor in All Diseases

Now we have come to the point where it all fits together. How everything is a mess nowadays. We know how food is the best healing source that we have available to us. But before we go into the practical dietary aspects, we need to know a few things that would help us and inspire us to leave that unhealthy lifestyle that

leads to nowhere and serves only the purpose of Big Agra and Big Pharma.

Without inflammation, wounds and infections would never heal. Its cardinal signs are pain, heat, redness, swelling, and loss of function. But when something is bugging you on a perpetual basis, i.e. a high carb diet full of anti-nutrients, the natural balance of your immune system – which should produce just enough inflammation to keep a check on toxins and other stressors under control – is disrupted. Then your defense/immune system sends a perpetual fire of inflammation which results in chronic inflammation. So even though your immune system is designed to protect you, it can turn against you. If there is chronic inflammation in the heart and arteries, there is cardiovascular disease. If there is chronic inflammation in the brain, there is depression, ADHD, autism, Parkinson's, ETC.

Where we find obesity and its consequent leptin resistance, we also find a chronic state of inflammation throughout the body. In fact, scientists are able to reproduce diabetes just by inciting inflammation. Inflammatory markers such as high C-reactive protein may indicate a greater risk of diabetes and are a strong predictor for heart attacks and stroke, even when cholesterol is normal. As we have seen, cardiovascular disease is an inflammatory condition and at a zoomed in level when there is inflammation going on, there is uncontrolled oxidative stress with its free radicals creating havoc in your body.

Autoimmune diseases, allergies, asthma, cancer, diabetes, cardiovascular disease all involve chronic inflammation.

While acute inflammation is quite obvious, chronic inflammation may occur silently or without major symptoms. Think of those who suddenly have a heart attack while previously they thought they were very healthy.

In fact, what is common in all diseases – eczema, colitis, chronic cough and mucus, psoriasis, arthritis, dermatitis, etc., is inflammation. No matter in what part of your body inflammation is going on, the basic inflammatory response and its chemicals involved are the same. Chemicals are sent to repair and heal injured cells. A cut or a burn or an infection is meant to be dealt with effectively and in a relatively fast way. It is when the perpetuating agent or when the inflammatory response gets stuck like a broken tune, that we get a chronic inflammatory condition. Our natural anti-inflammatory hormone –cortisone- is used as a treatment in a wide range of conditions. Diseases ending in –itis or –osis are chronic inflammatory diseases. And for anyone with a chronic inflammatory response, food allergies are of particular concern.

Food Sensitivities

You may be allergic to your food and don't know it. Sensitivity is a reaction to something that affects people in different ways. It can be called allergy, hypersensitivity, sensitivity or intolerance without much precision in distinguishing among those terms.

Previously we talked about gluten intolerance, casein intolerance and saw how it was linked with pretty much every disease.

Food allergies, intolerances, sensitivity or however you want to call it, are reactions that are mediated by our body's defense/immune system. Food allergies are where your individuality gets manifested. I might be sensitive to garlic, but you might tolerate it just fine. Your immune system -composed by things like cytokines, antibodies, complement, T-cell and so forth- will work to recognize and attack a given foreign antigen which doesn't belong in your body (i.e. microbe, allergen or toxin) and may cause in this process fever, itching, nausea, inflammation that get your attention.

Antibodies (or Immunoglobulins: Ig) are your defense system's front line of warriors. There are IgE, IgG, IgA, IgM antibodies and they keep track of "friend or foe" in your body. The classic food allergy - the only one that mainstream medicine recognizes - typically sends you to the emergency room with your throat closed or your body covered in hives. Alternatively, it will cause you a stomachache or itchy eyes after eating certain fruits or vegetables, or you will sneeze during hay fever season. Here is where the warrior IgE is involved. It usually involves the skin, digestive system and respiratory system. Only a small percentage of people have this type of acute allergy.

By Laura Knight-Jadczyk, 10th February 2011.

I have been up and down the pain road for years. I refused the back surgery and suffered for years. I was in an auto accident and was in therapy for three years just to be able to walk and dress myself. I cried like a baby when they would force me to use my arms with my torn up rotators. I've been taken down to the floor in agony while walking across the room from sciatic pain. I've had both wrists reamed out surgically so I could turn a doorknob. I've had five children and four abdominal surgeries. In 2008, my right shoulder was taken apart, reamed out with lasers and put back together minus one muscle attachment that was so calcified it wasn't even living tissue anymore. I have spurs on my spine, I've had a herniated cervical disc that woke me up screaming. I've lived for years with whole body pain and deteriorating joints.

I know pain.

What I learned, quite by accident, is that it is ALL inflammation. I was given massive doses of cortisone with the herniated disc and in a matter of 24 hours, ALL my pain that I had lived with for years from all of those things listed above, was gone. What's more, my mental state was clear as a bell. I realized with the most startling certainty that if the most powerful anti-inflammatory drug they make can turn all that off, then clearly, all of the problems related back to inflammation.

With that firmly locked in my brain, I began my search for what causes inflammation. Most often, it is what you eat or have eaten, or toxins in your body or environment.

I went on an anti-pain diet and within days, my pain was down 50%. A few more days and a few more percentage points and so on. Then I began to test foods one at a time to see which ones caused me pain. I began the detox and all the other things we have shared on this forum.

I'm here to tell you that you can be pain free. You can. I did it, you can do it.

Not only that, you can end the inflammation in your brain that makes you bounce off the walls.

Now, tell me what you are eating, and have eaten in the past weeks.

What is known as delayed food allergy is for the most part not widely known. It involves IgG antibodies. They are tricky because typically there is no cause and effect event. I drink lemonade and I will have itchy eyes, so I know I'm allergic to lemons. But with delayed sensitivities, I eat potatoes (which I don't anymore) and they can cause typically any symptom whatsoever 4 days down the road. It may cause a knee pain, but I forget that I ate potatoes a few days earlier. Symptoms may show 2 hours later, but typically they can be from 24 up to 72 hours later after you ate the culprit. The symptoms may come and go, that is you might eat a potato without any problems one day, but the next 3 times you eat you'll have arthritic pains. Or the symptoms will appear after you have eaten potatoes for a period of time.

When an antibody such as IgG combines with foreign material in our gut, the result is a paired IgG-foreign thing which is called

immune complex. If you get overloaded with immune complexes thanks to leaky gut (caused by gluten, carbs, antibiotics, candida overgrowth, etc.), these immune complexes eventually get stored in tissues where they cause delayed food sensitivities. And as immune complexes float around in your body, they cause inflammation. In the joints they cause arthritic pains, in your brain they cause, for instance, brain fog or migraines, in your lungs they can cause asthma, and so forth. The ways you respond to food depends on your genetic individuality.

In our experience, it is definitely worth it to figure out which foods or spices trigger a delayed sensitivity since they can cause any symptom you can possibly imagine. When your immune system feels “oversensitive”, it serves well to calm it down by removing foods that sets it off even more. As Sidney Baker, M.D. (2003) says:

Chronic illness often involves a state of inappropriate immune vigilance in which food allergy gets involved even if it's not the cause of the problem. [...]

The list of ailments connected with delayed food allergies is enormous: chronic pain, depression, fatigue, joint pain, eczema, and dermatitis, gluten sensitivity, headaches, seizures, diarrhea and other gastrointestinal problems, recurrent sinus or ear infections, chronic sinusitis, asthma, coughs, and Ménière's disease. And that's just the tip of the iceberg [...]

What's more, delayed food allergies are an underlying cause of aggravating factor in many chronic illnesses, including autoimmune diseases, fertility problems, difficult pregnancies, rheumatoid arthritis, asthma, inflammatory bowel disease, and other inflammatory ailments. In fact, if you suffer from any chronic condition that doesn't respond to conventional therapy, you might want to consider delayed food allergy.

Of course, most of the delayed food allergies he is referring to involve gluten intolerance which is downright destructive and should be eliminated altogether. But there are subtler ones. For instance, we have discovered that some don't tolerate the highly advocated natural sweetener stevia. Others tolerate it just fine. When your digestive system produces a lot of mucous after an acute and overt allergy, it is trying to prevent the absorption of a food that is toxic to you. It can be compared to chronic states of an autoimmune attack against the lining of your gut to prevent absorption of toxic grains, where the disruption of the gut lining will result in a long malnourished life.

You'll learn that identifying and dealing with food sensitivities is an important step to recover health. Eliminating delayed food allergies will bring your levels of inflammation down and it will typically help you lose weight if you are overweight due to a swollen condition produced by a hidden allergen. You will also see dramatic effects in mood, memory, and your own individual inflammatory condition.

Sources of inflammation in your body are those foods which are universally inflammatory and should not classify as food edible for humans such as sugar and trans fats; food allergens, mostly delayed intolerances which we just reviewed; digestive system imbalances as health begins in the gut; toxins such as heavy metals and pesticides; chronic infections from insidious bugs such as Lyme's disease or a latent viral infection; stress which then leads to adrenal fatigue, this will bring your anti-inflammatory cortisone levels way down; nutritional deficiencies which are compounded by a high carb diet loaded in anti-nutrients; sleeping problems which then doesn't allow you to have a restorative sleep; and a sedentary life.

Food allergies among children are dramatically on the rise, a dire prospect indeed for our children's futures. They are given anti-histaminics like Benadryl which then makes their leaky gut problems worse, just like NSAIDs worsen leaky gut as well. People whose pains and problems will stop and resolve with dietary changes, only perpetuate their problems by taking drugs related with leaky gut, worsening their diseases with subsequent terrible losses in lifestyle quality, job losses and so forth. Then they will think that it is the toll of aging while it is NOT. It is due to a crappy environment and diet which has ceased to be nurturing since we got indoctrinate to utilize food and resources in a self-destructive way, to both ourselves and our environment.

It is an amazing adventure to find out exactly how your body works, what it likes, what the optimal fuel is, what makes you feel better - and to be able to do it without being driven by god-

awful cravings for this or that; to not be ruled by your food! Once you totally get rid of wheat and dairy for a long time, get plenty of fat in your body, things start to settle down and you can make experiments without going into some crash and burn cycle.

Cancer

+++++

Thyroid problems

+++++

Reproductive problems

As we have reviewed, people are exposed to host of xenoestrogens coming from pesticides, plastics, and processed foods containing soy. Maria Emmerich in her book Keto-Adapted, synthesizes the various problems that people see regarding their reproductive organs and how a high fat diet addresses them:

It has been grossly simplified that menopausal women have low estrogen; because of this simplification, these women are often given estrogen as a hormone replacement which can cause further estrogen dominance. The first hormonal shift for menopausal women is a downgrade in progesterone. Not estrogen. In some cases, estrogen levels get too high. Estrogen and progesterone need to be counter-

balanced. When progesterone levels fall, estrogen levels shoot up to compensate, causing estrogen dominance. What causes low progesterone? Low-fat diets (specifically diets low in saturated fat) and external “bad” estrogens. Our body produces three types of estrogen: Estradiol (This healthy, or “good,” estrogen is produced by the ovaries.) Estrone (Fat cells store and form this unhealthy, or “bad,” estrogen.) Estriol (This type is produced only when a woman is pregnant.) Healthy estrogen from our ovaries gives women ample curves, attractive breasts, and youthful skin. Unhealthy estrogen from our fat cells and external sources, however, causes too many curves (you might say “bulges”) mainly in the belly area. Farmers have known this for years. They use a little synthetic estrogen to fatten their cattle. [...]

A well-formulated keto-adapted diet works for menopausal symptoms by replacing glucose that’s lacking from the estrogen-deprived brain. When glucose can’t get into brain, it causes hot flashes and low cognitive function, two common complaints of my clients going through menopause. Ketone bodies are water-soluble by-products of fat breakdown that can pinch-hit for glucose in the brain and other tissues.

When the brain is deprived of estrogen after decades of exposure, hot flashes arrive. During the years of exposure, estrogen becomes closely involved in the transportation of glucose into the brain cells. When we are menstruating and have healthy estrogen, this hormone transports about 40%

more glucose into brain cells than what would be shuttled without estrogen. When the healthy estrogen goes away at menopause, the amount of glucose transported into the brain cells decreases, and the brain cells become a little starved for energy. The hypothalamus responds to this starvation by increasing the release of norepinephrine [adrenaline] in order to raise the heart rate, an act that increases the level of sugar in the blood; the combination of these events causes an increase in the body temperature . A hot flash, therefore, is an outward sign of the brain trying to protect itself from blood sugar starvation.

Ultimately, you want your body to use fat to fuel itself instead of carbs. Carbohydrates promote inflammation and lead to hormonal imbalances that further intensify symptoms. Menopausal women who halt the detrimental symptoms with a well-formulated keto-adapted diet often see a regular menstrual cycle return, have less belly fat tissue, and experience an increased libido.

Men can also have excess estrogen, which causes inflammation in the prostate gland.

Digestive problems

+++++

Neurological and psychological problems

+++++migraines. Alzheimer autoimmune disease

Respiratory problems

+++++

Skin problems

+++++

A Word on Epigenetics

A genome is the complete set of deoxyribonucleic acid, or DNA, in a cell. DNA carries the instructions for building all the proteins that make each living creature unique. On the other hand, the epigenome consists of chemical compounds that modify, or mark the genome in a way that tells it what to do, where to do it and when to do it. The marks, which are not part of the DNA itself, can be passed on from cell to cell as cells divide, and from one generation to the next. So if the genetic code contains the hardware for life, the epigenetic code is the software that determines how the hardware behaves. That is, genes alone don't determine health, illness or the complex psychological characteristics of each one of us. Genes are codes that are turned on and off by the environment which includes the foods we eat, nurturing or the lack of it, our toxic world, and so forth.

Epigenetic control is basically how your environment signals control over the activity of your genes. The information that your environment signals goes on to a regulatory protein, and only then does it go to the DNA which will end up coding (manufacturing) a protein. The contribution of nature (genes) and

the contribution of nurture (epigenetic mechanisms) have to be considered if we are to make sense of ourselves.

The most important tool you have to change your health is the food you eat. It doesn't rely on the latest stem cell study or genetic tweaking in a "mad scientist lab." Food is information that talks to your genes and that is capable of turning them on or off, telling them what not to do or do. The food you eat has the information needed to affect your health in the fastest way.

As an example, let's take for instance the agouti mice experiment where scientists found that an enriched environment with nutrients that are typically in animal foods can override genetic mutations in mice (Waterland and Jirtle, 2003). Agouti mice are yellow and extremely obese, and are predisposed to diabetes, cardiovascular disease and cancer, our modern age maladies. In the study, scientists used B-complex vitamins including choline found in high amounts in animal foods, and betaine found in high amounts in spinach. These nutrients are very rich in methyl groups which are involved in epigenetic modifications. Methyl groups attach to a gene's DNA, changing the way regulatory proteins bind to the DNA molecule. If the proteins bind too tightly to the gene, the gene cannot be read. Methylating DNA can silence or modify gene activity. In the experiment, scientists gave these nutrients to pregnant yellow mice with the abnormal "agouti" gene that were obese, and they ended up giving birth to the brown lean mice, even though the offspring had the yellow agouti gene. The agouti mothers, who didn't receive B vitamins, had yellow pups, which ate far more than the brown ones. A

grain-based diet will lead you to a deficit of B-vitamins which leads to hyperhomocysteinemia, a risk factor for strokes and heart disease. It can be treated with B-vitamins!

Epigenetic research suggests that the effects of stress and environmental pollution can be passed on to future generations without any obvious change or mutation in our DNA. Our environment, including toxins and foods, influence our genes through epigenetic changes which then lead to disease. Chemicals -dioxin, bisphenol A and phthalates in addition to pesticides and jet-fuel - can have negative effects on the next three generations of offspring of exposed animals, by causing epigenetic changes to their genome (Manikkam, 2012).

Babies that were undernourished during pregnancy are more likely to be obese and experience metabolic problems later in life. It makes their metabolism thrifty, readily converting the overabundance of carbs into fat and leading to insulin resistance and leptin resistance. It would have made them survive much more easily periods of famine and scarcity, but that is hardly the case for the billions of people who suffer from obesity and other chronic diseases. It was handy for our Paleolithic ancestors, who would have found carb rich foods once in a lifetime, unlike our present time where it is present abundantly and ubiquitously.

A story that should give us all pause is Francis Pottenger's cat experiments. In the 1930s, this scientist conducted a series of feeding experiments and which spanned more than 10 years and several feline generations. From the 2nd generation onwards, the

cats that were fed processed foods showed vulnerability to disease, more structural deformities, allergies, reduced learning abilities, reproductive problems and stress-driven behaviors. It took around 4 generations of healthy food feeding in order for the cats to return to normal. If we are too many unhealthy generations of “Pottenger’s cats” into the Big Agra Revolution, the odds are against us and we can no longer afford to ignore this. It is catastrophic to see that our children no longer have the same strength and resilience they should have enjoyed before the industrial era.

Even though it is of utmost importance to understand the extent of the damage, it is equally important to give ourselves the chance to effect epigenetic changes through a diet in which humanity thrived for most of its history and which we haven’t tried for thousands of years. Its benefit to our health has been profound, as thousands of people around the world have already witnessed. We can “control” our genome through our food rather than being controlled by it. There is indeed hope!

As outstanding as the DNA blueprints stored in the nucleus of the cells are, they still don’t control us as we have seen. Our 50,000,000,000,000 or so cells are coated in fatty cell membranes – which happen to be the interface between the cell and the environment. As biologist Bruce Lipton, PhD explains, information from the environment is transferred to the cell via the cell membrane. The cell membrane (“mem-brain”) monitors the condition of the environment and then sends signals to the genes

inside the cell so they can engage cellular mechanisms, which in turn, provide for its survival (Lipton, 2008).

Another important aspect to consider is that our genes live inside the cells, and the nutrients that best protect them from undesirable effects are those that are able to cross the fatty cell membrane that encloses the cell, that is, fat soluble nutrients in animal foods!

The genome consists of 3 billion base pairs on the 23 chromosomes. The DNA length that contains a typical gene extends about 50,000 base pairs, of which only a fraction (i.e. 3,000) encodes a protein. Each of us has around 22,000 genes scattered around the genome. What all of this means, is that the majority of the genome (98%) consists of DNA which was considered to be junk because it didn't encoded protein. In fact, it is called non-coding DNA. But nowadays functions for this "junk" are starting to be elucidated. Some are like genetic switches that regulate when and where genes are expressed.

We are told that a person's DNA is about 99%-99.5% identical to any other person's DNA and our differences relies on what is called copy number variants - places in the DNA where the number of copies of a gene can vary from one to many hundreds. Copy number variations took place over a million years ago, others a few thousand years ago. Another way in which we can differ to each other is what is called single nucleotide polymorphisms (SNPs) - a location on the DNA where one of the four nucleotides (whose pairing constitute the base pairs) has

been replaced by another. Two people can differ for about 3 million SNPs, which is about 0.1% of their total DNA.

This teensy percentage may account for a lot of differences between each one of us, including the way we tolerate carbohydrates. But experiments which severely restrict carbs point to a consistent shift in our metabolism with little variability. That is, we are hardwired to respond to carbohydrate restriction in a reliable and healthy way. From a genetic point of view, our ability to thrive under a low carb diet is highly conserved as opposed to our ability to tolerate a high carb diet intake. Low carb eating seems to be the normal metabolic state associated with health, which is consistent with the view that throughout most of our human evolution, we thrived under a low carb diet.

It is also interesting to see how scientists have now discovered concentrations of plant microRNA in samples of human tissues of Chinese men and women whose main diet was rice (Zhang, et al. 2012). They saw that plant microRNAs in food can regulate how certain genes are expressed.

When genes code for proteins, they start with the DNA which serves as the template for printing out what is called as messenger RNA (mRNA) which will hold the instructions to make the protein. The microRNAs are tiny pieces of RNA which will attach to protein-making messenger RNA, stopping them from being read and therefore blocking the production of that protein. In short, microRNAs silence the genes they are associated with.

We eat a specific plant's information. We eat information, we are what we eat. And we will do ourselves a great favor by eating the right information.

Mitochondrial Dysfunction

Mitochondria are best known as the powerhouses of our cells since they produce the cell's energy. But they also lead the genetic orchestra which regulates how every cell ages, divides, and dies. They help dictate which genes are switched on or off in every single cell of our organism. They also provide the fuel needed to make new brain connections, repair and regenerate our bodies.

Whether we are housewives, sportsmen or labor people, energy is a topic that concerns us all, every day and in every way. Our well being behavior and ability to perform the tasks in front of us to do is our individual measure of energy. But how do we derive energy from the foods that we eat?

There are many man-made myths surrounding energy production in the body and which foods supply energy. Mainstream science says that carbohydrates are what mitochondria use as fuel for energy production. This process is called oxidative metabolism because oxygen is consumed in the process. The energy produced by mitochondria is stored in a chemical "battery", a unique molecule called adenosine triphosphate (ATP). Energy-packed ATP can then be transported

throughout the cell, releasing energy on demand of specific enzymes. In addition to the fuel they produce, mitochondria also create a by-product related to oxygen called reactive oxygen species (ROS), commonly known as free radicals. But what we are not told is that mitochondria were specifically designed to use fat for energy, not carbohydrate.

There are several very complicated steps in making ATP within mitochondria, but a look at 5 major parts of ATP production will be all that you need to know in order to understand how energy is created within our mitochondria and why fats are the key to optimize their function. Don't get focused on specific names, just try to see the whole picture.

Step 1 - Transportation of Food-Based Fuel Source into the Mitochondria

Fuel must first get into the mitochondria where all the action happens. Fuel can come from carbs or it can come from fats. Fatty acids are the chemical name for fat, and medium and large sized fatty acids get into the mitochondria completely intact with the help of L-carnitine. Think of L-carnitine as a subway train that transports fatty acids into the mitochondria. L-carnitine (from the Greek word *carnis* means meat or flesh) is chiefly found in animal products.

Fuel coming from carbs needs to get broken down first outside the mitochondria and the product of this breakdown (pyruvate) is the one that gets transported inside the mitochondria, or it can be used to produce energy in a very

inefficient way outside the mitochondria through anaerobic metabolism which produces ATP when oxygen is not present.

Step 2 - Fuel is Converted into Acetyl-CoA

When pyruvate - the product of breaking down carbs - enters the mitochondria, it first must be converted into acetyl-CoA by an enzymatic reaction.

Fatty acids that are already inside the mitochondria are broken down directly into acetyl-CoA in what is called beta-oxidation.

Acetyl-CoA is the starting point of the next step in the production of ATP inside the mitochondria.

Step 3 - Oxidation of Acetyl-CoA and the Krebs Cycle

The Krebs cycle (AKA tricarboxylic acid cycle or citric acid cycle) is the one that oxidizes the acetyl-CoA, removing thus electrons from acetyl-CoA and producing carbon dioxide as a by-product in the presence of oxygen inside the mitochondria.

Step 4 - Electrons Are Transported Through the Respiratory Chain

The electrons obtained from acetyl-CoA - which ultimately came from carbs or fats - are shuttled through many molecules as part of the electron transport chain inside the mitochondria.

Some molecules are proteins, others are cofactor molecules.

One of these cofactors is an important substance found mainly in animal foods and it is called coenzyme Q-10. Without it, mitochondrial energy production would be minimal. This is the same coenzyme Q10 that statin drugs block producing

crippling effects on people's health. Step 4 is also where water is produced when oxygen accepts the electrons.

Step 5 - Oxidative phosphorylation

As electrons travel down the electron transport chain, they cause electrical fluctuations (or chemical gradients) between the inner and outer membrane in the mitochondria. These chemical gradients are the driving forces that produce ATP in what is called oxidative phosphorylation. Then the ATP is transported outside the mitochondria for the cell to use as energy for any of its thousands of biochemical reactions.

But why is fat better than carbs?

If there were no mitochondria, then fat metabolism for energy would be limited and not very efficient. But nature provided us during our evolution with mitochondria that specifically uses fat for energy. Fat is the fuel that animals use to travel great distances, hunt, work, and play since fat gives more energy-packed ATPs than carbs. Biochemically, it makes sense that if we are higher mammals who have mitochondria, then we need to eat fat. Whereas carb metabolism yields 36 ATP molecules from a glucose molecule, a fat metabolism yields 48 ATP molecules from a fatty acid molecule inside the mitochondria. Fat supplies more energy for the same amount of food compared to carbs. But not only that, the burning of fat by the mitochondria - beta oxidation - produces ketone bodies that stabilizes overexcitation and oxidative stress in the brain related to all its diseases, it also causes epigenetic changes that produce healthy and energetic mitochondria and decreasing

the overproduction of damaging and inflammatory free radicals among many other things!

Mitochondria regulate cellular suicide, AKA apoptosis, so that old and dysfunctional cells which need to die do so and then new ones can come into the scene. But when mitochondria function becomes impaired and sends signals that tell normal cells to die, things go wrong. For instance, the destruction of brain cells leads to every single neurodegenerative condition including Alzheimer's disease, Parkinson's disease and so forth. Mitochondrial dysfunction has wide-ranging implications, as the health of the mitochondria intimately affects every single cell, tissue and organ within your body.

The catalysts for this destruction is usually uncontrolled free radical production which cause oxidative damage to tissues, fat, proteins and DNA, causing them to rust. This damage, called oxidative stress, is at the basis of oxidized cholesterol, stiff arteries (rusty pipes) and brain damage. Oxidative stress is a key player in dementia as well as autism.

We produce our own anti-oxidants to keep a check on free radical production, but these systems are easily overwhelmed by a toxic environment and a high carb diet.

Mitochondria also have interesting characteristics which differentiate them from all other structural parts of our cells. For instance, they have their own DNA (referred as mtDNA) which is

separate from the widely known DNA in the nucleus (referred as n-DNA), and it comes for the most part from the mother's line which is why mitochondria is also considered as your feminine life force. This mtDNA is arranged in a ring configuration and it lacks a protective protein surrounding it, which leaves its genetic code vulnerable to free radical damage. If you don't eat enough animal fats, you can't build a functional mitochondrial membrane which will keep it healthy and prevent them from dying.

If you have any kind of inflammation from anywhere in your body, you damage your mitochondria. The loss of function or death of mitochondria is present in pretty much every disease. Dietary and environmental factors we have reviewed in this book lead to oxidative stress and thus, mitochondrial injury as the final common pathway of diseases or illnesses. Autism, ADHD, Parkinson's, depression, anxiety, bipolar disease, brain aging are linked with mitochondrial dysfunction from oxidative stress. Mitochondrial dysfunction contributes to congestive heart disease, type 2 diabetes, autoimmune disorders, aging, cancer, and other diseases.

Whereas the nDNA provides the information your cells need to code for proteins that control metabolism, repair, and structural integrity of your body, it is the mDNA which directs the production and utilization of your life energy. A cell can still commit suicide (apoptosis) even when it has no nucleus with its nDNA.

Because of their energetic role, the cells of tissues and organs which require more energy to function are richer in mitochondrial numbers. Cells in our brains, muscles, heart, kidney and liver contain thousands of mitochondria, comprising up to 40% of the cell's mass. According to Prof. Enzo Nisoli, a human adult possesses more than ten million billion mitochondria, making up a full 10% of the total body weight (Matthews, 2011). Each cell contains hundreds of mitochondria and thousands of mtDNA. What is more, if anything affects our mitochondrial function, it's going to be felt in the brain first.

Since mtDNA is less protected than nDNA because it has no "protein" coating (histones), it is exquisitely vulnerable to injury by destabilizing molecules such as neurotoxic pesticides, herbicides, excitotoxins, heavy metals and volatile chemicals among others, tipping the balance of free radical production to the extreme and leading to oxidative stress which damages our mitochondria and its DNA. This leads to over-excitation of cells and inflammation which is at the root of Parkinson's disease and other diseases, but also mood problems and behavior problems.

Enough energy means a happy and healthy life. It also reflects in our brains with focused and sharp thinking. Lack of energy means mood problems, dementia, and slowed mental function among others. Mitochondria are intricately linked to the ability of the prefrontal cortex –our brain's captain- to come fully online. Brain cells are loaded in mitochondria that produce the necessary energy to learn and memorize, and fire neurons harmoniously.

The sirtuin family of genes works by protecting and improving the health and function of your mitochondria (Hippkiss, 2008). They are positively influenced by a diet that is non-glycating, i.e. a low carb diet since a high carb diet induces mitochondrial dysfunction and formation of reactive oxygen species.

Another thing that contributes to mitochondrial dysfunction is latent viral infections such as the ones of the herpes family. Remember that most, if not all of your "junk" DNA has viral-like properties and if a pathogenic virus takes hold of our DNA or RNA, it could lead to disease or cancer. Herpes simplex virus is a widespread human pathogen and it goes right after our mitochondrial DNA. Herpes simplex virus establishes its latency in sensory neurons, a type of cell that is highly sensitive to the pathological effects of mtDNA damage (Saffran et al., 2007). A latent viral infection might be driving the brain cell loss in neurodegenerative diseases such as Alzheimer's disease (Porcellini et al., 2010). Members of the herpes virus family, including cytomegalovirus and Epstein-Barr virus which are what most people have, can go after our mitochondrial DNA, causing neurodegenerative diseases by mitochondrial dysfunction. But a ketogenic diet is the one thing that would help stabilize mtDNA since mitochondria runs the best on fat fuel. As it happens, Alzheimer's disease is the one condition where a ketogenic diet has a profound positive effect.

The role of mitochondrial dysfunction in our "modern" age maladies is a staggering one. Our mitochondrial energetic sources are essential if we are to heal from chronic ailments. It is our

mitochondria that lies at the interface between the fuel from foods that come from our environment and our bodies' energy demands. And it is a metabolism based on fat fuel, a ketone metabolism, the one which signals epigenetic changes that maximizes energetic output within our mitochondria and helps us heal.

I am incredulous at how my body is responding. I think I am totally carb intolerant. I've struggled with extreme fatigue/exhaustion for so many years, even with improved sleep in a dark room that I can't tell you how wonderful it is to wake up in the morning, get out of bed and not long to crawl back in, going through the day by will mostly. Also chronic long-standing intestinal issues are finally resolving. A couple of people at work have made comments to the effect that I'm a "different woman", calmer, no more hyperness under pressure, stress seems to roll off of my back as well. I've lost a little weight and although I don't weigh myself, my clothes are definitely looser. I've had the round middle for so many years I was resigned to struggling to bend over to pull my shoes on! -Bluefyre, 56 years old.

Ketosis Revisited

The presence of ketones in the blood and urine, a condition known as ketosis, has always been regarded as a negative situation, related to starvation. While it is true that ketones are produced during fasting, ketones are also produced in times of

plenty, but not plenty of carbohydrates since a carb metabolism suppresses ketosis. In the absence of most carbs in the diet, ketones will form from fat to supply for energy. This is true even if lots of fats and enough protein are eaten, something that is hardly a starvation condition.

As we saw, a ketogenic diet has been proved useful in a number of diseases, especially neurological ones. Strictly speaking, a ketogenic diet is a high fat diet in which carbohydrates are either completely eliminated or nearly eliminated so that the body has the very bare minimum sources of glucose. That makes fats (fatty acids) a mandatory energetic fuel source for both the brain and other organs and tissues. If your carb intake is high, you'll end up storing both the fat and the carbs in your fat tissue thanks to insulin. A ketogenic diet is not a high protein diet, which can also stimulate insulin as we saw earlier. It is basically a diet where you rely primarily on animal foods and especially their fats.

I recently had my annual blood work done (cholesterol, etc.) During the review, my doctor said that everything looked great! He then encouraged me to continue on my great 'low fat, high fruit and veggie diet' that I must be following! I just smiled. Next visit I'm going to tell him about my real 'diet'. Lol -1984.

Among the by-products of fat burning metabolism are the so called ketone bodies - acetoacetate, β -hydroxybutyrate and acetone - which are produced for the most part by the liver.

When our bodies are running primarily on fats, large amounts of acetyl-CoA are produced which exceed the capacity of the Krebs, leading to the making of these three ketone bodies within liver mitochondria. Our levels of ketone bodies in our blood go up and the brain readily uses them for energetic purposes. Ketone bodies cross the blood brain barrier very easily as well. Their solubility also makes them readily transportable by the blood to other organs and tissues. When ketone bodies are used as energy, they release acetyl-CoA which then goes to the Krebs cycle again to produce energy.

In children who were treated with the ketogenic diet to treat their epilepsy, it was seen that they become seizure-free even long after the diet ended, meaning that not only did the diet prove to be protective, but also it modified the activity of the disease, something that no drug has been able to do (Gasior et al., 2006). In Alzheimer's disease, as levels of ketone bodies rise, memory improves. Not to mention that people's starved brains finally receive much needed fats they need. In fact, every single neurological disease is improved on the ketogenic diet. We shall review the reason as to why.

The benefits of a ketogenic diet can be seen as fast as one week, developing gradually over a period of 3 weeks. There are several changes in gene expression involving metabolism, growth and development, and homeostasis among others.

The hippocampus is a region in your brain that is very vulnerable to stress which makes it lose its brain cells. The hippocampus has

to do with memory, learning, and emotion. As it happens, a ketogenic diet promotes the codification of genes which create mitochondria in the hippocampus; as a consequence, there is more energy availability. A larger mitochondrial load and more energy mean more reserve to withstand much more stress (Maalouf et al. 2009). In some animal models, there is a 50% increase in the total number of mitochondria in the hippocampus, resulting in more brain ATP (Nylen and Velazquez, 2009). Other animal studies show how communication between brain cells in the hippocampus would remain smooth for 60% longer when exposed to a stressful stimulus compared to their counterparts who didn't have a ketogenic diet (Bough, 2008). This is very important indeed, as too much stress can damage the hippocampus and its capacity to retrieve information, making you "absent-minded" or "brain-scattered", as well as affecting the ability of your prefrontal cortex to think and manage behavior.

A ketogenic diet also increases levels of the calming neurotransmitter - GABA - which then serves to calm down the over-excitation which is at the base of major neurodegenerative diseases, but also anxiety and other mood problems. A ketogenic diet also increases antioxidant pathways that level the excess production of free radicals from a toxic environment. It also enhances anti-inflammatory pathways.

Ketosis also cleans our cells from proteins that act like "debris" and which contribute to aging by disrupting a proper functioning of the cell (Finn and Dice, 2005). It basically does this by what is known as autophagy which preserves the health of cells and

tissues by replacing outdated and damaged cellular components with fresh ones. This prevents degenerative diseases, aging, cancer, and protects you against microbial infections. That means that a ketogenic diet not only rejuvenates you, but it also makes a person much less susceptible to viruses and bacterial infections (Yuk, 2012). This is very relevant due to the increasing number of weird viral and bacterial infections that seem to be incoming from our upper atmosphere (Wickramasinghe, 2003), or due to high levels of radiation that creates more pathogenic strains. Either or, we are more vulnerable than ever due to the state of our mitochondria.

It will serve us to prepare for the worst with ketosis. Ketone-enhanced autophagy is very important because autophagy can target viruses and bacteria that grow inside cells which are very problematic (Yordy and Iwasaki, 2011). Intracellular viruses and bacteria can lead to severe mitochondrial dysfunction and ketosis remains by far our best chance against them.

Ketone body production through intermittent fasting and the ketogenic diet is the most promising treatment for mitochondrial dysfunction (Wallace et al., 2010). The longevity benefits seen in caloric restriction research is due to the fact that our bodies shift to a fat burning metabolism within our mitochondria. With a ketogenic diet, we go into a fat burning metabolism without restricting our caloric intake.

Ketosis deals effectively with all the problems that accompany a diet rich in carbs like the one recommended by mainstream

science: anxiety, food cravings, irritability, tremors, and mood problems among others. That a ketogenic diet shrinks tumors on animal models and enhances our brain's resiliency against stress and toxicity, makes it a crime to discourage the consumption of a high fat diet.

In addition to increasing the production of our body's natural valium - GABA - the increased production of acetyl-CoA generated from the ketone bodies also drives the Krebs cycle to increase mitochondrial NADH (reduced nicotinamide adenine nucleotide) which our body uses in over 450 biochemical reactions that are vital, including the cell signaling and assisting of the ongoing DNA repair. Because the ketone body beta-hydroxybutyrate is more energy rich than pyruvate, it produces more ATP. Ketosis also enhances the production of important anti-oxidants that deal with toxic elements from our environments, including glutathione.

Mitochondria from the hippocampus of ketogenic diet-fed animals are also resistant to mtDNA damage and are much less likely to commit cell suicide -apoptosis- at inappropriate times. As Douglas C. Wallace, Ph.D. (2010), Director of the Center for Mitochondrial and Epigenomic Medicine says, "the ketogenic diet may act at multiple levels: It may decrease excitatory neuronal activity, increase the expression of bioenergetic genes, increase mitochondrial biogenesis and oxidative energy production, and increase mitochondrial NADPH production, thus decreasing mitochondrial oxidative stress."

Keto-adaptation results in marked changes in how we construct and maintain optimum membrane (“mem-brain”) composition, not only because of the healthy fats we provide through the diet, but also because of less production of free radicals and inflammatory mediators, and more production of anti-oxidants. It is really the ideal balanced state.

Moreover, you might want to keep in mind this excerpt from *Human Brain Evolution: The Influence of Freshwater and Marine Food Resources*:

There are two key advantages to having ketone bodies as the main alternative fuel to glucose for the human brain. First, humans normally have significant body fat stores, so there is an abundant supply of fatty acids to make ketones. Second, using ketones to meet part of the brain’s energy requirement when food availability is intermittent frees up some glucose for other uses and greatly reduces both the risk of detrimental muscle breakdown during glucose synthesis, as well as compromised function of other cells dependent on glucose, that is, red blood cells. One interesting attribute of ketone uptake by the brain is that it is four to five times faster in newborns and infants than in adults. Hence, in a sense, the efficient use of ketones by the infant brain means that it arguably has a better fuel reserve than the adult brain. Although the role of ketones as a fuel reserve is important, in infants, they are more than just a reserve brain fuel – they are also the main substrate for brain lipid synthesis.

I have hypothesized that evolution of a greater capacity to make ketones co-evolved with human brain expansion. This increasing capacity was directly linked to evolving fatty acid reserves in body fat stores during fetal and neonatal development. To both expand brain size and increase its sophistication so remarkably would have required a reliable and copious energy supply for a very long period of time, probably at least a million, if not two million, years. Initially, and up to a point, the energy needs of a somewhat larger hominin brain could be met by glucose and short - term glucose reserves such as glycogen and glucose synthesis from amino acids. As hominins slowly began to evolve larger brains after having acquired a more secure and abundant food supply, further brain expansion would have depended on evolving significant fat stores and having reliable and rapid access to the fuel in those fat stores. Fat stores were necessary but were still not sufficient without a coincident increase in the capacity for ketogenesis. This unique combination of outstanding fuel store in body fat as well as rapid and abundant availability of ketones as a brain fuel that could seamlessly replace glucose was the key fuel reserve for expanding the hominin brain, a reserve that was apparently not available to other land - based mammals, including nonhuman primates (Cunnane and Stewart, 2010).

It is indisputable that a ketogenic diet has protective effects in our brains and with all the evidence of its efficacy in mitochondrial dysfunction, it can be applied for all of us living in a highly stressful and toxic environment. Ketone bodies are healing bodies

that helped us evolve and nowadays our mitochondria are always harmed in some way or another since the odds in this toxic world are against us. Obviously, there are going to be people with such damaged mtDNA or with mutations they were born with, who can't modify their systems (i.e. defects on L-carnitine metabolism), but even in some of those cases, they can halt or slow down further damage.

The way to have healing ketone bodies circulating in our blood stream is to do a high fat, restricted carb and moderated protein diet. Coupled with intermittent fasting which will enhance the production of ketone bodies, and resistance training which will create mitochondria with healthier mtDNA, we can beat the odds against us.

What is considered a "normal diet" today is based on science that happens to benefit Big Agra and Big Pharma. All the data was based on a diet which was already too high on carbohydrate. If we could go back in time to the days before modern humans emerged, we would find that ketosis was the normal metabolic state, and that today's human metabolic state is aberrant. Moreover, our ancestors never had to deal with the levels of toxicity that we live with nowadays.

Time to drop hazardous low fat guidelines

To conclude this science background, we come now to some official and conventional news.

Finally someone from the conventional world of nutrition has stepped forward to state the obvious: Swedish expert committee: A low-carb diet is most effective for weight loss (SBU, 2013). *The British Medical Journal* has published a couple of articles (including an editorial) covering the main aspects we already did here, and which we have done for many years: Saturated fat is not the major issue (Malhotra, 2013) and The cardiometabolic consequences of replacing saturated fats with carbohydrates or Ω -6 polyunsaturated fats (DiNicolantonio, 2014).

Mainstream guidelines can no longer ignore what the alternative media has been saying for years: animal fats are good for our health. Every single person in the world should take this opportunity to redeem our ancestral diet which saw us thrive as intelligent human beings. It is about time to hold accountable the aberration of a diet that has taken hold of our world today, with processed and high-carbohydrate foods that perpetuate the worst state of health human history has ever seen.

Big Agra, Big Pharma and the Food Industry reign over a population crippled with dementia, diabetes, obesity, cancer, cardiovascular diseases, autoimmune diseases, allergies, respiratory problems, digestive problems, and mood disorders which no mainstream guideline can heal or cure satisfactorily. If something is achieved, it is a very bad quality of life at best, requiring something between 4 and 12 pills per day to sustain, and which slowly poisons even the most resilient.

Nurses around the world train diabetic people on dietary guidelines which only perpetuate and worsens their disease. You might be familiar with the following argument: "When calculating your insulin requirements, ignore fats as they don't raise insulin." Right there you have a big clue to the cure! Yet the brainwashing and lack of critical thinking is such that health care providers can't recognize the solution right in front of them even if they spell it out themselves. Then a nonsensical protocol is advised where people have to eat up to 5 times a day, including a carbohydrate meal every single time, just so that prescribed insulin doesn't bring blood sugar levels to dangerously low levels. Most brochures and guidelines given to diabetic patients are written and published by pharmaceutical companies that are then selling the very same prescribed insulin. Imagine if people knew that they only need to drop the carbs in order to decrease their insulin needs. God forbid they should ever cure their diabetes with a low carb diet!

It is up to us to take the matter of our health into our own hands. Spread the word and make authorities accountable and aware about the Swedish Expert Committee report and the British Medical Journal editorials. Its officially time to drop hazardous low-fat guidelines.

So now, after covering knowledge based on years of research from members of the cassiopaea forum all the world over, you'll feel ready for keto-adaptation.