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ACKNOWLEDGING & EMBRACING OUR ANCESTRAL PAST & OUR BODY'S INNATE
NUTRIENT NEEDS

Achieving Health Goals in the Modern Western World by Acknowledging & Embracing our
Ancestral Past and our Body's Intrinsic Nutrient Needs

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Abstract

As the postindustrial era of food slowly begins to dwindle, a renewed awareness and emphasis on the way our ancestors once regarded food starts to reveal itself. The compromised state of health Americans are currently in as a result of the Western diet manifests itself through the observable side effects of ingesting engineered, genetically modified, and chemically altered food-like products. The Centers for Disease Control, or CDC, estimate that three quarters of the money spent on healthcare goes to chronic, yet predominantly preventable diseases associated with the Western diet including obesity, Type 2 diabetes, cardiovascular disease, hypertension, metabolic syndrome, inflammatory and infectious diseases, and at least a third of all cancers.

With that said, it is of great importance to discuss the reality of the Western diet and its disregard for the innate nutrient needs that were once fulfilled by our ancestral food regimen. Ultimately, the latter portion of this discussion will outline four tips to re-implementing the food regimen and lifestyle we are biologically programmed for in an effort to improve health despite changes in modern cultural and dietary habits.

Achieving Health Goals in the Modern Western World by Acknowledging & Embracing our

Ancestral Past and our Body's Innate Nutrient Needs

The biological, nutritional, and cultural patterns in which humans are genetically predisposed have been shifted in recent decades, creating resistance and an inability for the human genome to adapt (Cordain et al, 2005). Evidence of this unharmonious relationship establishes itself in the emergence of modern diseases relating to “the alteration of crucial nutritional characteristics of ancestral hominin diets including: glycemic load, fatty acid composition, macronutrient composition, micronutrient density, acid-base balance, sodium-potassium ratio, and fiber content (Cordain et al, 2005). A diet in this state of unbalance may contribute to the diseases of modern civilization such as various metabolic conditions, cancer, heart disease, and depression. When paired with low physical activity brought on by widespread sedentary desk jobs, technological advancement and machinery, and other new cultural norms leading us to spend more time indoors, this can be disastrous to our physical, mental, and overall state of health.

Evolution acting through natural selection represents an ongoing interaction between a species' genome and its environment over the course of multiple generations. Genetic traits may be positively or negatively selected relative to their concordance or discordance with environmental selective pressures [...]

When environmental conditions permanently change, evolutionary discordance arises between a species' genome and its environment, and stabilizing selection is replaced by directional selection, moving the average population genome to a new set point (Cordain, et al, 2005).

Changes in Environmental Conditions: Misplaced Motivation Emphasizing Profit

Despite Genomic Nutritive Predispositions

It appears as though the 21st century ideology of *nutritionism* led us astray when food began to fall prey to scientists seeking to isolate its individual parts, leaving the nutritional value and natural functioning of the whole foods in which our Paleolithic ancestors so fruitfully thrived to fall by the wayside (Pollan, 2008). As big agribusiness flourished, the Western diet began to make its robust and unapologetic impact. The irrational consumer confusion and codependency prompted thereafter began to intensify as nutrients and antioxidants were taken out of the context of the food in which they originated and were then substituted, omitted, added, and modified to match bold and deceptive health claims already put in place on the basis of profit for all involved. While consumers may have appreciated that cost for these new engineered and fast foods was lower and shelf life longer, we have now begun to see that the resulting personal and financial cost of treating the resulting side effects and diseases brought on by consistent high calorie, fat, sodium, sugar, additive, preservative, pesticide, and hormone content is much more lavish and far-reaching. Suffice it so say, while immediate gratification, convenience, and money is saved in the present moment, both personal and financial and hardship is not spared in the long run. In fact, epidemics of chronic and preventable disease continues to mount exponentially, despite all the labeling and health claims made by the food industry and technological and chemical advances made by big agribusiness; all of whom consumers have been tricked into regarding as an authority on their health.

Moreover, the Centers for Disease Control (CDC) estimate that of the \$2.4 trillion in health care expenditures in the United States, \$1.8 trillion is associated with the treatment of chronic, preventable disease. With that, it is clear that the American understanding of food has

been injudiciously tailored to a more corrupt point of view in which food science and capital is the prime motivation and consumers are left confused, sick, and vulnerable to its authority. From a distance, there appears to be a vicious circle of marketing such food-like products and then treating the conditions they create; a profit game with key players being major food engineering and agricultural companies, product manufacturers and distributors, marketing firms, and pharmaceutical corporations.

Prior to the perpetual conversions to the food supply and strong technological influence on food, individuals were responsible for their choices. There were no ever-changing rules or confusion surrounding the proper way to sustain dietary health. In fact, the various forms of metabolic syndrome and inflammatory disease that is so commonly diagnosed today was not an issue either. The ancestral hominin diet was limited to wild animal provisions like lean meats, internal organs, and bone marrow, but no dairy, as well as unrefined, nutrient-dense plant sources including fruits, vegetables, and nuts, but not legumes (Frassetto, et al., 2009). The regularly consumed, instantly-gratifying food products that make up about 72% of the total daily energy of modern Western society would have served no purpose in the preindustrial era and only serve to instigate disease today (Cordain, et al, 2005). As mentioned previously, the glycemic load, fatty acid composition, micronutrient density, acid-base balance, macronutrient composition, and sodium-potassium ratio of the past looked much different and yielded drastically different effects on the body. Along with fiber content, the former four of these elements will be discussed more in depth moving forward.

Ancestral Nutrient Profile & Characteristics

Glycemic Load

Unlike the processed, refined sugars and cereal grains that make up the majority of the high glycemic load of today, the carbohydrate sources of our low glycemic Paleolithic ancestors came from wild fruits, berries, and tubers, with grains and honey in scarce quantities (Carrera-Bastos, et al., 2011). Consequently, they did not fall victim to chronic diseases such as “hyperglycemia and hyperinsulinemia, which may contribute to dyslipidemia (elevated serum triglycerides, small-dense LDL-C, and reduced high-density lipoprotein) hypertension, elevated plasma uric acid, and insulin resistance, the primary metabolic defect in metabolic syndrome” (Carrera-Bastos, et al., 2011, p. 24). Moreover, a chronically high GL diet is attributed to many hormonal changes affecting “insulin-like growth factor, ovarian and testicular androgen synthesis, and decreased sex hormone-binding globulin hepatic synthesis that ultimately may result in polycystic ovary syndrome, epithelial cell cancers, acne, and juvenile myopia, among other diseases” (Carrera-Bastos, et al., 2011, p. 24).

Fatty Acid Composition

Large concentrations of essential omega-3 fatty acids from foods are found in abundance within brain and heart tissues, making them crucial elements to neurological development, heart functions such as regulating heart rhythm, easing the blood clotting response, defending against fatal arrhythmias, protect against insulin resistance, as well as reducing inflammation (Pollan, 2008). Conversely, omega-6 fatty acids like those typically found in processed vegetable, seed, soybean oils, and animals raised on grain, tend to stimulate the inflammatory response at high levels, which in turn seems to be related to the development of cardiovascular disease among other health issues such as rheumatoid arthritis, food intolerances, immune disorders, and gastrointestinal conditions (Pollan, 2008). Similarly, omega-6 fatty acids appear to increase the

secretion of insulin and/or reduce insulin catabolism, causing impaired insulin action, leading to insulin resistance (Berry, 2001).

With the modifications in food supply about 12,000 years ago, particularly livestock feed, came an omega-6 to omega-3 fatty acid intake ratio that soared quickly from about 1:1 to about 5:1 (Simopoulos, 2006). The frequent consumption of corn, rice, barley, sorghum, oats, and rye grew exponentially, to a ratio that today is dangerously closer to 17:1 (Simopoulos, 2006). Both interestingly and unfortunately, people at that time all over the world began suffering the effects of a highly grain based diet, which was previously high in plants and leaves. Farmers on average were shorter and more disease-ridden, with smaller brain size compared to their free-range, grass fed ancestors (Ilardi, 2009). Additionally, the introduction of feedlots allowed for bulkier, more profitable meat production, but with it rapid decline in consumer and animal health followed close behind (Ilardi, 2009). Aside from the agricultural switch from leaves to grain and animal husbandry, this decline is also due to the invention of hydrogenation to create trans fats and other food science techniques. In addition to the consistent use of corn, canola, peanut, margarine, Crisco, and other partially hydrogenated seed oils as well as common pasteurization and preservation procedures, crucial omega-3s are destroyed because they are less stable than their omega-6 counterparts, and therefore unavailable to neutralize the damage done by excessive concentrations of omega-6, as the latter begins to build (Simopoulos, 2006).

Micronutrient Density

Vitamins & Trace Minerals:

“Ancestral diets generally provided more vitamins and minerals than are obtained by typical Americans, whether in absolute terms or relative to energy intake” (Eaton, 2006, p. 4).

The RDA for particular micronutrients has increased over time, especially in the

last few years, which is likely due to the disparity between ancestral and modern average nutrient intake in which the former was upwards of 8 times greater (Eaton, 2006). This large decline is now attributed to soil depletion and modern food transport and stocking methods as well as cooking methods, smoking, excessive alcohol consumption, and regarding cereal grains as everyday diet staples; the latter of these factors may adversely affect nutrient status and bioavailability in vitamins and minerals like B6, biotin, magnesium, calcium, iron, and zinc (Carrera-Bastos, et al., 2011). Likewise, Even moderate micronutrient deficiency leads to a wide spectrum of pathophysiological events, and it is an important risk factor for several chronic degenerative diseases” (Carrera-Bastos, et al., 2011, p. 20).

Acid-Base Balance

Ancestral diets were more naturally geared toward alkalinity due to high vegetable and fruit content (Eaton, 2006). This is unlike the acid-producing cereal grains and dairy foods that make up a majority of the present-day food regimen.

According to Eaton (2006):

Homeostatic mechanisms ordinarily maintain pH at about 7.4, but over prolonged periods (decades) the corrective metabolic measures necessary to offset persistent acid- yielding diets have deleterious effects, including urinary Ca loss (to balance H⁺ excretion), accelerated skeletal Ca depletion, calcific urolithiasis, age-related muscle wasting and progressive renal function deterioration.

Furthermore, once foods are digested, absorbed, and metabolized, they release either acid or base; those like dairy products, cereal grains, salt, meats, fish, shellfish, and eggs are all acid producing, while fresh vegetables, tubers, fruits and nuts are base producing; the latter of which

comprised the primary ancestral diet and is of great deficiency today, leading to chronic, low-grade metabolic acidosis and related symptom subsets (Carrera-Bastos, et al., 2011).

Fiber

“Roller-milling has reduced the fiber content of cereal grain-based foods so that total fiber intake has plummeted to levels much below those obtaining for agriculturalists, hunter-gatherers, or Primates” (Eaton, Eaton III, & Cordain, 2002, p. 106). Alternatively, unaltered, wild fruits and vegetables consumed by our ancestors have proved in proximate analyses to be much more fiber-rich, containing about 133g dietary fibre/kg, compared to the 42g/kg of those now commercially available, with an average overall intake of >100g/d; a decline of which is a direct result from ages of advancement in agroindustry (Eaton, 2006). Fiber intake today is typically obtained from the insoluble fiber found in cereal grains, whereas a fruit and vegetable source yields a high amount of soluble fiber allowing for satiety, a reduction in postprandial free fatty acids, and more sufficient blood sugar control (Carrera-Bastos, et al., 2011). Additionally, fruits and vegetables yield 2 to 8 times more fiber overall than do whole grains, adding to the many reasons why fresh produce the best option to increase intake (Carrera-Bastos, et al., 2011).

Methods

Internet database searches on Google Scholar, the LIRN database (PubMed), The National Center for Complementary and Alternative Medicine, The American Journal of Clinical Nutrition, The Centers for Disease Control, and Partnership for Prevention were conducted using the following Boolean terms: evolution of dietary patterns; chronic diseases; preventable diseases; Western diet and disease; disease prevention; cost of prevention versus treatment; hunter-gatherer diet; dietary patterns and culture; glycemic index and western diet; chronic disease and western diet; holistic nutrition and wellbeing; ancestral diet and health; food labels

and deception; food industry and influence; organic food and health; consumer attitudes and organic food [the selection of terms will expand upon further research]. Additionally, Michael Pollan's book titled *In Defense of Food: An Eater's Manifesto*, Dr. Stephen Ilardi's *The Depression Cure*, and Kimberly Lord Stewart's *Eating Between the Lines* were referenced,

Discussion

The evolution of dietary habits and food along with the bold, deceptive claims as to what health is and how to attain it has led to much confusion, and ultimately, either an irrational obsession with following newly-installed "rules," or a lack of motivation to reach personal wellness aspirations. The following tips are designed to help consumers who want to achieve better health get back to our basic ancestral perspective of food, promote both a preventative and intuitive approach to eating, and counteract the confusion and hyper-dependent relationship we have with modern, westernized notions of health.

Tip 1: F.L.A.M.O: Ensure dietary elements include adequate amounts of fiber (F), low glycemic produce (L), alkaline produce (A), micronutrients (M), and omega 3s (O), even if just to offset the consumption of less nutritious, processed, and acidic foods.

Why low glycemic foods and how can I increase my intake?

It's no coincidence that with the widespread and excessive consumption of refined sugars and high fructose corn syrup consumed today, obesity, insulin resistance, dyslipidemia, gout, hypertension, kidney disease, Type 2 diabetes, coronary heart disease, and nonalcoholic fatty liver disease has also become much more pervasive (Carrera-Bastos, et al., 2011). Foods with high glycemic loads that are measurable on the glycemic index are typically comprised of refined sugars and carbohydrates typical of the western diet, and acutely elevate blood glucose while increasing hormones secreted from the gut and stimulating the release of pancreatic insulin in

high concentrations (Cordain et al, 2005). As a result of these physiological responses, hormonal changes promoting insulin resistance ultimately lead to the aforementioned conditions. This and other metabolic diseases have the ability to proliferate further illnesses such as acne, polycystic ovary syndrome, and epithelial cell cancers such as those in the breast, colon, and prostate. It is important to understand that “diseases of insulin resistance are rare or absent in hunter-gatherer and other less westernized societies living and eating in their traditional manner” (Cordain et al, 2005). Along with increased physical activity, a cheaper dietary alternative to the treatment of these chronic diseases is to eliminate refined carbohydrates and sugars from the diet, both food and beverage, and replace them with smaller portions of complex carbohydrates such as brown rice, quinoa, oats, stevia, water, and fresh fruit and vegetables high in soluble fiber. Notably, while fruit is a natural source of fructose, it also contains many nutrients including vitamin C and fiber, which neutralize some of the ill effects of the fructose and make it harder for sugars to absorb in the bloodstream through the gastrointestinal tract. Overall, the main goal of reducing glycemic load is to reduce large spikes in blood glucose concentration while reducing risk for chronic illness and related food cravings and addictions that follow.

Why Omega 3s and how can I increase my intake?

As mentioned previously, large concentrations of essential omega-3 fatty acids from foods are found in abundance within brain and heart tissues, making them crucial elements to neurological development, heart functions such as regulating heart rhythm, easing the blood clotting response, defending against fatal arrhythmias, protecting against insulin resistance, as well as reducing inflammation (Pollan, 2008). The body has a functional need for this fatty acid, though it is unable to synthesize it on its own because as it does not contain omega-3 desaturase, the converting enzyme needed for this process to take place. Therefore, this need must be

satisfied through the foods that are ingested. Unfortunately, modern Western civilization does not support our dietary need for this. Omega-3 fatty acid levels are much too low and omega-6 levels are much too high.

Interestingly, when the above-mentioned converting enzyme omega-3 desaturase needed for omega-3 production, obtained from the roundworm, was introduced in cultures of human breast cancer cells and normal rat cardiomyocytes: omega-6 ALA was converted to omega-3 EPA. Further studies indicate that the cancer cells exposed to the omega-3 desaturase enzyme “underwent apoptotic death, whereas cancer cells with a high omega-6/omega-3 ratio continued to proliferate” (Simopoulos, 2006). These studies express the needs for fatty acid balance in the Western diet through the increase in omega-3 consumption.

Furthermore, inflammatory diseases are commonly linked to high omega-6, low omega-3 consumption in which omega-6s trigger inflammation. The ability for the body to protect against foreign invaders through an inflammatory response is essentially a short-term and local response to injury, but when this inflammation becomes chronic and sticks around for long periods of time in the absence of physical damage, the body starts to turn on itself and attack its own cells while causing great stress in doing so. With that in mind, omega-3 fatty acids are required to stimulate the release of anti-inflammatory hormones to neutralize the effects (Ilardi, 2009).

Fatty acids influence inflammation through a variety of mechanisms; many of these are mediated by, or at least associated with, changes in fatty acid composition of cell membranes. Changes in these compositions can modify membrane fluidity; cell signaling leading to altered gene expression, and the pattern of lipid mediator production. Cells involved in the inflammatory response are typically rich in the n-6 fatty acid arachidonic

acid, but the contents of arachidonic acid and of the n-3 fatty acids EPA and DHA can be altered through oral administration of EPA and DHA (Calder, 2010).

With that said, in order to regain omega-3 balance, a diet more closely resembling our ancestors is necessary: these essential fats are found primarily in the leaves of plants and include grass and algae. This explains why wild fish and game are beneficial secondary sources of omega-3s due to the algae, grass, and plants that they ingest and quickly absorb. In addition to diet, a quality fish oil supplement consisting of a daily dosage from 1000 to 2000mg EPA and 500-1000mg DHA is beneficial (Ilardi, 2009). These elements in combination are important and necessary additions in the prevention of disease instigated by the omega-6 rich diet of the West.

Why micronutrients and how can I increase my intake?

Trace minerals like copper, iron, zinc, and manganese, boron, magnesium, and chromium, just to name a few, are all essential for adequately sustaining life, and are naturally present in the body in trace amounts of just 1 microgram per gram of tissue (Nielsen & Berdanier, 2002). Dietary intakes of trace minerals are necessary to trigger vital biological reactions within the body. These minerals have many different roles: some of them donate or accept electrons as a result of oxidation or reduction reactions; others assist in metabolic energy generation and utilization; bind, transport, and release oxygen within the body; provide stability and structure to molecules; and/or regulate the enzymatic reactions that facilitate molecule binding to receptor sites along cell membranes, which in turn effects gene expression (Nielsen & Berdanier, 2002). Increase micronutrients quickly and sufficiently by including five or more servings of fresh, organic if possible, vegetables and fruits per day.

Why alkaline and how can I better maintain acid-base pH balance?

In order for our bodies to function optimally as they did hundreds and thousands of years ago, a balance between the two major types of substances consumed must be in place. The acid-alkaline balance is comprised of disparate, yet complementary characteristics that are similar to many other balances required by our bodies; “activity and rest, inhalation and exhalation, venous and arterial blood, energy intake and expenditure, and the production and elimination of toxins” (Vasey 1999). With that said, it is imperative to remember that moderation and balance is a key factor to a healthy lifestyle both physically and mentally. When our acid-alkaline balance is maintained, our overall health and performance is restored.

Acidification of the body can manifest itself in many different ways. Just because one eats an acidic food does not necessarily mean it will have an acidic effect on his or her body. For instance, the acetic acid present in apple cider vinegar has an alkalizing effect internally, at least for those whose bodies metabolize weak acids properly. Excessive acid will typically play off of someone's already predisposed physiological weaknesses. These weaknesses are determined by many factors including temperament, heredity, accidents, lifestyle, and profession (Vasey 1999); and individual results will vary. An acid condition is commonly triggered by an uneven ratio of acidic foods like proteins, carbohydrates, fats, and sugars to alkaline foods like vegetables and potatoes that are needed to neutralize the acids. In addition, the consumption of stimulants like coffee along with tobacco and alcohol play a role in developing an acidic internal state. Day to day stress, nervous tension, noise, time constraints and other pressures we are frequently exposed to lead our bodies to become overwhelmed and inflamed. In order to counteract acidic distress, we must stay active and make sure to include a larger portion of alkaline foods like unaltered fruits and vegetables with each meal. It is not a requirement to eliminate acidic foods as much as it is limiting its intake and increasing more greens and

vegetables to act as a buffer. Once again, the need for proper balance is crucial. If an alkaline substance does not neutralize our bodies, the organ in contact with the acid is directly affected in a negative way and the excess acid encourages illness by depleting our tissues of necessary minerals. Demineralization can instigate joint inflammation, brittle hair, osteoporosis and other bone density, resistance, and flexibility problems as a result of calcium loss (Vasey 1999).

Excessive acid with only small amounts of alkaline foods, sedentary lifestyle, nervous tension caused by work, family, money, and other stressors in combination with the physiological weaknesses we are already predisposed to can create symptoms related to illness. Along with numerous exclusive symptoms based on the organ system affected, an acid condition within the body causes us to feel an overall high level of fatigue whether we are mentally or physically exerting ourselves or not, loss of drive and enthusiasm, irritability, excessive worry and sometimes depression (Vasey 1999). With that said, it is important to stay active and vigilant to our lifestyle habits so we are able to discern what triggers our symptoms. With an over acidified condition, it is a great idea to participate in a juice or smoothie detox to neutralize high acid levels and get back to a proper acid-alkaline balance. Doing a detox like the smoothie or juice cleanse will also make causes or triggers more obvious so we can learn how certain substances affect us and can then stay away or limit intake.

Why fiber and how can I increase my intake?

In order for our bodies to make minerals more bioavailable and effectively eliminate toxins and other harmful environmental irritants that may affect biochemical and organ functioning, we must maintain proper fiber intake; this is something that our primitive relatives did naturally. Soluble fibers like the gels and pectins found in fruits and vegetables protect our gastrointestinal (GI) tract while reducing the build up of waste by cleansing the mucus along the

small intestine, creating bulk in the colon, and pulling toxins from our bodies to prepare for proper elimination (Haas & Chace, 2012).

However, beyond the most common known reason as to why fiber is valuable for the body, it also plays more complex roles. For instance, intestinal fermented dietary fiber produces beneficial short-chain fatty acids like acetic acid, propionic acid, and butyric acid, which among other things, improves intestinal permeability (Carrera-Bastos, et al., 2011).

Furthermore, fiber is a carbohydrate that cannot be digested by humans due to a lack of enzymes needed for its breakdown, absorption, and transportation through the GI tract for elimination. With that said, dietary fiber provides the beneficial elements of cellulose, hemicellulose, lignin, pectin, gums, and beta glucans; all of which are intact in plant food and provide bulk, regulate colon pressure and muscle action, satiety, colonic cell nourishment, and prevent reabsorption (Schlenker & Long, 2011).

According to the Dietary Guidelines for Americans 2010, there is now a recommended goal of 4.5 cups of fruit and vegetables a day and 3 servings of whole grains; together this constitutes about 30 grams of fiber per day to assist in achieving and maintaining healthy functioning (Mahan, Escott-Stump, & Raymond, 2012).

Tip 2: Avoid Snacking Between Meals

We are genetically preprogrammed for an eating schedule that more closely resembles our Paleolithic ancestors, who notably did not have consistent and abundant access to food to prompt today's habit of overeating and the chronic metabolic illness that has resulted. Not eating between meals is an exercise for the liver, as it needs time between meals to generate energy and deplete its glycogen stores. During the well fed, or post absorptive state following a big meal, glucose and amino acids are transported from the intestine to the bloodstream and secretion of

insulin is triggered to stimulate glycogen synthesis and suppression of gluconeogenesis in the liver, the organ that regulates the amount of glucose in the blood (Berg, Tymoczko, and Stryer, 2002). By allowing the liver to naturally deplete its glycogen stores with a 3 to 4 hour break between meals, blood sugar levels are maintained and carbohydrates are not converted to fat and immediately stored in various locations throughout the body, subsequently creating numerous side effects including weight gain, insulin resistance, diabetes, obesity, and other symptoms falling under Syndrome X. In fact, this is prime fat burning time. When repetitive stress is placed on the pancreas and liver, there is no time for these organs to prepare and regroup, so to speak, before the next meal. This leads to snack cravings and falling energy levels, a sign of how out of shape the pancreas, liver, and muscle system is.

Tip 3: Perceptive Shopping

Packing equals processed: How to filter through the labels

Avoid food products with bold health claims, deceptive marketing gimmicks, and cure-alls expressed on the packaging. Real, functional foods do not require empty persuasion tactics, and in general lack heavy flair and packaging.

With the endless mountains of marketing schemes both persuading and confusing consumers everywhere, it's hard to know who and what to trust. With the food industry and its engineers and marketing counterparts working to expand their wallets at the expense of consumers' physical wellbeing and sanity, sometimes it can feel impossible to distinguish credibility in the supermarket aisles. As a result, eaters around the world are filling their pantries with the most affordable food-like products with longest shelf life while trusting or ignoring the technicalities in the bold claims made on its labels. Unless maintaining the safe route around the perimeter of the grocery store where fresh produce lives, the majority of items are found in the

numerous center aisles, making it almost difficult to avoid; especially in the fast-paced, high-stress, world we live in where convenience, instant gratification, affordability, and addictive ingredients prevail. However unfortunate it is that consumers are forced to spend so much time reading labels to remain vigilant against these claims, the below are a few declarations to be weary of in terms of content: words such as “free, low, reduced, less, or light/lite” do not necessarily warrant benefits. In regard to context, for instance, “light” can mean the processed food product contains just one-third fewer calories per serving than a similar product, has 50 percent less fat or sodium per serving (which is likely a product of unnatural food engineering and therefore has a different effect in the body), or even mean that the color or texture is simply lighter as in “light” brown sugar or “lite” olive oil (Stewart, 2007).

Furthermore, there are several different types of health claims found on processed food labels including *authorized health claims*, which are FDA approved with strong evidence, and *qualified health claims*, which are FDA approved with limited evidence (Stewart, 2007). The former typically connects the product to a disease with the go-ahead from the FDA. At this point, fancy letters and designs surrounding the claim will seek to persuade consumers that an ingredient in the food will more or less treat a disease, which may sometimes lead eaters to assume it is curative. Examples of these connections include: calcium and osteoporosis, sodium and hypertension, and saturated fat, cholesterol, and coronary heart disease. In certain foods such as milk, an authorized food claim may read that a diet with sufficient calcium intake may reduce risk for osteoporosis, which is a deteriorating bone disorder. On the other hand, the qualifying type of health claim does not meet FDA scientific standards and provides limited evidence, therefore the claims are similar to the previous but prefaced by saying “scientific evidence supports but does not prove or conclude that a diet with adequate intake of walnuts (for example)

may reduce the risk of coronary heart disease as part of a low saturated fat and calorie diet”.

Qualifying claims are also found on dietary supplements such as the connection between isolated antioxidants and cancer (Stewart, 2007).

Moreover, the excessive amount of assertions in existence has only created confusion. Knowing what to eat has become a source of frustration where people feel the need to follow some strict set of rules. The food industry and its health claims have overcomplicated one of humanity's most basic instinctual habits. In order to better cope with this, there are a couple of main actions consumers can take in order to have a successful supermarket trip.

Stick to the outer perimeter of the grocery store

One of the best-suggested ways to avoid this post-industrial phenomenon is to simply stick to the outermost borders of the grocery store where the organic produce and other foods live in their naturally occurring, unaltered state. Notably, not all of these foods will be safe as some are pre-packaged or require more vigilance, ie: avoiding processed, fatty, hormone laced animal meat, but there is much less temptation and persuasion with a greater amount of options. By sticking to the outermost area of the store, highly processed, packaged, and engineered products are therefor out of sight, out of mind. Here, you can more freely choose whichever whole foods (fresh produce, bulk herbs and legumes, and clean, hormone-free animal meat similar to pre-industrial provisions) you desire without being bombarded by all the confusion. You are free to intuitively choose your food without intimidation or self-doubt. The less labels, the better.

5 Word Rule

More money and more power means more control over the eating habits of the population. The money that has been pumped into the advertising and labeling of products is

extremely misleading. As mentioned previously, it confuses individuals into thinking that by making substitutions and manipulations of naturally occurring substances in foods, they are creating something even healthier. This is not the case, as it takes a more reductionist viewpoint by supporting the idea of nutritionism in which food is simply the sum of its parts and therefore does not have vital, synergistic action. If a food label has over 5 unpronounceable words, it is most likely not the best option.

Purchase mainly organic foods grown in undiluted soil. Buy in bulk and freeze to preserve the quality and lifespan of produce while saving money. The longer the shelf life, the more preservatives are present. Real, quality food will perish quicker, but will also yield more antioxidants and vitamins than those sprayed with illness-instigating pesticides and chemicals. Buying local produce is the best bet for highly nutritious produce, but this is not always an option readily available to people who live in big cities. The emergence of farmer's markets seem to be more prevalent these days, so ideally, this will become more of a mainstream option for those who live in accessible areas. Additionally, there are organic produce delivery services that transport produce straight from ones closest farmer to his or her doorstep. The set price can be affordable if bought in bulk and delivery is free.

Moreover, it is important to know that foods that are grown in pure, organic soil are nurtured as they mature. They are uncontaminated by harmful fertilizers and filled with life. As cliché as it sounds, we are, in fact, what we eat. So by ingesting wholesome, untainted, living food, our bodies will reap comparable benefits. If starting ones own garden is a possibility, even with the help of small patio planters, it is worth a shot. The more produce and herbs one can grow his or herself, the less money will be spent and greater health benefit reaped. This may also prompt a new awareness of the value of real food, eating slowly to savor it, and not

overindulging, which is a positive step in the right direction to escape scientific eating while allowing one to truly appreciate the nourishment real, living food provides.

Tip 4: Familiarize Yourself with Preparing Meals

Experiment with your own unique style of cooking and/or preparing meals

Our ancestors hunted and foraged for food that was seasonally available and were apart of the process as they cooked and/or prepared it using various techniques. By learning to cook and prepare ones own meals, the need to eat out will lessen and creative juicing will begin to flow, subsequently proving a more customized, instinctive, and wholesome approach to eating. By learning to enjoy the process, one may be able to focus more on eating to live rather than living to eat.

Ancestral preparation and preservation of food

Before the luxury of freezers, refrigerators, iceboxes, canned soups, food additive and preservative ingredients, bagged bread, and tinned fish and meat, food preparation and preservation was up to us, and we were more than resourceful in doing so. A number of these methods improved the taste, increased nutrient density and availability, and removed natural toxic material to ensure safety. Once the influence of agribusiness and major food corporations starting leaving us out of this process, which of course was helpful, affordable, and convenient as life became more and more fast paced, we also lost some control over our dietary habits.

Soaking

Soaking or steeping is commonly used for cereal grains, legumes, and anything fermentable. This process prepares the seed for cooking by reducing cook time and improving taste. Additionally, it greatly reduces the phytic acid content while improving the digestibility of the food. By reducing phytic acid, you absorb more of the minerals that come with the food,

instead of losing them. By improving the digestibility, you are able to extract more calories from the beans than you'd otherwise extract" (Sisson, 2012, p 1). Soaking is as simple as submerging the seeds in water, letting it sit in a warm locations for at least 12 hours, then draining and rinsing.

Sprouting

After soaking a grain, nut, seed, or legume, it can either be cooked immediately, dried and pounded into a flour or meal, or constantly remoistened for the purpose of sprouting into another full plant or in some cases, they were simply ingested as a product of the former when soaked or fermented and not necessarily on purpose (Sisson, 2012). Like soaking, sprouting also deactivates enzyme inhibitors, making it more digestible and activating certain enzymes that degrade phytic acid. To do this, the raw seed, grain, nut, or legume is soaked with the above procedure every eight hours. They will need enough room and air exposure, and sprouting should occur after just two rinses (Sisson, 2012).

Fermenting

Recent developments succeeding the industrial and agricultural revolutions have left Western Civilization suffering from countless gastrointestinal conditions and chronic, inflammatory diseases. We lack the probiotic benefits of our ancestors who fermented food for the purpose of preservation, storage, and sustenance. Bowel imbalances in good and bad bacteria, as well as the proliferation of yeast and parasites control whether or not the gastrointestinal or "GI" system is performing symbiotically. However, these beneficial microbial colonies are at risk with the reduction in bacterial stimulation due to improved hygiene, use of vaccinations, antimicrobial medication, and so on. As a result, Western civilization is experiencing a rapid increase in immune and gut-related health problems such as allergies,

autoimmune and inflammatory diseases (Isolauri, 2001). With that said, implementing fermented foods is one of the most important ways we can positively influence our overall state of health by rebuilding probiotic strains that encourage the balance of intestinal flora. With this, we have the ability to manage our level of toxicity and rid our bodies of unwanted waste that accumulate bad bacteria over time.

The fermentation process is a simple, cheap, and efficient method of preserving and consuming just about any kind of food while colonizing our guts with the “good” bacteria needed to maintain internal ecosystem balance. Foods that naturally contain good living bacteria, like the lactobacilli found in dairy will ferment on their own, while those that have been pasteurized will need a starter culture of bacteria (Sisson, 2012). Commonly fermented vegetables like cabbage used to make kimchi or sauerkraut, for instance, will naturally contain lactobacilli if the raw juices are squeezed out to trigger the fermentation process, and then salt added to inhibit the growth of bad bacteria. The result yields natural preservative, taste-enhancing, and nutrient-rich acetic acid, lactic acid, and alcohol with beneficially pre-digested food, the latter of which allows more energy consumption, while also creating new nutrients such as B-vitamins (Sisson, 2012).

Conclusion

The biological, nutritional, and cultural patterns in which humans are genetically predisposed have been shifted in recent decades, creating resistance and an inability for the human genome to adapt, which in turn manifests itself into widespread, chronic, and degenerative disease (Cordain et al, 2005). By re-adopting the hunter-gatherer dietary patterns and practices in which contemporary humans are hardwired to thrive, the current state of health in the Western world is bound to improve. By investing a minuscule percentage of what is

currently spent on healthcare treatment to treat modified food and its ill effects, mental and physical health as well as financial freedom may replace the need for such industrialized products. It is suggested that consumers fill their refrigerators with fresh, nutrient dense produce, nuts, seeds, cuts of lean, skinless meat and fish; replace refined carbohydrates like white bread and sugars with complex, high fiber carbohydrates like brown rice, vegetables, and fresh fruit, avoid all processed and trans-fatty foods in heavy packages, increase their Omega 3 fish oil intake, and replacing the sugary drinks with water to help improve their current state of health. While this may seem intimidating at first, the key is to adopt an ancestral perspective of food and re-evaluate the current thought process involved in habitual dietary decision making. It is important to learn how to cook creatively and intuitively, stick to the perimeter of the supermarket and avoid food labels and bold health claims, consume naturally occurring foods that are more plant based while adopting a sense of moderation and affinity for lean, hormone-free, grass fed cuts of meat.

Moreover, we must ask ourselves if our ancestors could have accessed the food we are eating. If not, it may be a product of food science, another contributing element in the proliferation of Westernized disease and should be approached with an educated level of caution. By respecting the genetically hardwired nutrient needs our bodies require and approaching our relationship to eating in a way that is at least somewhat more Paleolithic, we may begin to distance ourselves from the strong influence of big agribusiness and food corporations and regain control of our health for good.

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The ancient viruses lurking in our DNA: Bugs that infected our ancestors still linger in our bodies - and some people have complete strains in their genetic code. Researchers looked at whole genomes from people across the world. The scientists found bits of viral DNA embedded in our genome are actually regulating genes that are integral components of our innate immune system. In some cases, Herv sequences have been adopted by the human body to serve a useful purpose, such as one that helps pregnant women's bodies build a cell layer around a developing foetus to protect it from toxins in the mother's blood. More whole human genomes will need to be scanned to catalogue all the Herv insertions in humans, but this should become easier and cheaper as technology improves.

Essential nutrients are compounds the body can't make on its own, or in enough quantity. These nutrients must come from food, and they're vital for disease prevention, growth, and good health. We'll take a look at the main groups of essential micronutrients and macronutrients and explain why your body needs them. Vitamins are vital for warding off disease and staying healthy. The body needs these micronutrients to support its functions. There are 13 essential vitamins that the body needs to function properly, including vitamins A, C, B6, and D. Each vitamin plays an important role in the body, and not getting enough of them can cause health problems and disease. Many Americans do not get enough of many essential vitamins.