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Wise Traditions

IN FOOD, FARMING AND THE HEALING ARTS

A PUBLICATION OF THE WESTON A. PRICE FOUNDATION®



Education ♦ Research ♦ Activism
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Volume 21 Number 3

Fall 2020

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THE WESTON A. PRICE FOUNDATION®


Education ♦ Research ♦ Activism

The Weston A. Price Foundation is a nonprofit, tax-exempt charity founded in 1999 to disseminate the research of nutrition pioneer Weston A. Price, DDS, whose studies of isolated nonindustrialized peoples established the parameters of human health and determined the optimum characteristics of human diets. Dr. Price's research demonstrated that men and women achieve perfect physical form and perfect health, generation after generation, only when they consume nutrient-dense whole foods and the vital fat-soluble activators found exclusively in animal fats.

The Foundation is dedicated to restoring nutrient-dense foods to the American diet through education, research and activism and supports a number of movements that contribute to this objective, including accurate nutrition instruction, organic and biodynamic farming, pasture-feeding of livestock, community-supported farms, honest and informative labeling, prepared parenting and nurturing therapies. Specific goals include establishment of universal access to clean, certified raw milk and a ban on the use of soy-based infant formula.

The Foundation seeks to establish a laboratory to test nutrient content of foods, particularly butter produced under various conditions; to conduct research into the "X" Factor, discovered by Dr. Price; and to determine the effects of traditional preparation methods on nutrient content and availability in whole foods.

The board and membership of the Weston A. Price Foundation stand united in the belief that modern technology should be harnessed as a servant to the wise and nurturing traditions of our ancestors rather than used as a force destructive to the environment and human health; and that science and knowledge can validate those traditions.

The Weston A. Price Foundation is supported by membership dues and private donations and receives no funding from the meat or dairy industries. 



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President's Message

"We'd love to come to your conference, but can't do it because you won't be requiring masks," wrote a member. Of course we respect anyone's choice to wear (or not wear) a mask, but the truth is that very few of our members would attend a conference where masks were required.

Whether or not you believe that the current Covid-19 pandemic is caused by a virus, copious scientific evidence indicates that masks do not work. For example, in June 2020, rcreader.com published a list of randomized controlled trial (RCT) studies and reviews of such studies, which all show that masks and respirators do not work to prevent respiratory influenza-like illnesses, or respiratory illnesses believed to be transmitted by droplets and aerosol particles.

We moved our conference venue from Portland, Oregon, to Atlanta, Georgia, because the governor of Georgia has pledged not to enforce any mask mandates; moreover, the Sheraton-Atlanta has assured us in writing that we won't have to wear masks or practice social distancing while in the hotel. If that policy changes, we will issue full refunds of all conference registration fees.

What we *will* do at the conference is ask everyone to leave their cell phones in their rooms, or at least put them in airplane mode, in order to minimize exposure to EMFs. And there is no 5G in the hotel.

We have a great lineup of speakers this time, starting with the three amigos, Robert F. Kennedy, Jr. (delivering the banquet keynote address), Del Bigtree (addressing the closing ceremony) and Dr. Andrew Wakefield (presenting his new movie *1986, The Act* on Friday evening and conducting the Q&A session). All have bravely spoken out about the dangers of childhood vaccinations.

Tom Cowan and I will be there with our new book *The Contagion Myth*; Jeffrey Smith will discuss the dangers of GMOs; Diana Jabour, Brandon LaGreca, LAc, Beverly Rubic, PhD, and Theodora Scarato, MSW will all provide important information on how to cope with EMFs; and we have many other new speakers along with perennial favorites like Stephanie Seneff, PhD and Louisa Williams, ND, DC.

We've held a conference at the Sheraton Atlanta before and know that the chef and staff really get it about the food and can provide us with delicious Wise Traditions meals. The Thursday evening Real Milk fundraiser, children's program and farm tour are all in place, and there are plenty of different price levels to suit your budget. In short, we think the twenty-first Wise Traditions conference will be the perfect remedy—mask-free and plenty of hugs—to the difficult times we've all been through. To register, visit wisetraditions.org. We look forward to seeing you there!

Letters

MfG AND OBESITY

Without MfG (manufactured free glutamate, also called MSG), processed food wouldn't sell—and there would be no obesity epidemic.

Have you ever stopped to consider that before there was ultra-processed food, there was no obesity epidemic? And without MfG there wouldn't be many, if any, ultra-processed foods on the market.

Flavor-enhancing ingredients aren't highly visible in processed food, but they're absolutely essential. Flavor enhancers mask off-flavors, make chemicals taste like food and bring what industry calls an "umami taste" to otherwise bland and unappetizing products.

Those who reap huge profits from the sale of processed foods wouldn't have a foot in the door without flavor enhancers and won't be giving them up any time soon. That's despite the fact that every one of them contains excitotoxic (brain-damaging) glutamic acid—also known as glutamate.

There are three prerequisites for producing brain damage that will lead to obesity. First is a brain that is vulnerable to damage due to injury or the immaturity of a fetus or newborn. Second is sufficient free glutamate—or other potentially excitotoxic material to produce the excesses needed to become excitotoxic. More than enough free glutamate is present in processed foods to accomplish that. Third, there must be a way to deliver this excitotoxic material to a vulnerable brain.

In the 1970s it was demonstrated

that the brains of newborn animals are vulnerable to glutamate insult. Brain damage followed by obesity was produced in newborn mice (whose brains, like those of humans, are not fully developed). A student in Dr. John Olney's lab had observed that mice being used in studies of glutamate-induced retinal dysfunction had become grotesquely obese. A series of studies by Olney and

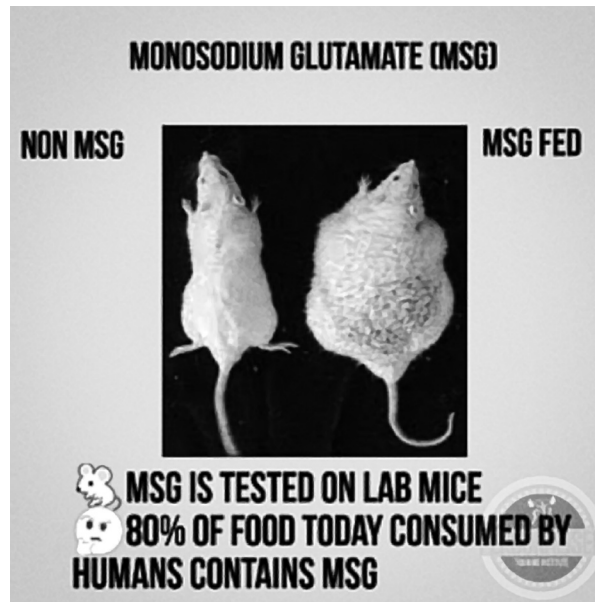
damaging the cells that host targeted glutamate-receptors and/or causing death by over-exciting those glutamate receptors until their host cells die.

Additional confirmation of the brain-damaging effects of excitotoxic free glutamic acid comes from research focused on identifying and understanding human diseases and abnormalities associated with glutamate,

often for the purpose of finding drugs that would mitigate glutamate's adverse effects. By 1980, glutamate-associated disorders such as headaches, asthma, diabetes, muscle pain, atrial fibrillation, ischemia, trauma, seizures, stroke, Alzheimer's disease, amyotrophic lateral sclerosis (ALS), Huntington's disease, Parkinson's disease, depression, multiple sclerosis, schizophrenia, obsessive-compulsive disorder (OCD), epilepsy, addiction, attention-deficit/hyperactivity disorder (ADHD), frontotemporal dementia and autism were on the rise, and evidence of the

brain-damaging effects of glutamate were generally accepted by the scientific community.

To become excitotoxic, glutamic acid must be accumulated in considerable quantity. There have always been excitotoxins, although not in food in excessive amounts. But that changed in 1957 when extraction of glutamate from a protein source (which had been a slow and costly method) was replaced by carefully selected genetically modified bacteria that excrete glutamate through their cell walls. That transformation



others followed. Many were studies of MSG fed to animals.

Today, there is more than sufficient excitotoxic glutamic acid in ultra-processed food, "fake" food, protein substitutes and dietary supplements to cause excitotoxicity. When present in amounts needed for normal body function as a natural component of food, the neurotransmitter glutamic acid is essential. But when accumulated in amounts greater than the body requires, glutamic acid becomes an excitotoxic neurotransmitter, firing repeatedly and



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allowed, and still allows, for virtually unlimited production of manufactured free glutamate and MfG.

It wasn't long before food manufacturers found that profits could be increased by using manufactured free glutamate to produce their own flavor-enhancing additives, and dozens of excitotoxic ingredients were added to the food supply.

Over the next two decades foods containing manufactured/processed free glutamate (MfG) in ingredients such as hydrolyzed proteins, yeast extracts, maltodextrin, soy protein isolate and MfG flooded the marketplace. And the large amount of manufactured free glutamate needed to cause excitotoxicity became readily available to anyone consuming multiple processed food products during the course of a day.

Delivery of excitotoxins to the fetus and newborn is easy to understand. Nourishment (and not so nourishing material) is delivered to the fetus in the form of material ingested by a pregnant woman and passed to the fetus through the placenta. A newborn is nourished through its mother's milk.

Data from Frieder and Grimm and others confirm that free glutamate can be passed in excessive quantities to neonates and fetuses by expectant mothers who ingest excessive amounts. Glutamate can cross the placenta during pregnancy, can cross the blood-brain barrier (BBB) in an unregulated manner during development and can pass through the five circumventricular organs (unique areas of the brain that lie outside the BBB) which are leaky at best at any stage of life. Moreover, the BBB is easily damaged by fever, stroke,

trauma to the head, seizures, ingestion of MfG, and the normal process of aging. Similar to drugs and alcohol, free glutamate can also be passed to infants through mother's milk.

The obesity epidemic was set in motion as the amount of MfG in processed food, "fake" food, protein substitutes and dietary supplements became sufficient to wipe out brain cells in the area of the arcuate nucleus of the hypothalamus that would have controlled satiety, appetite, and food intake had they not been obliterated by flavor-enhancers like MfG.

If you have questions or comments, we'd love to hear from you. If you have hints for others on how to avoid exposure to MfG, send them and we'll put them on Facebook. Or you can reach us at questionsaboutmsg@gmail.com and follow us on Twitter @truthlabeling.

Adrienne Samuels
Chicago, Illinois

MASKS FOR PILOTS

I am a frequent air traveler and have a health condition that makes wearing a mask difficult. My concern is twofold:

All of the U.S. airlines are enforcing a strict mask policy for staff and passengers. These airline mask mandates allow no room for exemptions for those who choose not to wear a mask for health reasons (some also believe that a mask poses significant health risks).

When checking the airline policy before a recent flight, I learned that even pilots are being required to wear a mask. And passengers who resist wearing a mask can be punished by being put on a no-fly list, thus taking our flying

privileges away indefinitely. Given the facts that the pilots have our safety in their hands, are socially distant from all passengers, and can be tested and have their temperature checked, why is airline management compromising their oxygen levels?

There are several OSHA consultants (Tammy Clark and Kristen Meghan) on the YouTube channel (see youtu.be/mHF1FE4sCDs) who are saying these broad mask mandates are against OSHA guidelines. They claim that when employees must wear personal protective masks, OSHA requires that they be individually fitted for masks and then each person is tested to ensure they can safely wear a mask. Have the airlines taken these steps to ensure that pilots can function at a high level while wearing a mask?

As airline passengers, we need to defend our right to choose how to protect ourselves from illness (personally I follow the WAPF dietary guidelines, plus take supplements and homeopathic prophylaxis). Additionally, we deserve to have pilots who are not forced to breathe in high levels of CO2 and dangerously low levels of oxygen while flying a plane with hundreds of passengers. This is an important public safety issue.

Kimberly Hartke
Reston, Virginia

NOT CONVINCED

First of all, I would like to thank the Weston A. Price Foundation for its untiring work to teach the principles of a healthy diet and lifestyle. I personally have benefited from twenty years of the diet and enjoy reading your intriguing



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scientific articles in *Wise Traditions*. I have shared your information with many friends, family and strangers over the twenty years.

Still, I am not totally convinced that vaccines are detrimental in all cases. Considering the poor nutritional state of the majority of the population and the environmental onslaught we are enduring, vaccines could be justified. This brings me to the article by Merinda Teller in your Summer 2020 *Wise Traditions*. I was aghast at her aggressive tone insinuating evil motives like power-addiction to her chosen “Gang of Four” villains. There were a lot of personal attacks, accusations of hyperinflating infectious threats, even affiliation with terrorists (guilt by association?) and approval of mob judgment calling for Bill Gate’s “arrest and imprisonment.” This kind of writing turns reasonable people off and does not promote the goals of Weston Price, who admonished us to teach, teach and teach.

Be patient, this will take time. But I see your beneficial impact in a lot of young people I come in contact with. I have been in the “movement” for almost fifty years.

Heike-Marie Eubanks
Western Oregon

Editors’ reply: Since March 2020, U.S. billionaires’ total net worth has increased by well over half a trillion dollars (\$700 billion)—an average of \$42 billion a week. Meanwhile, forty million Americans have been forced to file for unemployment, and many families are going hungry. Bill Gates and Elon Musk are the second and

ninth wealthiest people in the world. In recent weeks, the city of Berlin has hosted two mass protests attended by hundreds of thousands of Europeans who are offended by these widening disparities and are opposed to the destruction of individual sovereignty and the rise of high-tech tyranny. Robert F. Kennedy, Jr. attended the second of the two events, clearly identifying Covid-19 as a “crisis of convenience” that is helping make the powerful even more powerful, while impoverishing and oppressing everyone else. He and many others are asking valid questions about the motives of Gates and other technocrats that are a far cry from “mob judgment.” As for the Covid-19 vaccines currently in the pipeline, Moderna’s and Oxford’s frontrunner vaccines—which rely on experimental technologies never approved in any prior vaccine—have caused serious adverse reactions in superbly healthy volunteers; it is highly doubtful that individuals who are malnourished or weighed down by environmental toxins would fare any better. There are many other reasons to question the Covid-19 vaccine agenda, including a partnership between Gates, the Department of Defense and a Silicon Valley firm to develop a syringe-injectable hydrogel chip—an implant now poised for FDA approval—that will function as a permanent “biosensor” linking recipients to an artificial intelligence platform. It is not unreasonable to wonder whether the U.S. military, with Gates’ blessing, may inject this tracking device along with Covid-19 vaccines, which, as a reminder, will be free of all legal

liability for vaccine-related injuries and deaths. No one familiar with the century-long vaccine fraud—and the corrupt scientific and regulatory apparatus that upholds the vaccine orthodoxy—can continue to view these concoctions as beneficial or justifiable. As for WHO director Tedros, his unsavory actions while serving under a government notorious for human rights violations are a matter of public record, including in reports by Amnesty International. Finally, on the topic of “hyperinflating infectious threats,” the weekly Covid-19 update published on August 26 by the CDC (sister agency to Dr. Fauci’s NIAID) reports that only 6 percent of Covid-19 deaths (fewer than ten thousand) actually are due solely to Covid-19; all other Covid-19-related deaths list an average of 2.6 additional conditions or causes—the very same conditions and causes that have consistently been responsible for mortality in non-pandemic years.

EMF SENSITIVITY

My room at the Swiss farming school where I have been staying is right across the hall from a woman in her forties or fifties, who is extremely sensitive to EMFs.

Of course I had no clue... and did WhatsApp yesterday morning with my husband in the U.S. at 5 AM and 8 AM.

I heard the girl leave...thinking she was going to work.

I wanted to meet her, because I heard she tests apartments and houses for EMF emissions. This morning we met and had a very long talk about exposure. She explained that she left



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yesterday morning because such exposure “rips her out of her socks.”

She goes barefoot whenever possible and on Sundays enjoys going to a lake on the other side of Bern.

She explained when growing up she had a lot of health issues. I’m guessing her immune system was not the best, and perhaps this is why she is so sensitive today. She tells me that 5G is not nearly as bad as all the gadgets we have. (Of course she agrees that 5G is bad, but 4G is just as bad, only different) and explains that the worst exposure is our own doing.

She sleeps on a mattress on the floor (no box spring with metal coils), and uses the Swiss Shield cloth on one window and on her feather blanket to help shield her while she sleeps.

I recently bought an EMF tester from Germany and will do my best to make others aware of the dangers.

Judith Mudrak
Bern, Switzerland

ELECTRICITY AND THE HEART

About fifteen years ago I had to wear a heart monitor, which showed that my heart was missing beats and had a horrible rhythm. I was in my late thirties and had no real ailments. We had recently had a house built and had moved in and lived there for a few months.

My doctor asked me where the electricity came into the house and I realized it was about two feet from where I slept. He laughed and told me to move my bed as far away from the meter outside my walls as possible. After that, I never had another issue. So if you can’t change your room, at

least move your bed far away from the electric meter.

Patti Rogers
Miami, Oklahoma

DON’T FORGET THE MINERALS!

I’ve been on a WAPF diet journey for fifteen years, constantly upgrading my family’s diet to where I’m very happy with how we eat. I have three children, ages eight, eleven and fourteen. My health started to go downhill after the first child was born (all great home-births, all breastfed till two). It went into steady decline over ten years, despite my WAPF diet. I was eating pasture-raised animal meat and fat, organ meats, bone broths, local seafood including shellfish and fish eggs, pastured eggs, raw dairy, home-made cheese, raw aged cheese, home-grown or local, organic vegetables and some fruit, home-made stone-ground spelt sourdough bread, lacto-fermented sauerkraut and kimchi. I made milk and water kefir, and kombucha. We take fermented cod liver oil and butter oil.

However, my health was in decline. I saw doctors, specialists, naturopaths, homeopaths (one homeopath I saw every month for four years), osteopaths, kinesiologists. I saw an Ayurvedic doctor and did panchakarma. I took Standard Process supplements for about six months and did the GAPS diet. I tried everything. My symptoms were fatigue, lethargy, no energy, an inability to sleep properly, waking at three in the morning, brain fog, moodiness, anxiety, muscle spasms and back ache. On paper I had a great life (lovely family, beautiful kids, supportive partner, fulfilling work) but my reality was a

joyless existence. I couldn’t understand why. Plus my kids had cavities, narrow palates, behavioral stuff, asthma and caught every bug and illness that was going around.

About five years ago I met a soil scientist at a farming field day, and he spoke about soil health and human health being connected (which I already understood). I asked him afterwards why my kids still had cavities when we had such a great diet. He suggested I try Hair Tissue Mineral Analysis (HTMA). So we started on that journey. We sent our hair to Analytical Research Lab in the States (started by Dr. Eck, it’s one of very few labs that put out good data) and got back some information that showed us which minerals we were deficient in, had excess of, and which toxic minerals we had on board. We started the whole family on a mineral supplement program—specific to each individual (taking magnesium, calcium, zinc, selenium, etc, depending on what we needed).

The change in the first two years was *profound*. I feel like my life changed completely as my health improved. Not rapidly, but steadily, until I felt like a completely different person: lots of energy, slept eight hours straight a night, clear-headed, mentally robust, and *happy*. Content. That was the best part. My kids’ teeth seemed to harden up, their behavior changed (happy too), bed-wetting stopped and they slept better. The changes continued and we phased out the supplements after four years. We did not change what we ate at all while taking the supplements. I believe the health changes were because

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of our traditional diet, not in spite of it. But it was as though our bodies needed some extra boost to get our organs working properly, and now we can absorb minerals and vitamins from our food, and detox the toxic minerals (we all had some aluminium and mercury) as we should have been doing all along.

I was curious whether these health improvements could work for others using mineral rebalancing—taking supplements specific to one's body chemistry as determined by the hair test, rather than random supplements. So I got my mum onto it. She had great results. Slept well for the first time in thirty years and is still energetic and teaching at seventy-five years old. I told others about my results, and ended up supporting about twenty friends through hair tests and mineral supplements. Very few got the great results I did. Most couldn't stay on the supplements (they can sometimes make you feel worse till you feel better as your body detoxes) and some weren't willing to change their diet from SAD. But

a couple of people had profound life-changing results.

I desperately wanted to heal just from food and food supplements alone, but that didn't work for me. I'm glad that I kept searching and found the answer that worked for ME (and my family). HTMA is just another avenue to explore for healing, alongside a traditional diet! I'm also forever grateful for the work of WAPF; I believe that is where our life-changing health journey started.

Emily Stokes, Chapter Leader
Bega Valley, NSW, Australia

PURE BALONEY?

To prove the germ theory, you say that a microorganism must be found in abundance in all organisms suffering from the disease, but should not be found in healthy organisms; that the microorganism must be isolated from a diseased organism and grown in a pure culture; that the microorganism grown in pure culture should cause disease when introduced into a healthy organism; and that the microorganism

must be re-isolated from the inoculated (now diseased) experimental host and identified as identical to the original specific causative agent.

If all four conditions are met, one has proven the infectious cause for a specific set of symptoms.

This is pure baloney! I did an experiment two years ago with another coronavirus that affects pigs. We first infected immortalized chicken cells and proved that the virus kills them, then subsequently infected chickens and turkeys with the virus. They had clinical signs and we proved that they were also shedding the virus in several ways. One was through immunofluorescent staining of the intestinal tissues, using real-time PCR that detects the virus in cloacal and tracheal swabs. We also used an antibody test that detected antibodies for the virus in their serum and we sequenced isolated RNA in the swabs and compared it to the virus we infected them with. We published our data in *Emerging Infectious Diseases* after eight months of peer review. This

WISE TRADITIONS CONFERENCE 2020

NOVEMBER 13-15, 2020 | ATLANTA, GEORGIA

STAYING HEALTHY IN A TOXIC WORLD



STAR-STUDDED CAST!

Dr. Andrew Wakefield, Robert F. Kennedy, Jr. and Del Bigtree

and many other fine speakers on food and health!

Details and registration at wisetraditions.org



is a normal method of studying a virus so we weren't the first to do this type of experiment. To deny it or ignore it is simply false and an insult to scientists who study infectious diseases.

Internet Comment

Answer from Tom Cowan: Unfortunately, virologists do not follow the common-sense Koch's postulates (or in the case of viruses, Rivers' postulates) today because even if they do properly isolate the virus (which they rarely do), they cannot get these properly isolated viruses grown in a pure culture to cause disease when introduced into a host. So what they do is create "virulent" viruses by culturing them on starving cells and adding very toxic antibiotics (which kills the cells but not the "virus"). These are not pure cultures. When this antibiotic-laden culture is introduced into new cells—in the case of your experiment, immortalized chicken cells (probably taken from a tumor)—the cells die; they die because they are starved and poisoned.

In your experiment, did you isolate and purify the virus according to the 1973 Pasteur Institute isolation and purification consensus guidelines (see virusmyth.com/aids/hiv/epreplyek.htm)? Were they cultured without antibiotics? When you infected chickens and turkeys with the cultured virus, what were the "clinical signs"? Were they mild or fatal? Did you determine whether these clinical signs were caused by the virus or by the antibiotics (or the injection method)?

The next step should have been to isolate the virus properly, using the 1973 Pasteur Institute guidelines, from the chickens and turkeys and see whether they caused disease when introduced into healthy chickens and turkeys. Instead you "proved" that the animals were "shedding the virus" through PCR and antibody tests—neither of which detects any virus, only genetic

material and antibodies. As you say, "This is the normal method of studying a virus." Indeed, this is the way virologists "study" viruses today, but it is a fraudulent method and never properly detects virus or shows that they cause disease. They do this because they cannot prove that viruses are infectious by properly isolating them and then using the common-sense Rivers' postulates.

As for today's coronavirus (2019-nCoV), the most important papers on the subject all say they didn't isolate or purify the novel coronavirus. In their July 2020 guidelines on PCR, the CDC states on page 39 that "no virus isolates of the 2019-nCoV are currently available." It is hard to imagine doing a PCR test or knowing what the killing effect could be from a virus that has never been isolated.

DIET AND HEALTH

I want to add my story to the discussion about the interaction between diet and health. It explains why I am a chapter leader and why I support the WAPF.

I was born in September 1945 just after World War II ended. There was extensive food rationing during the war when my mother was pregnant with me. She had little access to meat, butter or eggs. Also, at that time my father was a graduate student so their finances were limited, and they weren't living on a farm. In addition, my mother's first baby, a girl, died three days after she was born, and I was born less than two years later. With limited nutritious food available and the depletion of stored resources from her first pregnancy, my mother probably couldn't provide me with all of the nutrition I needed. I don't blame her at all. I'm sure she did the best she could under the circumstances.

I had all the problems that Dr. Weston A. Price shows so clearly in his book *Nutrition and Physical Degeneration*. I was the totally typical "after." I

have a narrow face, needed extensive orthodontics, had hormone problems, poor vision, and so on. When I read Dr. Price's book, I finally understood why I had those problems. My sister, who was born two years after the war ended, had a broader face, did not need orthodontics, and didn't need vision correction until the last few years. Similar genetics, totally different nutrition. I was told that I inherited my father's teeth (too large for my jaw) but that reasoning never made sense to me and didn't explain why my teeth were so crooked.

I had my three children in the 1980s before I had heard of Dr. Price and the WAPF so I didn't give them the Wise Traditions diet. However, even then, I knew that what I did and what I ate were important for my babies' health. I did the best I knew at the time. I followed the Bradley method of childbirth which had some good, though incomplete, dietary recommendations. They emphasized protein intake, which probably meant I got a reasonable amount of good-quality fat from meat and cheese, which I ate a lot of. Although all of my children have some tooth and health problems, none of them had the extensive crooked teeth and narrow jaw that I had. Apparently, my diet reversed at least some of my bad nutrition effects. I had all three naturally, without any drugs, which I knew would be best for my children. I nursed all three babies and followed La Leche League recommendations. Fortunately, back then (before 1986) there was no mention of vaccines during my pregnancies or at birth, because I hadn't yet learned that the doctor does not know best. They were vaccinated later, although at much less than current recommendations, but those results are another story.

Good diet is essential to good health, good bone and teeth formation, and the earlier it begins, the healthier we will be. Actually, since I have been

following the WAPF diet for more than ten years, I am now in some ways healthier than my younger sister who has followed the WAPF partially for a shorter time. I believe it is never too late to benefit from a better diet. I also stay physically active and practice yoga, stretching, and some Chi Gong five to six days a week, first thing in the morning.

I am a researcher, not a health professional, and am still learning. I spend many hours each week reading books and articles about health and nutrition and haven't found anything that provides a better path to health than what I have learned from Dr. Price and the WAPF.

Carolyn Biggerstaff
Houston, Texas



Cooper Children

TOOTH ABSCESS HEALED

I healed a tooth abscess and saved my tooth with the WAPF approach. It took me about four years but the abscess is healed. I'm amazed! Lots of butter oil, cod liver oil, local raw milk, bone broth and bone marrow supplements, along with detoxing.

Not sure whether these helped, but I also used iodine, salt water rinses, oil pulling, and food grade hydrogen peroxide.

Dave Bowers
Salida, Colorado

NINE HEALTHY WISE TRADITIONS KIDS

I am happy to share this photo of my nine children.

I was blessed to have been raised on raw milk, home-grown beef and pastured eggs, although our diet also included processed food. My mother gave birth to sixteen healthy and well-formed children (she loves sardines and liver), including two sets of twins in less than two years. We have all been

very healthy although some of us did need braces, but none of us has been as healthy and fertile as our mother, nor my seven brothers as physically strong as our father.

I read Dr. Price's book in the early 2000s. Four of my children had already been born, and while they were healthy and strong, I could feel my own health slipping, and I finally knew why. I have long felt that the greatest resource

on this planet is the human mind and soul. We wanted a larger family, and knowing I needed to make changes to our diet, I immediately sought out a source of raw milk, and it has been foundational to our diet ever since. We started using cod liver oil.

A dear friend introduced me to the WAPF. I am so grateful for the resources you have provided to help me apply the principles documented by Dr. Price. Incorporating traditional foods and preparation practices has taken time and effort but has been a great blessing for my family. We love our sourdough and natural yeast bread. We eat a lot of homemade soup, especially in the winter, and we often wake up to the smell of broth percolating in the crockpot. My husband calls it the "smell of home," and he says he can feel his body thank him when he drinks it. High vitamin butter oil made a huge difference in my later pregnancies and I am a firm believer in it for helping form beautiful babies.

Beet kvass is our favorite ferment and we like it when it has aged for at least a year. A few times each year we set up an assembly line in the kitchen to turn fifty to one hundred pounds of beets into kvass so that we always have a good supply aging in the cold storage. We love our smoothies with clabbered milk and I make an average of two gallons of mesophilic yogurt each week, sometimes more when we need to drain it for whey or when our neighbor's cow has freshened.

My oldest three children were vaccinated. The first two seemed to handle them fine but the GAPS diet has helped the third one heal from their devastating effects and from my mistakes as a young and ignorant mother.

Our diet has not been perfect, but thanks to the principles taught by Dr. Price, the WAPF, and Dr. Campbell-McBride, we continue to improve. I have great hopes for our future health and for the health of my unborn grandchildren. I am very grateful to have access to the vast work and painstaking efforts of this foundation and the people associated with it. Thank you for all you have done to help turn the tide of physical degeneration!

Monica Cooper
Bluffdale, Utah

Gifts and bequests to the
Weston A. Price Foundation
will help ensure
the gift of good health
to future generations.

Caustic Commentary

Sally Fallon Morell takes on the Diet Dictocrats

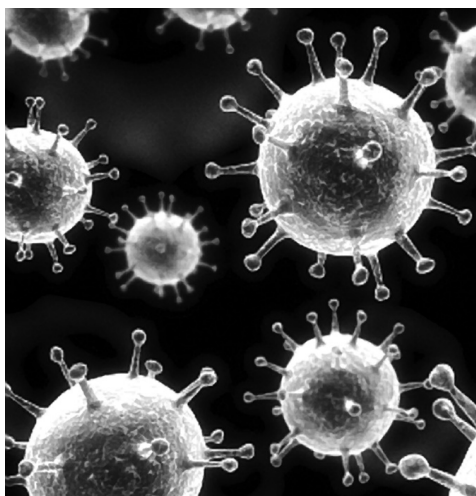
GERMS AND GENES

I have often pointed out that modern medicine likes to blame the three Gs for disease—germs, genes and God. A perfect example of this misplaced castigation is evident in an August 10, 2020 *Examiner* article, “What Really Killed Elvis?” which claims that it wasn’t long-term drug use or a poor diet that killed Elvis off at age forty-two, but bad genes! Elvis was doomed to die young, says Dr. Stephen Kingsmore, a specialist in “genomic” medicine, who analyzed a sample of Elvis’ hair. The conditions Elvis suffered from—obesity, heart disease, irregular heartbeat, high blood pressure and bad eyesight—were inherited! Elvis also suffered from fatigue and fainting. This had nothing to do with his diet, says Dr. Kingsmore, which included something called “Fool’s Gold Loaf,” a hollowed-out loaf of bread, stuffed with peanut butter, an entire jar of grape jam and a pound of bacon, slathered with margarine and then deep-fried (note, we’re not blaming the bacon); nor with the fact that toxicology reports found eleven drugs in the singer’s system. “There had been so much speculation about cause of death,” says Kingsmore, “and so much ill spoken of his lifestyle, and we had this intriguing finding that possibly Elvis had a medical illness, and all of the stuff about how he killed himself with his lifestyle might have been very unfair.”

SUNSCREEN CHEMICALS ACCUMULATE

Moms who slather sunscreen on their kids might want to think again. A recent FDA study of six active ingredients in sunscreens (avobenzone, oxybenzone, octocrylene, homosalate, octisalate, and octinoxate) found they appear in the bloodstream on day one and accumulate over time. The FDA considers blood concentrations over 0.5 ng/mL as unsafe; this threshold was surpassed on day one after a single application for all active ingredients. Maximum plasma concentration rates ranged from 3.3 to 258.1 ng/mL, depending on the chemical and whether it was applied to the skin in the form of a lotion or spray—lotions giving the

highest levels. All of the ingredients continued to exceed the FDA safety threshold of 0.5 ng/mL on day seven, and two of the ingredients, homosalate and oxybenzone, remained above the threshold on day twenty-one (*JAMA* 2020 Jan 21;323(3):256-267). Homosalate is of particular concern because it exerts estrogen-like activity. FDA says under the CARES Act, the agency is required to propose a revised sunscreen order by September 27, 2021. But it is not in any hurry. A spokeswoman for the Personal Care Products Council said, “There will be no deadline for FDA to issue a final order, but if and when such an order is issued, it may not take effect for at least one year after the proposed administrative order.”



3D CHICKEN NUGGETS

Kentucky Fried Chicken (KFC) plans to test chicken nuggets made with 3D “bioprinting technology” in Russia this fall. The nuggets “will mimic the taste and appearance of its original nuggets at a fraction of the environmental cost.” The product will contain lab-grown “meat” shaped with a 3D printer. According to Raisa Polyakova, CEO of KFC Russia, “Crafted meat products are the next step in the development of our ‘restaurant of the future’ concept. Our experiment in testing 3D bioprinting technology to create chicken products can also help address several looming global problems. We are glad to contribute to its development and are working to make it available to thousands of people in Russia and, if possible, around the world.” Yusef Khesuani, cofounder and managing partner of 3D Bioprinting Solutions, hopes the KFC partnership will “accelerate the rise of cell-based meats and make them more widely accessible” (*Business Insider*, July 21, 2020). KFC is also selling Beyond Fried Chicken (made out of pea protein) at over fifty California outlets after “successful” tests in Nashville, Atlanta and Charlotte. What all these fake products have in common is lots of MSG and other artificial flavor enhancers; lab meat will contain antibiotics and mold inhibitors used in the manufacturing process. We’d like to know how these products can help solve “several looming global problems.”

Caustic Commentary

INFECTED CHICKEN

Speaking of chicken, in July the USDA's Food Safety Inspection Service (FSIS) announced the approval of a petition filed by the National Chicken Council "to permit chicken that is infected with the avian disease Leukosis to be fit for human consumption." Prior to the change in rules, chicken "carcasses found to have this disease were to be condemned and removed from further processing." FSIS also approved an industry request to increase chicken kill line speeds from "140 birds per minute to 175 birds." That's almost three birds per second! At that speed, it's hard for production workers to confirm all the body parts are there, let alone inspect for leukosis. One more reason to purchase your poultry directly from a farmer!

GLYPHOSATE AND ENDOCRINE DISRUPTION

Evidence of glyphosate toxicity continues to accumulate. Glyphosate is the herbicide in Roundup and other products that is most used worldwide, especially on corn, soybean and lawns. Many reported adverse effects are due to exposure at high doses; however, a recent study indicated that low-dose exposure alters the development of the female reproductive tract, with consequences on fertility. Studies have demonstrated that exposure to glyphosate alters the development and differentiation of ovarian follicles and the uterus, affecting fertility when animals are exposed before puberty and during gestation. The main mechanism for these frightening effects is the "modulation of estrogen receptors and molecules involved in the estrogenic pathways" (*Molecular and Cellular Endocrinology*, 10 July 2020).

VITAMIN A AND THE LUNGS

Vitamin A deficiency "constitutes, with protein malnutrition, the most common nutritional disorder in the world." So states a review article, "Vitamin A deficiency and the lung," published in the journal *Nutrients* (September 2018). The authors noted that vitamin A is "the most multifunctional vitamin in the human body, as it is involved in several essential physiological processes from embryogenesis to adulthood." These include vision, immunity, cell differentiation and proliferation, embryological development and antioxidant function. Recent research indicates a role for vitamin A related to insulin function, lipid metabolism, energy balance and re-

dox signaling. As for the lungs, vitamin A is involved in the proliferation and maintenance of epithelial cells including those of the respiratory tract, and is a major factor regulating differentiation and maturation of the lung. Vitamin A deficiency leads to "negative histologic changes within the respiratory tract [and] indicates that retinoids continue to play an important role in the adulthood lung." Thus, adequate vitamin A intake would be especially important for protection against the lung disease called Covid-19.

VITAMIN A AND THE MEASLES

Speaking of vitamin A, private citizens from Australia, New Zealand and the U.S. sent doses of vitamin A to Samoa during a recent outbreak of measles. By December 2019, almost five thousand cases occurred, with seventy-two deaths, mostly among young children. According to Samoan businessman Edwin Tamasese, who received the shipments, "We're having really good success, like in sixteen hours we're having kids that are lying there looking like they're going to pass away, and they are weak, but then they get up and start drinking, and start to eat." Health officials recognize vitamin A deficiency as a risk factor for severe cases of the childhood illness, and the WHO, UNICEF and the CDC all endorse a two-dose vitamin A treatment to reduce the complications of measles. But some officials are not pleased. Scientist Ian Mackay of the University of Queensland said that "anti-vax rhetoric about vitamin A peddled on social media is 'not correct.'" The CDC has dispatched a behavioral scientist to the area to help with "vaccine-related communications," and spokesperson Amy Rowland states that the first priority is making sure we have not healthy children but healthy vaccine demand (thevaccinereaction.org/2019/12/vitamin-a-shipped-to-samoa/).

A NEW AND BETTER BREAST MILK?

Where have we heard that claim before? That's exactly what they said about infant formula made with powdered skim milk, vegetable oils and refined sweeteners. Now, we learn, "A new and better breast milk alternative has arrived." As an added bonus this product will be "helpful for the environment as well." So states a press release for the U.S. company BIOMILQ, which is artificially producing human breast milk from cultured human mammary epithelial cells.

Caustic Commentary

The start-up has received over three million dollars from an investment fund co-founded by Bill Gates, Jeff Bezos, Richard Branson and Mark Zuckerberg. According to the press release, an estimated 10 percent of the global milk production goes into the manufacture of baby formula, and that's bad for the environment. "BIOMILQ aims to provide a greener alternative for formula milk" with a smaller carbon footprint. Moreover, the artificially-produced milk will be "easier for babies to digest than formula." The manufacturing process allows the company "to create the full sequence of intricate components in perfect proportion." With their lab-produced product, BIOMILQ co-founder and cell biologist Leila Strickland claims that the company will "create a better Earth for future generations" (*Science Times*, June 20, 2020). You just can't make this stuff up.

PESTICIDE SMUGGLING


Lots of products are smuggled—drugs, diamonds, counterfeit money—but along the largely unpoliced border of Brazil and Paraguay, one of the largest and most lucrative criminal enterprises involves smuggling pesticides. A recent catch, hidden under a few sacks of grain, was a haul of twelve thousand pounds of the pesticide emamectin benzoate, with a street value of more than two million dollars. Emamectin is widely used to control insects in larvae form in a number of crops including pine trees. It's also added to fish feed to control lice in farmed salmon; vets prescribe it in the form of ivermectin for the treatment of heartworm in dogs. The smuggled pesticides sell for less than those produced by agricultural chemical companies, and come without the requirement for oversight. At least 10 percent of the agrochemical trade—currently valued at over two hundred billion dollars—is illegal, and many consider that to be a vast underestimate. In addition to Brazil, Ukraine and India produce large amounts of these chemicals. Yet another reason to eat organic and to know your farmer! (*The Washington Post*, February 9, 2020.)

TB AND VITAMIN D

While reports about Covid-19 monopolize the news, tuberculosis (TB) continues its silent rampage throughout the developing world, killing something like three thousand people per day. Treatment often forces patients and their families into poverty, but historically, several low-cost

therapies proved very effective. In the 1890s up to the 1930s, tuberculosis patients received phototherapy and sunshine; in the 1940s, TB patients got cod liver oil or high doses of vitamin D. All, of course, involve vitamin D, either taken orally or stimulated in the skin. In fact, in 1903 the Nobel Prize in Medicine or Physiology was awarded to a physician who cured hundreds of patients suffering from chronic lupus vulgaris (TB of the skin) with refracted light rays from an electric arc lamp. The authors of a paper published in the *Journal of Steroid and Biochemical Molecular Biology* (2018 Mar;177:21-29) describe the success of these treatments and wonder why these therapies are no longer in use. Of course we know the answer: there's no money in natural, common-sense treatments such as these.

PASS THE RHIZOMES

Paleodieters insist that our primitive ancestors didn't eat starchy foods, but archeologists from the University of Witwaterstrand have discovered evidence that inhabitants of the Border Cave in the Lebombo Mountains, South Africa, were cooking starchy plants one hundred seventy thousand years ago. Researchers found fifty-five charred, whole rhizomes identified as a small and tender version of *Hypoxis*, commonly called the yellow star flower. The rhizomes are rich in starch and highly digestible when cooked. A wooden digging stick, used to extract the rhizomes from the ground, was also found in the cave. Other discoveries over the years include a baby buried in a *Conus* seashell, bone tools, an ancient counting device, ostrich eggshell beads, resin and a poison probably used on hunting weapons ([sciencedaily.com/releases/2020/01/200102143424.htm](https://www.sciencedaily.com/releases/2020/01/200102143424.htm)). 

FOR SCIENTISTS AND LAY READERS

Please note that the mission of the Weston A. Price Foundation is to provide important information about diet and health to both scientists and the lay public. For this reason, some of the articles in *Wise Traditions* are necessarily technical. It is very important for us to describe the science that supports the legitimacy of our dietary principles. In articles aimed at scientists and practitioners, we provide a summary of the main points and also put the most technical information in sidebars. These articles are balanced by others that provide practical advice to our lay readers.



Wise Traditions 2020

TWENTY-FIRST ANNUAL INTERNATIONAL CONFERENCE OF THE
WESTON A. PRICE FOUNDATION



STAYING HEALTHY IN A TOXIC WORLD

November 13-15, 2020 | Atlanta, Georgia



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Life-Changing Lectures • Cooking Classes • Cutting-Edge Nutrition

Traditional Nutrient-Dense Meals • Wise Kids Program • WAPF-Friendly Vendors • Networking

CONFERENCE SPEAKERS

Del Bigtree of The HighWire and producer of Vaxxed
Natasha Campbell-McBride, MD, PhD, *Gut and Psychology Syndrome*
Jason & Lorraine Contreras, of Sow the Land
Monica Corrado, MA, *The Complete Cooking Techniques for the GAPS Diet*
Tom Cowan, MD, author of *Human Heart, Cosmic Heart*
James DeMeo, founder & director of the Orgone Biophysical Research Lab
Mike & Lacie Dickson, the Fit Farmer
Marc DiNola, DDS, biological dentist
Sally Fallon Morell, MA, author of *Nourishing Traditions*
Janine Farzin, of offallygoodcooking.com
Babs Hogan, author of *Strong Choices, Strong Families*
Lupa Irie, of Lupa's Kitchen
Diana Jabour, BBEC, EMRS, BBNC, building biology consultant
Robert F. Kennedy, Jr., chairman of Children's Health Defense
Chris Knobbe, founder & president of Cure AMD Foundation

Brandon LaGrecia, author of *Cancer and EMF Radiation*
Kendall Nelson, director and producer of *The Greater Good* movie
Greg Nigh, ND, LAc, naturopathic physician & licensed acupuncturist
Robert Quinn, founder of Kamut International
Beverly Rubik, PhD, president & founder, Institute for Frontier Science
Theodora Scarato, MSW, executive director, Environmental Health Trust
Stephanie Seneff, PhD, expert on glyphosate (via telecom)
Jeffrey Smith, producer of *Genetic Roulette—The Gamble of Our Lives*
Laura Villanti, of AtHomewithWellness.com
Andrew Wakefield, MD, director and producer *1986: the Act*
Timothy Weeks, DC, author of *Whole Body Health*
Louisa Williams, MS, DC, ND, author of *Radical Medicine*
Will Winter, DVM, expert on pastured livestock
Anke Zimmermann, BSc, FCAH, classical & modern homeopathy

LOCATION AND ACCOMMODATION

The conference hotel is the Sheraton Atlanta Hotel, 165 Courtland Street, NE, Atlanta, Georgia 30303.
A special conference room rate of \$139 per night (plus taxes and fees) has been negotiated for our attendees.
This rate is for single through quad occupancy and is available only until October 24 or until all rooms are sold.
You may book online (details at wisetraditions.org) or call (800) 833-8624 and mention Wise Traditions.

One-day, weekend, no-meal options. Free exhibit hall and film.

Children's Program • Monday Guided Farm Visit • Continuing Education Units • Early Bird Discount • Scholarships
For more information, call (703) 820-3333 or visit wisetraditions.org

PRE-CONFERENCE AND POST-CONFERENCE ACTIVITIES

THURSDAY, NOVEMBER 12
6:00 – 9:00 pm

RAW MILK CAMPAIGN
FUNDRAISER RECEPTION

MONDAY, NOVEMBER 16

Will Winter, DVM
Professionally Guided Farm Visit

Wise Traditions 2020

Atlanta Schedule

THURSDAY, NOVEMBER 12

6:00-9:00 PM WAPF raw milk fundraiser dinner (not included with conference registration)

FRIDAY, NOVEMBER 13

7:15-8:30 FTCLDF fundraiser breakfast (not included in registration)

8:30-1:30 Chapter leader meeting

9:00-12:15

Seminar Natasha Campbell-McBride: Gut and Physiology Syndrome
Seminar Beverly Rubik: The Perils of Fifth Generation (5G) Wireless: Health, Environment, Politics and Personal Solutions

11:00-12:15

General Chris Knobbe: Omega 6 Apocalypse: Are Vegetable Oils the Unifying Mechanism for Westernized Diseases?

12:15-1:45 Lunch

1:45-3:00

Basic Monica Corrado: Broth and Stocks: Timeless Remedies for Vibrant Health
General Timothy Weeks: Healing Through the Power of Nature, Part 1, Earth, Air
Focused Kendall Nelson: Vaccine Freedom, Legislative Updates and How to Talk About It

3:45-5:00

Basic Janine Farzin: How to Meet Individualized Nutrient Needs with Organ Meats
General Timothy Weeks: Healing Through the Power of Nature, Part 2, Water, Fire
Focused Louisa Williams: Aluminum: The Psychological Consequences of Adjuvants

6:00-7:30 Dinner

7:30-9:30

Panel Ask the Practitioner with Tom Cowan, Brandon LaGreca, Louisa Williams and Natasha Campbell-McBride and moderator Sally Fallon Morell

General Talk Jeffrey Smith: Brace Yourself for the NEW GMOs!

Film with Q&A 1986, *The Act* with Andrew Wakefield

SATURDAY, NOVEMBER 14

6:45-7:45 Movement: Hilda Labrada Gore

7:15-8:45 FTCLDF fundraiser breakfast (not included in registration)

7:30-8:15 Sponsor presentation (TBD)

9:00-10:15

Seminar Sally Fallon Morell, Nourishing Traditional Diets, Part 1
Seminar Stephanie Seneff: Glyphosate, Deuterium and Cancer: Connecting the Dots, Part 1 (via telecom)
Basic Andrew Wakefield: TBD
Focused Theodora Scarato: 5G, Cell Phones, the Wireless Revolution and Your Health

Wise Traditions 2020

Atlanta Schedule

SATURDAY, NOVEMBER 14 (continued)

11:00-12:15

Seminar Sally Fallon Morell, Nourishing Traditional Diets, Part 2
Seminar Stephanie Seneff: Glyphosate, Deuterium and Cancer: Connecting the Dots, Part 2 (via telecom)
Basic Natasha Campbell-McBride: Vegetarianism Explained
Focused Bob Quinn: Studies on Kamut

12:15-1:45 Lunch

1:45-3:00

Seminar Sally Fallon Morell, Nourishing Traditional Diets, Part 3
Seminar Tom Cowan: Autopsy of the Germ Theory, Part 1
Basic Anke Zimmermann: Homeopathy for Developmental Disorders
Focused Marc DiNola: Safe Dental Amalgam Filling Removal Protocol

4:00-5:15

Seminar Sally Fallon Morell, Nourishing Traditional Diets, Part 4
Seminar Tom Cowan: Autopsy of the Germ Theory, Part 2
Basic Laura Villanti: Let Food Be Thy Medicine
General Will Winter: TBD

6:30-9:30 Awards banquet keynote: Robert F. Kennedy, Jr.: When Money Intersects Public Health Policy

SUNDAY, NOVEMBER 15

6:45-7:45 Movement - Hilda Labrada Gore

7:30-8:15 Sponsor presentation: TBD

9:00-10:15

Basic Jason & Lorraine Contreras: Homesteading After Cancer
General James DeMeo: Cosmic Ether and Cosmic Life on Earth
General Sally Fallon Morell: Bringing Up Baby

11:00 – 12:15

Basic Homesteaders Panel: Ask the Homesteaders
General Lupa Irie: Ferments
General Brandon LaGreca: Chronic Illness: Building Your Own Treatment Plan
Focused Bob Quinn: The Financial Viability of Organics

12:15-1:30 Lunch

1:30-2:45

Basic Babs Hogan: Say Cheese! Unwrapping the Truth About Cheese
General Diana Jabour: Building Biology
Focused Greg Nigh: The Devil in the Garlic: How Disrupted Sulfur Metabolism Can Wreck our Health

3:00-4:00 Closing ceremony with Del Bigtree

MONDAY, NOVEMBER 16

7:00-6:00 Will Winter, DVM: Professionally Guided Farm Visit

WISE TRADITIONS 2020 REGISTRATION FORM

First Name

Last Name

Name for Badge

Organization/Affiliation

Address

☐ This is my first Wise Traditions conference.

City

State

Zip Code

Country

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Email

☐ Check here if you are interested in donating food.

☐ Check here to reserve gluten- & casein-free conference meals. OR ☐ Gluten-free only. OR ☐ Casein-free only. Register for GF and/or CF children's meals below.

DISCOUNTED MEMBERSHIP: become a member of the Foundation while registering and receive a discount.

☐ \$30 US Annual Membership (regularly \$40) ☐ \$40 Canadian/International (regularly \$50)

FULL REGISTRATION* includes conference materials, Friday sessions, lunch and dinner, Saturday sessions, lunch and Awards Banquet, Sunday sessions and brunch (except for no-meal option). Does **not** include Monday.

THREE DAYS

	By Sept 20	After Sept 20
<input type="checkbox"/> Full Registration (Includes lunch each day, dinner Fri & Sat)	\$440	\$465
<input type="checkbox"/> Full Registration 20 and under* (sessions & 5 meals)	\$250	\$250
<input type="checkbox"/> Full Registration No-Meal Option (<i>meals not included</i>)	\$340	\$365
<input type="checkbox"/> Full Registration 20 and under* (meals not included)	\$150	\$150
<input type="checkbox"/> Full Registration 20 and under* (lunch ONLY)	\$200	\$200

TWO DAYS includes sessions with lunch on two days.

☐ Pick two days: ☐ Friday ☐ Saturday ☐ Sunday \$240 \$265

DAILY REGISTRATION includes sessions and lunch (no dinner).

<input type="checkbox"/> Daily Registration <input type="checkbox"/> Friday <input type="checkbox"/> Saturday <input type="checkbox"/> Sunday	\$140	\$155
<input type="checkbox"/> Daily 20 & younger <input type="checkbox"/> Friday <input type="checkbox"/> Saturday <input type="checkbox"/> Sunday	\$85	\$85
<input type="checkbox"/> Saturday Traditional Diets Seminar, Sally Fallon Morell	\$75	\$75
<input type="checkbox"/> Monday Guided Farm Visit 7 AM-6 PM (includes lunch)	\$110	\$110

EVENING EVENTS

<input type="checkbox"/> Thursday WAPF Real Milk Fundraiser Reception	\$65
<input type="checkbox"/> Friday Dinner and Events	\$60
<input type="checkbox"/> Saturday Evening Awards Banquet	\$75

FTCLDF BREAKFAST FUNDRAISER (not included in above registration)

☐ One breakfast (donation) \$17 ☐ Breakfast for Friday, Saturday, Sunday \$45

CHAPTER LEADER DISCOUNT ☐ Please deduct 25% off registration (not Thursday, farm visit or breakfasts)

Please select the sessions you plan to attend. This helps us plan but you can change your mind.

Friday Choice – AM: ☐ GAPS ☐ 5G ☐ Homeopathy ☐ Health PM: ☐ Cooking ☐ Oils/health ☐ Vaccine/Alum.

Friday Evening Choice – ☐ Genetic Engineering ☐ Practitioners Panel ☐ Film

Saturday Choice – ☐ Seneff/Cowan ☐ Nourishing Traditional Diets ☐ Homeopathy/Vegetarianism ☐ 5G, kamut, dental

Sunday Seminar Choice – ☐ Homestead/cheese ☐ Ether/Buildings ☐ Ferments/Practical ☐ Health issues

CHILDREN'S PROGRAM (Child must be age 3-12 and potty trained.) *Older children register above.

Child's Name(s) _____ Age(s) _____

@ \$250 per child for Friday - Sunday includes Friday lunch & dinner, Saturday lunch, Sunday brunch

☐ GF/CF meals OR ☐ GF only OR ☐ CF only for ___ children OR ___ @ \$150 per child, includes no meals.

CEUs FOR RNS & IACs. A \$5 certificate of attendance is available. It suffices for RDs & nutritionists.

☐ RN ☐ LAC – ☐ All 3 days \$65 ☐ Friday \$25 ☐ Saturday \$25 ☐ Sunday \$25// ☐ RD or nutr. ☐ Cert of Attend. \$5.

PAYMENT PROCESSING

Total Due: _____ ☐ MasterCard ☐ Visa ☐ Check Payment/Money Order (make payable to WAPF)

Full Name _____

Card Number _____

Exp. Date _____ Security Code (3 digits on back of card) _____

HOTEL

Sheraton Atlanta Hotel
(800) 833-8624 * \$139/night

Mention: Wise Traditions Conference

FOUR WAYS TO REGISTER:

1. **ONLINE** wisetraditions.org
2. **PHONE** (703) 820-3333
3. **FAX** (571) 777-8932
4. **MAIL** WAPF
4200 Wisconsin Ave, NW #106-380
Washington, DC 20016

PLEASE NOTE: One adult registration per form, please. Forms submitted without payment will not be processed.

FOR FURTHER INFORMATION

wisetraditions.org info@westonaprice.org

If we must cancel, we will provide a full refund. See note below about refunds if you cancel.* NO REFUNDS will be issued after December 31, 2020.

CHAPTER LEADERS

- ☐ I am listed online as a chapter leader.
☐ I will attend the Friday Chapter Meeting.

How did you hear about the conference? (check all that apply)

- ☐ Friend/Colleague ☐ WAPF email
☐ Flyer in the mail ☐ WAPF postcard
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Toxic Iron and Ferroxidase, the Master Antioxidant

By Ben Edwards, MD

In modern times, we have lost traditional wisdom and lost our resiliency to disease. In line with Occam's razor ("All things being equal, the simplest solution tends to be the best one"), I believe that one of the principal common denominators responsible for our lack of resiliency is toxic iron. Many people have too much iron in their body, and that iron lacks an excretory pathway, making us more susceptible to stressors and compromising our ability to heal.

Obviously, iron is important; we especially need it to deliver oxygen. Eighty percent of our iron is in hemoglobin, the protein component of red blood cells, which carries the oxygen to the cells. However, as Paracelsus said, "The dose makes the poison." In the wrong form, the wrong dose or, most importantly, if it's not properly escorted, iron is highly toxic. Iron must be properly chaperoned around the body, and when it's not, it will react with oxygen in a negative way and "rust" you from the inside out. Those who eat a standard American diet (SAD)—full of iron-fortified foods—for any period of time are likely to end up with excess iron; and the SAD tends to create deficiencies in copper and vitamin A, which are needed to recycle the iron appropriately.

My training taught me that patients experiencing symptoms had only two options: take a drug or continue to suffer. I didn't understand that there was a third option—address the root cause.

LOST WISDOM AND LOST RESILIENCY

Before I discuss iron further, let's consider the traditional wisdom that we have lost—wisdom that I believe to be divine in origin. In *Nutrition and Physical Degeneration*, Dr. Weston A. Price discusses the Indians of the Yukon (pages 279-80), describing how white prospectors eating canned foods died of scurvy, thought “[a]ny Indian man or woman, boy or girl could have told [them] how to save [their] life by eating animal organs or the buds of trees.” Dr. Price also recounts the story of an engineer-pro prospector who “nearly went blind with so violent a pain in his eyes that he feared he would go insane.” The cause (though he did not know it) was vitamin A deficiency. One day, while weeping “in despair of ever seeing his family again,” he encountered an old Indian who recognized the problem. After catching a fish, the Indian “threw the fish out on the bank and told the prospector to eat the flesh of the head and the tissues back of the eyes, including the eyes, with the result that in a few hours his pain had largely subsided. In one day his sight was rapidly returning, and in two days his eyes were nearly normal.”

Of course, modern science has since established that animal foods—and particularly the tissues in back of the eyes—are one of the richest sources of vitamin A. However, the reason I share Dr. Price's stories is to underscore the fact that we've lost wisdom that we urgently need. Consider what the U.S. health picture looks like today. Compared to other wealthy nations, U.S. infant mortality and life expectancy are both rock bottom—more of our babies die, and Americans as a whole die younger than those from other wealthy nations. American children now “are destined to live shorter lives than [their parents].”¹

When it comes to the percent of the population over age sixty-five with two or more chronic diseases, we're number one. Autoimmune diseases, obesity and cancer have skyrocketed. As *Bloomberg* put it a couple of years ago, Americans are “retiring later, dying sooner and sicker in-between.”² Equally worrisome, a study of millennials (born in the 1980s and 1990s) released by Blue Cross Blue Shield in April 2019 showed that millennials' health starts

declining by age twenty-seven.³ Compared to what the previous generation (born in the 1960s and 1970s) faced at the same ages, millennials experienced double-digit increases for eight of ten health conditions from 2014 to 2017.³

This dismal picture is not for lack of medical intervention. The U.S. spends more on health per capita than any Organisation for Economic Co-operation and Development (OECD) country and leads the world for performance of MRIs, CT scans, tonsillectomies, coronary bypasses, knee replacements and caesarean sections.⁴ Compared to other countries, Americans also rely more on medication.⁵ After age twenty, it's essentially normal to be on multiple medications.⁶ In short, we spend a whole lot of money, we do a whole lot of interventions, we go to the doctor the most—and we get the worst outcomes. The current system is failing.

BEYOND SYMPTOM MANAGEMENT

Both of my grandfathers were small-town country doctors who could do everything from deliver babies to fix broken bones. I went to medical school because I wanted to be like them. However, my training taught me that patients experiencing symptoms had only two options: take a drug or continue to suffer. I didn't understand that there was a third option—address the root cause.

In my early years of practice, I perfected the seven-minute visit and the art of billing. With high patient volumes and reimbursement rates, I helped my county pay off a one-million-dollar clinic within a year. Things were going so well that the clinic even got written up in *The Washington Post*. I thought I was living my dream as a small-town family doctor. But there was one problem: no one was getting better, and that bothered me.

Looking for answers, I met an integrative doctor who told me that there is no such thing as “disease,” only “consequences” and inflammation. After I sent him ten of my sickest patients and they all came back better, our clinic began focusing on going after “bugs” and toxins: Candida, mold, heavy metals, glyphosate and more. (In the U.S., the list of potential toxins is long: Over eighty thousand different chemicals are registered for use, but almost none has been

assessed for safety.⁷⁾

Even with this improved approach, however, something was still missing. Lowering inflammation was helping some patients feel and do better, but others were not getting all the way better or would get better only to get worse again. At that point, I began studying how our medical system's commitment to Pasteur's germ theory had taken us off course. (Consider that deaths from drug-resistant "superbugs" are expected to become the top cause of death by 2050.⁸⁾ I became interested in Claude Bernard's terrain theory, and when I read Suzanne Humphries' book *Dissolving Illusions: Disease, Vaccines, and the Forgotten History*⁹—showing the dramatic decline in infectious disease rates well before the introduction of vaccines—and Dr. Tom Cowan's book on vaccines and autoimmunity,¹⁰ it became even clearer that it really is the terrain that matters.

I also began learning how epigenetic factors can turn genes on and off and affect mitochondrial functioning. Factors that we know can have epigenetic effects include the gut microbes, movement (sitting has been called "the new smoking"), hydration, nature and even one's thoughts. The amazing book by Richard Louv, *Last Child in the Woods*,¹¹ proves how powerful it can be just to get outside. Or consider the importance of circadian rhythm: Dr. Satchin Panda's book *The Circadian Code* shows that something like fifty chronic diseases begin to affect rats when you feed them on a schedule that disrupts their circadian rhythm!¹² My practice

started focusing on what I call the "four pillars of health": nutrition, hydration, movement and peace.¹³

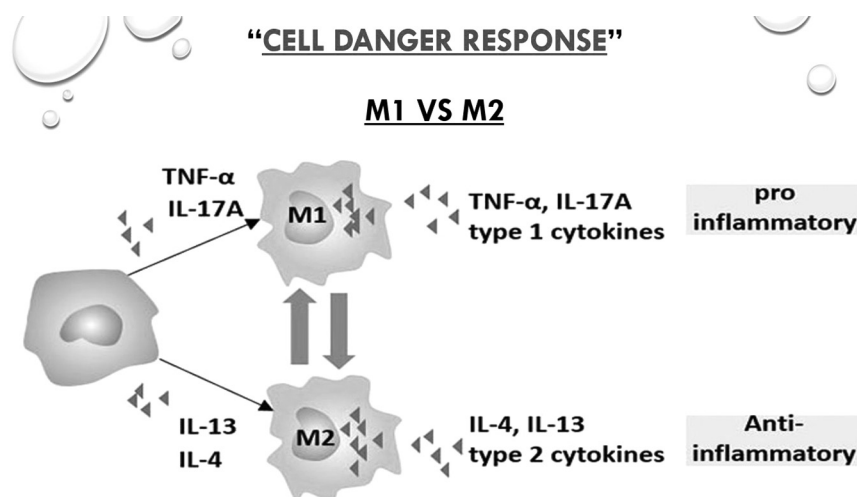
THE CELL DANGER RESPONSE

Over the past decade, San Diego researcher Dr. Robert Naviaux and his colleagues have refined a theory—dubbed the "cell danger response" (CDR)—that defines the healing cycle in metabolic terms.¹⁴ The theory posits that "most chronic illnesses are caused by the biological reaction to an injury, not the initial injury or the agent of the injury."¹⁵ In other words, metabolic dysfunction drives chronic disease, and "illness occurs because the body is unable to complete the healing process."¹⁵

One of the important observations underpinning the CDR is that the mitochondria "change their function rapidly under stress," with pro-inflammatory M1 mitochondria serving a "battleship function" and anti-inflammatory M2 mitochondria serving a "powerplant function" (see figure below).¹⁴ When a cell senses a stressor, it flips into M1 to deal with that stressor, increasing free radicals and decreasing energy production. Next, the cycle is supposed to transition into M2, with energy increasing and oxidative stress going back down.

This cycle probably worked well with the types of stressors encountered in Dr. Price's day (such as infectious diseases and trauma) but is less suited to today's continual onslaught of toxic exposures—pesticides, heavy metals, wireless radiation, processed foods and so on.

Metabolic dysfunction drives chronic disease, and illness occurs because the body is unable to complete the healing process.



The Naviaux group's insight is that in the face of modern stressors, the CDR can get “stuck” in M1, meaning that “cellular equilibrium is altered, preventing completion of the healing cycle and permanently changing the way the cell responds to the world.”¹⁵ Even when the threat has passed, “cells behave as if they are still injured or in imminent danger.”¹⁵ And when free radicals run wild, they can damage the cell membrane, mutate DNA and wreak all kinds of havoc. When the natural healing cycle escalates into and gets stuck in this type of oxidative stress storm, we get epidemic levels of chronic disease (see below).

Another way to understand the CDR is to think of the mitochondria as the carburetor. A carburetor needs fuel (glucose or fat) plus oxygen from what we breathe plus minerals that act as the spark plug (mostly magnesium and copper) to produce energy (ATP), but in the process, it also produces “exhaust” (free radicals). If you think of a cell as needing to be able to clear out this “exhaust,” we might say that when the CDR is stuck in M1, it's because something is “gunking up” the carburetor.

MINERAL IMBALANCES AND METABOLIC DYSFUNCTION

The next pivotal phase of my learning curve came when one of my patients whose healing had reached a plateau experienced improvement after implementing some of the elements of Morley Robbins' Root Cause Protocol (see sidebar, next page).¹⁶ I was so interested in this patient's outcome that I called Morley to learn more about the protocol, and I have been using it ever since. Morley's perspective, compatible with the CDR, is, “There's no such thing as disease, there's only metabolic dysfunction caused by mineral imbalance”—and specifically, iron, copper and magnesium.

There are several types of iron. Heme iron, in animal meat, is more easily absorbed than the non-heme iron in dairy, eggs or plants. However, when you eat heme and non-heme iron and you have the right mineral balance otherwise, things tend to be in balance. A 2001 study addressing the safety of iron in our food showed that “homeostatic mechanisms increase intestinal iron absorption in iron deficiency.”¹⁷ What that means is if you're low in iron, your body has the amazing intelligence to absorb more. Unfortunately, the reverse is not true: iron's “down-regulation at high intake levels seems insufficient to prevent accumulation of high iron

stores at high intake” and “there is no regulated iron excretion in overload.”¹⁷ In short, when you need more iron, the body can upregulate, but when you put too much in, the body is not very good at downregulating, and you will end up with excess iron.

As already mentioned, 80 percent of our iron is in the red blood cells. A red blood cell lives about ninety to one hundred twenty days and then dies. When red blood cells die, the body is able to recycle twenty-four of the twenty-five milligrams (mg) of daily iron that the red blood cells need. We need only about one mg per day in dietary intake to replace the minimal amount lost in the stools, urine and through sweating. Without a mechanism for the active excretion of iron, ongoing uptake of excessive iron will result in iron deposition in the brain, joints, liver and various tissues.¹⁸

It's a problem, therefore, when you throw a bunch of iron-fortified foods into the diet (see Table 1). Consider an iron-fortified product like Cheerios, which contains seventeen milligrams of iron in just *one cup*. (And who eats just one cup of Cheerios?) In a 1993 book called *Iron Deficiency Anemia*,¹⁹ the authors described how most dry infant cereals are fortified with a “metallic iron powder”—iron filings—and a Chinese study published in 2016 showed that this excess iron in baby food increases inflammation. When poor rural toddlers in China were fed either an iron-fortified cereal, a non-fortified cereal or meat, the iron-fortified group experienced a high rate of systemic inflammation “likely to impair their growth.”²⁰

The Chinese authors claimed that the fortified cereal improved the toddlers' anemia, but their indicator for anemia (ferritin) was not an appropriate measure. Ferritin is an intracellular storage compartment for iron, and—according to Sir Douglas Kell, the world's foremost authority on ferritin—it should be in the cell, not the blood; if it is in the blood, then it's been extruded out of the cell because the cell is full.²¹

IRON OVERLOAD AND DISEASE

In 2010, a researcher pointed out that iron levels “must be tightly regulated to provide an essential nutrient that is involved in oxygen delivery, metabolism and redox regulation



while guarding against excessive levels of a primary toxicant that can generate reactive oxygen species (ROS) to produce cellular damage and death.”²² What is noteworthy about that statement is the description of iron as both an “essential nutrient” and a “primary toxicant.” As the researcher also noted, “A large body of clinical evidence demonstrates disease susceptibility and the response to inflammation and infection worsen with elevated iron stores,” with a particularly well-documented relationship between iron overload and infectious diseases.²² Interestingly, the reverse also seems to be true, with iron deficiency conferring “relative resistance to infection.”²² As a 2004 review article titled “Is stored iron safe?” observed, “Antioxidant and antiinflammatory processes may operate optimally *only in the absence of stored iron*” [emphasis added].²³

Iron status not only affects susceptibility to infectious diseases but also profoundly influences risk factors for inflammatory chronic diseases such as diabetes,²⁴ obesity, metabolic syndrome, atherosclerosis, neurodegeneration,²⁵ liver disease and many other conditions (see Table 2). Researchers view this as significant because of the potential for “simple preventive or therapeutic avenues” such as modified dietary

iron or therapeutic phlebotomy [blood letting].²² Iron accumulation in various brain regions is associated with central nervous system (CNS) disorders such as Alzheimer’s disease, Parkinson’s and multiple sclerosis.²⁶ Autoimmunity, too, correlates with excess iron. Researchers have observed iron-laden macrophages in numerous autoimmune conditions.²⁷ When the macrophages (ordinarily the “Pac-men” of the immune system) are full of iron, they become dysfunctional and turn the immune system against the body.

Excess iron is a risk factor for cancer because iron works as a catalyst for a chemical reaction that produces highly toxic hydroxyl free radicals that can potentiate tumor formation.²⁸ In fact, cancer cells “exhibit an enhanced dependence on iron relative to their normal counterparts,” a phenomenon that some researchers have termed “iron addiction.”²⁸ In one study, German researchers detected five times more iron in breast cancer tissue than in normal tissue.²⁹

To summarize thus far, excessive iron within cells is a “potent driving force” for oxidative stress and inflammation.³⁰ Research describing the “danger sensor” of the cell (something called the NLRP3 inflammasome) clarified that

In one study, German researchers detected five times more iron in breast cancer tissue than in normal tissue.

THE ROOT CAUSE PROTOCOL

The steps of the Root Cause Protocol (which many have used to reverse autoimmune conditions successfully like Lyme disease, Hashimoto’s thyroiditis, fibromyalgia) involve learning to feed your body the correct nutrients and supplements in order to balance magnesium, copper and iron—and repair cellular dysfunction. The protocol involves “stops” (such as not taking iron supplements) as well as several phases of “starts” (therootcauseprotocol.com/about/). Currently, 72 percent of pregnant women and 60 percent of lactating women in the U.S. take an iron-containing supplement.³⁸

STOPS:

- Do *not* eat a lowfat, high-carb, processed, refined-foods diet. Avoid high-fructose corn syrup, synthetic sugars and industrialized omega-6 oils such as soybean and canola oils.
- Avoid (or stop taking) the following supplements: iron, vitamin D3, calcium, zinc, molybdenum and “drugstore” multivitamins and prenatal vitamins.
- Avoid synthetic forms of ascorbic acid, citrate and citric acid.
- Stay away from fluoride (in water, toothpaste, etc.)
- Do not use colloidal silver as an antibiotic.

STARTS:

- Phase 1: Eat organic whole foods; take mineral drops, magnesium, whole-food vitamin C and vitamin E complexes, cod liver oil and an “adrenal cocktail.”
- Phase 2: Obtain natural B vitamins from bee pollen, stabilized rice bran and beef liver (preferably all three).
- Phase 3: Take silica (diatomaceous earth) and boron, taurine and iodine supplements.
- Phase “X”: Donate blood; get more sunlight; do “joyful movement”; clear food and environmental sensitivities; learn to use the Emotional Freedom Technique (EFT); limit exposure to blue light radiation.

Excessive iron within cells is a potent driving force for oxidative stress and inflammation.

it is an unbound or “free” form of iron that is of particular concern.³¹ This form of free iron, called cellular labile iron, pulls the trigger on the inflammatory cascade. Framed in terms of the cell danger response, free iron gets M1 “stuck” and chronically “on.”

THE ROLE OF COPPER

Copper and iron have an intertwined relationship.³² Copper is integral to the metabolism of iron and facilitates iron absorption, iron transportation, the release of iron from storage and the incorporation of iron into the hemoglobin. Copper also assists with blood coagulation, blood pressure control, cross-linking of connective tissues, CNS myelination, energy transformation, reproduction, hormone synthesis and more.³³

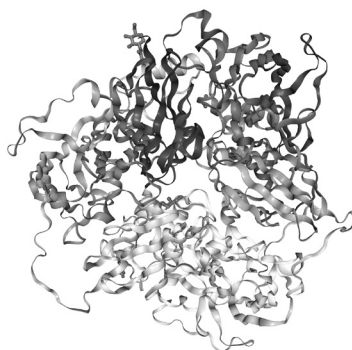
Iron and copper are the only two metals in the body that can deal with oxygen. While iron *delivers* oxygen to the cells, it is copper (in the form of copper-based enzymes or copper-influenced enzymes) that *activates* the oxygen in the mitochondria to make usable energy. Think of iron as being like the steel beams in a building, while copper is like the copper wiring

delivering electricity. In other words, iron is structural, and copper is functional.

It can also be helpful to think of the copper-iron relationship like a square dance; the copper is the caller, and the iron (the dancer) has got to keep moving (getting recycled) all the time. If

there is just a little extra iron, that’s okay because we’ve got a storage mechanism. We can store a little bit in case we need to grab some out of storage and make more red blood cells. However, we need only to store *a little*, and mostly, we need to be recycling it.

After iron enters a cell and does what it needs to do, it needs to shuttle out and be recycled. That shuttle is dependent on an important enzyme called ferroxidase,



Ceruloplasmin carries copper in the blood and helps manage iron.

which also governs iron storage. If ferroxidase isn’t working, and can’t shuttle the iron out to recycle or store it, where is the iron going to go? The answer is the “metabolic sink”—your mitochondria—and it’s going to mix with oxygen. At that point, the oxidative free radical cascade that we have been discussing is going to ensue.

Acting as a ferroxidase, an important metal-binding protein called ceruloplasmin is the major copper-carrying protein in the blood. Each ceruloplasmin molecule contains eight atoms of bioavailable copper. One indicator of ceruloplasmin’s importance is the fact that it contains one thousand forty-six amino acids; by way of comparison, insulin has fifty-one. With adequate bioavailable copper, ceruloplasmin performs twenty-four known functions in the body, most importantly the management of iron. As discussed, this includes moving iron in and out of the cells, storing iron and building hemoglobin.

Remember my comments about the importance of getting rid of cellular “exhaust”? Bioavailable copper is what activates the ferroxidase enzymes that clear out your “exhaust.” When the copper is not available, the ceruloplasmin can no longer function as a ferroxidase—and if it’s not doing the ferroxidase job that it is supposed to do, you lose resiliency

TABLE 1. AMOUNT OF IRON IN SELECTED IRON-FORTIFIED FOODS AND SUPPLEMENTS*

TYPE OF FOOD OR SUPPLEMENT	AMOUNT OF IRON (MG)
Iron-only supplement (daily)	65
Fortified white flour (1 cup)	32
Women’s multivitamin/multimineral supplement (daily)	18
Fortified cold breakfast cereal (1 cup)	17-18
Enriched oatmeal (1 cup)	14
Iron-fortified infant formula (3.4 ounces)	12
Enriched cornmeal (1 cup)	7
Iron-fortified rice cereal for babies (14 grams)	6
White bread (1 slice)	1

*The body is able to recycle twenty-four of the twenty-five milligrams of daily iron that the red blood cells need. We need only about one milligram per day in dietary intake to replace the minimal amount lost.

and develop major problems.

Modern factors that drive copper out include high-fructose corn syrup, antibiotics, oral birth control methods, synthetic vitamin D and synthetic vitamin C (ascorbic acid). You should avoid them. Dietary copper can also be lacking due to demineralized crops and the absence of organ meats in the diet. There is twice as much copper in liver as iron, so eat your liver! Whole-food vitamin C is another source of bioavailable copper, as is high-quality bee pollen (which also is rich in other trace minerals). Beware of copper supplements; the copper is not bioavailable, and the body will have a very hard time using it.

RESTORING RESILIENCE

Excess iron and a lack of bioavailable copper will feed the “bad bugs” and shut down detoxification enzymes, cellular energy production and cellular “exhaust” clean-up—thereby “rusting” you from the inside out. A primary strategy for restoring resilience, therefore, should be to ensure adequate bioavailable copper so that ceruloplasmin can carry out its designated ferroxidase function.

There are both “stops” and “starts” involved in restoring an appropriate iron-copper balance. In terms of “stops,” individuals eating a Wise Traditions diet are probably already several steps ahead, because they know enough not to eat processed, iron-fortified foods or ingest synthetic supplements. If further tweaking is needed, the Root Cause Protocol is a helpful resource. In fact, many patients—even those who have been committed to a Wise Traditions diet for years—have told me that the Root Cause Protocol and the information about toxic iron were “missing links” in their quest for improved health and that they started to feel better once they started addressing their mineral imbalances. The Root Cause Protocol is not a silver bullet, but it seems to be a helpful approach that a lot of people have overlooked.

A recommended “start” is to get the iron out by periodically donating blood. (For women, this may be something to consider only after menopause, as menstruation is a natural form of iron release. However, reproductive-age women who have a high consumption of iron-fortified foods can still accumulate excess iron.) Practi-

tioners who understand toxic iron will be happy to prescribe therapeutic phlebotomy. However, you don’t need a doctor’s order—just go and donate blood. Heart disease researchers have identified regular blood donation as an effective intervention for lowering cardiac risks linked to excess iron, even in the absence of any other measures.³⁴ Intermittent fasting, according to Morley, can also be helpful. On the other hand, iron chelation appears to be only minimally helpful.

One element of the iron story I have not yet discussed is the importance of vitamin A (retinol). Retinol is the backbone of the ferroxidase enzyme that is so critical for chaperoning iron, and retinol loads copper into ferroxidase. Interestingly, studies of anemia have illustrated vitamin A’s importance.³⁵ Although we measure anemia via hemoglobin, adding iron does not meaningfully restore normal hemoglobin levels—but vitamin A does. In addition

Modern factors that drive copper out include high-fructose corn syrup, antibiotics, oral birth control methods, synthetic vitamin D and synthetic vitamin C.

TABLE 2. SIGNS OF IRON OVERLOAD

TYPE OF CONDITION	SIGN OF OVERLOAD
Autoimmune	Chronic fatigue Diabetes mellitus Elevated blood sugar
Cardiac	Heart attack Heart failure Irregular heart rhythm
Hormonal	Adrenal function problems Hypogonadism Hypopituitarism Hypothyroidism
Liver	Elevated liver enzymes Enlarged liver and spleen Liver disease (cirrhosis, liver cancer)
Rheumatic	Joint pain Osteoarthritis Osteoporosis
Sexual/Reproductive	Infertility Impotence Loss of interest in sex Loss of period
Other	Abdominal pain Depression Early-onset neurodegenerative problems Elevated iron (serum iron or serum ferritin) Hair loss Skin color changes


to high-quality cod liver oil, good sources of retinol include liver, pastured eggs and butter (preferably from raw milk).

As an interesting historical footnote, the observation in the 1940s of an association between anemia in pregnancy and lower levels of hemoglobin was one of the factors that launched iron fortification of food. Reflecting the lack of traditional wisdom characteristic of our era, nutritionists and food scientists imposed this measure not just on the 1 percent of the general population represented by pregnant women but on everyone. In 1995, a study showed that the reasoning about hemoglobin and anemia was flawed; analyzing over one hundred fifty-three thousand pregnancies, the researchers found that not only is it normal for hemoglobin to go a little lower during pregnancy, but that failure of hemoglobin to fall below a certain level actually increases the risk of poor outcomes such as low birth weight and preterm delivery.³⁶

As Weston A. Price Foundation members know, twentieth-century changes in agriculture—mechanized farming, ammonium nitrate fertilizers, pesticides and herbicides including glyphosate—have had a profound impact on the availability of minerals in soil and food. Copper depletion has been particularly significant.³⁷ It currently takes twenty-one apples to provide the same amount of copper contained in two 1950s apples, and fifteen cabbages at present to furnish the copper in a single mid-twentieth-century cabbage. Interestingly, bronze farm tools (made up of 92 percent copper) are known to produce better results (in terms of magnetic frequencies in the soil and microbial balance) than iron tools.

PEACE

The fourth pillar of health—peace—is also

fundamental. Most practitioners can attest to how often we see fear, stress and unresolved emotional conflicts as underlying triggers for health problems. When you lack peace, your ability to be resilient is highly compromised. At a metabolic level, stress causes our electrolytes to shift, and when that shift produces changes in pH, iron goes into the cell, magnesium goes out and metabolic chaos follows. Stress also grabs copper and essentially makes it unusable. A patient once told me, referring to the other three pillars of health (nutrition, hydration and movement), “I’ve done all that, but I need to get my *stress* in check.” This person knew that nothing will work when stress levels are chronically up. I would add that while there are many options available to “manage” stress—and that can be helpful for a time—ultimately, you need to address the root causes in the same way that you would do for a physical condition. True peace is a foundational component to building resiliency. 

Dr. Ben Edwards obtained his medical degree from the University of Texas-Houston Medical School. He completed his internship and family practice residency in Waco at the McLennan County Medical Education and Research Foundation where he was chief resident. Post-residency, he moved to rural west Texas where he worked as the only physician in the county at Garza County Health Clinic. After seven years of practicing conventional rural family medicine, Dr. Edwards made the transition to an integrative functional medicine practice and founded Veritas Medical in 2012. He now oversees six other medical providers at three clinics. He lives with his wife Jamie and six children in a small town outside of Lubbock.

ASSESSING IRON OVERLOAD

Standard tests assess the amount of iron in the blood. However, even if a blood test shows iron levels to be “normal” or “low,” iron in the blood does not equal iron in the tissues—and the tissues may well be iron-saturated. There is a combination of blood tests that doctors can do to get more of a read on iron overload, but one has to know how to interpret them correctly, and most doctors don’t have that knowledge.

The ideal test would be an easy-to-use and easy-to-understand test for the ferroxidase enzyme. At some point, a test like that may become available. In the meantime, I use patient history to evaluate iron overload. If patients have eaten the standard American diet for any number of years or decades, then—unless they are experiencing extensive bleeding for some reason (such as with very heavy menstrual cycles or ulcerative colitis), I’m going to assume that they are high in iron.

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WAPF MEMBERS-ONLY FACEBOOK GROUP

One of the benefits of WAPF membership is participation in the members-only Facebook group. Here's what members are saying:

Carla T: “Where do I begin?! I feel privileged to be part of a community of like-minded people who ask brilliant questions and provide factual and inspiring answers, who share food prep advice, who share recipes, who take this lifestyle so seriously. It's made a huge difference to me to know that this supportive community is at my fingertips.” Carla Tenzer

Rose B.: “The Weston A. Price Foundation and the Madison Chapter were my go-to resources when I moved across country after retiring last year. I found a source of raw milk and other farm products, I found a local homeopath, almost local dentist and a local community to connect with. I've recently noticed that since 2000, almost all my food and health choices have been influenced by what I've learned from WAPF and the Facebook forum for members. I appreciate the tone of the discourse in this group, and the refusal to dip into political name-calling which is so prevalent elsewhere.”

Anthrax, Arsenic and Old Lace

By Sally Fallon Morell

Anthrax is an infection caused by the bacterium *Bacillus anthracis*. It can occur in four forms: skin, lungs, intestinal and injection. Symptoms begin between one day to over two months after the infection is contracted.

The skin form presents as a characteristic black blister. The inhalation form presents with fever, chest pain and shortness of breath. The intestinal form presents with diarrhea (which may contain blood), abdominal pains, nausea and vomiting. The injection form presents with fever and an abscess at the site of drug injection.

THE OFFICIAL STORY

Bacillus anthracis is a rod-shaped, gram-positive, facultative anaerobic bacterium about 1 by 9 μm in size. The bacterium normally rests in spore form in the soil and can survive for decades in this state.

Anthrax is spread by contact with the bacterium's spores. Anthrax spores often appear in infectious animal products. Contact is by breathing, eating or through an area of broken skin. Anthrax does not typically spread directly between people or animals—in other words, it is not contagious.

Although a rare disease, human anthrax, when it does occur, is most common in Africa and central and southern Asia. Anthrax infection on the skin is known as “hide-porter's disease.” Historically, inhalational anthrax was called “woolsorter's disease” because it was an occupational hazard for people who sorted wool.

Today, this form of infection is extremely rare in advanced nations, as almost no infected animals remain. In 2008, a drum maker in the United Kingdom who worked with untreated animal skins died from inhalation anthrax.¹

While rare today, anthrax posed a major economic and livestock challenge in France and elsewhere during the nineteenth century. Sheep were particularly vulnerable, and national funds were set aside to investigate the production of a vaccine. Louis Pasteur dedicated several years to this quest after Robert Koch, his German rival, claimed discovery of the causative *Bacillus anthracis* agent. The efforts to find a vaccine enticed not only Pasteur but other scientists of his day into a fiercely competitive race for the glory and the gold.

In 1881, Pasteur performed a public experiment at Pouilly-le-Fort to demonstrate his

concept of vaccination. He prepared two groups of twenty-five sheep, one goat and several cattle. The animals of one group were twice injected with an anthrax vaccine prepared by Pasteur, at an interval of fifteen days; the control group was left unvaccinated. Thirty days after the first injection, both groups were injected with a culture of live anthrax bacteria. All the animals in the unvaccinated group died, while all of the animals in the vaccinated group survived.

This apparent triumph, widely reported in the local, national and international press, made Pasteur a national hero and ensured the accep-

tance of vaccination in the practice of medicine.

That's the official story, anyway. Now, let's examine it more closely.

PUBLIC VERSUS PRIVATE

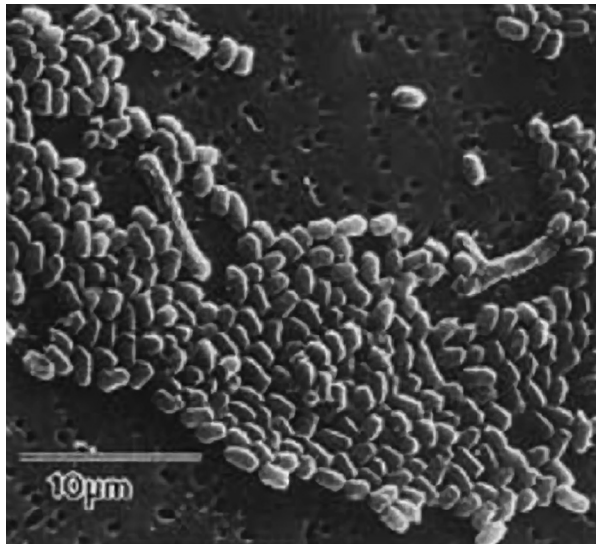
Pasteur's public triumphs look different when we compare the glowing newspaper reports of the day with Pasteur's private notebooks, analyzed by

Gerald L. Geison in his book *The Private Science of Louis Pasteur*.²

Pasteur promoted the theory, widely disputed at the time, that microbes caused most if not every disease. The germ theory allowed scientists to envisage a quick fix to disease with a vaccine containing a weakened or attenuated form of the bacteria—similar to the then-common idea that a little bit of poison could make you immune to a larger dose.

Reading about these early attempts to find a vaccine for anthrax conjures up images of Monty Python and the Ministry of Silly Science. Some scientists attempted “attenuation” by subjecting the microbe to a poison, potassium bichromate, or carbolic acid, a disinfectant. Another scientist thought he could create an attenuated vaccine by heating the blood of infected animals and injecting it into non-infected ones. Some favored

The germ theory allowed scientists to envisage a quick fix to disease with a vaccine.



Spores of *Bacillus anthracis*.

Did Pasteur cheat? After all, the stakes were high. Pasteur's notebooks indicate that he was sometimes dishonest, even unsavory.

boiling the bacteria in chicken broth, others in urine. One of Pasteur's colleagues tried to "enfeeble" anthrax cultures by exposing them to gasoline vapors. Pasteur attempted to destroy the virulence of the anthrax bacillus by subjecting it to "atmospheric oxygen," science-speak for air—all of these theories pursued with John Cleese-like gravitas.

Unfortunately for these would-be heroes, none of the ideas worked very well. For example, when Pasteur's rival, a veterinarian named Toussaint, focused on heated blood, which he initially claimed could serve as an effective vaccine, he later found that the results were inconsistent, even killing experimental animals. He began to add carbolic acid, which did not meet with expectations either.

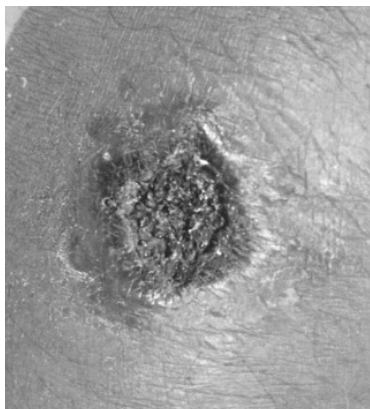
In his notebooks, Pasteur expressed frustration that his own experiments with rabbits, guinea pigs, monkeys and dogs gave such inconclusive results. The magic vaccine was elusive, and according to Geison, Pasteur had "exceptionally little experimental basis for announcing the 'discovery' of an anthrax vaccine in January 1880."² Pasteur made a similar announcement in February 1881, and in March he reported successful results in preliminary tests on sheep. As Geison recounts, "the boldly confident tone of Pasteur's public reports exaggerated the actual results to date of his experiments with the new vaccine. In fact, the results of his tests remained 'decidedly inconclusive.'"²

Another problem that Pasteur encountered was that try as he might, he was unable to make animals sick by injecting them with the microbe he associated with the disease he was studying, such as anthrax or rabies. In the case of anthrax, to make healthy animals sicken and die, he had to inject them with "virulent anthrax." Pasteur made "pathogenic" microbes more virulent by what he called "serial passage" of the organism through other animals. In the case of anthrax, he used guinea pigs, injecting them with the microorganism he associated with anthrax, then sacrificing the animal and injecting its blood or

tissue—possibly mixed with poisons such as carbolic acid or potassium bichromate—into another animal; this process was repeated through several guinea pigs. In this way he came up with what he called "virulent anthrax."

For rabies, Pasteur was able to produce the symptoms of disease by injecting "cerebral matter. . . extracted from a rabid dog under sterile [that is, poisoned] conditions and then inoculated directly onto the surface of the brain of a healthy dog through a hole drilled into its skull." This treatment did sometimes make dogs foam at the mouth and die.²

In the midst of his frustrating anthrax experiments, Pasteur was enticed by the Academy of Medicine into making the celebrated demonstration at Pouilly-le-Fort. With his rival Toussaint (a mere vet, not even a true scientist!) breathing down his neck, his enemies made him sign the protocol of an experiment they judged impossible of success. Pasteur, to the dismay of his co-workers, "impulsively" accepted the Pouilly-le-Fort challenge and signed the detailed and demanding protocol of experiments on April 28, 1881.



Black skin lesion ascribed to anthrax infection.

A DECEPTIVE EXPERIMENT?

Geison makes much of the fact that Pasteur deliberately deceived the public about the nature of the vaccine he used at Pouilly-le-Fort, although there was no particular reason for doing so. The protocols did not specify the kind of vaccine that Pasteur would inoculate into the animals. Pasteur was equally cagey earlier in his career about the details of how he made his vaccine for chicken cholera.

The key point: unlike all his early experiments, the trials at Pouilly-le-Fort worked perfectly! All the vaccinated sheep lived, and all the unvaccinated sheep died. A triumph!

However one has the right to ask: did Pasteur cheat? After all, the stakes were high—his whole career and the future of the germ theory were at stake. Pasteur's notebooks indicate that he was sometimes dishonest, even unsavory. He

was also extremely aggressive in defending his interests, having destroyed several opponents with manipulation and sharp rhetoric.

The death of all the unvaccinated sheep is easy to explain. Pasteur used “virulent anthrax”; in other words, he poisoned them. What about the vaccinated sheep—all of them—that lived? Did he inject them with “virulent anthrax” or merely anthrax, with which he had never succeeded in killing any animals? As the French would say, “*Il y avait quelque chose de louche.*” Something fishy was going on.

After the trial, requests for supplies of his anthrax vaccines flooded Pasteur’s laboratory. The laboratory soon acquired a monopoly on the manufacture of commercial anthrax vaccines, and Pasteur aggressively pursued foreign sales. Pasteur and his laboratory enjoyed a net annual profit of 130,000 francs from the sale of anthrax vaccines in the mid-1880s. But Pasteur and also his assistants remained surprisingly reluctant to disclose any details about the type of vaccine they used.

Soon problems arose, furnishing another source of suspicion that Pasteur had cheated—the anthrax vaccine didn’t work. In *Pasteur: Plagiarist, Imposter!*, author R.B. Pearson notes that Pasteur began to receive letters of complaint from towns in France and from as far away as Hungary, describing fields littered with dead sheep, vaccinated the day before.³ According to the Hungarian government, “the worst diseases, pneumonia, catarrhal fever, etc., have exclusively struck down the animals subjected to injection.” An 1882 trial carried out in Turin found the vaccination worthless. In southern Russia, anthrax vaccines killed 81 percent of the sheep that received them.³

ARSENIC POISONING

Gradually, use of the anthrax vaccine

faded. . . but here’s the mysterious thing: The occurrence of anthrax faded also. Today, it is a rare disease. So what was causing the death of so many animals, mostly sheep, during the nineteenth century, and why don’t sheep die of anthrax today?

Let us consider sheep dip (a liquid preparation for cleansing sheep of parasites). The world’s first sheep dip—invented and produced by George Wilson of Coldstream, Scotland in 1830—was based on arsenic powder. One of the most successful brands was Cooper’s Dip, developed in 1852 by the British veterinary surgeon and industrialist William Cooper. Cooper’s dip contained arsenic powder and sulfur. The powder required mixing with water, so naturally agricultural workers—let alone the sheep dipped in the arsenic solution—were sometimes poisoned.

The symptoms of arsenic poisoning are remarkably similar to those of “anthrax,” including the appearance of black skin lesions. Like anthrax, arsenic can poison through skin contact, through inhalation and through the gastrointestinal tract. If an injection contains arsenic, it will cause a lesion at the site.

Sheep dips today no longer contain arsenic, so anthrax has disappeared—except in developing countries where it is still an ingredient in industrial processes like tanning—hence the 2008 death of the drum maker working with imported animal skins.¹

The real mystery is why scientists of the day did not make the connection between anthrax and arsenic. After all, the French knew a thing or two about arsenic. Every physician and pharmacist stocked arsenic powder, and in Flaubert’s best-selling mid-century novel *Madame Bovary*, his heroine kills herself by swallowing a handful of arsenic. Flaubert graphically describes the black lesions that mar the beautiful Madame

The symptoms of arsenic poisoning are remarkably similar to those of “anthrax,” including the appearance of black skin lesions.



Bovary as she dies—every Frenchman knew what arsenic poisoning looked like. It seems that scientists, vets and physicians were so dazzled by the new germ theory that they could not connect poison with disease.

Pasteur died in 1895 and immediately took his place as the premier saint of medicine. The press featured engravings that reeked of old lace, showing him as the object of adulation, his flasks and beakers placed on an altar, a grateful admirer kneeling before them. Science had become the new religion. A modern description calls Pasteur “the man who saved billions of lives.”

But Pasteur did not radiate the satisfaction of having saved lives. He spent his last years enfeebled and sad-looking, his faults etched as deep lines of stress and worry around his eyes.



accumulating bacteria “are widespread in the polluted soils and are valuable candidates for bioremediation of arsenic contaminated ecosystems.” Nature always has a solution, and in the case of arsenic, the solution is certain ubiquitous soil bacteria. We need to entertain the possibility that the “hostile” anthrax bacteria, first isolated by Robert Koch, are actually a helpful remediation organism that appears on the scene (or in the body) whenever an animal or human encounters the poison called arsenic. ☯

Sally Fallon Morell is the author of the best-selling cookbook Nourishing Traditions and founding president of the Weston A. Price Foundation. Her latest book with coauthor Thomas Cowan, MD, is The Contagion Myth: Why Viruses (including “Coronavirus”) Are Not the Cause of Disease. Visit Sally's blog at nourishingtraditions.com.

NEW ANTHRAX SCARE

Anthrax faded from public consciousness, and anthrax vaccines languished until the famous anthrax letters sent to well-known members of the media and two senators a couple of weeks after 9/11. At least twenty-two people became sick and five died.⁴ Genetic testing (not isolation of the bacteria) indicated anthrax spores, but no one tested the powders for arsenic.

The attacks revived interest in the anthrax vaccine. Rarely used for decades, the vaccine was dusted off for use in those considered to be in an “at-risk” category, such as members of the military. Soldiers get the vaccine in five consecutive doses, with a booster every year.⁵

Even according to conventional sources, all currently-used anthrax vaccines provoke reactions, such as rash, soreness and fever, and serious adverse reactions occur in about 1 percent of recipients.⁶ In 2004, a legal injunction challenging the vaccine’s safety and effectiveness halted mandatory anthrax vaccinations for members of the military, but after a 2005 FDA report claimed the vaccine was safe,⁷ the Defense Department reinstated mandatory anthrax vaccinations for more than two hundred thousand troops and defense contractors.⁸

NATURE’S SOLUTION

One last thought: Scientists have found that certain bacteria can “bioremediate” arsenic in the soil.⁹ These arsenic-resistant or arsenic-

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The Nourishing Traditions of Morocco

By Sandrine Perez

My mother, Jacqueline Hahn, was born and raised in Marrakech, Morocco, and when I was in high school, wrote a cookbook featuring Moroccan cuisine.¹ I remember thinking we were the weird family, with garbanzos soaking overnight on the counter, lemons preserved in labeled glass jars with dates scribbled on them and olives from our tree curing under rocks and salt in our kitchen.

I visited Morocco in 2005 and captured the photographs included in this article. At that time, I'd already been serving as the Weston A. Price Foundation's San Francisco chapter leader and had visited a number of local farms and farmers markets. Nonetheless, I wasn't quite prepared for what I saw at the farmers markets in Morocco—for example, an entire cow's head hanging from a hook available for sale and cows' hooves with their skin and hair on them!

Needless to say, culinary traditions in Morocco definitely include utilizing the entire animal! I saw live animals available for customers to purchase, slaughter and butcher themselves—like rabbits and sheep—as well as sheep that were being sold as a gutted carcass with their faces and wool intact.

ORGAN MEATS

As the Weston A. Price Foundation states, “Organ meats are the most nutrient-dense part of the animal—from ten to one hundred times richer in vitamins and minerals than muscle meats—and traditional cultures always consumed them, usually in rich dishes that included cream and plenty of butter. Such fare is truly food for the body and soul!”²

My mother, who funded the Nourishing Our Children educational initiative that I established in 2005 as a project of the Weston A. Price Foundation, was well aware of the critical importance of nutrient-dense foods during children’s formative years. She fed me and my siblings lamb’s brains as soon as we were eating solid foods. She simply sautéed them in a skillet because the brains didn’t need any additional fat. They already had the “good kind of fat,” she explained.

I read in the *Cook’s Thesaurus* that “Even adventurous eaters often draw the line at brains, and it’s just as well, since they’re loaded with cholesterol” (which my mother’s culture didn’t fear). The *Thesaurus* continues, “Those who do eat them often scramble them with eggs. It’s very important that brains be fresh, so either cook them or freeze them the day you buy them.”³ The *Thesaurus* also lists sweetbreads as substitutes, stating “Brains and sweetbreads can be used interchangeably in most recipes, but brains aren’t as well regarded.” My mother fed us all the organ meats—kidney and liver as well—but she told me that brain was my favorite.

According to my mother, organ meats were highly valued in both Morocco and France, where I was born and spent my first five years. When we emigrated to America, she discovered that organ meats were not embraced by the predominant culture. She could feed us very economi-

cally by going to an Iranian grocer and buying organ meats for a fraction of the cost because no one else wanted them.

Organ meats are routinely served in Morocco with onion, garlic and parsley. My mother also shared with me that one of the culinary traditions she learned was to soak kidneys and liver in lemon juice or vinegar in order to purify them. Interestingly, Sally Fallon Morell offers the same instructions in her book *Nourishing Traditions*.

IF WE EAT ANIMAL BRAINS, WILL WE BE SMART?

It has been reported that children who grow up eating the brains of animals have healthier brains and nervous systems than those who don’t eat them.⁴ This makes intuitive sense because many of the key nutrients needed for brain development—such as vitamin A, vitamin D, choline, DHA, zinc, tryptophan and cholesterol—are found in organ meats.⁵

While brain is one of the most nutritionally dense organs found in any animal, unfortunately it is also an organ that can carry a concentrated amount of disease. “Mad cow” disease (bovine spongiform encephalopathy or BSE) refers to a degenerative and fatal condition that occurs in cows, which essentially creates “spongy holes” in an affected cow’s brain.⁶ The conventional hypothesis about BSE is that cattle can become infected by eating feed that contains infected tissue from other cows or other animals.⁷ Within



IN A MARKET IN
MEKNES SOUK EL HDIM

LEFT: Whole cow’s head

RIGHT: Cow’s hooves




the factory farm feed-and-be-fed-to system, a cow may be fed grain fortified with ground-up chicken, while the chickens in turn are eating feed containing grain fortified with ground-up cow. And so on. If disease enters this system, it could suddenly be everywhere.

[Editors' note: Not satisfied with the conventional explanation, the late Mark Purdey (an organic dairy farmer in the UK) performed geochemical analyses and furnished a different hypothesis about BSE (and other diseases such as Alzheimer's and Parkinson's). Purdey suggested that the causal agents might be "common toxic denominators"—specifically, metal micro-crystal pollutants such as manganese, barium and strontium—capable of seeding "aberrant growth of rogue metal-protein crystals within brain tissues."^{8]}

Regardless of which hypothesis one finds more persuasive, we recommend that you consume the flesh and organ meats of cows eating grass. Eating organ meats from animals that have been on pasture and eating their natural diet exclusively will help ensure both safety and nutrient density.

FINDING INGREDIENTS

When I returned from my trip to Morocco in 2005, I was inspired to teach a Moroccan cooking class to Weston A. Price Foundation chapter members and the larger community in San Francisco. I chose recipes that showcase spices that many of us have come to identify as quintessentially Moroccan. Many of these spices marry particularly well with liver. In addition to obtaining liver from grass-fed animals, I

highly recommend that you use all-organic ingredients—including the spices, which ideally should be non-irradiated. If possible, buy locally produced items. 

Sandrine Perez previously worked as a family therapist, art therapist, teacher and as an educational therapist in private practice before she established Nourishing Our Children in 2005. Convinced that the children she worked with were well-fed but malnourished, Sandrine closed her private practice to devote herself to creating educational materials that would inspire parents to return to the nutrient-dense foods that have produced generation after generation of healthy children. She founded the San Francisco chapter of the Weston A. Price Foundation in 2004 and currently leads the Portland, Oregon chapter. She has also taught Nourishing Traditions and Moroccan cooking classes, and has written two children's books, The Adventures of Andrew Price and A Real Food Alphabet. Sandrine received WAPF's activist award for her leadership role twice—in 2006 and again at WAPF's twenty-year anniversary. In 2014, she was named to the Honorary Board.

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IN A MARKET IN
ESSAOURIRA

LEFT: Sheep with
heads and wool

RIGHT: Whole lamb
for sale



LIVER BALLS IN TOMATO SAUCE

Recipe by Jacqueline Hahn, edited by Sandrine Perez

Ingredients:

- 1 onion, peeled and minced
- 1 tablespoon olive oil or other traditional fat of your choice such as butter
- 1 1/2 pounds calf liver
- 2 tablespoons cumin
- 1/2 teaspoon salt
- 1/2 teaspoon pepper
- 1/2 cup parsley, chopped or minced if you prefer
- 3 slices traditionally-prepared sourdough bread and enough butter to spread on it
- 5 tomatoes (or 1 medium can tomato sauce)
- 2 onions, sautéed in 2 tablespoons of olive oil
- 1 teaspoon paprika or cayenne
- 1/2 teaspoon Tabasco hot sauce (optional)

Instructions:

1. In a skillet, sauté the first minced onion in oil or other fat.
2. Wash and cube liver.
3. Add liver to the onion with cumin, salt, pepper and parsley. Cook a few minutes over medium heat.
4. Toast bread, butter it and crumble in a food processor. Place in a bowl and set aside.
5. In the same unwashed food processor, grind all skillet ingredients.
6. Add bread crumbs to thicken liver and shape into small meatballs.
7. Place tomatoes in boiling water for a few minutes. Peel.
8. Discard water and skins and crush tomatoes into a sauce with a fork or in a food processor. Set aside.
9. In the same skillet used before, sauté two more minced onions in oil.
10. Add the tomato sauce, salt, paprika and optional Tabasco.
11. Stir over high heat, until you get a nice thick sauce.
12. Add the liver meatballs. Cook 10 to 15 minutes over low heat, with lid on.

Variation: Prepare tomato sauce in the same way as above, adding sauce to two sautéed minced onions. Add cubed liver (calf or chicken) along with 2 tablespoons cumin, 1 teaspoon paprika or cayenne, 1/2 teaspoon salt and 1/2 head minced garlic. Cook covered for 10-15 minutes, then uncover and simmer until sauce thickens.

LIVER WITH OLIVES

Recipe by Jacqueline Hahn, edited by Sandrine Perez

Ingredients:

- 2 onions, minced
- 2 tablespoons olive oil or other traditional fat of your choice such as butter
- 1 1/2 pounds liver (beef, calf or chicken)
- 1/2 head garlic, peeled and minced
- 1/2 cup cilantro, minced
- 1/2 teaspoon salt
- 1/2 teaspoon pepper
- 1 tablespoon paprika or cayenne
- 1/2 teaspoon Tabasco sauce (optional)
- 1 cup pitted whole or chopped olives (black or green)
- 3 to 4 quarters of preserved lemons (optional, see recipe below)
- Juice of small lemon
- 1 tablespoon capers

Instructions:

1. In a large deep skillet, sauté chopped onions in oil or other fat.
2. Add liver, washed and cubed, with minced garlic, minced cilantro, spices and optional Tabasco.
3. Cook five minutes with lid on, over medium heat. Uncover.
4. Add olives, preserved lemons, lemon juice and capers. Simmer. Adjust seasonings.

PRESERVED LEMONS

Ingredients:

5 Meyer lemons and 2 tablespoons sea salt

Instructions:

1. Trim the very tips from the lemons but don't expose the flesh. Slice the lemons lengthwise into quarters without slicing completely through, so that you keep the quarters connected at the base.
2. Sprinkle the inside of the lemons with a generous pinch of salt, and then pack them tightly into a 24-ounce (or 750-ml) glass jar. Sprinkle each layer of lemons with additional salt.
3. Press the lemons down tightly in the jar so that they release their juices and combine with the salt into a brine that submerges the lemons completely. Place a weight over the lemons and seal the jar. Use an airtight container to help prevent mold formation. A weight to keep the lemons submerged and a fermentation seal will help even more. Allow the lemons to ferment at least a month before opening the jar to taste them and ensure the pith is no longer bitter. It may take two months!

MOROCCAN CARROT SALAD

Recipe by Jacqueline Hahn, edited by Sandrine Perez

Ingredients:

1 pound carrots
3 to 5 cloves garlic
1 teaspoon paprika
1 teaspoon cumin
Juice from 1 large lemon or from preserved lemons (see recipe)
2 tablespoons parsley
2 tablespoons organic, cold-pressed, unfiltered, extra-virgin olive oil
Unrefined sea salt

Instructions:

1. Scrub carrots thoroughly with a vegetable brush and slice them into rounds.
2. Steam the carrots until they've softened but still retain some of their firmness.
3. In a blender or food processor, mix the spices with the lemon juice, parsley, olive oil and salt. Pour mixture on the cooked carrots.
4. Serve cool or warm with couscous, rice or chicken.

CORNISH HENS IN ALMOND-ORANGE SAUCE

Recipe by Jacqueline Hahn, edited by Sandrine Perez

Ingredients:

5 Cornish hens
Unrefined sea salt (such as Eden or Celtic Sea Salt)
Pepper
Turmeric
"Bouquet garni" of mixed dried herbs

Pinch of saffron for each hen (optional)
 2 onions, peeled and minced
 2 tablespoons organic, cold-pressed, unfiltered, extra-virgin olive oil
 Garlic to taste, no more than 1/2 head (optional)
 2 oranges (one peeled and juiced, one peeled and quartered)
 1-3 tablespoons honey, preferably local (to taste)
 2 cups meat juice from roasting the Cornish hens (or whatever quantity you garner)
 1/3 to 1/2 cup of Cointreau or orange liqueur (to taste)
 1 or more tablespoons organic kuzu root starch, or 3 tablespoons flour*
 1 cup crispy almonds**
 A few whole almonds and parsley or mint leaves for garnish

Instructions:

1. Preheat oven to 400° F.
2. Wash the Cornish hens in filtered (not tap) water.***
3. Sprinkle salt, pepper, turmeric, saffron and herbs all over the hens and inside their cavity as well (to taste). Place them in a baking or roasting pan.
4. Roast the hens in the preheated oven until cooked but still tender. I keep them covered, only taking the lid off to brown the skin for the last five to ten minutes. Reserve two cups of the drippings for the sauce.
5. In a skillet, sauté the minced onions and optional garlic in oil. Keep in skillet and set aside.
6. Scrub the skin of an orange in filtered water with a vegetable brush. Squeeze the orange to get its juice and refrigerate the juice.
7. Peel off the skin of the same orange. Boil in filtered water for a few minutes to get rid of its bitterness. Drain water and dry the skin with a dish towel. Allow to cool for a moment.
8. In a food processor, reduce the orange peel to a paste. Add the honey (I recommend adding only 1 tablespoon), the roasting juices from the hens, the orange liqueur and salt and pepper and blend in the food processor. Add food processor contents to the sautéed onions and garlic in the skillet. Leave unheated while you prepare the kuzu.
9. In a small bowl, dissolve 1 tablespoon kuzu root starch (or flour) in 2 tablespoons of the fresh-squeezed orange juice. Stir until the starch is completely dissolved.
10. Heat the skillet contents to a low/medium temperature. Stir in the kuzu root mixture, stirring constantly. Cook the sauce for a few minutes until it thickens. Add additional starch as needed to thicken, keeping the 1:2 ratio of kuzu to orange juice (tablespoons or teaspoons) each time you add to the sauce. If there is extra orange juice at the end of the process, you can add it to the sauce if you don't think it will change the desired thickness. If you prefer a smooth sauce, blend it with a hand-held blender in the skillet or in a glass blender. (I don't recommend putting hot food items into the plastic food processor.)
11. Coat the roasted Cornish hens with sauce. Sprinkle ground almonds on top and surround with the peeled and quartered orange. Put back in the oven to warm. Decorate with parsley or mint leaves and serve.

* Kuzu root starch is a versatile, superior thickener that doesn't separate after cooking like other starches. Kuzu is valued for soothing the stomach and strengthening the intestine.

** To make crispy almonds, soak 4 cups almonds in filtered water with 1 tablespoon sea salt and leave in a warm place for seven hours or overnight. Drain in a colander, spread on a stainless-steel baking pan and place in a warm oven (no more than 150 degrees) for 12 to 24 hours, stirring occasionally until completely dry and crisp. Store in an airtight container.

*** Thomas Cowan, MD advises using non-fluoridated water for all internal consumption. The best water is deep well water or clean spring or mineral water.

Reading Between the Lines

By Merinda Teller

Beware Modified Food Starch—Especially the “Modified” Part

With the dramatic events that have unfolded in 2020, demand for local food, support for local farmers and renewed interest in home gardening has exploded in many locations. Describing the boom in “crisis gardening,” one food historian explains, “It’s helpful to be productive and connect with nature and it’s something that’s within our control in a situation that feels entirely out of control.”¹

Unfortunately, while some segments of the population have been able to up their commitment to growing, raising or procuring unprocessed real foods, unemployment—and its byproduct, food insecurity—have driven many Americans to food banks or to bargain-bin shopping at brick-and-mortar or online conglomerates. The Feeding America network of food banks reports an average 50 percent increase in the number of people requesting food bank assistance nationwide since March, with four in ten recipients having never sought such assistance before.² The primary items requested by food banks are shelf-stable canned goods, while items requiring refrigeration—foods like produce, dairy and meat—are expressly on the “do not donate” list.³ Online sales of canned goods and other shelf-stable foods have likewise skyrocketed in the Covid-19 era, increasing by a whopping 69 percent.⁴

If you were to dissect the “stable” half of the “shelf-stable” equation, one would likely stumble upon a nondescript ingredient that has become a go-to stabilizer, as well as serving as a thickening agent, binder and emulsifier: modified food starch. Products likely to contain modified food starch include canned foods (including canned meats); frozen prepared foods; bakery items (such as breads, cakes and biscuits); candy; jelly; dairy-based desserts such as ice creams and puddings; soups; sauces; instant foods; powder-coated foods; gravies and dressings; beverages such as Gatorade; and even

medication capsules.⁵⁻⁷ Modified food starches are also gleefully embraced by the manufacturers of lowfat food products, who celebrate the ability of modified starches to serve as a “fat mimetic”—creating “a fat-like mouthfeel”—and as fat replacers, acting “directly as fat globules.”⁸

Illustrating the primary aim of this dodgy laboratory assault on native starch molecules, the corporate behemoth Cargill emphasizes that “Cargill’s portfolio of modified food starch has been developed to fulfill the needs of the food industry”⁹—needs for which native starch is, from the industry’s perspective, ill-suited.⁵ In Cargill’s characterization of these “functional benefits,” modified food starches are “hard-working ingredients that play an important role in food formulation, providing texture, controlling moisture, stabilizing ingredients and extending shelf life.” What Cargill does not disclose is the health havoc that modified food starches have been wreaking on the unwitting consumers of the products that contain them.

MANY PATHS TO STARCH MODIFICATION

Modified food starch—typically derived from corn, potato, tapioca, rice or wheat—is created through the use of techniques to “change, strengthen or impair new properties by molecular cleavage, rearrangement or introduction of new substituent groups.”⁵ The goal is to make native starch more amenable to food industry applications; this is accomplished by tampering with properties such as temperature of gelatinization, gel clarity, viscosity, retrogradation (recrystallization), texture and taste.⁵ The result of these alterations allows the food industry to deploy modified starches, for example, “in foods that promote themselves as ‘instant’ and in foods that might need a certain temperature to thicken (during cooking or freezing). Think of gravy packets, instant puddings and those meals that

The goal is to make native starch more amenable to food industry applications.

While chemically modified food starches must be listed as a “modified food starch” on food labels, the same does not hold true for physically modified starches.

come in a box and require a minimum amount of cooking or simply need boiling water.”¹⁰

Modified food starches get considerable credit for helping the processed food industry rapidly take off in the 1940s and 1950s, and they continue to play a central role to the present day.¹¹ An upbeat online promo piece extolling the virtues of canned chicken states, for example, that modified food starch is basically “supercharging the chick meat with the ability to withstand a lot of abuse during canning, shipping, and long-term storage,” while helping “ensure the meat is the right texture and taste when you finally open it up.”¹²

There are three broad approaches to starch modification: *physical* (thermal and nonthermal); *enzymatic* (through hydrolysis, a technique for rupturing chemical bonds); and *chemical*. Within the chemical and physical modification categories, food scientists have a staggering array of options at their disposal. For example, chemical techniques may include esterification, etherification, acid treatment, alkaline treatment, bleaching, oxidation (using agents such as chlorine, hydrogen peroxide, potassium permanganate and sodium hypochlorite) or emulsification.^{5,13} Similarly, physical methods involve either heat treatments (such as pregelatinization, heat-moisture treatment, annealing, microwave heating, osmotic pressure treatment and heating of dry starch) or non-thermal techniques such as “ultrahigh-pressure treatments, instantaneous controlled pressure drop, use of high-pressure homogenizers, dy-

namic pulsed pressure, pulsed electric field, and freezing and thawing.”¹⁴

Which technique is used has major implications for product labeling. Cottoning on to the fact that consumers are growing suspicious of the term “modified,”¹⁵ a 2015 article in the *Annual Review of Food Science and Technology* explained that physical modification techniques offer a labeling loophole, which has increased their popularity among food processors.¹⁴ As the authors elaborate, while chemically modified food starches must be listed as a “modified food starch” on food labels, the same does not hold true for physically modified starches: “Physical modifications are of interest to the food industry precisely because no chemical reagents are used, and as a result, the starch product does not need to be labeled as a modified starch.”¹⁴

DIARRHEA, HEADACHES AND BLOATING, OH MY

Could consumer leeriness about modified food starches have something to do with widespread reports of adverse effects associated with their consumption? Common reactions reported by adults who have ascertained that they do not tolerate modified food starch include allergies, headaches, diarrhea, bloating, other forms of digestive distress, fatigue and more.¹⁰ Sometimes, these symptoms arise from foods that consumers perceive to be health-promoting, such as “‘healthy’ sugar-free yogurt.”¹⁶ One website (isitbadforyou.com or IIBFY) gives modified food starch an “F” and lists heart palpitations,

ADVERSE REACTIONS TO MODIFIED FOOD STARCH

In response to a blog about modified food starch, readers shared comments about their symptoms and reactions:¹⁰

- “I get diarrhea from modified starches.”
- “I have a son who has a food allergy to modified food starches (throat closes, dizzy, diarrhea, etc.).”
- “I get severe migraine headache with the aura so it is hard to see.”
- “My husband always gets diarrhea. I do not react that way but get bloated and gassy.”
- “I get a ton of bloating and hives all over. I would also say my head feels foggy and my mood becomes depressed and angry.”
- “[M]y problem of bloating and tummy ache is getting worse.”
- “Modified starch-containing foods make me tired, lethargic and put me to sleep.”
- “Large amounts [of modified starch] demyelinate and cause lesions.”
- “My reaction is itching. My hands look awful.”

chest pain and weight gain as additional side effects beyond the ones already mentioned.¹⁷ The IIBFY website also notes that the chemicals used to modify the starches (in the case of chemical modification) pose a health threat in and of themselves.

Concerns about the health effects of modified food starch are not new, particularly in relation to the very young. In a historical review of modified starches in infant foods, published in 2018, the author noted that although “added starch and modified starch became increasingly important in the production of puréed fruits and vegetables” from the 1940s on—and were also widely incorporated into foods such as grain-based fortified infant cereals—by the 1990s, the public and the media had begun to scrutinize infant foods more closely.¹⁸ Apparently, this resulted in pressure to cut back on the use of modified starches in baby foods, though bodies such as the American Academy of Pediatrics and the National Academy of Sciences declared the starches’ use in such foods to be completely safe.¹⁹

As of the late 1990s, one dedicated group of university researchers was still sounding the alarm about the presence of modified food starches in foods targeted at infants and young children. These dissenting researchers not only described the modified starches’ effects on nutrient absorption, the potential for diarrheal symptoms and possible impacts on the gastrointestinal flora, but also suggested that the starches could be implicated in Crohn’s disease and might have toxic, mutagenic and carcinogenic effects due to the chemicals used to modify the starch.^{20,21} In 2001, one of the same researchers collaborated on a study showing that modified starch in baby foods produced loose stools and,

when consumed along with sorbitol and fructose, led to “frank diarrhea.”²²

Considering the foods commonly consumed by a majority of American infants and toddlers, it is likely that young children’s intake of modified food starch remains high. For example, a 2004 analysis of infants’ and toddlers’ food consumption patterns found that nearly half of infants seven to eight months old (46 percent) “consumed some type of dessert, sweet, or sweetened beverage,” and the percentage consuming baked desserts rose to 62 percent by the time the children were nineteen to twenty-four months old.²³ A more recent study published in *Pediatrics* in 2014 reported that 57 percent of twelve-month-olds were consuming sweet foods on a weekly basis and 85 percent were consuming dairy foods other than milk.²⁴ As previously noted, bakery items and low-quality industrial dairy-based products are among the many foods likely to contain modified food starch.

PARTNERS IN CRIME

Maltodextrin is another starch derivative, derived from the same sources as modified food starch (corn, potato, tapioca, rice or wheat) and often added to the same types of packaged or processed foods, including frozen foods, baked goods, salad dressings, soups, sweets and sports drinks.²⁵ And manufacturers add maltodextrin to these foods for similar purposes—to boost flavor, thickness or shelf life. In a sort of one-two punch, it is not uncommon for maltodextrin to be paired with modified food starch in the same food. For example, a trade industry publication in 2005 described how modified food starch “coagglomerated with maltodextrin” provides “enhanced functionality in specific applications,” such as “enhanced dispersion characteristics in hot and cold liquids” and desirable properties in salad dressings, sauces and marinades.²⁶

Trade groups do not mention the myriad health risks with which maltodextrin has been linked. These include an increased risk of diabetes; a risk of inflammatory bowel disease (due to reductions in good gut bacteria and increases in harmful gut bacteria); allergies, asthma and rashes; bloating and flatulence; and weight gain.²⁵ When one views this list of potential problems alongside the unpleasant symptoms linked to modified food starch, it casts a different light on the food industry’s celebration of these ingredients as “downright essential for enabling food manufacturers to provide varied and flavorful offerings to today’s busy consumer.”²⁶

GMOS, GLYPHOSATE AND MODIFIED STARCH

Among the constituencies that should get credit for illuminating the risks of modified food starches are the individuals and organizations involved in publicizing the dangers of genetically modified ingredients. Many modified starches come from corn. With the high likelihood of corn being GMO, modified starches should, therefore, be considered a potential GMO ingredient.²⁹ Maltodextrin also commonly comes from GMO corn.

Because wheat is another source material for modified food starch, contamination with glyphosate (used as a desiccant on conventional wheat crops and, sadly, also present as a contaminant in some organic wheat) is a possibility. There is also another challenge specific to wheat-derived modified starch; individuals suffering from celiac disease—and others who need a diet guaranteed to be gluten-free—complain that they have difficulty screening for gluten in modified starch because lax labeling rules “do not require [that] the grain source be disclosed on ingredient labels.”³⁰


LOOKING THE OTHER WAY

Unfortunately—and not surprisingly—neither food scientists nor food regulators appear particularly interested in the potential health risks associated with modified food starches. A search of “modified food starch” in the National Library of Medicine’s PubMed database pulls up only fifteen published articles since 1980, few of them recent.

In France, where Americans might be forgiven for assuming that food is of higher quality than in the U.S., a study published this year reported that 54 percent of commonly marketed food products (the study examined one hundred twenty-six thousand) contained at least one food additive, and more than one in ten (11 percent) contained at least five additives.²⁷ Modified starches were among the top three types of additives used (present in over ten thousand products), and the foods most likely to include additives included some of the by-now-familiar culprits: “artificially sweetened beverages, ice creams, industrial sandwiches, biscuits and cakes.” The French research team also found that modified starches tended to “cluster” with other noxious additives such as carrageenan. Nonetheless, a safety review requested by the European Commission in 2017 concluded that “there is no safety concern for the use of modified starches as food additives at the reported uses and use levels for the general population.”²⁸

If comparable studies were conducted in the United States today, it is likely that the prevalence of modified starches and other additives would be similar—or worse—and it is virtually certain that regulators would reach the same food industry-friendly conclusions about safety. For now, individuals with complaints about modified food starch appear to be relegated to the blogosphere or to online forums populated by fellow sufferers who commiserate about food labeling shortcomings and the challenges of getting physicians to recognize the problem.

Fortunately, there is one straightforward fix that readers of this journal will readily understand and embrace. If you eat a mostly cooked-from-scratch Wise Traditions diet—full of real animal fats with bona fide mouthfeel and high-integrity ingredients—chances are that you will never have to cross paths with these

newfangled starches or contend with their ill effects. The wider challenge that we all need to work toward addressing—and especially at this unprecedented historical juncture—is to ensure that *everyone* has access to this type of diet. 

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The Wise Traditions Pantry

TRADITIONAL FOODS PREPAREDNESS AND OTHER FORMS OF PREPAREDNESS

By John Moody

Without a doubt, 2020 has been the year no one expected. A novel virus leading to a pandemic of panic that has resulted in lockdowns, quarantines, food shortages and a thousand other unexpected things. Because of all the uncertainty and the disruptions to food and other systems, I have been inundated with questions from people wanting to know how they can best position themselves and prepare for what the rest of this year (and the next) may bring.

Preparedness is a big topic, and an important one for people who rely on real foods to keep them well in good times and bad. In this article, I want to touch on how those of us committed to a Wise Traditions diet and lifestyle can best prepare in ways that align with our principles.

LOCAL FOOD IS THE BEST FOOD

Having a solid network of local suppliers for food has always been important. Over the past six or so years, however, as large chains enticed shoppers into grocery stores with more organic items and more consumers moved to online shopping, the mainstream media began reporting that local food sales and farmers markets were losing momentum^{1,2} and that consumer interest was plateauing.³ Then, this year, the unthinkable happened—many of us saw empty grocery store shelves, and interest in local food exploded! As circumstances forced large-scale producers to compost or euthanize hundreds of millions of pounds of vegetables and meat, grocery stores began removing meat cases or setting strict purchasing limits. Many stores could not get a wide array of items in stock. The combination of empty shelves plus all sorts of onerous rules made people begin to rethink the convenience and low cost of the big-box grocery stores.

At the moment, most of the disruption appears to have settled down (although the higher

prices have not), but the uncertainties have left an indelible mark on many Americans. All of a sudden, keeping only a few days of food handy does not seem so prudent after all.

GROW YOUR OWN

There are two aspects to ensuring a local food supply: your own production and your patronage of local suppliers. If at all possible, it makes sense to grow some food yourself. Anyone and everyone can do it, and there is nothing fresher than what you can get from your own backyard. Moreover, there are many ways beyond vegetable gardening to make your landscaping edible.⁴

If you lack outdoor space, don't despair. I have taught people in apartments to grow potatoes, sweet potatoes, herbs and lettuces on their balconies, in their windows or on a raised deck.⁵ I also have a friend who built a setup in his garage to grow food year-round.

If you want to extend your growing season, check out my previous Wise Traditions article discussing ways to grow food almost year-round.⁶ Contrary to popular belief, this is possible in much of the U.S.

BRING BACK ROOT CELLARS

As a kid, I remember going into my grandparents' or parents' basement root cellar to snag apples, potatoes and numerous other vegetables. Items stored in the root cellar also included canned or otherwise preserved foods like sauerkraut. At the time, it seemed like almost every house in northeast Ohio and western Pennsylvania had a root cellar. Now, unfortunately, most houses have incredibly expensive finished basements with lavish entertainment or exercise setups—but no place for food storage.

Root cellars make more sense than ever and are worth the space they take up. For one thing, you can usually grow far more than you

Root cellars make more sense than ever and are worth the space they take up.

Modern preservation techniques generally reduce the nutritional value of foods (or certain nutrients) but are more foolproof in terms of success and long-term shelf stability.

can quickly eat. A root cellar gives you a place to store the bounty for use when those items go out of season and are no longer locally available. Potatoes, sweet potatoes, winter squashes, carrots and apples are some of the vegetables and fruits that root-cellar well, and there are many others. As an added bonus, root cellaring preserves far more nutritional value than food preservation methods such as canning. In our experience, root cellars also involve considerably less work than canning. *Root Cellaring* by Mike and Nancy Bubel is a great book to have if you want to learn the skills needed to store more food without expensive modern equipment.⁷

PRESERVE FOOD

Traditional cultures mainly used dehydration, fermentation or curing to preserve foods. These methods generally kept—or sometimes improved—the food’s nutritional value but also had some significant drawbacks. For instance, dehydration (before vacuum sealing) meant that foods had to be rendered very, very dry. Curing often used so much salt that meat needed repeated washings before cooking to remove the excess salt. And even with these methods, the historical literature is replete with discussions of food loss and stories about how bad years or failed storage led to significant problems or even catastrophes for communities, regions or countries.

Modern preservation techniques generally reduce the nutritional value of foods (or certain nutrients) but are more foolproof in terms of success and long-term shelf stability. Canned foods, for example, can keep for years—but at the cost of lost nutrition. Freezing makes you grid-dependent and also causes the loss of key nutrients in certain food groups (such as folate in vegetables). Canning and vacuum sealing expose our food (and therefore us) to plastics and the chemicals used in their production.

You will have to decide on the balance that you wish to strike between preparedness, nutrition and the stability and accessibility of your food supply when choosing among the various ways to preserve and put up food.

CONNECT WITH LOCAL FOOD SUPPLIERS

Few of us can grow all our own food, but all of us can obtain more of our food from local and regional suppliers outside the mainstream food system. As a silver lining to this year’s events, the options for supporting local and regional foods are increasing, at least in some areas.

Some options include farmers markets, food buying clubs and other cooperative efforts. In addition, changes in technology now allow local farmers to sell directly to communities in ways that were impossible or cost-prohibitive just a decade ago. As a result, we are witnessing a surge in local farmers doing drops and deliveries, offering choices such as meat and vegetable CSAs and weekly, bimonthly or monthly deliveries. Remember, though, that farmers need consumers not only to make the switch but to commit to these options on a long-term basis.

USE A GRAIN MILL

Modern store-bought bread is usually a bane to one’s health, but for home bakers who rely on flour and yeast, current shortages have made baking harder to undertake. However, while flour remains hard to come by in some stores and through some distributors, at no time during the past three months have whole grains been hard to get. Now is a good time, therefore, to consider the many advantages of using a grain mill to grind your own grain into flour. Having a grain mill will separate you from the 95 percent (or more) of the population who know how to bake with only already-processed flour.

Grinding your own grain saves you money

CHEST FREEZERS: AN EASY WAY TO STORE MORE FOOD

For meat and similar items, there is no better option than a chest freezer, given the trade-offs between cost, nutrition and other factors. We prefer chest freezers to upright freezers for two reasons. First, they are far less expensive to run, clocking in at about one-third to one-half of the expense of an upright freezer per month. Second, if the door is left slightly ajar, it is almost always just an inconvenience rather than a catastrophe—a big consideration if you have many kids getting things from them! Also, if the power goes out, chest freezers stay colder far longer than uprights, so when things go wrong, they cause far less stress.

(whole grains are generally 30 to 70 percent cheaper than flour), provides more nutrition (and less rancidity) and also makes preparedness far easier. For example, two five-gallon buckets—one of oat groats and one of spelt berries—combined with a grain mill would let you produce one to two servings of food per person per day for five people for three months! If you cannot eat grains that are in the wheat family, a grain mill can still be quite useful for handling buckwheat groats and other non-gluten options.

I also recommend learning how to make sourdough, which requires only salt and no yeast. For sourdough, fermentation and other purposes, it is wise to keep about twenty to twenty-five pounds of salt on hand, particularly since salt is easy to store.

DON'T FORGET WATER

Food is the backbone of preparedness, but it isn't the only thing a prepared family should have on hand. It is also important to give some thought to having a backup supply of water. Last summer, we lost our well—our primary water source—for almost ten days.

Modern water filters are amazing in their ability to take substandard water sources and turn them into something worth drinking,⁸ but the vast majority rely on the modern grid—pressurized water and/or electricity—to work. Berkeys and a few other brands do not, so we have a Berkey tucked away for emergencies along with other backup water options. Space permitting, I suggest storing at least ten to twenty gallons of potable water in five-gallon jugs. (You can also get glass storage jugs.) Note that this will need to

be rotated and replaced every six months—yes, water has a shelf life!

BASIC MEDICAL SUPPLIES

Right now is not a fun time to have to go to the emergency room (and really, it never has been!). Part of preparedness means having the skills and supplies that allow you to take care of minor medical mishaps at home and also prevent them from becoming something more serious. Next to nourishing foods and clean water, our at-home medical supplies are one of the most useful things that has helped us raise five antibiotic-free kids who have tallied up fifty years of life on this earth.

We have multiple medical supply kits; one goes in each of our vehicles with an extra backup in the house. (The full list of what our kits contain is available on my website.⁹) By always having a range of basic first aid and medical supplies on hand, we have been able to handle an assortment of issues quickly. Of the wide range of supplies our kits contain, the ones we have used most often are sterile gauze and bandages, bandaids, Steri-Strips and iodine. (If this gives you the idea that the vast majority of injuries in our family have been cuts, scrapes and wounds, you would be correct!) To go along with the kits, we keep a range of additional items in our house: activated charcoal capsules, colloidal silver, our beloved elderberry syrup and other elderberry preparations.

Along with growing food, we also “grow medicines” such as echinacea, yarrow, plantain and other plants helpful for bruises, stings, scrapes and a host of other injuries and issues.

Grinding your own grain saves you money, provides more nutrition and also makes preparedness far easier.

NUTRIENT-DENSE AND EASY-TO-STORE EMERGENCY FOODS

FATS: Ghee; coconut oil; lard; olive oil.

PROTEINS: Jerky; pemmican; home-canned soups and stews (or high-quality artisanal soups and stews).

CARBS: Lentils; beans; grains; crackers (we make our own spelt sourdough crackers).

CHEESE: If you have a root cellar, cheese is an exceptional “stored food,” especially three to five-pound rounds with the rind still on.

NUTS AND DRIED FRUIT: Crispy nuts (soaked and dehydrated), fruits and trail mixes (be sure to store in airtight containers or packaging).

FREEZE-DRIED FOODS: While expensive, freeze-dried foods can be quite useful and have the benefit of preserving far more nutrition than other, more common food preservation methods.

An added advantage of these plants is that they help our main plants by attracting beneficial insects. They are often easy to grow indoors or in spaces around other plants as well as in locations that typical garden plants dislike.

LET THERE BE LIGHT

Five kids and a farm mean that we have often been awakened at night to deal with problems befalling both two- and four-legged creatures. As a result, of the many tools and gadgets we have around, our LED headlamps and lanterns have seen far more use than I ever expected! Importantly, both have red-light modes. Things go wrong at all times of the year and at all times of day and night, so we have not infrequently found ourselves needing to take action in conditions of little to no light. Red-light modes let you work without ruining your night vision and with less disruption to your body's ability to go back to sleep. Headlamps also keep your hands free, which for almost every task is why we prefer them over flashlights. (We still have a few flashlights but use them infrequently.)


To power these gadgets, we use rechargeable batteries; these represent a substantial financial and environmental savings compared to standard batteries. The brand we currently use is Eneloop, which has performed very well for over five years.

NO TIME LIKE THE PRESENT

I have told my children that they will never forget the first six months of 2020—similar to what 9/11 represented for my generation. With the economic outlook remaining highly uncertain, many Americans are now treating food production and preparedness as high priorities. Tens (hundreds?) of thousands are turning to gardening, and some, turning to local producers,

are finding that their local farmers have wait lists. Many more—seeing that Covid-19 appears to be especially dangerous for individuals who were unhealthy to begin with—are renewing their efforts to improve their health and nutrition.

For our family, events have been somewhat surreal. What we have taught and practiced for years meant that when toilet paper was in short supply and stores were swamped by hordes seeking out basic necessities, we were able to stay self-sufficient on our homestead for weeks, with little need to resupply or get mired in all the madness. We also were able to help friends and neighbors put in their first gardens. In addition, we have expanded our on-homestead classes to help people more quickly learn a wide range of skills—sourdough baking, gardening, food preservation and more—while also sharing strategies for avoiding costly mistakes and setbacks. The array of people who have attended these classes has amazed us. Their serious desire to grow—literally and skill-wise—has been a constant source of encouragement in an otherwise challenging year.

If 2020 hasn't convinced you of the need to prioritize preparedness, I can't think of anything else that would! I can promise you this: if you do it wisely and in keeping with Wise Traditions principles, preparing is something you won't regret, regardless of what the rest of 2020 and beyond brings. 

John Moody is a well-known food grower, researcher and author, appearing at conferences across the country and helping people improve their lives, land and health. His most recent books, The Elderberry Book and Winning the War Against Weeds, are available at johnwmoody.com. Elderberry products are available at abbyselderberry.com.

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A NEGLECTED BUT USEFUL PREPAREDNESS ITEM: PAPER PLATES

Over the years, we have lost power and water numerous times; once, we even had our septic system freeze because of a record cold spell. Under such circumstances, good-quality, compostable paper bowls and plates are a “must-have.” They have consistently been one of the most useful preparedness items in almost every type of stressful or emergency situation, ranging from sickness to thunderstorms to snowstorms that knocked out the power and thus water. Not having to do dishes in an already tense situation is something no one is going to complain about! Paper plates make it possible to conserve water and consume food with far less fuss, saving one's energy for other tasks such as food preparation. They also create another input for the compost pile instead of a mound of dishes.

Homeopathy Journal

HOMEOPATHY AND ANEMIA

By Anke Zimmermann, BSc, FCAH

Anemia is a familiar subject to many members of the female population.

I remember regularly feeling so tired and drowsy when driving a car in my much younger years that I'd have to pull over, exit the car and run around it a couple of times, or even take a short nap before finishing the trip. This was a regular occurrence until blood tests showed severe, chronic anemia with a ferritin level below 5. A normal level in adult females before menopause is 10-120 ng/ml. Quite the range, right? Little did I know back then that 100 ng/ml is ideal. If your ferritin levels are only at 12 or 15, your doctor may not see a reason to alert you to the relatively low levels, and you will suffer as a result.

Anemia is defined as a decrease in the total amount of red blood cells or hemoglobin in the blood (the iron-containing molecules in our red blood cells that carry oxygen) or a lowered ability of the blood to carry oxygen for another reason. Because all human cells require oxygen to function, low oxygen levels due to anemia will cause weakness, fatigue and drowsiness.

There are various causes for anemia, with the most common being iron deficiency. Iron is essential for human, animal and plant organisms and required for the formation of hemoglobin in humans and chlorophyll in plants. (If your plants look wilted with a pale or sickly yellow color, they may be iron-deficient.) Iron is needed for all the respiratory and oxygen-related processes of living tissue. The body of an adult weighing seventy kilos (roughly one hundred fifty pounds) contains about 4.2 grams of iron, a tiny but non-negotiable amount. About 70 percent of this iron is bound in hemoglobin.

ANEMIA AND MENSTRUATION

In women of childbearing age, monthly menstruation is the usual culprit for iron-

deficiency anemia, especially if the menstrual flow is heavy.

Back in the days of attending naturopathic college, I was racked by heavy periods with large clots and severe menstrual cramps, which I valiantly tried to treat using my newfound knowledge of homeopathy. A number of remedies worked temporarily, but the cramps, bleeding and clots would return after a short reprieve.

Fast-forward to final exams in my post-graduate training course in homeopathy when I was around thirty-three years old. Right in the middle of the several-hour-long examination, the vile menstrual cramps hit suddenly. I was doubled over in labor-pain-voltage agony within minutes. There was no way I could finish the exam. I timidly approached our teacher, Dr. Andre Saine, ND, and told him about my condition. Amazingly, this incredible doctor had a full acute homeopathic remedy kit with him in the hotel where we were taking the exam.

I told him my symptoms. He quickly glanced at his watch, unfurled his extensive kit and proceeded to pop two pellets of a mystery remedy under my tongue. Three minutes later, all the pain was gone! What would normally have been the onset of two days of torture was all over in a few minutes, and I went back to writing the exam as if nothing had happened.

The remedy was *Belladonna*, a homeopathic preparation of deadly nightshade. Andre had checked his watch for the time. As it turns out, *Belladonna* is known for addressing aggravations that occur at 3:00 pm and, to a lesser extent, 3:00 am. From then on, I carried a little vial of *Belladonna* 30C in my purse. The next month, almost to the minute at 3:00 pm, the cramps hit suddenly again and, as previously, were vanquished by the little remedy within minutes. The same routine took place during the following three months, and after that I never

Belladonna is not a remedy for cramps per se, or for bleeding or anemia, but for the whole state of a person.

In homeopathy, a remedy called *China officinalis*, made from the bark of the cinchona tree, is often used for anemia and weakness caused by chronic blood loss.

had a menstrual cramp again! The bleeding also was much reduced, and there were no more clots. How a homeopathic remedy would know the time of day is a complete mystery to me, but such is the enigma of homeopathy.

Belladonna is not a remedy for cramps per se, or for bleeding or anemia, but for the whole state of a person. It is most famous as a remedy for sudden, intense fevers in children, but any time one is confronted with a sudden, intense, painful or acute situation, especially if worse at 3:00 am or pm, *Belladonna* should come to mind.

GASTROINTESTINAL BLEEDING AND ANEMIA

Blood loss from any cause can lead to anemia. Years ago, a friend of mine landed in a hospital needing a blood transfusion due to low-grade gastrointestinal (GI) bleeding caused by the regular consumption of low-dose aspirin. After becoming weaker and weaker, he finally admitted himself to the ER, where he was diagnosed and subsequently revived. He had apparently been close to dying from anemia caused by this slow bleed. Evidence suggests that this is not an uncommon aspirin-related outcome. Even doses that are ten to twenty times lower than are needed for pain relief have been found to lead to GI bleeding and anemia. In 2000, the association of GI bleeding with relatively low doses of aspirin was confirmed in a meta-analysis that examined twenty-four different studies conducted with almost sixty-six thousand subjects

over more than twenty-five years.¹ A decade and a half later, in 2017, a study published in *The Lancet* linked daily low doses of aspirin to as many as twenty thousand bleeds annually in the UK, of which at least three thousand were fatal.²

Aspirin in low doses is commonly recommended to older adults to help prevent strokes and heart attacks.³ Roughly 40 to 60 percent of adults aged seventy-five or older in the U.S. and Europe take daily aspirin or other antiplatelet drugs for these reasons.⁴ Questioning this approach, the authors of the 2017 *Lancet* study emphasized that aspirin risks increase sharply with age, with those over seventy-five being precisely those at highest risk. In fact, studies show that “people taking aspirin [have] worse outcomes and a higher risk of having a heart attack than those not taking aspirin”—the opposite of what doctors tell patients.³ Stating that “At age 75 years or older, major upper gastrointestinal bleeds [are] mostly disabling or fatal,” the *Lancet* authors suggest that seniors should be on aspirin only if also given a proton-pump inhibitor (which, of course, will create a host of other issues, but such is allopathic medicine).²

In homeopathy, a remedy called *China officinalis*, made from the bark of the cinchona tree, is often used for anemia and weakness caused by chronic blood loss. The bark of the cinchona tree also gave us quinine,⁵ famously used for centuries for malaria and a close relative of hydroxychloroquine, now embroiled in controversy about whether or not it is helpful in the treatment of Covid-19.⁶ Interestingly, severe

A FEW HOMEOPATHIC REMEDIES FOR ANEMIA

- *Ferrum metallicum*: A homeopathic preparation of iron.
- *Ferrum phosphoricum*: As a tissue salt, used to improve iron absorption and use.
- *China officinalis*: One of the best homeopathic remedies for anemia caused by excessive bleeding, especially low-grade, chronic bleeds.
- *Natrum muriaticum*: A homeopathic remedy often used for ailments from grief. Grief and loss can impair nutrient absorption.
- *Kali phosphoricum*: Another very useful tissue salt. Supports the nervous system and is helpful for anemia linked to malabsorption due to prolonged stress and worry.
- *Nitricum acidum*: May be useful for anemic subjects who have a desire to eat dirt, chalk and paper, a condition also known as pica.

cases of Covid-19 are reputed to be associated with low iron levels and patients gasping for air—very similar to anemia.

ANEMIA AND MALABSORPTION


Anemia, as already mentioned, can have many causes. These are often nutritional in nature, such as when vitamin B12, which is also needed for normal blood cell formation, is not absorbed properly. Other causes may include low stomach acid levels, celiac disease or even mild and not easily diagnosed gluten or grain intolerance. Thus dietary factors should always be carefully examined.

If dietary correction and/or proper supplementation fail to address the issue, homeopathy may be helpful. For example, there are two well-known homeopathic remedies to improve iron absorption: *Ferrum metallicum* (a remedy made from iron) and *Ferrum phosphoricum* (a remedy made from iron phosphate). *Ferrum phosphoricum* is one of the twelve original tissue or function salts in the biochemical healing method developed by the German homeopathic doctor Wilhelm Schuessler between 1872 and 1898.⁷ Schuessler thought ill-health was caused by an imbalance in the body's twelve vital "cell salts"—minerals needed for good health. He created potentized microdoses of these cell salts, usually sold in a 6X potency. These have been in use for over one hundred years now and are popular with lay people and practitioners alike.

The cell salt of *Ferrum phosphoricum* has been used to improve the assimilation of iron and the production and function of red blood cells.⁸ It is also often used in the early stages of acute and inflammatory conditions with lower grade fevers. Early biochemists like Schuessler considered blood in the human body to be the equivalent of soil to a plant. Knowing that poor, exhausted soil produces weak and sickly plants, they thought that poor blood—lacking in essential constituents—would produce weak, sickly bodies prone to disease. By restoring the vital constituents of the blood with *Ferrum phosphoricum* and other tissue salts, they found that healing was possible.⁹

Anemia is also associated with chronic diseases such as cancer and HIV/AIDS (which can interfere with the production of red blood

cells) as well as sickle cell anemia, which is caused by a defective form of hemoglobin and results in an abnormal crescent shape of the red blood cells. Homeopathy may be helpful in such cases as well, as it always addresses the individual's overall state rather than just the symptoms or the particular disease.

To conclude, homeopathy can often be helpful to address the various causes as well as ill-effects of anemia. There is no need to be a bloodless, wilted creature! 

Anke Zimmermann, BSc, FCAH, is a classically trained homeopath living and working on Vancouver Island in Canada. You can learn more about her work at ankezimmermann.net. Anke will be a speaker at Wise Traditions 2020.

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SHOPPING GUIDE UPDATES

1. New phone number for Tom's Amish Dairy Products (raw cheese): 717-615-4713.
2. New name and phone number for Surry Farms: Edwards Virginia Smokehouse: 800-222-4267.
3. New phone number for Dastony: 800-925-0577
4. OliFlix: remove the phone number and replace it with the web address oliflix.com/en.
5. New phone number for Old Chatham Creamery: 800-570-8397
6. New phone number for Matt's Munchies: 714-204-0735
7. New phone number for Heavenly Organics: 818-284-0964

Contact us at shoppingguide@westonprice.org with updates and additions to the Shopping Guide.

Technology as Servant

PLASTICS:

A FLEXIBLE MATERIAL FOR AN INCREASINGLY INFLEXIBLE WORLD

By James Kirkpatrick

“There is a great future in plastics,” Mr. McGuire warmly explains to Dustin Hoffman’s Ben character in the often-quoted scene from the iconic 1969 movie, *The Graduate*. Who could have foreseen the accuracy of Mr. McGuire’s prediction from a half-century ago? Fast forward to the present. We’ve become a society utterly wrapped in plastic, or more accurately, we’ve become a society wholly dependent on synthetic materials, mostly derived from hydrocarbons (oil and natural gas), of which plastic is the most prevalent.

In 1970, total worldwide petrochemicals demand (consumption) measured approximately fifty million metric tonnes (MMT); today this consumption has grown steadily to almost eight hundred MMT, a sixteen-fold increase in fifty years or a compound annual growth rate of just under 6 percent. Although all synthetic materials are included in this current demand figure of eight hundred MMT, plastics constitute the bulk of synthetic material consumption. The remainder includes synthetic fibers (such as nylon, polyester and related derivatives), solvents, adhesives and direct-use petrochemicals.

The majority of the five hundred twenty-five MMT of annual plastic demand comes in one of five compounds: low density polyethylene (LDPE), linear low-density polyethylene (LLDPE), high density polyethylene (HDPE), polypropylene (PP) and polyvinyl chloride (PVC).

To put this in perspective, among the primary building materials, plastic demand is now about one-eighth of global concrete demand, one-third of global steel and about half of global wood demand. Given the staggering growth in plastics production over the past fifty years, several fundamental questions naturally arise: why do we use so much plastic, what did plastic replace in our daily lives before the 1960s and what makes plastics so challenging from a disposal and recycling perspective?

WHY PLASTICS?

What is it about plastics that have made them so ubiquitous in our society and so sought after as a material of construction? The main benefit that plastics bring to the table is a straightforward engineering one: plastics sit in a “Goldilocks Zone” in terms of their strength-to-weight ratio. “Stronger than wood, lighter than metal,” would be the easiest way to explain this sweet spot in non-engineering terms. Furthermore, unlike wood, steel and other metals, plastic is easily tailored to specific end-use requirements, which explains the amazing variety of end-use applications. Think of the intricate parts involved in a child’s (or adult child’s) flying drone toy. Making this device out of wood requires hundreds of hours of a skilled carpenter’s time; made out of metal, this device would be too heavy to fly on battery power alone. The light weight, strength and infinite moldability of plastics solve both of these design challenges simultaneously.

The following list of desirable engineering properties explains the usefulness of plastics and their widespread usage in modern society:

- Strength-to-weight ratio bridges the gap between wood and metals;
- Excellent electrical properties (non-conducting);
- Superior chemical resistance, especially to strong acids and bases;
- Easily tailored cosmetic properties, coloring and moldability;
- Resistant to weathering and UV degradation;
- Highly suitable for mass production;
- Generally non-toxic, inert to human contact and consumption, although this is still a matter of some scientific debate.

These advantages are offset by several

To put this in perspective, among the primary building materials, plastic demand is now about one-eighth of global concrete demand, one-third of global steel and about half of global wood demand.

disadvantages of plastics and other synthetic materials: production and recycling are energy-intensive; low absolute tensile strength; soft (making them subject to surface scratching); low thermal properties (heat deformation and melting); and the last and most detrimental property, resistance to organic degradation making disposal highly problematic. This last property, plastics' resistance to environmental degradation, is the main societal concern with plastic usage and the focus of various environmental initiatives to ban or limit the use of plastic, especially plastic bags.

Although pure plastics are generally considered inert and non-toxic for human consumption, there is emerging research indicating that microplastics and certain plastic hardening agents such as bisphenol A [to make the plastic more scratch resistant] are detrimental to human health and development. We'll discuss these topics in a future article.

HOW PLASTICS ARE PRODUCED

Plastic and other petrochemical production is highly integrated in the oil refining process. The purpose of a petroleum refinery is to produce environmentally compliant transportation fuels, but plastic and petrochemical production fills an economically viable secondary role in providing a use for the molecules contained in the oil barrel that aren't suitable for blending into transportation fuels.

Most plastics and synthetic rubber are produced from ethane, propane and butane, molecules that are too light or volatile for blending

into gasoline or diesel fuel. The other main family of petrochemicals is the aromatics family (named for its sweet cotton-candy-like odor), commonly referred to as BTX molecules (for benzene, toluene and xylene). These molecules are suitable for blending into transportation fuels in that they have low volatility and high octane. However, environmental regulations restrict the amount of these molecules that can be blended into gasoline due to human health concerns and the great equalizer. . . price. BTX molecules typically carry a greater value (and price) as synthetic-fiber building blocks than as an octane booster for gasoline blending.

Today, roughly 7.5 percent of each oil barrel consumed globally is converted into building-block molecules for plastic and synthetic material production—a good use for molecules that have little value for transportation.

HOW PLASTICS ARE CONSUMED

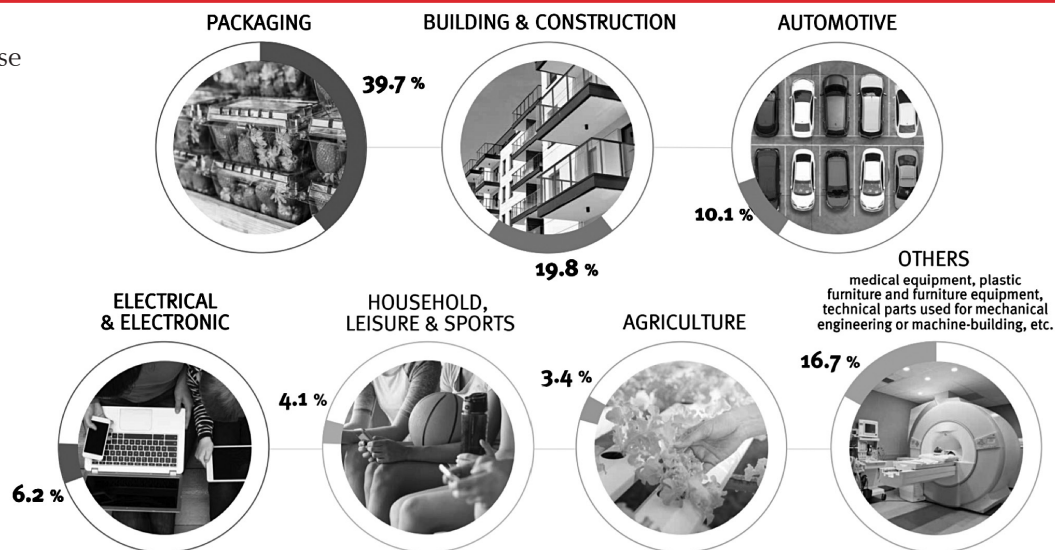
See Figure 1 for a good representation of plastic demand by end use. In the building, construction and automotive sectors, plastics are primarily used as an engineering alternative to wood, concrete and metal, mostly steel.

Plastics use in automobiles is interesting from an environmental and engineering perspective. Plastics help reduce the weight of an automobile, a key requirement for improved fuel efficiency and for reducing the greenhouse gas emissions. Given that these plastics are designed to last the life of the building or automobile, they don't produce a significant amount of single-usage waste compared to the alternatives. More importantly, they provide a variety of environmentally beneficial properties when compared to other construction materials.

Packaging presents a different challenge altogether and is likely what most of us have in mind when we think about plastic waste and plastic pollution. From the gadgets to the groceries, pretty much everything we buy today comes encased in some form of often frustrating-to-open plastic packaging, and almost all of it is discarded after one or two uses. Nonetheless, much of the global supply chain is dependent on plastic packaging.

The ease of application, durability and compressive flexibility of

Figure 1:
Plastic demand and end use



plastic packaging materials make them key enablers of these global supply chains stretching across the continent and the globe. If all of the electronics purchased from Asia arrived at your doorstep cracked and smashed, it is unlikely that you would continue to buy televisions from Japan and tennis shoes from Vietnam. How often do we care that the packaging that our precious device arrives in looks as though it has been through a trash compacter? It is typically made of cheap materials that are going to be thrown away anyway. They are, by design, discardable.

In food packaging, the benefit of ultra-thin but impermeable plastic packaging has to do with preventing food waste. It so happens that plastic presents an excellent barrier to “oxygen ingress,” the key process that causes food to rot. Consider, for example, a cucumber: wrapping the lonely cucumber in a thin sheet of plastic wrap extends the shelf life from days to weeks. Some studies estimate that plastic packaging reduces the amount of food waste that occurs from the farm to your table by over 25 percent.

A key side effect of our plastic-encased world is the ability to cre-

ate global food chains that enable us to enjoy seasonal fruits year-round. There’s a reason why your grandparents were not able to enjoy Chilean blueberries in the dead of winter, but you can enjoy these out-of-season treats. Whether or not you personally agree with global food supply chains, the reality is that plastic packaging allows us to move food effectively from locations of surplus to areas of scarcity year-round.

PLASTICS AND THE ENVIRONMENT

Before we demonize the use of plastics, we need to ask what we used for food and gadget packaging in the pre-plastics era. The answer is glass, tin or steel and wood (as paper or cardboard, which are still widely used today). Plastic production may be energy-intensive, but it is only about half as energy-intensive as the readily available alternatives. And since plastic provides the same strength properties at a much lower weight, it substantially reduces the energy cost of moving goods around the world. To put this in analytical terms, see Figure 2, a comparison of plastic to its packaging alternatives by the Danish consulting firm Denkstatt. Plastics, even with no degree of recycling, result in a substantial reduction in greenhouse gas emissions and energy consumption when compared to the current technologically available alternatives.

Another paradox: despite sixty years of population, economic and consumption growth, the amount of landfill waste in the developed world is on the decline. Figure 3, provided by the U.S. Environmental Protection Agency, shows that the combination of recycling and using lighter-weight packaging materials is shrinking our environmental footprint in absolute terms, despite all the other variables that should result in waste being on the rise. The major reason for this is the substitution of plastic for glass, tin, steel and wood.

THE PLASTIC PATCH

In spite of the fact that plastic usage is resulting in less waste both in absolute and per capita terms, there is a constant stream of news articles lamenting the evils of plastic usage and highlighting the “plastic patches” growing in the middle of our oceans.

The main reason we have these plastic patches in the oceans is that the landfilling

Figure 2: Effect of substitution of selected plastic packaging on masses, energy demand and greenhouse gas emissions.

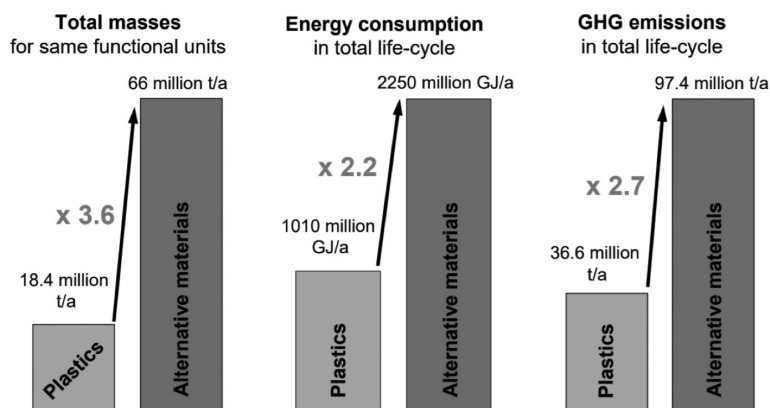
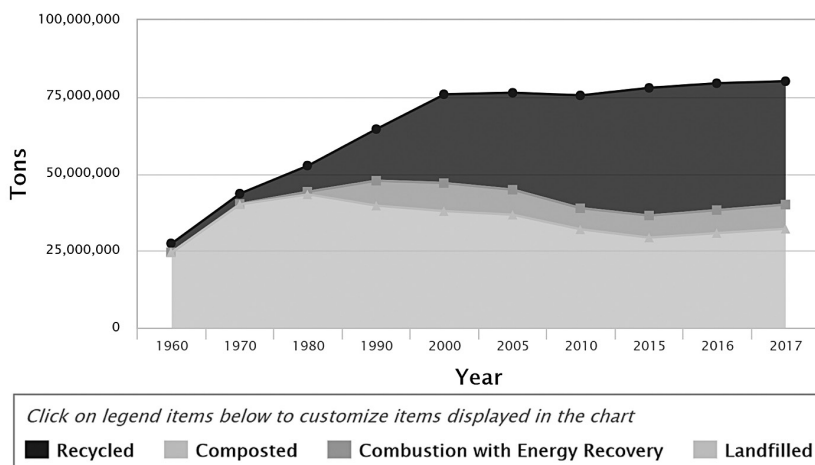


Figure 3: Containers and packaging waste management: 1960-2017




and recycling efforts are largely concentrated in Western countries and not in the emerging world. Specifically, the majority of plastic pollution in the oceans comes from ten rivers, mostly in Asia, as shown in Figure 4, where open trash dumping is the norm and a large capital investment in point-source sanitation has yet to be made.

A second challenge with cutting plastic waste is that without strong government support, the companies that produce plastic have little economic incentive to favor plastic recycling over virgin plastic production. Core plastic manufacturing is overwhelmingly performed by large oil and refining companies, with very few companies integrated from the point of production (the refinery) to the point of end-use. Asking oil companies to increase their level of waste plastic aggregation and recycling comes at the cost of cannibalizing their core business, namely the conversion of raw crude oil into plastic products. Due to a variety of complex social and political reasons, not the least of which is the lobbying-industrial complex, the current solution of reducing plastic usage is to cut end-use demand by taxing consumers versus the more efficient and point-targeted solutions of improving municipal waste collection, recycling and incentivizing well-capitalized companies to invest in industrial-scale recycling efforts.

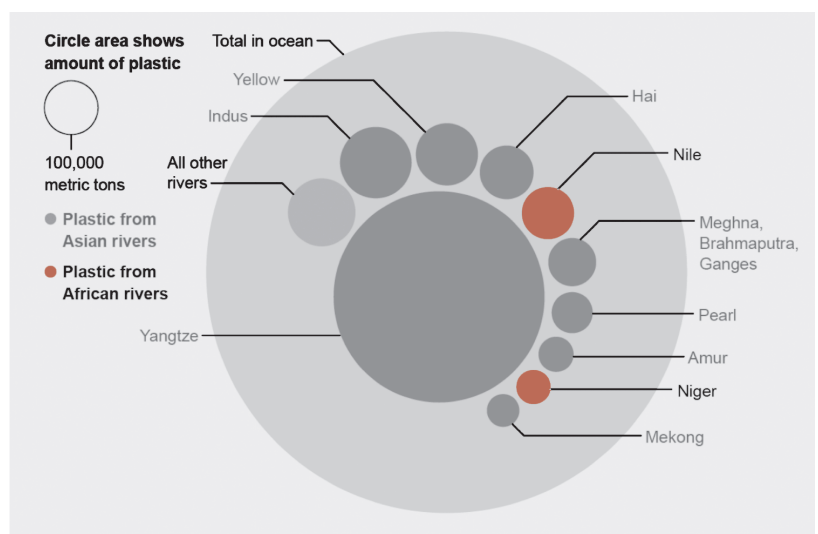
This leaves us with a profound problem if we are concerned about plastic pollution globally but realize that local initiatives to ban single-use plastic won't do much to get rid of those ocean plastic patches. Here's what we can do:

- Don't fall for the bait: differentiate between local self-serving political plastic initiatives that do very little to reduce pollution and larger initiatives that address waste at the source.
- Support recycling in all its forms, particularly financial incentives that apply the tax at the point of production versus the point of consumption.
- Support investment in point-source sanitation in the developing world. Prevent the plastic from being dumped in rivers in the first place by subsidizing modern world-scale recycling initiatives.

- If you don't like the image of single-use plastic, don't use it, but don't wait for a ban to take effect. Start reasonable low-effort conservation efforts without the government involvement. All of us can keep a couple of canvas bags for trips to the store as a matter of lifestyle choice.
- Support initiatives that separate oil companies from their petrochemical operations. Oil companies are in the business of selling oil, and recycling reduces raw oil consumption, particularly around plastics. Remove the perverse barriers that present an economic hurdle for increased investment in plastic recycling.
- Shrink the length of your personal supply chain. Buying food and other consumable goods from local manufacturing shrinks the length of the supply chain, requiring less intensive packaging practices.
- Support research and development efforts in biodegradable plastics, that is, plastics that decompose naturally over time, without sacrificing the material properties of the plastic. Don't confuse biodegradability with being produced from cash crop plants. Fairly sizeable initiatives from the corn and soy industries to find yet even more outlets for corn and soy components are already underway and are well funded. Try out their version of plastic, see how it compares to the real thing and make your choice based on material performance.
- Last but not least, keep an open mind and consider all of the beneficial properties of our plastic-saturated society before we vilify a construction material that is doing exactly what it's designed to do. 

James Kirkpatrick is a mechanical engineer and energy analyst serving as president of JKF Associates.

Figure 4: Top ten polluting rivers



Credit: Amanda Montañez; Source: "Export of Plastic Debris by Rivers into the Sea," by Christian Schmidt et al., in *Environmental Science & Technology*, Vol. 51, No. 21; November 7, 2017

Wise Traditions Podcast Interviews

INTERVIEW WITH ANDREW WAKEFIELD: IS A CORONAVIRUS VACCINE A GOOD IDEA?



Hilda Labrada Gore is the producer and host of our Wise Traditions podcast and a Washington, DC, co-chapter leader. An enthusiastic communicator, Hilda is passionate about wellness on every level, which is why she is known as “holistic Hilda.”

She is a speaker, podcast consultant and the co-author of *Podcasting Made Simple*. Hilda lives in Washington, DC, with her husband, children, dog and cat. Subscribe to her blog through her website (holistichilda.com) and follow her on Instagram: [@holistichilda](https://www.instagram.com/holistichilda).

HILDA LABRADA GORE: Our focus today is on whether a vaccine against the coronavirus is a good idea. We need to learn more about the history of vaccines developed against viruses, what’s at stake and what we might expect if we choose to get the vaccine—or choose not to. Our guest, Dr. Andrew Wakefield, is the doctor whose discoveries opened up an entirely new perspective on childhood autism, the gut-brain link and vaccine safety. He has been studying the latter for some time. We turn to him because he is willing to speak the truth, no matter the consequences. Basically, he’s something of a whistleblower in the medical industry. He is also an award-winning filmmaker; he directed *Vaxxed* and has just directed and released *1986: The Act*. Andy, I’m curious to explore with you our relationship to microbes and what, if anything, that has to do with our current situation. Can you give us a little history?

ANDREW WAKEFIELD: Yes. It’s a fascinating story and one that I’ve studied now for over thirty years in my professional career. It’s really a question of perspective. When you go back to the time of Louis Pasteur and then Alexander Fleming (who discovered penicillin) and other people like them, you see in what they wrote that microorganisms—even though they were poorly characterized at the time—were perceived as enemies. Pasteur wrote about “these enemies” and the hope that science would *conquer* the enemy. That was the perception of the time. You can understand it in a historical context, when diseases like syphilis, battlefield gangrene and rheumatic fever were major problems. When antibiotics came along and dealt with those infections very effectively, it reinforced the perception that microbes were indeed enemies.

HG: How are things different now?

AW: Now we know better. Now we live in the

era of the microbiome. Now we understand that while some of these microorganisms may be harmful, many of them are essential to our survival. In fact, what’s emerging is that the health, consistency, make-up and well-being of the gut microbiome, in particular, are essential to everything we do, whether in terms of our metabolism, development or immune health. More recently, we’ve gone on to discover this gut-brain interaction to the extent that we now know that the microbiome influences our brain development, our mood and our personality. I find it fascinating. No man is an island. We could not exist on this earth without the health of our microbiome, which in terms of numbers of organisms, exceeds our own number of cells. So, we’ve now learned something very different, and what we need to do is treat that microbiome with a great deal of respect. This applies not only to organisms that we now perceive as being helpful and friendly but to those that we’ve historically seen as pathogens. We need to accord them a great deal of respect. Because if we do not, we will get into a very difficult situation.

What happened as a consequence of our belief that antibiotics were a “miracle?” This was the word used by public health physicians at the time. Historically, of course, that was a justifiable perception, but nature does not stand still. Nature evolves at an extraordinarily high rate with great efficiency because it is geared up to do just that to survive and prevail. We created, through our injudicious use of antibiotics, a plethora of microbes that are highly dangerous—that are antibiotic-resistant and are causing what public health officials describe as “the end of modern medicine” and a “post-antibiotic apocalypse.” Again, those are their words.

HG: What you are saying makes sense. I understand that we have been overusing antibiotics, and even the medical community is recognizing that. But you said that we also need to give bad

pathogens “the respect they deserve.” What do you mean by that?

AW: I’ll give you an example. We’ve now entered into the same arena with vaccines against viruses that we had with antibiotics. Indeed, with vaccines across the board, we’re now seeing the emergence of bacterial pertussis strains that are resistant to the pertussis vaccine immunity, and measles strains that are resistant to the immunity induced by the vaccine strain. We never saw this before, but in the face of intensive vaccination, we have pushed these organisms to mutate. That is what we do. We create a genetic selection pressure; they mutate and they develop a resistance to the immunity induced by the vaccine. So we’re seeing strains of measles emerging that are resistant to the immunity created by the vaccine, whatever that is. And that is caused by vaccination. We’re creating a potential nightmare because we are creating strains of these viruses to which man has no immunity. And we are going to behave potentially as what is described as “the virgin soil population.” It’s like we’ve never seen this infection before. That would be the worst-case scenario. Then potentially we’re back to where we started.

HG: Are you referring to what I’ve heard called “superbugs”?

AW: Absolutely. This is the common parlance for bugs that are resistant to whatever medical interventions we might throw at them or indeed to preventions, like vaccines, that we might throw at them. And they have been created as a direct consequence of the injudicious use of these things and the failure of scientists and public health officials to recognize that we create that genetic selection pressure by the way in which we use these interventions.

HG: In other words, what we thought could save us, and which seemed like something of a miracle cure, is now actually harming us and is causing a ripple effect of consequences that we might not have predicted.

AW: That is exactly right. If you offend nature, if you make even small changes to biological systems—ecosystems—nature will exact a huge price. It won’t always do it immediately; it can be delayed. You will potentially see the consequences reaped in generations to come, but it will happen.

We’ve now entered into the same arena with vaccines against viruses that we had with antibiotics.

WE DID SOMETHING REALLY UNUSUAL THIS SUMMER

Our Wise Traditions podcast recently surpassed three million downloads! The podcast usually publishes one thirty-minute episode per week, but this summer we decided to try something a little different! We posted two episodes per week for six weeks. The second episode released had a parenting emphasis. Below are the guests and episode titles we featured in the series.

Danny and Maura Vega: “A Fat-Fueled Family” (podcast #249)

Katie Wells: “Help for the Overwhelmed Family” (podcast #251)

Monica Ford: “Eating Healthy on a Budget” (podcast #253)

Sally Fallon Morell: “Homemade Baby Formula” (podcast #255)

Joe and Serenity Carr: “Every Bite Counts for Baby” (podcast #257)

Heng Ou: “Nourishing the Postpartum Mom” (podcast #259)

Did you miss these interviews? You can still listen and share these episodes, directly from the westonaprice.org website! All of the Wise Traditions podcasts appear on our website and on practically every podcast platform available, including Apple podcasts, Google, Spotify, Pandora, Stitcher, iHeartRadio, Google Play Music, Radio Public, tunein, Overcast and YouTube. And once you listen, please let us know what you thought of this special summer series! There is a box on the podcast page of our website for your feedback, or just email the office at info@westonaprice.org. Thanks! We’re here to bring you content just about any way we can. (Skywriting may be next. . . stay tuned.)

The proposed
Covid
vaccine, an
RNA-based
vaccine,
has never
been used
in humans
before—but
here it is
being put
into humans
without
proper safety
testing.

HG: What is the medical community looking to do, and what is your perspective on that? What do you think we should do next?

AW: The response of the medical community is the one it uses when it has no answers. It's increasingly recognized—certainly in the upper echelons of public health and the pharmaceutical companies—that they've created this problem, though they don't wish to discuss it. And so, as ever with medicine, the recommendation is "take more," "up the dose." For example, more booster doses of MMR [measles-mumps-rubella vaccine], and booster-booster doses. It doesn't work. Any immunity that's induced by those boosters is short-lived and exacerbates the problem, but there is no answer. I'm sure that within the research and development (R&D) department of pharmaceutical companies involved with developing vaccines, there is a great deal of interest in developing novel forms of viral vaccines, but these vaccines are terrifying. The proposed Covid vaccine, an RNA-based vaccine, has never been used in humans before. It's a terrifying concept to many of us—but here it is being put into humans without proper safety testing. It's alarming. People who have created this problem have no answers to solve it.

HG: This gives me pause. People are terrified by the virus and are looking for a vaccine to help. Some see the vaccine as the only hope. I take it you would disagree with that?

AW: I would disagree totally. Firstly, there is the intrinsic issue of the vaccine *per se*. You're using a vaccine strategy that has never been used before. People have tried for many years to develop a vaccine to the common cold virus (one type being coronaviruses) and have failed repeatedly. Therefore, it seems to be an exquisitely difficult problem to deal with. In addition, our past experience with untried, untested vaccines that are rushed to market is not good—not good at all. This is illustrated in my new film, *1986: The Act*. Consider the swine flu vaccine in the late 1970s. The problem was that the virus was not what the CDC said it was—it was not the "killer swine flu" of 1917. And the vaccine was dangerous. It was rushed to market, just

as we're seeing now, and what we witnessed was paralysis and death as a consequence. The cure was infinitely worse than whatever it was intended to treat. Now history is repeating itself. The hope is that no one will remember or will be reminded of that history as they rush toward the market in these circumstances.

I do not think a vaccine is the answer. I'm much more inclined to believe that natural herd immunity is an answer. I believe that those who are resistant to this infection—including young, healthy people—should be exposed to the infection, get it and develop natural herd immunity. And those who are susceptible—the elderly and those with comorbid conditions—should be protected and isolated for a period of time such that natural herd immunity can develop. What we're seeing in Sweden, for example, is just this strategy. No lockdown and an attempt, I imagine, to just let this play itself out, as most respiratory pathogens do. And what we see, given how the numbers are emerging, is that this disease is no worse in terms of its mortality than the quoted figures for seasonal influenza in this country. So why are we in this extraordinary situation?

HG: It's such a great question. And yet, Fauci said recently on a newscast that he didn't want the population to develop herd immunity. I'm told he said that because he doesn't want to see the fallout of all the deaths such as what we've heard about in Ecuador, where there are so many people dying that they're running out of coffins and using cardboard boxes. I guess he doesn't want people to get out because no matter how strong and vibrant they seem, they may end up dying, and nobody wants a lot of deaths on their watch.

AW: Yes. I disagree with Tony Fauci on many, many levels. The data that are emerging from other countries—data are infinitely difficult to interpret because definitions have been changed to suit government policy. If you want to persuade a population to get a vaccine—a flu vaccine, for example—you will inflate the number of flu deaths by calling any respiratory illness leading to death an "influenza death." Those are the circumstances in which we currently find

ourselves and where we are headed with coronavirus as well. The data are implausible and really difficult to interpret, particularly when you are comparing one country with another.

HG: There is a lot of confusion about the numbers. How many deaths are really Covid-related? Are doctors being coerced to label them as related even though it was unrelated? But I hear you saying something else between the lines, and I want to ask you about it. Are you implying that the numbers are being inflated purposely to frighten us and move us toward mandatory vaccination?

AW: There is a clear agenda not only to create a vaccine but to administer it to everyone—and Bill Gates has said it himself many, many times: “We will only return to normality worldwide when all seven billion people have been vaccinated.” That is his dream, and that is his intention. What’s extraordinary to me and must be extraordinary to many of your listeners is that one man, by virtue of his wealth alone but with zero qualifications in this field, is in a position to dictate global health policy and personal health choice. That is an extraordinary situation. People must wake up to what is going on. There is an effort to push the vaccine agenda. And this won’t be just a coronavirus vaccine. Whatever the source, whatever the origins of this—and I’m not going to speculate on that—this situation is being used to leverage worldwide cradle-to-grave mandatory vaccination for *all* recommended vaccines, not just the coronavirus vaccine.

HG: Some people might say, “I want the vaccine. I want my children vaccinated. I’m not afraid of this push because I think it’s probably our best bet for protecting our health right now.” So, that’s fine if they want to do that, right? But do you think our own right to make this choice is at risk right now?

AW: Our freedom has never been more at risk in the history of the world. You’re absolutely right. If those vaccines are available, then it is entirely your choice. Go ahead, and I wish you the best of luck. Having studied vaccines intensively for thirty years, I would not make that choice myself. But again, choice is essential, particularly in determining health care choices and what goes into your body and the bodies of your children. We should be extremely alarmed about the dramatic, draconian attempt to take away health freedoms in the interest of the pharmaceutical industry. The pharmaceutical industry and the vaccine manufacturers own the media. They own the politicians. They have immense influence. They are extraordinarily powerful, and they are writing public health policy state by state in this country. And they are trying to take away the only people standing between the vulnerable child and the pharmaceutical industry—the parents. They’re trying to remove the parents from that equation by removing parental choice and removing exemptions—minimizing medical exemptions and taking away philosophical and religious exemptions making it very difficult to do anything but bend to their will. And then they own the population. That is their agenda.

HG: Those are very piercing words. Aren’t there people in the pharmaceutical industry who say, “We believe in vaccines, we actually believe this is the best thing for people”? I can’t believe that everyone in the industry is wanting to control and manipulate us to do their will.

AW: There are people who may believe that, and that is fine. They’re entitled to that belief. But do not force your belief on me. Do not tell me what I’ve got to do. I’m perfectly capable of researching this and establishing to my own satisfaction whether this is something I want to do for myself and for my children. But do not take away my health choice. Throughout history, we’ve experienced what happens when health choice is taken away. When we have pushed forced medical procedures onto people, whether it’s forced sterilization or experimentation in prison camps, we have realized that this does not work. It has never worked. It has a terrible history. And it will fail again. You cannot force people to make medical decisions against their will.

HG: Isn’t there an old law or principle that’s supposed to guide all of our medical decisions? Do you know what I’m talking about?

AW: It’s called the Hippocratic Oath. I don’t think it was Hippocrates who coined the term, but it was “First, do no harm.” *Primum non nocere*. It is something by which doctors should live and conduct themselves professionally. And vaccines do harm. Therefore people need to be fully informed. It is all based in the end upon fully informed consent. People need all the information and need to be free to make up their own minds, whether they wish to do something like vaccinate or not.

HG: We know that you’ve studied vaccines extensively. Let’s go back for a minute to the discussion of the microbiome. What does the latest research say about the relationship between vaccines and the gut?

AW: Well firstly, there has been a dearth of science done in this field because when we linked MMR vaccine through the parents’ stories to gut

injury and brain injury and, therefore established a sort of gut-brain axis of disease and the potential role of the vaccine in that, then people were punished for doing this kind of research. What happened to me was used as an example to other doctors and scientists to say, “If you get involved in this, this is what will happen to you.” Nevertheless, very interesting research has been done more recently that shows, for example, that the immune response to vaccines is dependent to some extent on the health of our microbiome. So, gut bacteria are influencing the way in which we respond to vaccines. This in itself is an interesting observation. But it’s fair to say that in the field of developmental disorders and autism, there is now extensive evidence—the most consistent finding in autism research, in fact—that there is a gut-brain link. And that is very interesting. We would have been much further along in that research had the pressure not been put on people not to do it. But in terms of vaccines and the gut microbiome, we are still in the early days of our understanding.

HG: And what about the microbiome and this coronavirus?

AW: I saw a paper the other day that I think was from France, looking at the possibility that what we are seeing here is that the virus is working indirectly as a respiratory pathogen—a respiratory-causing agent—by influencing or affecting gut bacteria. And it’s the immune response that is generated as a consequence of that interaction with the gut bacteria that is leading to an autoimmune-type reaction in the lungs. People are saying—from emergency room doctors to researchers—that this is not a classic respiratory pathogen. It’s not producing pneumonia or pneumonitis in the way that we expect infectious agents to do. As a consequence, using ventilation in the way that we use it for pneumonia is not helping and may be harming patients. In fact, the virus is working indirectly by causing an immune reaction and fibrosis or scarring in the lungs in those patients rather than through a direct effect. That is very interesting, and I plan to spend some more time researching it.

HG: Now about your film: What drove you to produce it, and what’s it about exactly?

AW: It’s my third film. Film has been an extraordinarily effective way of communicating with a wide number of people. The first thing you do is entertain people, and the second thing is you educate them. If you can get them entertained and sitting forward in their seats, you can appeal to people who historically wouldn’t have considered the subject or had only a peripheral interest in it. If you can create an entertaining film that informs, then you can get to a lot of people. *Vaxxed*, my last film, did exactly that. It reached millions and millions worldwide and changed the entire debate about the safety of vaccines.

So I was very keen to make the latest film. It’s a story about what really is at the heart of everything we’re going through now: mandatory vaccination, increased numbers of vaccinations in children worldwide, cradle-to-grave vaccination, pregnancy-to-grave vaccination, approaches to Covid and the sheer wealth accumulation and power of those who ben-

efit from vaccination policy—the pharmaceutical industry being first among them. The film tells the story of the National Childhood Vaccine Injury Act that Ronald Reagan signed into law in 1986, which gave liability protection to the pharmaceutical industry for damage done by their vaccines. Pharmaceutical companies [and doctors] cannot be sued in any court in the land if you have a child damaged by a vaccine. And many people don’t know this. Many politicians don’t know it. Joe Biden said in the presidential candidacy debate the other day, “Imagine if I got up here and said we’d give indemnity to the pharmaceutical industry.” Here’s a note to you, Joe: We do! That is exactly what we do.

The 1986 Act was one of the most dangerous pieces of legislation ever passed, not because it was not well-intended (certainly by those parents who supported it), and not because it was not set up in a way that—had they followed the letter of the law—would have been fair, efficient and generous, but because the industry didn’t want it to work. The agencies—CDC and FDA—didn’t want it to work. It was systematically corrupted from the very beginning. Here is the story of how the act came into being. If people think they know what happened, they don’t. It’s an extraordinary story of the most terrible fraud and corruption that have been exposed through discovering documents that had never previously seen the light of day. It’s about how, once passed, the act was systematically corrupted by the very government agencies that are instructed by statute to follow the letter of the law—and the dreadful damage done to children as a consequence. It is an astonishing tale. I thought I knew the origins of it, but I really had no idea. And of course, there were both intended and unintended consequences, and the power of the industry to influence every aspect of our lives is first and foremost among those. Therefore what we are experiencing, what is playing out now, is our third act, if you like. The final part of this film really looks at what is happening contemporaneously in the context of the history of vaccination policy in this country.

HG: Bringing it to today makes me think of Bill Gates and how he wants to experiment with developing this coronavirus vaccine. And

I understand he wants indemnity from other nations. In other words, he wants to be able to promote it without any liability and not have to pay if anyone gets injured or killed from it.

AW: That's exactly right. He's said as much. He's said, "We need this vaccine, everybody should get it, nobody should have a choice—but we'll need indemnity," thank you very much. He's made it quite clear that he wants seven billion people vaccinated and that nobody should be exempt. But indeed, there is going to need to be liability. The big danger and the big worry about this vaccine—and one of the reasons that even those who are ardently pro-vaccine have been concerned about it—is that you may get a vaccine and may develop initial immunity to the infection, but that is not the end of the story. You may seem fine and not have an adverse reaction, but when you're re-exposed to that same virus a year or two later, your immune system may overreact and produce a very severe form of the disease, which could be fatal. This was seen with the earlier attempts to produce a SARS vaccine. It was also seen with an experimental respiratory syncytial virus (RSV) vaccine that was given to children in the 1960s. This phenomenon is called "immune priming" or "pathogenic priming." The vaccine sets up the immune system to produce an exaggerated and dangerous immune response down the line. We must be very careful of that, because that is highly likely with any coronavirus vaccine. If you're running safety studies for only two or three weeks, you will never see it. You will not see it until people are re-exposed to that infection a year or so later.

Again this is not without historical precedent. Most recently, this was seen with the mass dengue fever vaccination campaign in the Philippines. Millions of children were given this dengue vaccination. It appears that the pharmaceutical company knew it was problematic in this respect. After the children got the dengue fever vaccine, when they were re-exposed to dengue fever, many of them died and many of them remained susceptible to very severe dengue fever, seemingly for the rest of their lives. The vaccine was withdrawn, but it should never have been allowed on the market in the

first place. This is not conspiracy theory; this is a fact. This is why even people like Dr. Paul Offit, co-inventor of a rotavirus vaccine, are saying that we must be careful about a coronavirus vaccine. But not Bill Gates.

HG: This is all really heavy, and I want to get practical for our listeners right now. I know a lot of us have friends and family who are going to be first in line to get that vaccine because they believe everything they've heard from the media. They believe that this vaccine is our only hope and that we can't have mass gatherings and can't return to normal until we're all vaccinated. Do you have any tools for presenting this information to our friends and family?

AW: Yes, I do. How do you educate people about this? There's no excuse for people not to be educated. When I first got involved in this, there was very little information. Now there's an abundance of information. How do you sort out what is real and what isn't? Well this is what the film is about. I'm not pushing the film, but it was written and designed to answer your very question. It is about the journey of discovery about this issue by a couple, a husband and wife. She's pregnant late in life with her first baby. It is about how they go down the rabbit hole and look at these issues. They start asking questions. What about polio? What about smallpox? They do the research. When they do the research, how do they answer these questions for themselves? They come to their own conclusions.

Where they end up is not their starting point. The reason for doing this film is because they are *us*. We can do this as well. There is no excuse *not* to do it. In fact, it is mandatory that everybody get educated because these decisions are so far-reaching, not just for families but for the survival of mankind as a whole. With that in mind, the approach I've taken is to make a film that does exactly what you're asking right now. Sit down and watch this, and then get more information. If at the end of that process, you decide you want to get vaccinated, that's absolutely fine, but take that decision not from a position of ignorance but from a position of knowledge. Then, at least you know you can reconcile your decision on the basis of due diligence. That would be my recommendation. The reason the film was made is to carry that message.

HG: It is difficult to change our paradigm and our worldview, isn't it? It is so much easier to go with the flow and believe everything we have heard—phrases like "safe and effective" and other mantras like that.

AW: It is, but we are at a defining moment in human evolution. What's happening now, and vaccination policy globally, will determine who lives and who dies, who reproduces and who doesn't, and which element of the population does or doesn't survive. That's where we are. That's how big this decision is. It's not one to be undertaken lightly. If you are frightened, if you are prepared to be a supplicant, if you're prepared to just roll over in the face of what you watch on CNN (which is owned by the pharmaceutical industry), if that's what your position is, then you will make your decisions accordingly, and I wish you the very best of luck.

I'm not trying to persuade you about which decision to make other than to get informed. It is such a big issue. If you decide to be scared and if you decide to buy into the narrative fed to you by Big Brother, then you will live or die accordingly.

HG: Absolutely. Now let's speak to those who think, "No, that's not me. I've done my research. I know what my rights are. I want to defend my medical freedom." What advice would you have for them?

AW: I think people need to run for office. I think people who are concerned about health freedoms need to go forward. Talent needs to be identified and pushed at a state level because these decisions about vaccine mandates, for example, currently are taken at the state level. People who cherish their health freedoms need to be encouraged to run for office.

HG: Thank you for that answer. What about people in other countries?


AW: We're seeing a global uprising against mandatory vaccinations. I've toured and filmed in Europe—Poland, Italy, France and Germany. The feeling is very much the same there. You're seeing the influence of the pharmaceutical industry throughout Europe. The industry is doing the same thing—pushing mandatory vaccination and using governments to do it—persuading the governments through whatever means they can to push mandatory vaccination. America is no different in many ways from the rest of the world. I believe that if we can change things here, it will have a knock-on effect elsewhere. This is why America is key to resolving this issue favorably.

HG: What is the release schedule for your movie?

AW: The movie became available for online streaming on May 21 (go to 7thchakrafilms.com). Despite everything that's been going on—and having to finish a film remotely, which has never been done before in this way—we were able to meet that deadline. Our intention is to launch it on a new platform, which cannot be censored, called Sphir.io. It is blockchain-encrypted, and it is intended to serve as a platform for this kind of community. It's going to be a hybrid of Facebook, Instagram and YouTube. And I believe that it will be an important part of the future of social media.

HG: I think so, too. There's been a lot of censorship already of interviews on YouTube and Vimeo. I want to ask you one final question. If listeners could do one thing to protect or improve their health at this time, what would you recommend that they do?

AW: Speaking to mothers—and I've said this, many times—the most important thing you have is your maternal instinct. We are here on this earth because of maternal instinct, not because of doctors or drugs or vaccines. We are here because mothers know their children. They know when they're well, and they know when they're ill. They have an instinct

that's been cultivated for many millions of years. It has served you well, so please trust your instinct. Trust that little voice inside you because it is a key to the survival of your children and yourself. It is an extraordinarily powerful thing. People have allowed that instinct to be usurped by the man in the white coat: "I'm the doctor and I know best." No you don't. You absolutely do not. Mothers know their children better than anyone. So I would particularly urge mothers to trust that instinct. 

Note: This Wise Traditions podcast (episode #239) first aired on April 27, 2020, shortly before the release of 1986: The Act. The film is now available for on-demand streaming, instant download and DVD pre-order at <https://7thchakrafilms.com/>.

Your Invited

WISE CONVERSATIONS A NEW REASON TO BE A MEMBER

We have a new membership perk! We are having monthly meetings online for members in order to educate further. We want to answer your questions. Each month we pick a specific topic and have a guest who is someone working closely with the Foundation. As members, you can submit your questions in advance by email and we will ask as many as possible during the hour. We send an email notice announcing the meetings which occur in the last week of the month. We have room for up to 500 at each meeting, but if you cannot attend live, you can view the recordings afterwards either on our website or on our members-only Facebook group.

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If you have suggestions for topics or have not been getting our email about these events, please let us know.
info@westonaprice.org

All Thumbs Book Reviews

***Plague of Corruption:
Restoring Faith in the Promise of Science***
**By Dr. Judy Mikovits &
Kent Heckenlively, JD**
Skyhorse Publishing

Plague of Corruption is an autobiography by a good scientist, Dr. Judy Mikovits, who didn't do her job. Why wouldn't she do her job? Let's look at a few examples. One of her jobs was to prove that bovine growth hormone was safe. What she did was show very scientifically that it was *not* safe. She did well, right? But that was not her job. Her job was to show pseudo-scientifically that bovine growth hormone was safe so that greedy corporations could make lots of money. She did not do her job, and people got upset.

Another job was studying vaccines and their safety. One of the things she discovered was that injecting tissue, serum and fluids from animals into humans might not be such a good idea. Never mind other toxic ingredients like aluminum, mercury, polysorbate 80 and human DNA from aborted fetal tissue—all that animal goop was proving to be a problem. She made a strong scientific case that animal viruses and DNA that end up in vaccines are wrecking millions of human lives (not to mention animals) on a global scale. Her science may have been perfect, but her job was not supposed to upset big pharma's apple cart. When you do that, life will get very interesting.

The toxic ingredients in vaccines are hardly a secret. You can find this information on the CDC website. But big pharma has so cleverly marketed this stuff that not only are people willing to allow the injection of this witches' brew into their bodies and not only do they demand access to these magic products, but they also fervently believe you are a psychopath endangering the entire world and all the babies therein if you decline to go along with the scam. Even *Scientific American* says that willfully unvaccinated persons are the "moral equivalent of drunk drivers." The authors of that statement

go on to become even more sanctimonious, if you can imagine that. Wow, that is some kind of racket. You have to sweep a lot of dirt under the rug to say something like that.

Dr. Mikovits makes an interesting point based on court testimony given by Dr. Andrew Zimmerman, professor of pediatric neurology at Johns Hopkins University and leading expert on mitochondrial dysfunction. He has testified that he found a connection between autism and mitochondrial dysfunction brought on by vaccines. Mikovits, being a scientist, does the math. A conservative estimate of the number of children with vaccine-damaged mitochondria is three hundred thousand in the year 2007. The estimated lifetime cost of caring for each such child is three million dollars. That adds up to about nine hundred billion dollars.

I don't care who you are; even if you are Bill Gates, that's a lotta, lotta, lotta money. And that is just the tip of an even bigger iceberg. If those chickens were ever allowed to come home to roost, it would be an industrial extinction-level event. Would big pharma resort to pretty much any means to dodge that liability? Well given their past ethical track record, I think there is some cause for concern.

One of Mikovits' statements that jumped out at me was that we are in a scientific dark age. That statement made me think about an Internet page that I once saw that included two lists. (I wish I could find it now, but it seems to have disappeared. Maybe the point of the lists was a little too awkward for the Internet police to tolerate.) The first list showed the top twenty or so scientists from 1865 to 1905. It included names like Edison, Faraday, Maxwell, Tesla and Einstein—all names that anyone with an education would recognize. The second list showed the top twenty scientists from 1965 to 2005. I can't give any examples of names from the second list because I didn't recognize a single one. Except for the transistor, which made the electronic revolution possible, there have been few world-changing scientific or technological breakthroughs since the nineteenth century.



One of Mikovits' statements that jumped out at me was that we are in a scientific dark age.

All Thumbs Book Reviews

What passes for science today instead is mostly corporate sales pitches that are not only wrong but often destructive. We are in a dark age.

Science, religion, ethics, business, farming, nutrition, history, economics, health, morality and politics are not separate, unrelated subjects. They are different aspects of one integrated, unified reality. They are all connected, and we are all connected. We see glimpses of that in *Plague of Corruption* and other books. Unfortunately, though Pasteur's lack of integrity and fake science may not have made a big impact in his own time, its consequences have continued to play out with increasing effect for more than a century.

Many other players have also contributed to the plague of corruption, which in the year 2020 has reached unprecedented levels. People who know nothing about economics seek to impose drastic, economically disastrous measures for the "benefit" of our health. Millions are out of a job and finding it increasingly difficult to afford food and other basic necessities—but apparently that has nothing to do with health. Government officials would have millions believe their jobs are "non-essential." That must be good for mental health. "You are not important. Have a nice day." We already live in a world of fake news, fake health care, fake education and fake food. Humans don't have a stellar track record of getting along. Now we see social distancing and promotion of a "new normal"—a fake normal. This has already stirred up a storm of protest and violence like we haven't seen since the 1960s. The news media have worked hard to divide us along racial, gender and socioeconomic lines. Now apparently it

is time to divide us right down to the individual level and make everyone afraid of even their own family members. Remember, the most severe form of punishment in the American justice system, short of the death penalty, is isolation: solitary confinement.

This fake "new normal" will reverberate through every facet of our unified reality. No more religious freedom or freedom in general. Want to go to a ball game, go out to eat, hang out at a bar, go to a wedding or go to a movie? No, no, no, no and nope. All social ties that bind us together are being severed. Do I have to suggest this might not end well?

Dr. Mikovits does try to provide a little light in this dark age with suggestions on what really works for health. I don't necessarily agree with all of her suggestions, but she does mention the importance of healthy fats and deuterium-depleted water, which Dr. Tom Cowan has spoken about at our conferences. Overall, the thumb is UP.

Review by Tim Boyd

BOOK REVIEWS IN **Wise Traditions**

The Weston A. Price Foundation receives two or three books *per week*, all of course seeking a Thumbs Up review. What are the criteria we use for choosing a book to review, and for giving a Thumbs Up?

- First and foremost, we are looking for books that add to the WAPF message. Dietary advice should incorporate the WAPF guidelines while adding new insights, new discoveries and/or new therapies.
- We are especially interested in books on the fat-soluble vitamins, traditional food preparation methods and healing protocols based on the WAPF dietary principles.
- We look for consistency. If you talk about toxins in vaccines in one part of your book but say you are not against vaccines in another part of your book, or praise fat in your text but include recipes featuring lean meat, we are unlikely to review it.
- We do not like to give Thumbs Down reviews. If we do not agree with the major tenets expounded in a book sent to us, we will just not review it. However, we feel that we have an obligation to point out the problems in influential or bestselling books that peddle misinformation, and for these we will give a negative review. We also will give a negative review to any book that misrepresents the findings of Weston A. Price.
- If you want us to review your book, please do not send it as an email attachment. Have the courtesy to send us a hard copy book or a printout of your ebook or manuscript in a notebook or coil binding.

All Thumbs Book Reviews

Virus Mania: How the Medical Industry Continually Invents Epidemics, Making Billion-Dollar Profits at Our Expense
By Torsten Engelbrecht and Claus Köhnlein
Trafford Publishing

It may seem that the world has gone mad. Fear of a seemingly uncontrollable virus has led the general public to wear masks, wash hands assiduously, avoid social interactions and disinfect homes and workplaces. Businesses closed their doors or limited their hours. Schools adopted distance learning. And we've been told that the only solution is a vaccine.

Though this may seem a time unlike any other in history, it is not. History is repeating itself. This book offers valuable insights that help make sense of the madness.

Originally published in German, *Virus Mania* first appeared in English in 2007. The authors, journalist Torsten Engelbrecht and doctor Claus Köhnlein, review the circumstances under which a number of “viruses”—the avian flu, cervical cancer (HPV), SARS, “mad cow” disease (BSE), hepatitis C, AIDS and polio—groundlessly instilled panic in the public. (You might think that the latest “coronavirus” should make the list. If so, you are right. A new edition of the book, just released, includes the coronavirus among the baseless crises used to manipulate the public and make money in the process.)

Virus Mania outlines the steps generally taken to mislead the public: invent the risk of a disastrous epidemic; incriminate an elusive pathogen; ignore alternative toxic causes; manipulate epidemiology to maximize the false perception of imminent catastrophe; and promise salvation with vaccines or pharmaceutical drugs. The authors, like lawyers in a courtroom, make a strong case for this recurring pattern. They also find the leadership of pharmaceutical companies, the World Health Organization, the Food and Drug Administration, the Centers for Disease Control and the media guilty of inducing pandemic panic for motives other than the public welfare and health.

Take the AIDS scare as an example. The authors point to its beginnings, describing how in the early 1980s, a scientist from the University of California named Michael Gottlieb identified five severely ill young homosexual men who had a pulmonary condition rarely seen in their age bracket. There were a number of factors that in all likelihood compromised the men's immune system and made them vulnerable to pneumonia, including the nitrite inhalants (known as “poppers”) and other recreational drugs that were extremely popular in the early 1980s gay scene. But Gottlieb and other researchers overlooked these other factors, instead hurrying to search for a “virus” that could be causing the men's condition. Apparently, many in the medical community were thrilled about the possibility of a new disease on the horizon. The eventual head of the CDC's HIV/AIDS division, James Curran, reportedly exclaimed “Hot stuff, hot stuff!” at the time.

Then the conjectures and fear-mongering began in earnest. Scientists were on the lookout for clusters of people exhibiting the same symptoms, eager to pin the blame on a new contagious disease. Discussion of nutrition patterns or other lifestyle choices was off the table (then as now). Instead, pinning the health crisis on a culprit that appeared to be out of our control was helpful in achieving the desired result: public fear and compliance, and profits through a medical protocol backed by experts. Sound familiar?

To make sure the public at large would become concerned about AIDS and HIV—the supposedly “infectious” retrovirus they claimed was responsible for AIDS—scientists claimed that the disease was communicable not solely among homosexuals but among the heterosexual population as well. The scientific community began hypothesizing (though there was a lack of evidence) that HIV could be spread through sexual contact. Scandalous images on magazine covers helped fan the flames of public concern.

Next, AIDS fears started extending beyond U.S. borders. The world became alarmed as the media sensationalized a full-fledged AIDS crisis



Pinning the health crisis on a culprit that appeared to be out of our control was helpful in achieving the desired result: public fear and compliance, and profits through a medical protocol backed by experts.

All Thumbs Book Reviews

Although the cast of characters may vary from virus scare to virus scare, the unfortunate pattern remains.

in Africa. A close examination of the “crisis” reveals how quickly Africans were labeled with an AIDS diagnosis. If they were undernourished or had diarrhea, those symptoms were enough to categorize them as having AIDS. Patients with tuberculosis, malaria, leprosy—all got relabeled as AIDS patients, and later as AIDS deaths. As the two authors say, “The HIV/AIDS epidemic is actually a smorgasbord of well-known diseases, many of which correlate with poverty.”

By this time, there were AIDS benefit concerts, AIDS ribbons and worldwide concern for the so-called epidemic. *Virus Mania* explains how the crisis was framed and how the drug AZT (presumably marketed as a cure) made its creators plenty of money while offering little hope to the supposed AIDS patients. Frankly, most of the already immunocompromised people who took the toxic cocktail died in short order, the pharmaceuticals pushing them over the edge.

Although the cast of characters may vary from virus scare to virus scare, the unfortunate pattern remains: people in power, greedy for money or notoriety, reach erroneous conclusions

in the name of science and public health that lead to the exact opposite of their proclaimed goal. To wit, they jeopardize and compromise the health of thousands, even millions, of people.

Engelbrecht and Köhnlein conclude with an epilogue that points to the wisdom of our ancestors. To live a healthy life depends on a premise “too simple” for most to imagine. “Intelligent researchers have chosen to overlook it for decades. In our overmedicated, high-tech and overworked society,” they write, people have difficulty accepting “the idea that health can be easily had *without* the medical and food industries with their medicines, vitamin pills and dietary supplements.”

This book merits two thumbs up. It is a well-annotated, relevant read recommended for those willing to question conventional thinking and take their health into their own hands. *Virus Mania* upends decades of medical dogma and the health orthodoxy’s false belief that viruses attack us and that modern medicine can save us all.

Review by Hilda Labrada Gore

THE CASE AGAINST MASKS: TEN REASONS WHY MASK USE SHOULD BE LIMITED

By Judy A. Mikovits and Kent Heckenlively, JD

Best-selling writers Mikovits and Heckenlively, authors of *Plague of Corruption* (see review, page 59), have done us a favor with this timely little book, in which they compile the scientific findings against mask use. Even if you believe that the current wave of illness is caused by a virus, making everyone wear a mask makes no sense at all.

Did you know that OSHA regulations oppose the routine use of masks except under certain circumstances, and then only with proper training? If you are breathing into a cloth mask, you will soon be breathing high levels of carbon dioxide, leading to a condition called hypercapnia (carbon dioxide toxicity). Symptoms include headache, vertigo, double vision, an inability to concentrate, tinnitus, seizures and suffocation. For people suffering from asthma or COPD (chronic obstructive pulmonary disease), face masks are intolerable. Even for healthy people, the lowered oxygen intake may actually make them more susceptible to Covid-19, because lack of oxygen can lower the functioning of our immune systems.

Moreover, most masks do not provide protection against particulate matter, and certainly not against tiny microorganisms. They do not provide a good face seal (if they did, you would suffocate in short order), and breathing on others is not likely to spread “viruses” anyway. And the inside part of the mask may harbor the build-up of pathogens (or create conditions where normally benign organisms become pathogenic).

While this book comes squarely from the point of view that viruses exist and cause disease, for beginners it is a good way to convince them of the futility of mask wearing without getting into more esoteric discussions. I highly recommend this little volume to give to frightened friends and relatives. Thumbs up.

Review by Sally Fallon Morell

All Thumbs Book Reviews

***Beyond Labels: A Doctor and a Farmer
Conquer Food Confusion One Bite at a Time***
By Sina McCullough, PhD and
Joel Salatin, Farmer
Chelsea Green Publishing

What happens when you combine two unique individuals with a unique mission and book format? You get *Beyond Labels*. First, let's start with the mission: "This book is dedicated to anyone who wants to eat better and doesn't know how." Sina McCullough and Joel Salatin are primarily hoping to reach individuals who are interested in eating better but are unsure what that means or how to make it happen. In other words, the book is for people like McCullough herself, who once "spent more time looking up movie and book reviews than I did looking up what's in my food."

Next let's look at why McCullough and Salatin are unique. Often when people write and speak, they stick with their "lane" or area of expertise. Only on occasion do they get to interact with others in related fields. *Beyond Labels* represents the rare book that brings together the experiences and expertise of both authors.

Beyond Labels also follows a unique format. A question is posed to the two authors, and they talk through it—at times mentioning surprising or unexpected things in relation to the original question. Although the questions are wide-ranging—covering everything from reading labels to keeping chickens to making compost—they all support the goal of helping people make the transition to eating more real, locally-produced food.

The book is organized around seventy-two pieces of advice—or "bites." Each "bite" is introduced with a "how" followed by a "why," and the "why" is where Salatin and McCullough discuss all sorts of things that help people understand the importance and practice of the "how." Even though this book harkens back more to the days when our family first began our real-food journey than where we find ourselves today, I learned a number of new things in the "whys," which is something I appreciated.

The book prefaces the seventy-two bites with a section that encourages readers to set goals and develop a picture of what they want their relationship with food and life to look like. This includes thinking about questions such as "What is your ideal meal?" and "Where does it come from?" This section emphasizes taking responsibility but also giving yourself grace to learn and grow during what can be a difficult journey. Those with longstanding real-food experience need to remember what it is like to have never dealt with real food before. I remember years ago when people joined our buying club who had never seen a whole chicken! They needed encouragement, not condemnation. We need to remember that they walked through the door because they realized there was something wrong with their food choices, and they wanted to change the situation.

Because *Beyond Labels* is written for individuals who are not yet deeply "into" real and local foods, the book takes an interesting approach to some touchy subjects. Take soda. Almost everyone knows that soda isn't good for you, but instead of telling readers outright that soda is bad, Salatin and McCullough try to help them realize it for themselves. They do this by first suggesting that people notice how they feel with and without soda and then give the reader a number of alternatives. They also help people understand the history, health effects and other factors (such as government subsidies) that stand behind the topic of soda.

The dietary advice in *Beyond Labels* is basic but sound. "Don't fear the fat label!" (#15). "Eat real salt" (#25). "Say yes to wild-caught fish" (#26). "Eat a daily helping of microbes from ferments" (#44). The two authors even cover the importance of clean, high-quality structured water (#19) and recommend Dr. Tom Cowan's recent book on the subject (*Cancer and the New Biology of Water*). *Beyond Labels* is also peppered with good advice (and warnings) about food additives (including artificial and natural flavors), non-stick cookware and dozens of other topics.

Continued on page 66.



The book encourages readers to set goals and develop a picture of what they want their relationship with food and life to look like.

FUNDRAISING CAMPAIGN FOR THE WESTON A. PRICE FOUNDATION
OCTOBER 2020

Dear Friend of the Weston A. Price Foundation:

Who could have predicted the events of 2020! We find ourselves threatened by a mysterious disease and draconian measures to “stop the spread.” Through it all, the Weston A. Price Foundation has remained a trusted source of accurate nutritional information that can protect you from disease, whatever the cause. Your financial support of our many activities is greatly needed at this time. The Wise Traditions diet is helping people stay healthy all over the world. Here’s what your donations help us do:

- COVID-19, A DISSENTING VOICE: In journal articles and on social media, we have led the way in providing an alternative view to the coronavirus narrative; more importantly, we have provided guidance for protection, whether this disease is caused by a virus or pollution or microwave radiation.
- A CAMPAIGN FOR REAL MILK: Ably led by Pete Kennedy, our Campaign for Real Milk continues the effort to make raw milk legal in all fifty states. This year we have focused our energies on creating a new realmilk.com website with an interactive map and updated content. Look for the launch in early 2021.
- THE 50-50 CAMPAIGN: Our campaign to encourage members to spend at least 50 percent of their food budget on direct farm purchases has boosted income and support for many small, pasture-based farms.
- WAPF IN SPANISH: We now have Spanish Facebook and Instagram pages, a Spanish podcast and a Spanish YouTube channel. In addition, we are continuing to translate our materials into Spanish for our growing Spanish-speaking audience.
- GENERAL EDUCATION: Your donation helps support our day-to-day activities, including our lively quarterly journal, print materials, website updates, the Wise Traditions podcast (now at over three million downloads), the Nourishing Our Children educational initiative, action alerts on vaccination and other legislation and extensive local chapter activities worldwide.

While WAPF is a membership-based organization, our affordable membership fees do not cover our many activities, all of which are geared to teaching our dietary principles and making nutrient-dense food available worldwide to people from all walks of life.

Have you benefited from the WAPF teachings? Are you and your family enjoying better health due to the activities of WAPF? If so, we ask that you consider a donation, ideally between now and November 15. You can use the enclosed envelope or donate online at westonaprice.org/donate.

Donations of any size are appreciated and used well. Our goal is to raise \$100,000 by November 15—and we will get there if everybody pitches in! So please send in your donation (or donate online) as soon as you can.

Gratefully,
Sally Fallon Morell, President
Kathy Kramer, Executive Director

P.S. Individuals seventy and one-half years or older can donate up to \$100,000 per year directly from an IRA to a qualifying charity such as the Weston A. Price Foundation. Qualified charitable distributions (QCDs) can be used to satisfy required minimum distributions (RMDs) from an IRA without having the distribution included in your income. Learn more: westonaprice.org/about-us/wapf-funding/ or contact our advisor Taylor DeBord: (410) 257-4506 or taylordebord@edwardjones.com.

All Thumbs Book Reviews

***This Is Your Brain on Birth Control:
The Surprising Science of Women, Hormones,
and the Law of Unintended Consequences***
By Sarah E. Hill, PhD
Avery

Many women have been on a birth control pill at some point in their lives. Sarah E. Hill, PhD, is a researcher who has dedicated her career to evolutionary psychology. She herself was on birth control pills throughout her young adult life, as she pursued her academic degrees and launched her career. In *This Is Your Brain on Birth Control*, she recounts how she realized in retrospect that when on birth control, she seemed like a less vibrant version of herself. After cutting the birth control method out, she noticed that she experienced increased energy, heightened sexuality and even a renewed interest in music, which she had loved as a teenager but had ignored throughout her twenties.

After first coming across a study that linked women's romantic partner choices and sexual satisfaction with their pill-taking status, she then learned that women on birth control pills seem to be missing a key feature of their stress response. At that point, Dr. Hill realized that she had bumped right into the proverbial tip of the iceberg, and she began investigating all of the myriad ways that birth control pills (there are dozens on the market) can interfere with women's biological makeup.

Our body's hormones are an intricately balanced symphony, so it should not be surprising to recognize that taking a drug designed to rearrange a woman's monthly cycle drastically might throw other things off-kilter as well. However, few doctors give women any sort of primer on the potential side effects of birth control pills. In many cases, the prescriptions are handed out without so much as a warning. In my case, I was given a prescription for a birth control pill when I wasn't even sexually active (nor planning to be). The doctor's rationale? My periods were three weeks apart (something I now realize was not abnormal), and the pill "might" reduce cramps and symptoms of premenstrual

syndrome. The doctor never mentioned any potential downsides.

While the possible downsides are many and comprise a large portion of the book, Dr. Hill is quick to state—and repeat—that she does not think that birth control pills are unequivocally a bad choice. She believes that women should absolutely be in charge of their own fertility. She simply thinks that women have not been given anywhere close to the full story.

Part of the problem is that the research is rather new, and much still requires exploration. However, what is unambiguously clear is that these pills influence women's hormones, and women's hormones influence nearly every single aspect of women's physiology. To summarize (without explaining all the technical terminology behind these elaborate biological mechanisms), birth control pills, when taken on a daily basis, can change a woman's personality, including the way she behaves, thinks and feels. The pill can decrease motivation and sex drive, dampen response to stress (including the good kind of stress that manifests itself as excitement and enthusiasm) and even affect romantic and marital partner choice. This, as Dr. Hill emphatically states, is huge.

One particularly disturbing finding is that birth control pills can instigate dysfunction of the HPA (hypothalamic-pituitary-adrenal) axis. Studies have shown that women on the pill have either a blunted cortisol response to stress, no cortisol response or even a decreased level of cortisol in response to stress (which is highly abnormal). In addition, daily cortisol rhythms, which help people wake up in the morning and make it through the day (hopefully with a bit of joie de vivre), become lower and flatter. Additional studies suggest that this flatlining of the stress response (although overall cortisol levels remain high) can continue even after a woman stops taking the pill. It seems that pill-taking women are so overwhelmed with chronic high cortisol signaling that the HPA axis tries to shut down. This can lead to issues such as brain-volume loss, mental health disturbances

Continued on page 67.



Women on the pill have either a blunted cortisol response to stress, no cortisol response or even a decreased level of cortisol in response to stress (which is highly abnormal).

All Thumbs Book Reviews



The Complete Cooking Techniques for the GAPS Diet

By Monica Corrado
Selene River Press

When it comes to healing and food, if anybody can make a daunting, challenging situation a whole lot easier, it's Monica Corrado. In this lengthy eleven-part book, she has combined information from her previous books with up-to-date information about the Gut and Psychology Syndrome (GAPS) and the stages of healing.

Corrado begins with a clear explanation of GAPS and why so many people are facing such confusing and frightening symptoms. The first three sections cover the symptoms, diseases and malnutrition associated with a damaged small intestine. The message is clear: "Heal the small intestine, heal the symptoms." To accomplish this, you must follow the steps outlined, realizing that healing takes time and occurs in stages. Steps include removing offending foods, starving pathogenic bacteria, "healing and sealing" the gut and rebuilding the microbiome. This is accomplished with deeply nourishing, easily digested and assimilated, anti-inflammatory foods.

Corrado carefully outlines the introductory and full GAPS phases as well as a post-GAPS transition phase. With few exceptions, the introductory phase is critical for healing and sealing the gut lining. Corrado lays the introductory diet out in six stages, beginning with stocks and nour-

ishing soups and gradually adding foods like egg yolks, ghee, avocado, nut-flour pancakes and baked goods, and some raw vegetables and fruits. Though choices are limited, there is plenty to eat. However Corrado cautions that it can take anywhere from a few weeks to a full year to complete this phase, depending on the severity of symptoms.

Section 4 details the full GAPS diet, which could last a couple of years. This is highly individual; some people do so well that they continue eating this way for life. In full GAPS, one may add a few legumes and various nourishing foods, although the majority of legumes, all grains, starchy and fibrous vegetables and processed oils are off-limits. Cultured dairy, properly prepared nuts and seeds, raw honey, satisfying fats and stocks along with a large variety of vegetables and meats are all allowed.

Section 5 focuses on the transition diet, which again can take time to integrate fully. It is important to listen to our bodies and symptoms—they are our guide. One makes the transition gradually, adding small amounts of properly prepared grains and starchy vegetables, always monitoring symptoms. The successful introduction of these foods without symptoms, means you have officially made the transition.

While diet is the most significant component of the GAPS protocol, Sections 6 and 7 cover healing with probiotics, essential fatty acids and enzymes. Here Corrado also teaches

historically normal food."

In a sea of books about the food system, what sets this one apart is how very practical it seeks to be. What do you want your food, your health and your world to look like? What changes are you making so that daily life begins to match that vision? The book seems well positioned to furnish not just information but also motivation and direction to those wanting to move toward real, traditional, local, nutrient-dense foods. Two thumbs up.

Review by John Moody

Beyond Labels, Continued from page 63.

There is a ton of discussion to help people not be duped by labels and the rest of the labyrinth of lies that make up the modern food system and its often misleading marketing and claims. All of this flows naturally, and it is hoped will have a gentle impact on readers who are trying to make progress. The authors also mention Sally Fallon Morell, with Salatin speaking about how he loves her term "the diet dictocrats" because it "captures marvelously the elitist, tyrannical persona of experts who dare to impugn

The message
is clear: "Heal
the small
intestine,
heal the
symptoms."

All Thumbs Book Reviews

the differences, benefits and importance of meat stock and bone broth, describing how to make a meal on meat stock and how to make the best-ever bone broth. The recipes sound delicious.

Next Corrado focuses on the benefits of culturing dairy products: what to look for, how to purchase these delicious, nourishing dairy products and why it's good to make them yourself. For sensitive people, there's a step-by-step guide to introducing dairy, beginning with lactose- and casein-free ghee. The narrative then moves through a variety of healthy dairy products, ending with aged, hard cheese. People respond to dairy in different ways, so it is important to pay attention. There are recipes and sections devoted to ghee, cultured butter, cultured cream, yogurt, kefir and sour cream, with discussion of how these fit into the GAPS diet.

Beverages and cultured fruits and vegetables are covered in Section 9 on lacto-fermentation. The benefits are myriad: better digestion, greater immunity, a healthier liver and much more. This comprehensive section is a course in lacto-fermentation, canning and pickling, making homemade lacto-ferments, types of and differences in starters, lacto-fermented beverages and why we must begin with fermented juices. There's a wealth of information about proper lacto-fermentation techniques and equipment. Corrado also covers salting, brining and using whey, yogurt, kefir and vegetable starters.

Nuts, seeds, beans and grains are Section 10's focus. We learn that seeds "would rather procreate than be eaten." To keep from being eaten, "seeds evolved to be hard on our digestive system." Corrado emphasizes, therefore, the importance of soaking, sprouting and fermenting techniques that neutralize anti-nutrients. Because anti-nutrients can further harm a damaged gut, nuts and seeds should not be introduced until some healing has already occurred. Again it is important to go slowly and pay attention. Corrado teaches us which nuts and seeds are best, how to store them properly and how to make nut and seed butters and flours. Describing the

various pre-digestion techniques, Corrado notes that sprouting is better than soaking and fermenting works better than sprouting, but she also asserts that a combination of these techniques works best of all.

The GAPS diet allows some beans and legumes at certain stages—if properly soaked or sprouted. Coconut, too, has a place, beginning with the oil and moving on to the meat, milk, cream, coconut butter and eventually coconut flour. There are recipes for coconut milk, flour, breads, muffins and even pizza! The section also offers a bonus chapter on how to introduce grains after the gut is healed. The final section delves further into what and how to eat after following the full GAPS diet, emphasizing high-quality foods, traditional cooking techniques and plenty of nourishing stocks and broths. This can rightly be called a "well diet"—meaning the time-tested, traditional, immune-supporting, nutrient-dense diet known to most of us as the Wise Traditions diet. This book gets a double thumbs-up. It's thorough, interesting, informative and provides a way to heal and return to a normal, healthy life while enjoying a slew of delicious, nourishing foods. Good job, Monica Corrado!

Review by Alana Sugar

Your Brain on Birth Control, Continued from page 65.

(including major depression) and even immune system malfunction. Dr. Hill does not fully explore the link to autoimmunity in this book (nor does she address the pill's effects on the gut microbiome), but she does note that 78 percent of people suffering from autoimmune diseases are women. It is not much of a stretch to see that the pills they commonly take on a daily basis could be contributing to the prevalence of autoimmunity.

More information is always a good thing, and any woman who is on birth control or considering starting a regimen would benefit from reading Dr. Hill's well-researched book. While written in a warm and chatty style (Dr. Hill has no problem using humorously sarcastic footnotes, asterisk-filled expletives or multiple exclamation marks to make a point), she also includes the science behind the "why" of it all, along with illustrations and charts. A high schooler could easily read this book and probably should.

I wish I could have read it all those years ago, instead of simply accepting what a man in a white coat said as the ultimate be-all and end-all.

Every substance that we put in our mouth can have an effect on our entire system, and therefore on our lives. In the age of information, women have been encouraged to take control of their reproductive health, their well-being and their future by accessing information like that contained in this book. Go forth, women of the world, and read. Two thumbs up.

Review by Jennifer Grafiada

All Thumbs Book Reviews



***The Regenerative Growers Guide
to Garden Amendments:
Using Locally Sourced Materials
to Make Mineral and Biological Extracts
and Ferments***
By Nigel Palmer
Chelsea Green Publishing

Soil life is the foundation of our life, and soil life depends in no small part on the minerals, nutrients and microorganisms that the soil contains. Thus it is troubling that much of the incredible amount of money that Americans spend each year applying amendments and fertilizers to their lawns and gardens (lawn care alone is a thirty-billion-dollar business) is unnecessary or worse—counterproductive to supporting and improving our soils.

Nigel Palmer hopes to offer an alternative to the bagged soil amendments so commonly used and depended on by gardeners and growers. The goal isn't just to find a more sustainable way to steward our soil but to help us adopt an approach that answers Palmer's fundamental question: "Are these the most nutrient-dense tomatoes possible to grow?" Palmer wants food that is not just clean and sustainable but also health-promoting for the eater as well as the earth. And health-promoting food should not just be free of harmful chemicals but must also be nutrient-dense.

For decades, soil was treated as little more than a matter of chemistry. More recently soil biology has gained greater attention. Yet, it is only when we begin to understand all three facets of living soil—not just chemistry and biology but also energy—that we can begin to truly unlock the potential of our growing spaces and care for them properly. This book seeks to equip the reader to bring all three facets into fruitful balance. To this end—and this starting place may surprise some readers—the book's first chapter begins with a long sidebar exploring soil energy.

Palmer points out that plants and soil exist in a symbiotic relationship. Plants are able to do the unimaginable—process incoming

solar energy and turn it into stored and transportable energy (sugar). Almost nothing else on earth has this ability! The plants then give large amounts of this energy (sugar) to the soil microbiome in exchange for all sorts of things that soil life is able to make available in trade that are otherwise difficult or impossible for the plants to access—minerals, nutrients and other compounds. As the plants produce more sugars, and the soil microbiome trades more and more things in exchange for this energy, both become stronger—including more resistant to pests, diseases and other problems. The more we strengthen this symbiotic soil-plant relationship, the healthier our plants and foods will be—and the healthier *we* will be.

Palmer's book balances techniques and tactics that promote all aspects of soil integrity, sometimes alone but more often together. Palmer recognizes that chemistry without biology can lead to catastrophe, while biology without chemistry leads to barrenness. When done properly, though, both can increase soil energy. Thus whereas soil tests are necessary to know how to care for your soil, it is very important to realize that only a strong soil biology can make proper use of the fertilizers and amendments that soil testing may indicate.

I was glad to see Palmer address how to deal with excess minerals in soils. Over the past five years, doing consulting work for gardeners and larger-scale growers, I have found that excess minerals are a problem far more often than insufficient minerals! This is usually because people skipped the very important and low-cost step of consistently testing their soils, which would have saved them from applying unneeded amendments and imbalancing their soil's chemistry. Just a reminder: Don't neglect your annual soil test(s)!

Fermentation is a topic that appears repeatedly in Palmer's work. Just as fermentation of food improves human health, fermentation is also a powerful (and underutilized) tool to promote soil and plant health. Palmer also mentions and extensively recommends mulches and cover

When we
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can begin
to truly
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properly.


All Thumbs Book Reviews

crops—recognizing that more roots mean more solar energy conversion, which means more underground microbiome activity. Moreover, contrary to what many growers think, plants generally benefit from being in close proximity to other plants instead of abandoned in desert islands of garden isolation.

Another theme that the book emphasizes is customization. Just as a food or diet that works for one person may be a poor fit for another, so it is with caring for your soil. Your soil test results, local resources, crop selection and numerous other factors will determine how you take the varied techniques and options that Palmer presents and apply them to your particular place and space.

My favorite part of the book was the final chapter titled “Amendment Recipes.” Many books talk about the importance of using various techniques and approaches to support soil and plant health, but this long chapter shows readers exactly how to accomplish it and furnishes a host of examples. Here you will see exactly

how to extract, ferment, capture and apply a wide range of minerals and biologicals to bolster plant health and yields—every one with full recipes and step-by-step instructions. This makes it easy to modify and customize according to your particular plant and soil needs (again based on your test results).

I thoroughly enjoyed *The Regenerative Growers Guide to Garden Amendments*. Not only does Palmer understand what promotes soil and plant health, but he gives readers many practical ways to apply these techniques, either with different crops or as a system to use across an entire growing cycle each year. Much of the information that he provides mirrors exactly what we teach when we offer classes on our farm/homestead to help new growers understand the beautiful interplay between chemistry, biology and energy that grows food and soil at the same time. Whether you are an experienced grower or new to the gardening game, Palmer’s book is worth reading. Two thumbs up. 

Review by John Moody

Just as a food or diet that works for one person may be a poor fit for another person, so it is with caring for your soil.

LOW THIOL RECIPES: A DIET FOR MERCURY TOXICITY

By Jillaine Williams, BHSc, with Michelle Eady

The Wise Traditions diet is a set of principles; while following these principles, the foods you actually eat will depend on your sensitivities and intolerances (as well as what is available and what you can afford). Every person will need to adjust the diet to their own idiosyncracies.

That is why we like *Low Thiol Recipes*—it excludes certain foods that cause problems for those suffering from mercury toxicity but still follows the Wise Traditions principles.

Thiols are sulfur-containing compounds that grab onto mercury. It turns out that they are not a good idea for those with a toxic mercury load, because the bond with mercury compounds is not a strong one and “only serves to redistribute mercury around the body, causing symptoms typical of heavy metal poisoning. . . . Free thiols in foods and supplements are like a bus hurtling around inside the body with mercury as the hijacker at the wheel.”

The low-thiol diet is indeed restrictive; it excludes a number of sulfur-containing vegetables (turnips, asparagus, cabbage, bok choy, cilantro, brussels sprouts, onions, cauliflower, broccoli and kale) but also dairy products, whey and eggs. (The diet also excludes chocolate and coffee, which may be one reason people feel better on it!)

Not to worry: the recipes are varied and delicious and all follow Wise Traditions principles. Fermented foods, soaked grains, unrefined salt, kombucha and bone broths form the basis of the diet, along with meat, fish, ghee and coconut products. Although not on a low-thiol diet myself, I am looking forward to trying some of them—chili-lime sweet potato chips, ginger-infused rice, carrots with honey-orange glaze, sauteed pork with lemon caper sauce, coconut poached chicken with lime—they all sound delicious. (And for lots of people, a diet without turnips, kale or cauliflower is no sacrifice at all!)

Many people find that their symptoms improve on the low-thiol diet—better gastrointestinal health, improved concentration, more energy and the clearing of depression—for anyone with mercury fillings and suffering from these conditions, the diet is definitely worth a try. Thumbs up!

Review by Sally Fallon Morell

Tim's DVD Reviews



Plandemic: Indoctrination

Directed by Mikki Willis

plandemicseries.com

Event 201 was a pandemic exercise hosted by the Johns Hopkins Center for Health Security in partnership with the World Economic Forum and the Bill & Melinda Gates Foundation. The exercise explored the then-fictitious scenario of a SARS-like, highly contagious virus spreading around the world and killing millions. Symptoms ranged from mild flu-like symptoms to severe pneumonia. The high-profile exercise participants “speculated” that the pandemic might start by a virus spreading from bats to pigs to humans. They predicted that governments around the world would react in a dictatorial manner, imposing draconian restrictions and arresting any who did not comply. Of course there would be protests. Event 201 was conducted in October 2019.

Within months, this hypothetical exercise transformed into cold reality. What a coincidence! Many of the details of this exercise have played out exactly as predicted. Mikki Willis looks at this and other evidence which indicates that the events of 2020 have not happened randomly or by chance.

One of the strange activities highlighted in this video surrounds U.S. patent number US7220852B1. In 2004, the U.S. Centers for Disease Control and Prevention (CDC) applied for a patent for a coronavirus isolated from humans (SARS-CoV). The patent covers “genome and . . . amino acid sequences of the SARS-CoV open reading frames, as well as methods of using these molecules to detect a SARS-CoV and detect infections therewith.” This information appeared in the film, but I copied that last sentence from the patent itself. I did a little homework and found it at patents.google.com/patent/US7220852B1/en. So I know Willis isn’t just making this stuff up. To be clear, this is not the same coronavirus that we are dealing with in 2020.

Why would the CDC want to patent a virus? It is hard to come up with an answer that sounds good.

Willis goes on to ask some awkward questions. It is illegal to patent nature. You cannot patent any natural life form or object, whether it be a blade of grass, a germ, a virus, the Rock of Gibraltar or a duck-billed platypus. How did the CDC get away with obtaining an illegal patent? Another question: Why would the CDC *want* to patent a virus? It is hard to come up with an answer that sounds good. If it is because they want to study how to treat it, and if it is a major threat to world health, would it not be better to open it up to the world rather than confine it to just CDC resources? And what will they patent next? Water? You can’t get a drink unless you pay a fee to the CDC?

There has been much speculation that at least some coronaviruses were created in the lab and are not natural. If that is the case, why did those responsible do that? An artificially created virus would have to be substantially different from a natural virus to qualify for a patent, but that would make it useless for studying ways to cure natural viruses. The only answer anyone seems to have thought of so far is because they wanted to weaponize it. One small problem there—that is highly illegal under U.S. law and international treaty.

Plandemic presents a lot of evidence indicating that our health overlords are not as pure as the driven snow. Why don’t we hear about this in the mainstream news? Could it be because all of these agencies and operators are part of the vast big pharma syndicate, which generously provides around 80 percent of news media advertising revenue? The news media will not bite the hand that feeds them.

What about government regulators and authorities? Perhaps they are too busy listening to the big pharma lobby, which spends almost twice as much as any other industry lobby. Back in 1986, the vaccine industry was on the brink of bankruptcy because of all the damage vaccines had done. Now Bill Gates describes vaccines as one of the best investments he ever made. What changed? Did the industry suddenly start

Tim's DVD Reviews

making safer, better products? No. In 1986, the industry was granted immunity from lawsuits. Pharmaceutical companies are not liable for any adverse effects of their vaccines. If they really cared about your health, why would they campaign for that? Why would Congress go along with something this outrageous? Big pharma must have a pretty good lobby.

This film goes into details, naming agencies and players who stand to profit from the coronavirus. Many would toss this film into the trash bin of “conspiracy theories,” which we have all been programmed to casually disregard with no further or deeper thought. “Just go along with the herd.” “The herd is always right.” Don’t listen to that little voice in your head that asks, “Are there *really* no conspiracies at all anywhere?”

There is one big question that this film does not ask. Where is the proof that a virus named SARS-CoV-2 is the cause of this new illness called Covid-19? I think most will agree that there is a new illness out there that can be very serious, but that very important question about causation seems only to lead to more censorship, demonization and religious intolerance. The American legal system recognizes that until you hear all sides of a dispute, you cannot know what is going on. Doesn’t that question deserve a straight answer? Is this not important enough for all sides to get a fair hearing?

The film wraps up by suggesting that our most pervasive health problems may be caused by the replacement of real food with factory products, the replacement of natural cures with harmful drugs and the replacement of love and community with fear and isolation. Those who disagree with these conclusions are not doing themselves any favors by censoring, shaming, demonizing and outlawing anyone who disagrees with them. The thumb is UP.

The Science and History of Masks in Medicine Shawn Stevenson

themodelhealthshow.com/maskfacts

In 2020, I have heard more grumbling about people not being scientific than ever before. It is certainly true that there are a large number of people out there who know nothing about science. I’m pretty sure most of the ones who complain the loudest have not themselves ever looked at a scientific study. I personally don’t claim to be a scientist, but as I write this I have on my desk a stack of studies from various sources on mask effectiveness, and I have read them. This video looks at a wide range of studies done by many different agencies and people in the U.S., Europe and China. It covers the time period from when surgical masks were first used to studies done in the last ten years.

Most of these studies looked at hospital operating room settings and compared infection rates where masks were used to infection rates where masks were not used. A large metastudy from Cochrane—considered the gold standard in evaluating large amounts of research—concluded there was no difference. Numerous other studies are covered in the video. The conclusions range from masks making no difference to masks actually being slightly worse than useless. And this is in professional settings with people who theoretically know what they are doing. Can we expect any better results with the general public?

These studies show that masks reduce air volume in and out of the lungs by 25 percent. Carbon dioxide levels go up, and brain function goes down. If you are having trouble understanding this, try taking off your mask. A Chinese study done in 2017 showed that wearing the popular N95 masks correlated to higher infection rates than in the control group.

When I walk into Home Depot or other stores, I often see a sign saying that customers will not be let in unless they are wearing a mask. They add that cloth masks are OK. I appreciate



These studies show that masks reduce air volume in and out of the lungs by 25 percent. Carbon dioxide levels go up, and brain function goes down.

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One favorite of the news media is a study done by Hong Kong University. One minor detail that might be worth thinking through is the fact that the study was not done with humans. It was done with hamsters.

their flexibility in this matter, but according to a study in the *British Medical Journal*, cloth masks turn out to be worse than nothing at all.

On the other hand, there are studies that conclude that masks are extremely effective. One favorite of the news media is a study done by Hong Kong University. One minor detail that might be worth thinking through is the fact that the study was not done with humans. It was done with hamsters.

OK. Hamsters may do an admirable job of simulating average human intelligence, but the astute observer may detect some slight physical, morphological differences between hamsters and humans. Apparently funding was not available to engineer a mask to accommodate those differences, so no hamster actually wore a mask in this experiment. What the researchers did instead was put a bunch of sick hamsters on one side of a wall with a hole in it and healthy hamsters on the other side of the wall. One phase counted how many healthy hamsters became sick while the hole was open, and the other phase counted how many hamsters got sick while the hole was covered by a mask. The data indicated that a mask over the hole greatly reduced the number of sick hamsters.

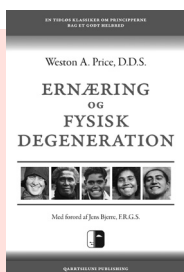
That's very interesting, but some might be a little skeptical as to how relevant that is to real-life situations. I must confess I'm quite dubious myself, but the talking heads who want to control us all seem to think this study is more convincing than actual human studies.

The Science and History of Masks in Medicine has been posted on Instagram, where one commenter argued that many of the studies do show that masks reduce the viral load. This is

a classic example of looking at a surrogate endpoint and making the assumption that greater viral load equals greater disease or infection risk. But these tests showed that the risk was not changed in spite of viral load. I personally don't care what the viral load is. I care about the risk of actually getting sick.

The bottom line is that for all the bloviating about science, that is not what is really being talked about. Free exchange of information is an essential feature of science. Science does not advance by clinging to the status quo or only considering one side of an argument. Censorship does not win arguments. It destroys the credibility of the one doing the censoring, not the censored. Ad hominem attacks further destroy credibility. Asserting that "the science is settled" is not a scientific statement; it is a statement of religious intolerance. Whether you agree with these mask studies or not, the science is hardly settled.

We see on one side people who don't care whether you wear a mask. If you want to wear one, knock yourself out. The other side is resorting to tactics that make the thinking person wonder what their problem is. The results of this religious intolerance for disagreement has led to both scary and hilarious results. Draconian dictatorship is scary, but then I see an encouraging couples to wear masks during sex. I see people alone in their cars driving down the road wearing masks (the people wearing masks, not the cars—yet). I'm tempted to think my crack about the equivalence of hamster and human intelligence is an insult to hamsters. The thumb is UP. ☺☺☺



DANISH TRANSLATION!

Dr. Price's masterpiece, *Nutrition and Physical Degeneration* is now available in Danish.

Visit: q-publish.dk/udgivelser/ernaering-fysisk-degeneration/
Many thanks to WAPF member Henrik Hanson for the translation!

Vaccination Updates

USE OF ABORTED FETAL TISSUE IN VACCINES

By Kendall Nelson, Director, *The Greater Good*

Up until the first half of the twentieth century, most vaccines were developed by growing pathogens in live animals or by using animal cells. Today however several common vaccines are made by cultivating viruses in aborted human fetal fibroblast cells. Many people find this method abhorrent. In their view, the practice goes against the sanctity of human life. In addition, others—including well-regarded doctors and scientists who may not perceive an ethical problem—claim that the use of aborted fetal tissue in vaccines poses extreme health risks and is a likely factor in the skyrocketing autism epidemic.

Unlike bacteria, which can be grown in simple laboratory cultures, what scientists call viruses cannot reproduce on their own. They require a living host in which to grow. Manufacturers prefer human cells to animal cells for propagating viruses, citing both manufacturing and safety concerns. For example, pathogens such as varicella (chickenpox) do not grow well in most cells derived from species other than humans. In addition, animals are costly, require extensive monitoring and can become scarce. Finally, although the animal technique is still used for some viruses, scientists acknowledge that cells derived from animals pose the risk of carrying unwanted bacteria or viruses that can contaminate vaccines and be harmful to humans.¹

Consider the polio vaccines administered to millions of people from 1955 through 1963. As a direct result of their manufacture with rhesus monkey kidney cells, the vaccines eventually were discovered to be contaminated with a monkey virus called simian virus 40 (SV40).¹ Subsequent research connected SV40 to cancer in humans, including brain tumors, bone cancers, lung cancers and leukemia.² In the 1990s, a molecular pathologist at Loyola Medical Center detected SV40 in 33 percent of patients with

bone cancer³ and 60 percent of those with mesothelioma.⁴ By 2001, sixty-two papers from thirty laboratories around the world had reported SV40 in human tissues and tumors, including pituitary and thyroid cancers.² Despite these and similar findings, the Centers for Disease Control and Prevention (CDC) persists in its claim that there is no validity to the science correlating vaccines, SV40 and human cancers.⁵

THE RISE OF FETAL CELL CULTURES

The fetal embryo fibroblast cells used to grow vaccine viruses were first obtained from the elective termination of two pregnancies in the 1960s. These aborted fetuses provided for two primary cell cultures that have since been used to prepare hundreds of millions of doses of vaccines.

The first diploid human cell line, WI-38, originated in the United States in 1962. Leonard Hayflick, an American anatomist, isolated and developed this cell line from the lung cells of a healthy twelve-week-old aborted female fetus.⁶ The initials WI are a reference to the University of Pennsylvania's Wistar Institute, and the number 38 refers to the specific fetus in question. The Wistar Institute recruited Hayflick in 1958 to run its cell-culture laboratory.⁷ The Institute still bills itself as a “global leader” in vaccine development.⁸

The second primary diploid human cell line, called MRC-5, was developed by J.P. Jacobs and colleagues in 1966, using Hayflick's technology.⁹ MRC-5 was derived from the lung cells of a healthy fourteen-week-old aborted male human fetus. The initials MRC refer to the Medical Research Council in London, England.

Later, Dutch molecular biologist Alex van der Eb at Leiden University and colleagues developed two other human cell lines used in vaccine production: HEK-293, generated in 1973 from aborted human embryonic kidney

These aborted fetuses provided for two primary cell cultures that have since been used to prepare hundreds of millions of doses of vaccines.

(HEK) cells, and PER.C6, developed in 1995 from the retinal tissue of an eighteen-week-old fetus aborted in 1985.¹⁰⁻¹² Additionally, scientists in Wuhan, China developed a new aborted fetal cell line for vaccine production in 2015, called Walvax-2.¹³ The 2015 cell line is derived from the lung tissue of a healthy three-month-old human female fetus who was ultimately selected from among nine aborted fetuses.

Hayflick is credited with discovering the number of times a normal human cell population will divide before cell division stops, a process known as the “Hayflick limit.” Hayflick demonstrated that a healthy, noncancerous, human fetal cell population will divide only between forty and sixty times in cell culture before aging and entering a phase called senescence. His finding overturned French Nobel laureate Alexis Carrel’s previous unconfirmed contention that normal cells can divide indefinitely (i.e., are “immortal”) under certain laboratory conditions.⁷

Given the Hayflick limit, how are vaccine scientists able to obtain a “limitless supply” of fetal cells? The Children’s Hospital of Philadelphia (CHOP) explains how on its website, referring to something called “confluence” (the proportion of the cell growth surface covered by cells):

The beauty of cell culture is that the cells grow to confluence in the container to which they are seeded. Once they reach confluence, they can be “split” into a series of additional containers which can then be “split” when they reach confluence and so on. In this way the cell quantities expand exponentially.¹⁴

In short, fetal cell lines are “growth factories,”¹⁴ used for a wide variety of viruses “that can be processed into inactivated whole virus, live attenuated, live-vector, split, subunit and recombinant vaccines.”¹⁵

WHICH VACCINES?

The list of approved vaccines in the U.S. that use human fetal tissue in vaccine development includes vaccines on both the CDC’s pediatric as well as adult recommended schedules:¹⁶

- Adenovirus type 4 and Type 7: WI-38
- Ebola: HEK-293, PER.C6
- Hepatitis vaccines (hepatitis A; hepatitis A and B; and hepatitis A and typhoid): MRC-5
- Herpes zoster (shingles): WI-38, MRC-5
- Measles-mumps-rubella (MMR-II), MMR plus varicella (MMRV), mumps and rubella (MR) and rubella: WI-38, MRC-5
- Polio and polio vaccines combined with diphtheria-tetanus-acellular pertussis and *Haemophilus influenzae* type b (Hib): MRC-5
- Rabies: MRC-5
- Smallpox: MRC-5
- Varicella (chickenpox): WI-38, MRC-5

Would-be manufacturers racing to make a Covid-19 vaccine are also using human fetal cell lines. Although the Trump administration

has worked to impose restrictions on the use of fetal tissue in other research, it nonetheless supports government funding of Covid-19 vaccines manufactured from existing fetal cell lines. Under the White House’s Operation Warp Speed, which aims to accelerate the development and approval of at least one Covid-19 vaccine by January 2021, the administration committed \$456 million dollars to the Johnson & Johnson subsidiary Janssen Research & Development, Inc.,¹⁷ which is using PER.C6 cells, and over one billion dollars to the University of Oxford/AstraZeneca partnership,¹⁸ which is using HEK-293 cells.¹⁹ This funding is committed through the Biomedical Advanced Research Development Authority (BARDA)—part of the Department of Health and Human Services (HHS)—which requires that each entity meet specific milestones in order to receive funds. Other companies using fetal cell lines for the production of Covid-19 vaccines include CanSino Biologics, Inc. and the Beijing Institute of Biotechnology, Altimmune and the University of Pittsburgh.²⁰

A University of Pittsburgh researcher, Andrea Gambotto, views fetal cells as “more useful than ethically derived sources.”¹⁹ According to Gambotto, “Cultured [nonhuman] animal cells can produce the same proteins, but they would be decorated with different sugar molecules, which—in the case of vaccines—runs the risk of failing to evoke a robust and specific immune response.”¹⁹ Despite these claims, some companies are developing Covid-19 vaccines that do not rely on cell lines from aborted fetuses for their manufacture. Alternatives presented as more “ethical” include the use of pluripotent stem cells and tissue from placentas, umbilical cords and amniotic fluid. In 2018, the Trump administration gave twenty million dollars in grants to develop alternatives to the use of “human fetal tissue obtained from elective abortions.”²¹

The very first licensed vaccine made from a human cell line was developed to prevent adenoviruses—a group of common viruses that can cause cold-like symptoms. This vaccine was initially used by the military in the late 1960s.²² Other human-cell-line-reliant vaccines soon followed, most famously the rubella vac-

cine invented by Dr. Stanley Plotkin—dubbed by CNBC the “Godfather of Vaccines”—who also worked at the Wistar Institute (see sidebar). Rubella, also known as German measles, generally causes only mild rashes and fever, but in pregnant women, rubella infection can lead to devastating developmental defects in the fetus.

Plotkin cultured rubella virus from a fetus aborted because the mother was infected with rubella. His rubella vaccine strain is called RA 27/3 because Plotkin made twenty-six attempts to isolate the rubella virus from fetal tissue before succeeding with the twenty-seventh aborted fetus sent to the Wistar Institute.²³ Consisting of a weakened or attenuated version of the virus strain grown in the WI-38 cell line, Plotkin’s vaccine was the first rubella vaccine to use a human fetal cell line as a growth medium.²⁴ In 1979, Plotkin’s rubella formulation was incorporated into Maurice Hilleman’s measles, mumps and rubella (MMR) vaccine—in use up to the present day—replacing the original rubella component developed by Hilleman.²⁵

MORALLY ABHORRENT

Public opinion about vaccination may vary among those of every faith, but for many the idea of injecting oneself or one’s children with vaccines cultured in fetal tissue is morally abhor-

rent. Plotkin’s dismissive remarks about religion and religious exemptions notwithstanding (see sidebar below), the ethical implications of using abortion-tainted vaccines are a real concern. As citizens of the U.S.A., we have an expectation that the government will respect our religious beliefs and will not pass laws that unnecessarily interfere with individual means of worship.

State laws increasingly dictate mandatory vaccination, however, including requiring vaccines for school and even university attendance.³¹ Five states—California, Maine, Mississippi, New York and West Virginia—have revoked the right (thus far still recognized in other states) to claim either a personal-conscientious belief exemption or a religious belief exemption to vaccination. Parents who live in one of those states are forced to vaccinate their children unless they qualify for a notoriously difficult-to-obtain medical exemption. Under California’s Senate Bill 277, passed in 2015, children in daycare or in private or public elementary or secondary school must be fully age-appropriately vaccinated for diphtheria, hepatitis B, Hib, measles, mumps, pertussis, poliomyelitis, rubella, tetanus, varicella and any other disease deemed appropriate by the California Department of Health.³² The bill’s sponsor, Senator and pediatrician Richard Pan,

Plotkin’s rubella vaccine strain is called RA 27/3 because Plotkin made twenty-six attempts to isolate the rubella virus from fetal tissue before succeeding with the twenty-seventh aborted fetus.

ADMISSIONS FROM THE “GODFATHER OF VACCINES”

In a 2019 deposition, Stanley Plotkin answered questions from a lawyer who was defending the rights of a mother who refused to vaccinate her child due to concerns about the ingredients in vaccines.²⁶ Plotkin stated that he had gone through seventy-six aborted fetuses in just one study to determine whether they could be used to make vaccines. Under oath, Plotkin admitted that after harvesting, the fetuses were cut up into little pieces and cultured by Plotkin’s coworkers. Fetal body parts used in the research included the pituitary gland, lungs, skin, kidney, spleen, heart and tongue.

The fetuses in question had been developing normally and were all at least three months old when aborted. By the end of the third month of pregnancy, a baby is fully formed, with arms, hands, fingers, feet and toes; the beginnings of fingernails, toenails and teeth; and the ability to open and close fists and mouth. The circulatory and urinary systems are working, and the liver produces bile.²⁷

During the 2019 deposition, Plotkin did not contest the fact that some of the fetuses came from women who had abortions in psychiatric institutions, and he openly admitted that he had used orphans and mentally handicapped persons to study experimental vaccines.²⁶ Plotkin also agreed that he had once written that it was better to perform experiments on those with limited “potential” to contribute to society, such as children with disabilities, rather than on those without such disabilities.²⁸ In addition, he admitted using babies of mothers in prison to study an experimental vaccine as well as individuals under colonial rule in the Belgian Congo, where his studies involved over a million people.²⁹ Plotkin, the author of the standard reference book *Vaccines*, also said that he is an atheist and does not believe anyone should be allowed to claim a religious objection to vaccination.²⁶ Plotkin, incidentally, received one diphtheria vaccine in childhood as opposed to the sixty-nine doses of sixteen different vaccines that most children are now required to get.³⁰

Deisher states,
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was recorded on video falsely claiming that vaccines are not made from aborted fetal cells, and he also insists that vaccines do not contain mercury.³³ (Information on the CDC’s website shows that both of Pan’s claims are blatantly false.^{34,35})

DNA CONTAMINATION

In addition to ethical concerns, there are serious health ramifications associated with using aborted fetal cell lines to make vaccines because every single vaccine produced in this manner contains DNA contaminants. According to the biomedical research entity Sound Choice Pharmaceutical Institute (SCPI), a total of twenty-four vaccines are produced using cells from aborted fetuses and/or contain DNA, proteins or related cellular debris from cell cultures derived from aborted human fetuses.³⁶ Ten of these vaccines are regularly used in America.³⁷ Vaccines identify these sources of human proteins as human albumin derived from human blood or genetically engineered human albumin made from yeast, but vaccine package inserts do not contain any information about where the human blood is obtained. In addition to vaccines, there are currently three FDA-approved recombinant drugs (with up to eighty-five more coming soon) that are produced using human fetal cell lines or proteins.²³

Dr. Theresa Deisher is the founder and lead scientist at SCPI, whose mission is “to educate the public about vaccine safety, as well as to pressure manufacturers to provide better and safer vaccines.”³⁸ Deisher obtained her PhD in molecular and cellular physiology from Stanford University and has spent over twenty years in commercial biotechnology.

In an April 2019 “open letter to legislators regarding fetal cell DNA in vaccines,” Deisher describes the problem of DNA contaminants in Merck’s MMR-II vaccine, reporting that its production process results in a vaccine that is heavily contaminated with human fetal cell DNA. Her studies have revealed that the levels of fetal DNA in MMR-vaccinated children have the potential to incite autoimmunity in susceptible children through overactivation of toll-like receptors (receptors that play a key role in the innate immune system).³⁸

To illustrate the autoimmune capability of even tiny amounts of DNA residue, Deisher’s letter explains how fetal DNA sets a pregnant mother’s labor into motion: “[L]abor is triggered by fetal DNA from the baby that builds up in the mother’s bloodstream, triggering a massive immune rejection of the baby. This is labor.” But whereas labor is a “naturally desired autoimmune reaction,” the same cannot be said of the childhood autoimmunity that alarmingly can result from injection with fetal-cell-manufactured vaccines. Deisher states, “Anyone who says that the fetal DNA contaminating our vaccines is harmless either does not know anything about immunity and toll-like receptors or they are not telling the truth.” Deisher also firmly reiterates, “If fetal DNA can trigger labor. . . then those same levels in vaccines can trigger autoimmunity in a child,” concluding that “This is direct biological evidence that fetal DNA contaminants in vaccines are not in low innocuous amounts” but are “a very strong proinflammatory trigger.”³⁸

In her letter, Dr. Deisher writes that injecting children with human fetal DNA contaminants not only runs the risk of causing the immune system of genetically susceptible children to attack their own body, leading to autoimmune disease, but also introduces the frightening potential for “insertional mutagenesis,” because the fetal DNA contaminants are the “perfect size” to incorporate into a child’s own DNA and cause mutations.³⁸ Deisher cites gene therapy experiments in mice which demonstrated that very low levels of DNA fragments resulted in insertional mutagenesis in 100 percent of the mice injected. The levels of human fetal DNA fragments to which children are exposed from the MMR-II as well as vaccines for chickenpox and hepatitis A are far higher than the low levels that produced these results in mice.

A third concern identified by Deisher is retrovirus contamination. Deisher cites a retrovirus called human endogenous retrovirus K (HERVK) as a known contaminant in the MMR vaccine, while pointing to research showing HERVK’s potential to be “reactivated” in humans^{39,40} and its association with autoimmune disease.^{41,42} She also notes that HERVK is in the same family as another retrovirus used in a

worrisome gene therapy trial in which four out of nine boys developed mutations and cancer.⁴³ Deisher's conclusion: "It is therefore possible that the HERVK gene fragment present in the MMR vaccine. . . has the potential to induce gene insertion, fostering insertional mutagenesis and autoimmunity."³⁸

Dr. Deisher suggests splitting the MMR into three individual vaccines and also recommends that lawmakers and the public pressure manufacturers to follow Japan's lead and produce vaccines derived from animal instead of human cell lines.³⁸ Because vaccines produced with human fetal cell lines contain cellular debris and residual human DNA contaminants that may not be fully eliminated when a virus is purified,⁴⁴ Deisher views animal cell lines as a safer method, suggesting that our immune systems can more easily recognize animal-derived contaminants as foreign and eliminate them. She observes, for example, that it is impossible for chicken DNA fragments to incorporate into human DNA.

FETAL DNA CONTAMINANTS AND AUTISM

Since the early 1980s, there has been an astronomical rise in autism. Whereas autism was observed in fewer than three in ten thousand children in the 1970s,⁴⁵ the current U.S. rate is estimated at one in thirty-six children between the ages of three and seventeen.⁴⁶ In New Jersey, which has the highest autism prevalence in the nation, one in twenty boys (5 percent) born in 2008 and assessed in 2016 were on the autism spectrum.⁴⁷

Many studies have established that regressive autism is an immune-driven "whole body disorder" triggered largely by environmental factors.⁴⁸ External triggers are capable of creating the hundreds of different DNA breaks and mutations observed in persons with autism. It is also known that the DNA and retroviral contaminants present in some vaccines can cause DNA breaks and mutations.

Dr. Deisher has described a "strong change-point correlation" between the rise of autism in the early 1980s and the increased use of aborted fetal tissue to grow vaccine viruses.⁴⁹ In a large cohort study published in the *Journal of Public*

Health and Epidemiology in 2014, Deisher and colleagues examined publicly available vaccination records of children in the U.S., Western Australia, the UK and Denmark born after 1969 and who later received an autism diagnosis. The authors found that three observed change points—dates when a substantial rise in autism occurred—corresponded with the introduction or increased doses of three vaccines manufactured with human fetal cell lines: the MMR, varicella and hepatitis A vaccines.⁵⁰ Specifically, autism spiked in 1981, 1988 and 1996, and each spike coincided with increased exposure to human fetal-cell-line-produced vaccines.

Deisher points out that thimerosal, which contains mercury, can also cause DNA breaks,⁵¹ and more thimerosal-containing vaccines were added to the childhood vaccine schedule beginning around the second change point in 1988.⁵² In the early 2000s, thimerosal was reportedly removed from most childhood vaccines, but it is still used in the manufacturing process and remains in high quantities in influenza vaccines, which the CDC recommends annually for both children and adults. Dovetailing with Dr. Deisher's findings, former drug company scientist Helen Ratajczak has pointed out—in a comprehensive review of autism research—that around the same time that vaccine manufacturers removed thimerosal from most vaccines, they began making more vaccines using human tissue.²³

In 2015, another study by Dr. Deisher (published in *Issues in Law and Medicine*) combined laboratory and ecological methods to examine the relationship between human fetal-cell-line-manufactured vaccines and the autism epidemics in Norway, Sweden and the UK.⁵³ In the three countries, the researchers observed that during a short-lived decline in MMR vaccination rates in the late 1990s, the prevalence of autism also fell and then climbed as MMR vaccination rates again surged. The study concluded that the human fetal cell lines used to make the MMR and hepatitis A vaccines create final products with "unacceptably high levels of fetal DNA fragment contaminants" capable of being delivered to the cell nucleus and integrating into the genome. Moreover the amounts of residual fragments detected sig-

Autism spiked in 1981, 1988 and 1996, and each spike coincided with increased exposure to human fetal-cell-line-produced vaccines.

The pharmaceutical industry has never conducted toxicity profiling for DNA contamination in the MMR vaccine.

nificantly exceed the limits specified in FDA guidelines for industry. The rubella portion of the MMR contains human-derived fetal DNA contaminants that are ten times higher than the per-vaccine-dose World Health Organization threshold.^{38,54}

In Italy, scientists from the non-profit Corvelva organization performed DNA resequencing testing of GlaxoSmithKline's Priorix-Tetra MMR-plus-varicella (MMRV) vaccine.⁵⁵ Their cutting-edge analysis produced the disturbing finding that the human fetal DNA present in the vaccine—produced using the male-fetus-derived MRC-5 cell line—is a “complete human genome” with all of the chromosomes of a male individual. The match between the human reference genome and the vaccine DNA was 99.76 percent. However the Corvelva researchers also found that the human genomic DNA contained in the vaccine was “anomalous,” exhibiting variants of genes known to be associated with cancer. The Italian scientists concluded that the vaccine “should be considered defective and potentially dangerous for human health, in particular of the pediatric population, who is much more vulnerable to genetic and autoimmune damage due to immaturity in their repair systems.”⁵⁵ They pointed out that the pharmaceutical industry has never conducted toxicity profiling for DNA contamination in the MMR vaccine.

ON THE LEGAL FRONT LINES

Dr. Deisher was the first scientist to discover adult cardiac-derived stem cells and has championed adult stem cell research for more than two decades. As a plaintiff in a U.S. federal lawsuit to prohibit use of federal taxpayer dollars for “embryo destructive research,” Deisher’s work informed legislation promoting greater use of adult stem cells, which has resulted in fourteen FDA-approved adult stem cell products.⁵⁶

Deisher also has served as an expert witness in a civil case brought forth by Planned Parenthood against two undercover journalists, Sandra Merritt and David Daleiden, who had previously consulted with Deisher. In the summer of 2015, the Center for Medical Progress (CMP) released videos by Merritt and Daleiden that kicked off national awareness of the commercializa-

tion of fetal body parts and the harvesting of live-born fetuses for research. Specifically, the CMP videos showed Planned Parenthood staff discussing abortion procedures with Daleiden, an individual they believed to be interested in buying aborted fetal parts for research.⁵⁷

One of the CMP videos featured abortionist Deborah Nucatola talking about how she (illegally) alters the abortion procedure to get better organ samples. Nucatola admitted changing the position of the baby to breech to increase dilation for the purpose of garnering an intact head during an abortion. She recounted how living newborns are then dissected to sell their hearts, brains and other organs while their hearts are still beating.⁵⁸ According to Deisher, this includes babies born alive at five to six months old, with beating hearts cut out—without anesthesia—for research purposes; researchers also cut through live babies’ faces to collect brain tissue.⁵⁸ In a recent interview with Robert F. Kennedy, Jr., Deisher said, “I wouldn’t do that to a mouse.”⁵⁹

Also testifying on behalf of Merritt and Daleiden was a doctor named Forest Smith, who has performed over fifty thousand abortions in his career. In his expert testimony, Smith stated that there was no doubt in his mind that at least some of Planned Parenthood’s fetuses were live births. Smith described how abortionists use exceptionally large doses of the labor-inducing and abortifacient drug misoprostol, which causes what he characterized as “tumultuous labor.”⁵⁸ According to Smith, the drug also causes “fetal expulsion”—a process that allows a perfectly healthy, undamaged baby capable of living outside the womb to be born alive for organ harvesting. Before the widespread adoption of misoprostol, stated Smith, abortionists traditionally used a drug called digoxin to “induce fetal demise” prior to surgical abortion.⁶⁰ Many women who undergo abortions willingly donate their fetuses after being told that they have an opportunity to provide “tissue” for life-saving research.⁶¹

In 2018, Planned Parenthood received 564.8 million taxpayer dollars in federal grants and reimbursements.⁶² That same year, the National Institutes of Health gave research groups over one hundred million dollars in taxpayer-funded

federal grants to experiment on human fetal tissue.⁶³ The business has become so lucrative that one undercover CMP video featured a Planned Parenthood director saying “I want a Lamborghini” as she haggled with Daleiden over the

price she would charge him for human organs.⁶⁴

As further evidence of what Smith described, scientists responsible for developing the newer Walvax-2 fetal cell line have openly noted how they induced labor using “water bag” abortion techniques. The purpose was to shorten the delivery time and prevent the death of the fetus,

COVID VACCINE CONCERNS

The race to develop a coronavirus vaccine has been running at lightning speed since the SARS-CoV-2 virus was named as the purported cause of Covid-19 illness in January 2020. As of late August, researchers around the world were in the process of developing more than one hundred sixty-five vaccines. Thirty-two of these coronavirus vaccine candidates are currently in human trials, two of which have already been approved for early or limited use.^{68,69} In Russia, President Vladimir Putin announced approval of a vaccine on August 11, initially to be given only to “a small number of citizens from vulnerable groups,” including medical personnel and the elderly.⁷⁰

Under normal circumstances, vaccine development requires a testing process that can take a minimum of five to six years and sometimes decades, and even then scientists cut important corners such as not using inert placebos.⁷¹ The general stages of the development cycle begin with preclinical testing where scientists give the vaccine to animals. This is followed by Phase One safety trials in a small number of human volunteers to test safety and dosage as well as confirm that the vaccine stimulates the production of antibodies. In expanded Phase Two trials, typically involving hundreds of participants, scientists assess whether the vaccine’s effects vary by age group (e.g., children, the elderly) or other factors such as health status. Finally, Phase Three trials are meant to determine the vaccine’s safety and efficacy when given to thousands of people over a specified length of time.⁷²

Of grave concern is the fact that Covid-19 vaccine developers are compressing standard timelines. Many are forgoing animal studies. Russia’s vaccine, Sputnik V, was given approval after testing in only seventy-six people, well before Phase Three trials had even begun.^{70,73} China approved experimental use of a coronavirus vaccine in selected “high-risk” groups in late July, without any clinical trial results.⁷⁴ These premature authorizations could have dire implications, especially considering the fact that previous attempts at developing comparable vaccines have triggered lethal hyperimmune reactions in vaccinated animals or children who later came in contact with the wild virus. This immune backfiring, or “pathogenic priming,” is the reason that no vaccine has ever been approved for the common cold or the coronaviruses associated with Middle Eastern Respiratory Syndrome (MERS) and Sudden Acute Respiratory Syndrome (SARS).⁷⁵

Regrettably vaccine manufacturers have a strong incentive to win the Covid-19 vaccine race, despite the failure of previous attempts. Companies have the potential to earn billions of dollars once their vaccine goes to market, and some have already profited substantially through stock evaluations. Moderna, a company that has never brought a vaccine or any other drug to market, saw its stock price rise fourfold virtually overnight based on coronavirus vaccine speculation.⁷⁶ Additionally the federal government is granting billions of dollars to expedite the development of a coronavirus vaccine. For example, Moderna received nearly one billion dollars,⁷⁷ and Novavax received 1.6 billion dollars in federal funding.⁷⁸ To date, the White House has committed twelve billion dollars to six vaccine candidates under its Operation Warp Speed vaccine plan.⁷⁹ Wealthy nations have struck deals to purchase a total of more than two billion doses of a coronavirus vaccine that has yet to be proven either safe or effective.⁸⁰

In the U.S., vaccine manufacturers have full immunity from all liability for any potential injuries or deaths through a declaration under the Public Readiness and Emergency Preparedness (PREP) Act.⁸¹ So even though companies and governments are fast-tracking the vaccines—and some manufacturers, like Moderna, are using highly experimental and potentially dangerous RNA or DNA technologies—citizens will not be able to sue if a Covid-19 vaccine harms them.

Even supposing that a never-before-used experimental technology could produce a “safe” vaccine, one must also ask how long such a vaccine would be effective, considering that the coronavirus appears to be “mutating.”⁸² This begs an important question: will manufacturers have to chase down the mutations and retool their Covid-19 vaccines annually, using the same guesswork involved in manufacturing each year’s poorly performing influenza vaccine?


A June poll found that only about half of Americans reported that they planned to get a Covid-19 vaccine.⁸³ The remainder were either unsure (31 percent) or planned to decline (20 percent). Perhaps this is because they know that systemic adverse reactions are common among Covid-19 vaccine trial participants.⁸⁴ The most important question may be: are you willing to get a vaccine brought to market at unprecedented speed for a virus that is mutating and primarily has affected older individuals who already had serious health problems?⁸⁵ If your answer is no, call your representatives today and let them know you are against a mandated coronavirus vaccine. If we do not make our voices heard, mandates are sure to follow.

thereby ensuring live intact organs and the ability to send the organs to laboratories immediately for cell preparation.^{65,66}

BRINGING TRANSPARENCY AND STANDING UP FOR FREEDOM

There is no scientific necessity for the continued use of aborted embryo or fetal tissue because ample modern alternatives exist. Surely we do not need to support biotech companies that use fetal cell lines in the research and development of vaccines, or even of cosmetics and food products.

We need to know what is in all of these products. For example, many people would be horrified to learn that cells from aborted fetuses have been used in research to create flavor enhancers for food products such as soups and soft drinks.⁶⁷ How many people would forgo these foods if they knew the process by which they were developed? The same goes for vaccines. Under no circumstance should anyone be forced to use a product obtained from aborted embryos or fetuses—and under every circumstance, we have the right to know how products are created. Although there should be no exceptions to this rule, we have laws that override valid objections and mandate vaccines. Parents should always be justified in citing a religious or philosophical objection to vaccination for their children, as should all adults.

Abraham Lincoln called the Declaration of Independence “a rebuke and a stumbling block to tyranny and oppression.” Together with the Constitution and the Bill of Rights, the Declaration of Independence has inspired Americans to fight for freedom for the past two hundred forty-four years. A primary tenet of these three founding documents is religious freedom. Would our forefathers not be rolling over in their graves knowing that politicians who take money from pharmaceutical companies are dictating one-size-fits-all mandatory vaccination laws, asserting that they alone may deem what constitutes religious rights in regard to vaccination?

Kendall Nelson is a documentary filmmaker actively engaged in directing, producing and distributing media that matter. With over twenty years of television and film experience, Nelson's lifelong commitment is to bring about awareness through her work, including advocating health freedom, simple living and real food. She is a Idaho chapter board member of the International Women's Forum.

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Farm and Ranch

FEEDING THE WORLD: MALTHUSIAN IDEAS IN AMERICAN AGRICULTURE

By Anneliese Abbott

The problem, Malthus concluded, was that people were poor simply because there were too many of them.

Can organic agriculture feed the world? Many people think it can't. If every farm in the world transitioned to organic methods, they claim, a couple billion people would die because there wouldn't be enough food for them. It is only through genetic engineering, intensive fertilization and the use of pesticides that we can even think about feeding the world's current population of over seven billion—not to mention the nine billion humans that the United Nations projects will be on the earth by 2050.

This line of reasoning is at the root of almost all opposition to organic farming. It is believed and taught by many well-meaning people who sincerely want to help end world hunger and poverty. They are not evil chemical company executives who are trying to take over the world; they are humanitarian aid workers, university professors, agricultural economists, government workers and traditional American farmers who believe that it is their patriotic duty to produce as much food as possible.

When organic farmers attack these people instead of the underlying ideology, it's like starting a debate about religion or politics. Nobody

wins, and feelings are hurt on both sides. Instead maybe it's time to dig down to the roots of when and where the idea that there might not be enough food for everyone in the world entered into American agriculture. The idea, in fact, goes back to the 1940s—but it was based on theories formed when our country was still in its infancy.

MALTHUS' PRINCIPLE OF POPULATION

One of the first people to suggest that the human population might someday get too large for its food supply was an Englishman named Thomas Robert Malthus (Figure 1), who hastily wrote a short pamphlet entitled *Essay on the Principle of Population* in 1798. In 1803, he revised and expanded his ideas into a book-length work with the same title.

Malthus' college training was in mathematics, and his *Essay* was an attempt to use mathematical calculations to explain the persistent poverty of the English working class at the time. The problem, he concluded, was that people were poor simply because there were too many of them.

The human population, Malthus explained, was capable of doubling approximately every twenty-five years, which he called "geometrical" growth. The term "exponential" growth is more frequently used today to describe the same phenomenon.

Geometrical or exponential growth, projected out far enough, is a terrifying concept. A classic illustration is the legendary inventor who presented his king with a chessboard as a gift. The king was so pleased with the game that he asked the inventor what he would like in return. His price: one grain of rice for the first square on the chessboard, two grains for the second square, four for the third and so on—double for each square. The king readily agreed; it seemed like a token amount of rice. But it wasn't. By the time the king got to the sixty-fourth square on

FIGURE 1. Portrait of Thomas Robert Malthus by John Linnell, 1834.



the chessboard, he owed about one and a half trillion tons of rice for that square alone—more than the annual production of his entire kingdom! Some versions of the fable say that the audacious inventor was beheaded once the king realized his mistake.

Malthus argued that the human population, if left unchecked, would tend to increase exponentially. This was not purely theoretical; he cited calculations made by Benjamin Franklin showing that the population of the United States had indeed been doubling every twenty-five years. In fact, Franklin's estimate accurately predicted American population growth up through 1890.

Unfortunately for the human race, Malthus claimed that it was not possible for agricultural production to increase geometrically, though he had no data to support this contention. He arbitrarily determined that the best increase anyone could hope for in agriculture was an “arithmetical” increase. Thus, one unit of production might be able to double to two in the next year but then could only increase to three, then four, then five. In fact, he predicted that per-acre yields would actually diminish in the long run because of soil exhaustion.

If population increased geometrically and food supply could only increase arithmetically, the gap between demand for food and actual supply would increase exponentially each year (Figure 2). Obviously, such an increase of population in excess of the food supply was impossible in reality, since human beings cannot live without food. Thus came into play what Malthus called the “checks” on population growth.

Malthus said that there were two kinds of “checks” on population growth. One type, the “positive checks,” would raise the death rate to equal the birth rate and thus keep population stable. Poverty, war, prostitution, disease and famine all fell into this category of “positive checks”—all very undesirable.

The only way to keep the “positive checks” from operating, Malthus argued, was for people to voluntarily adopt “preventive checks” and lower the birth rate to equal the death rate. He proposed late marriage as the

best way to accomplish this. Malthus suggested that a man shouldn't marry until he had saved up enough money to support five or six children.

Most controversially, Malthus blamed the poor's poverty on themselves. People weren't poor because of oppressive employers, or unfairly low wages or any other social or political reason. The poor were poor because there were too many of them, and they were having too many children. Keep the birth rate level with the death rate, Malthus proposed, and poverty would disappear.

From the very beginning, Malthus' views were heavily criticized. Karl Marx claimed that the real problem was an exploitative capitalistic system. Charles Dickens argued that blaming the poverty of the poor on their numbers was hard-hearted and cruel. And a few people pointed out that plants and animals also had the potential to increase exponentially, at a much faster rate than humans—so why couldn't food production keep up with population growth?

Moral and social concerns aside, most people had discarded Malthus by the end of the nineteenth century for the simple reason that none of his predictions came true. The Industrial Revolution and its concurrent increase in population was accompanied by an agricultural revolution, with food production actually increasing faster than population growth. Malthus hadn't foreseen that—so why should he have been right about anything else?

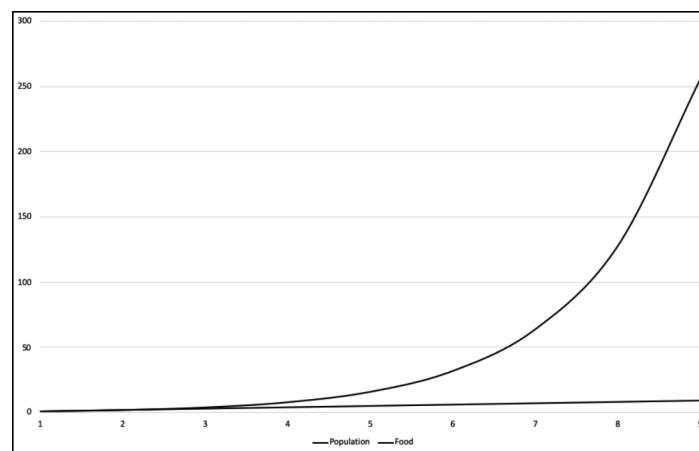


FIGURE 2. When population increases geometrically and food increases arithmetically, as Malthus proposed, the gap quickly becomes impossibly large. (Graphical representation of the numbers listed in Malthus, *Principle of Population*.)

Given a constant environment, any population would increase to the limit of the environment, then remain in a steady state.

2.5 ACRES PER PERSON

During the first few decades of the twentieth century, the question of how many people the earth could support was mainly an academic consideration. One of the scholars who was most interested in the study of populations was the statistician Raymond Pearl, who earned his PhD at the University of Michigan and became a professor at John Hopkins University in 1918. Pearl's mathematics were far more complicated and nuanced than the simple geometrical versus arithmetical hypothesis of Malthus.

Along with his colleague Lowell J. Reed, Pearl developed what he considered to be a "law of population growth": all populations, whether fruit flies or humans, tend to follow a logistic growth curve. The first half of a logistic curve looks a lot like an exponential growth curve, but then it passes an inflection point, growth slows down and eventually it levels out—looking somewhat like an elongated S (Figure 3).

Pearl found that a logistic curve fit actual population data much better than an exponential curve. Given a constant environment, any population would increase to the limit of the environment, then remain in a steady state. With advances in culture or technology, a new, higher upper limit might be set, starting a new growth cycle.

While admitting that accurate data on the total world population did not yet exist, Pearl made some rough calculations and tentatively predicted that world population would probably level off around two billion people, unless a "new cycle, made possible and inaugurated by scientific discoveries" began. Like Malthus, he

feared that someday population would outstrip food supply, but he also noted that the production of food and items like coal, iron and cotton was actually increasing faster than the rate of population growth (Figure 4).

In 1935, the Land Policy Section of the USDA's Agricultural Adjustment Administration conducted the first real investigation to see just how many people could be fed with American agriculture at that time. These researchers calculated that in 1930-1933, it took about 2.2 acres to feed each American an "adequate diet at moderate cost."

Included in this 2.2 acre figure was a 16-22 percent allowance for feeding the horses and mules used for agricultural production; only about 1.8 acre per person was actually used to grow livestock and crops for direct human consumption. Tractors had already entered American agriculture in 1935 but had not yet fully displaced horses; the researchers predicted that the horse-tractor ratio would remain approximately the same in 1940.

While valuable as a description of American agricultural productivity during the years the data were collected, this USDA study was not especially useful for predicting the future. The researchers noted that there was great potential for increasing agricultural yields by using already known methods such as fertilization; controlling water supply, insects and diseases; and farming more intensively. Moreover, the data applied specifically to the United States and were never intended to be extrapolated to a global scale.

The USDA study languished in obscurity for

FIGURE 3. One of Raymond Pearl's logistic growth curves, charting and projecting the population of the United States.

Source: Raymond Pearl, "The Curve of Population Growth," *Proceedings of the American Philosophical Society*. 1924;63(1):13.

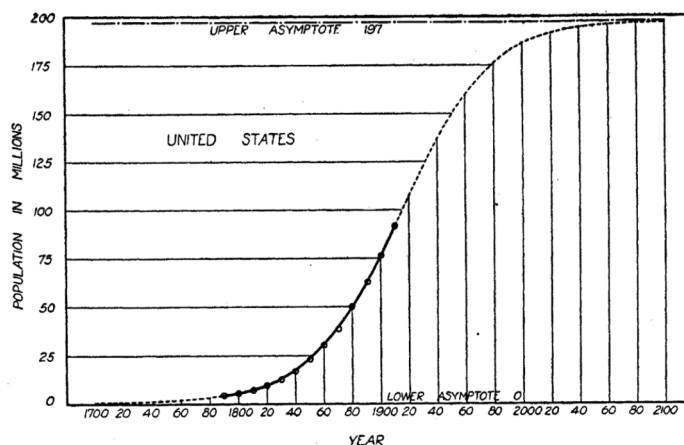


FIG. 1. The population growth of the United States.

ten years, under the nondescriptive title *Agricultural Land Requirements and Resources: Part III of the Report on Land Planning*. Few people actually read it or understood its methodology. But someone, somewhere, remembered that it had concluded that it took approximately two and a half acres of land to feed each American. Divorced from its context, and with the original study never cited, this “2.5 acres per person for an adequate diet” soon became an axiom in discussions about how many people the world could feed.

WAR AND WORRIES

During the nineteenth century, Americans had never seriously subscribed to Malthus’s gloomy belief that population would always outstrip food supply and cause poverty. “Malthusianism,” as this philosophy was called, didn’t fit with the American experience. Nor were Americans much in favor of “neo-Malthusianism,” the belief that birth control and contraceptives were the only way to keep populations from exceeding their food supply.

All of this changed during World War II. As the European nations destroyed each other’s transportation and production infrastructure and farmers were drafted into the military, the predictable result was severe food shortages. Even before the United States joined the war, it began shipping food aid to England.

“Food will win the war and write the peace,” proclaimed Secretary of Agriculture Claude R. Wickard when the United States entered the war. For the first time in American history, food became a weapon. American farmers were called upon to pull out all the stops and produce more food than they ever had before.

In 1943, the Office of Price Administration took over the American food supply. It controlled both the price and the supply of critical agricultural commodities. Items like meat, butter and sugar were rationed. No one in the United States was in any danger of starving, but it was a shock to go to the grocery store and find ordinary foods temporarily unavailable.

At first, most people understood that the “food crisis” was temporary, caused by the war. They knew that the United States would need to continue sending food to Europe for a couple years after the war until they could get their agriculture restarted, but that was only for the short term.

But what if the war hadn’t caused the food crisis at all? What if it was the other way around? What if Germany and Japan had become aggressive because they couldn’t feed themselves, because they were overpopulated? What if Malthus was right, population had outstripped food supply, and the war was just a “positive check” trying to restore a lost balance? What if the future held only more and worse wars until

During the nineteenth century, Americans had never seriously subscribed to Malthus’s gloomy belief that population would always outstrip food supply and cause poverty.

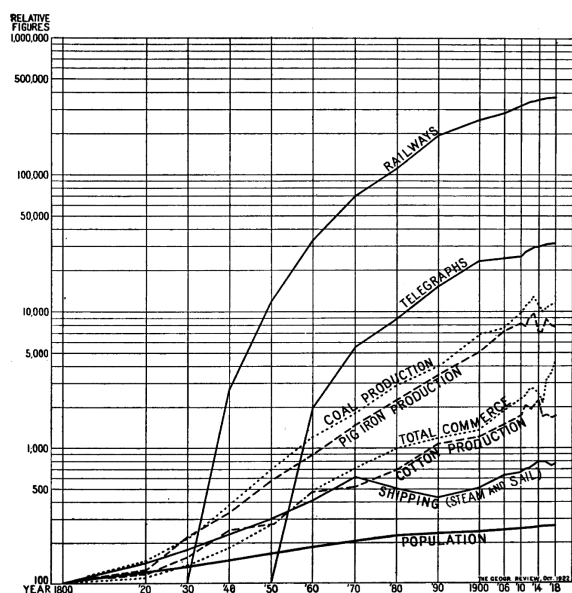


FIG. 1.—Diagram showing the progress of the world's population and production of certain materials in the nineteenth century.

FIGURE 4. Raymond Pearl noted that the production of many items was actually increasing much faster than population growth, thus raising the standard of living.

Source: Raymond Pearl, “The Population Problem,” *Geographical Review*. 1922;12(4):636-645.

the overpopulation problem was solved?

These were the questions being asked in 1945 by Guy Irving Burch and Elmer Pendall in their influential book *Population Roads to Peace or War*. The book's central thesis was that democracy and freedom were impossible in overpopulated countries. "Democracy has been a rare institution in the history of the world," Burch and Pendall argued. "It is like a flower that cannot survive where the weeds of overpopulation crowd." War, they stated, was caused by scarcity of natural resources and food, and thus the best way to prevent war in the future was to halt population growth.

Burch and Pendall believed that the optimum world population was somewhere around 1.6 billion people, based on calculations that there were approximately four billion acres of arable land on earth and that it took two and a half acres to provide "a minimum adequate diet" for each person. The earth was already overpopulated by some six hundred million people, they argued, which was what had sparked the world war and would continue to cause wars until the population could be decreased back down to 1.6 billion people.


The solution? Population control. Burch and Pendall advocated an immediate international birth control program to stabilize and eventually slightly decrease the world's population. It must, at all costs, be stabilized at no higher than two billion to keep world peace. Their book was the first to lay out so clearly the neo-Malthusian approach to world problems. While admitting that birth control was "not a cure-all," they felt that it was a vital first step to prevent World War III from destroying the human race.

Population Roads to Peace or War started a storm of controversy about the ethics and morality of birth control. It also started a neo-Malthusian movement in the U.S., which would reach its zenith in the 1970s. It initiated trends that would shape U.S. foreign policy for the remainder of the twentieth century. And even if no one today realizes it, it was the beginning of the idea that organic agriculture couldn't feed the world.

"We could go back to an organic agriculture in this country if we had to," Secretary of Agriculture Earl Butz told *The New York Times* on April 16, 1972. "We know how to do it. We did it when I was a kid. We didn't use any chemicals then. But before we go back to organic agriculture somebody is going to have to decide what 50 million people we are going to let starve. . . . You simply could not feed 206 million Americans even at subsistence levels with the kind of agriculture we had 50 years ago. It would be impossible."

Butz was right that 1920s American agriculture couldn't have fed everyone in the 1970s, or today. But he mistakenly equated organic agriculture with the inefficient practices upon which the original "2.5 acres per person" statistic was based. Unfortunately Butz was an influential leader, and many people wanted to believe him. His unsupported statement was repeated so many times that many people today sincerely believe it is true. But it isn't, and it never was.

In reality, organic agriculture and what we now call "conventional" agriculture were both developed in the 1940s to improve wasteful farming practices. They both are capable of increasing yields many times over the averages of the 1920s. Organic agriculture holds just as much promise of feeding nine billion people by 2050 as any other system and may be more sustainable in the long run.

Can organic agriculture feed the world? Only time will tell, but there is no inherent reason why it can't. 

This article first appeared in *Acres USA*, May 2019.

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INVITATION TO WAPF MEMBERS

We invite all members of the Weston A. Price Foundation to join our exclusive members-only closed group on Facebook. Over two thousand members have already joined. Go to this link and click on the Join Group button and answer the questions it asks: facebook.com/groups/westonapricefoundation.

This is an opportunity to be part of an active and supportive online community as you navigate our dietary recommendations. This group was created for current WAPF members as a forum for questions, comments and discussion about food, farming and the healing arts. Here's what members are saying about being part of this group (see page 25):

Christi F.: "Most who join WAPF's members-only group and follow the diet/lifestyle have had chronic illnesses or symptoms for years. In a world where you are told by western doctors to just take a prescription or it's all in your head, it's comforting to be able to go beyond a book (*Nourishing Traditions*) for that extra cushion of support. If you have a question, you'll get a variety of answers allowing you to make an informed decision. I've gotten great recipes and meal ideas. And most importantly, when you feel alone, stuck or struggling, shoot a post in the group and you'll receive an overwhelming amount of love and support. Many of the members in this group are empathetic and sensitive, positive and supportive."

Legislative Updates

FEDERAL POLICY UPDATE

By Judith McGeary, Esq.

BEST FRIENDS FOREVER

The USDA and Big Ag are “best friends forever,” but Congress and the courts might be seeing the light.

The last six months have opened many people’s eyes to the fragility of the conventional food system. Grocery store shelves went empty, first due to transportation and distribution problems, and then due to the closure of some of the largest meatpackers in the country whose unsanitary operations are blamed for widespread Covid outbreaks among their workers. And while some family farmers are facing hardship from the loss of sales to restaurants and schools, or cancelled on-farm events, record-breaking numbers of consumers are seeking out locally-raised food.

The conventional system broke, while the local food system showed its resilience and flexibility. Hopefully this experience will help lead to significant changes in our laws, regulations and government policies. But government institutions are slow to change, and the signs from Congress are mixed—while the signals from USDA show an agency as firmly entrenched with big agribusiness as ever.

USDA PUSHING MANDATORY ELECTRONIC ANIMAL ID. . . AGAIN

We’ll start with the bad news on electronic animal ID. Right now independent family farmers are facing bankruptcy while consumers are facing record high meat prices, all due to the highly consolidated meat industry, which is controlled by a handful of large meatpacking corporations. But rather than support small farmers, USDA is again pushing a plan that was written by and for the benefit of agribusiness, and in particular the same big meatpackers.

This summer USDA announced that it intends to mandate electronic identification tags for cattle that cross state lines. And since many

state animal ID programs are connected to the federal one, in practical terms many farmers will be forced to use these Radio Frequency Identification Devices (RFID) tags even for in-state movements. This is an attempt to push through a piece of the National Animal Identification System (NAIS)—a plan that USDA withdrew a decade ago under a storm of protest from both farmers and consumers.

This expensive, intrusive and unreliable ID system benefits two groups: the large meatpacking corporations and the technology companies that produce the electronic tags, readers and software.

USDA and the meatpackers argue that traceability is about addressing animal disease and food safety. But the vast majority of food-borne illnesses in meat are the result of practices at the slaughterhouse and afterwards in the processing and handling. Millions of pounds of meat have been recalled due to unsanitary conditions and a lack of proper oversight at huge slaughterhouses. Yet the animal ID program ends at the slaughterhouse door. RFID tags on cattle won’t do anything to increase food safety.

Nor will RFID tags make our animals healthier. USDA continues to allow imports of livestock from countries with known disease problems. In fact, this electronic ID plan is primarily designed to maximize corporate profits by promoting exports and imports of animals and meat—further increasing the risk of introducing and spreading diseases.

And while the large companies that export and import meat will benefit, the cost will be borne by the farmers and ranchers. Traditional metal ear tags cost about ten cents each, and the USDA provides them to farmers for free. The agency estimates the cost to farmers for RFID tags will be \$2-\$2.60 per head. That doesn’t seem like much, but that translates to sales for the tag manufacturers of tens of millions of dol-

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If USDA wanted to address food safety and animal disease, it would increase oversight and testing at the large meat processing plants.

lars each year and corresponding expenses for farmers. Even more money will be spent by both farmers and small businesses such as livestock auction barns on the readers, databases and other infrastructure needed for the program.

All you needs do is look at who served on the working groups that developed this latest version of the plan. There were few actual cattle producers, and the chairs and co-chairs were dominated by representatives of corporations that manufacture electronic tags and the equipment necessary to apply, read and track data from the tags, together with the organizations that promote the corporations that already control huge swaths of our livestock and meat industries.

What it's really about is furthering corporate control of the meat industry by creating yet more regulations that promote international trade for the big meatpackers, are cheap for large-scale operations and burden family farmers.

If USDA wanted to address food safety and animal disease, it would increase oversight and testing at the large meat processing plants, and stop boxed meat and live cattle imports from countries with known disease problems. These two steps would do far more to promote a safe, secure food supply than sticking RFID tags in cows' ears.

MORE PANDERING

Animal ID is not the only area where USDA is doubling down on its support for the huge meatpackers. Last month, USDA announced ten new appointments to the National Advisory Committee on Meat and Poultry Inspection—and both seats for meat processors went to large meatpackers.

First there is a representative from JBS, the American subsidiary of a Brazilian-owned company, JBS SA. In Brazil, principals of JBS SA are under investigation for bribing two thousand elected officials in order to secure government funding to fuel their company's expansion into the United States. Joesley and Wesley Batista, the brothers who control the company, were slapped with more than three billion dollars in fines in 2017, the largest fines in the country's history.

And the other meatpacker representative is from Pilgrim's Pride—a subsidiary of JBS! Moreover this past summer the CEO of Pilgrim's Pride was indicted for price-fixing. And in a blatant example of how the company puts profits over the interests of American consumers, while grocery store shelves in America were going empty, April saw some of the industry's highest exports of poultry to China.

Two large-scale industrial meat trade associations, the North American Meat Institute and the Southwest Meat Association, also got seats on the committee. U.S. Foods, one of the largest food service distributors, got a seat. The token non-industry association to get a seat is the Consumer Federation of America, which opposed exemptions for small farmers in the Food Safety Modernization Act and now opposes the PRIME Act. The remaining members are a large catfish producer, academics and state government officials. There is no representation at all for small or very small processors, regenerative meat producers or any sort of advocate for regional and local food production and distribution.

Particularly coming on the heels of the blatant failures of these large industry players during Covid, the committee assignments are a slap in the face to both consumers and farmers. The USDA's latest committee appointment announcement shows that the agency's historical "get big or get out" attitude is alive and well.

WHAT ABOUT CONGRESS?

The alliance with big industry is showing some strain in Congress, however, where elected officials have been hearing from their constituents about the problems with the conventional system.

In April, as the meatpacking plants starting closing their doors, Senators Josh Hawley (R-Mo.) and Tammy Baldwin (D-Wis.) wrote a letter to the Federal Trade Commission (FTC), urging that agency to open an antitrust investigation into the meatpacking industry and its potential to cause significant disruptions in the food supply chain.¹

In May, nineteen senators from both parties sent a letter to Attorney General William Barr urging him to look into market manipula-

tion in the cattle industry.² The senators' letter expressed concern about ongoing "market manipulation and coordinated behavior" by meatpackers during the Covid-19 national emergency. They noted that live cattle prices had dropped nearly 20 percent since February, while wholesale beef prices had increased as much as 115 percent in the same period.

The senators also asked the attorney general to consider the fact that corporate consolidation has created "an untenable power imbalance," leaving the nation's four largest beef packing companies in control of more than 80 percent of the cattle industry. "We remain concerned about the heightened allegations of suppressed prices for cattle, especially considering how coordinated conduct is facilitated more easily by high market concentrations," the senators noted. (Note that economic research indicates that when four firms control more than forty percent of a market, that market becomes oligopolistic and is not competitive.)³

Then in June, six Republicans on the House of Representatives Judiciary Committee urged the USDA to ease regulations on meat processors that make it harder for smaller companies to compete.⁴ The six lawmakers, led by the top

Republican on the committee, Jim Jordan, urged Agriculture Secretary Sonny Perdue to "revisit burdensome regulations that create barriers to entry and lessen competition in the nation's meat processing industry."

The lawmakers requested that Perdue consider giving smaller processors "more flexibility" in handling Hazard Analysis and Critical Control Point (HACCP) Plans to address food safety issues and to clarify and streamline the approval process for meat labels. They also asked Perdue to reduce the regulatory burden keeping smaller meat processors from participating in a program that allows them to sell across state lines and to find a way to reduce the expense of inspections, which falls on meat processors if an inspector works overtime. In addition to Jordan, the letter was signed by Representatives James Sensenbrenner, Ken Buck, Matt Gaetz, Kelly Armstrong and W. Gregory Steube.

Unfortunately, while more members of Congress are expressing concern about the control wielded by large meatpackers, they have yet to take legislative action either to rein in the meatpackers or support small farms and processors. For example, while the PRIME Act has gained many sponsors through the spring and summer, and now boasts an impressive list of fifty-five bipartisan House sponsors and nine senators, it appears to have stalled for the moment.

Support for the PRIME Act has slowed not only due to open opposition to the bill from agribusiness and so-called consumer advocates, but because opponents have redirected the focus to another bill, called the RAMP UP Act. That bill would provide grants to help small-scale processors become USDA-inspected—yet it does nothing to address the scale-inappropriate USDA regulations, the bias of many USDA inspectors against small-scale operations or the shortage of inspectors. And so while

A LITTLE HISTORY ON ANIMAL ID

Just how did we get here? In 2005, USDA announced a plan to require the owners of every single livestock and poultry animal in the country to register their property with the government, tag each animal with an internationally unique ID number (in most cases, with electronic forms of ID) and report their movements to a corporate-government shared database. This was the National Animal Identification System (NAIS).

Organic farmers, conventional ranchers, homesteaders, local food consumers and property rights advocates joined forces to fight USDA. After five years of coordinated grassroots opposition, then-Secretary Vilsack withdrew the plans for NAIS. In its place, USDA proposed a far more limited and rational system that requires "official identification" on cattle over the age of eighteen months (and dairy cattle at any age) that cross state lines. The regulation explicitly allows for a variety of official identification methods, including the standard metal ear tag. This program has worked well for the last seven years.

But we knew that the big meatpackers and their allies at USDA would not simply go away. . . and unfortunately we were right. Last summer, USDA released a "fact sheet" on electronic ID for cattle and announced that it would stop approving any non-electronic form of identification. This document effectively mandated use of electronic ID by amending existing regulations without going through the legally required process. The agency withdrew the document after the Trump Administration issued an executive order that directed federal agencies to halt the use of "guidance documents" to impose regulatory requirements.

But then this summer, USDA came back with the exact same proposal. It published it in the Federal Register and requested public comment, but still is not going through the appropriate formal rulemaking process. This allows the agency to avoid doing a cost-benefit analysis or identifying the impacts of its proposals on small businesses.

The USDA announced it would take public comments through October 5. But given USDA's close relationship with the meatpackers and technology companies, getting the agency to change its mind will be difficult. So we are likely to have to take the fight to Congress or the courts or both.

the RAMP UP Act would help a few small-scale processors, it is unlikely to increase significantly the number of small-scale slaughterhouses available for farmers who wish to sell their meat.

WAPF has never used an auto-email system for sending messages to legislators because they don't work to influence legislators (although they do work well to get people onto email lists, which can then be used for fundraising). Instead, we provide talking points and encourage people to place calls or send personalized emails using those talking points as a framework; such calls and emails have a far greater impact than form letters ever can. And now we need to use even more effective tactics. The only thing likely to change the minds of the legislators who have not yet signed on to the PRIME Act are truly personal stories that provide a simple, clear statement of why this issue is important to the constituent contacting them.

Please take a moment to write a from-scratch letter of your own about why the PRIME Act matters to you. It doesn't have to be long, just entirely in your own words. Be as specific as possible about how the lack of accessible, affordable slaughterhouses affects you, your family or your business. An easy way to send the message is using fiscernote.com/find-your-legislator, which will allow you to send the same message to all your federally elected officials (but with no pre-written form letter). We must keep up the fight to get this important bill passed.

CHECKOFF LAWSUIT

What about the third branch of our government, the judiciary? There are possible signs of progress on that front as well, in a lawsuit brought against the Beef Checkoff by R-CALF USA.

The "Checkoffs" are programs established by federal statute under which producers must pay a fee for each unit of production – essentially, a tax on farmers' and ranchers' production. There are currently 21 federal Checkoffs, the best known of which are the beef, pork, and dairy Checkoffs. Past Wise Traditions journal articles have discussed some of the abuses of the Dairy Checkoff, which forces raw milk farmers to pay this tax, and then uses its funds to disparage raw milk's safety through its website, radio

ads and educational programs for dieticians.

In the case of beef, producers pay a dollar per head when a cow is sold. In 2019, the Beef Checkoff's assessments totaled nearly 43 million dollars. Where does all that money go? The first purpose is generic marketing, such as the "Beef: It's What's For Dinner" advertisements. Much of the money also goes into the pockets of private entities who supposedly use it to do promotion and research.

Why does this matter to WAPF farmers who are raising grass-fed beef and the consumers who buy from them? Many of our farmers don't pay the Checkoff tax because they fly under the radar; but the Checkoff is still a major problem for us all. First, the way these programs are structured means that tens of millions of dollars per year are used to promote the belief that all meat (or milk or eggs) is alike and it doesn't matter how it is raised, undermining both consumers' health and farmers' profit margins. Second, millions of dollars each year flow into the pockets of entities who actively work to support the interest of multinational meatpackers at the expense of family farmers. More on both these issues below.

R-CALF's lawsuit challenged the Beef Checkoff in Montana on First Amendment grounds. The core argument was that although the federal government mandates all ranchers pay the tax, the government fails to regulate properly how that money is spent. In Montana, the government turns over half the money collected to the private Montana Beef Council. This private entity favors multinational corporations over independent ranchers. For example, the Montana Beef Council has used the Checkoff money to advertise for the fast-food chain Wendy's, which does not commit to buying meat from Montana or even U.S. ranchers. The lawsuit thus contended that the Checkoff is a form of compelled speech.

R-CALF won the first round in trial court in 2018. The court recognized that the movement of Checkoff funds amounts to a "shell game" in which producers' money is moved from one account to another, then another, where it ultimately is used at the discretion of unaccountable private parties. R-CALF expanded the lawsuit to seek a halt to Checkoff funds in more than a dozen other states. USDA then sought to sidestep responsibility for its mishandling of the program by entering into "Memorandums of Understanding" with the private state beef councils. This stratagem worked, and the trial court dismissed R-CALF's case; it is now on appeal to the Ninth Circuit based on the inadequacy of the MOUs. R-CALF has also filed a new lawsuit directly challenging the MOUs on the grounds that they changed the legal framework for the Checkoff without going through the proper administrative procedures.

Returning to why the Checkoff is a problem and this lawsuit is important: generic advertising misleads consumers and hurts specialty producers. Reduced product differentiation convinces consumers that "beef is beef" and one producer's cattle are substantially the same as any others. This can harm higher-quality producers while benefiting lower-quality ones.


Not only is generic marketing problematic in general, but the Beef Checkoff's messaging is particularly harmful. The Checkoff seeks to convince American consumers that all beef products offer the same, consistent set of qualities and benefits. The National Cattlemen's Beef

Association's (NCBA's) use of the Checkoff funds includes "placing positive stories about how beef is raised, beef safety, quality, nutrition, [and] sustainability," including "industry information" about how all beef provides higher quality attributes such as improved animal care.

The Checkoff messages encourage consumers to perceive all beef products sold in the U.S. as equal. For example, all beef is equally sustainable because "[t]he beef production system works in harmony to produce the most sustainable product." Thus, Checkoff-funded marketing would have consumers believe that beef is "the most sustainable product," whether it comes from an independent rancher in Montana raising 100% grass-fed, antibiotic-free cattle, or from a producer in another country who regularly feeds antibiotics to his grain-fed cattle on a dirt and manure-covered feedlot. The Checkoff ads also use terms like "from pasture to plate" that paints a misleading image of all beef being pasture-raised, undermining those producers who invest the extra time and resources required to produce truly pasture-raised cattle. While some consumers will not be fooled by this advertising, many more will be – reducing the potential growth of the grass-fed beef market and creating pressure to keep the prices closer to conventional beef prices.

And then there's the second problem, namely placing more power in the hands of a few powerful companies. Consider what has happened since Congress established the major livestock Checkoff programs. Every U.S. livestock sector has become significantly more consolidated. USDA statistics show that between 1987 and 2012, the average number of animals on feedlot cattle operations has increased by 119 percent, the number of broiler chickens has increased by 127 percent, the number of milk cows by 1,025 percent, and the number of hogs by 3,233 percent. This extreme growth by some operations has corresponded with a dramatic loss in small and mid-sized independent farms in every sector. "Licensed U.S. dairy herds fell by more than half between 2002 and 2019, with an accelerating rate of decline in 2018 and 2019, even as milk production continued to grow." And even with the growth in the local food market, the total number of farmers raising cattle has continued to decline, despite total sales significantly increasing.

While the Checkoffs are not the sole cause of this consolidation, their generic marketing has certainly played a role. Moreover, the Checkoff funds go into the pockets of entities who push policies that support this consolidation at the expense of independent farmers and ranchers. Much of the money from the Beef Checkoff goes into the pocket of the NCBA, an industry trade group that purports to represent cattle ranchers – but also represents feedlots and meatpackers. NCBA supports mandatory electronic animal ID, opposes country of origin labeling, and opposes the PRIME Act, to name just a few of its problematic policy positions.

The Checkoffs are a government tax taken from farmers to promote conventional agribusiness and support the trade organizations that have helped build the fragile, flawed food system we see today. We hope the initial success in this lawsuit will continue and create the platform for ultimately ending all of these programs. 

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skins and using a few tools. It was not like a fourteen-day survival challenge where they could call for a medic and be rescued. Eating and surviving were lifelong challenges.

You can hear the crying of babies and children who were hungry. Those cries are universal and have not changed over the millennia. The natural instinct to provide for the next generation was a compelling mandate that drove instinctual and natural innovation. People observed animals in the wild nursing their young just as they nursed their own young. By capturing goats and aurochs (ancestral cow breeds), people were able to collect their milk in pottery vessels.

These humans would have learned quickly that milk from other animals was a complete, nutritious food. Even though humans had not yet developed something called the lactase-persistence gene, they likely could have readily digested milk from other animals since raw milk facilitates the production of lactase enzyme in the intestinal tract.⁷ Being purposely designed to sustain life like no other food, this raw milk provided a steady source of readily available nutrition for ancient humans.

Without refrigeration, any milk that wasn't consumed quickly would naturally ferment into cheese curd and whey. The milk storage vessels likely contained bacteria cultures from previous milkings, and hence the culturing process was naturally reinforced with these bacteria. The resultant curds could be stored and consumed over time. Curd contained a complete set of microbiome-friendly nutrients and would have been easy to digest due to its biodiversity. The humans could now bring along with them a

portable supply of steady food. As long as they had sunshine, water, grass or shrubbery and a mammal, they had food.

Those who consumed milk had a competitive advantage over those who did not have a steady source of readily available food. This steady supply of food allowed for settlements and communities to develop. People no longer had to spend most of their time acquiring food and could instead use their brain power to drive the development of sophisticated structures and towns. Domesticated animals became high-value assets. As civilization advanced, those who owned milking mammals became wealthy and became the source of food for communities.

MILK THROUGHOUT THE AGES

It is likely that milk was consumed in both fresh and fermented forms from the early days when humans first began milking animals. Ancient baby bottles provide evidence that milk from animals was used to feed human infants at least eight thousand years ago.⁸ Around the same time, clay vessels for straining curds and whey were also in use.⁹

Dairying practices spread along with civilization throughout large areas of Asia and Europe. Milk was a revered food in many civilizations. People used milk in religious ceremonies in ancient Mesopotamia, Egypt, India, Ireland, Scotland, Greece and Rome.¹⁰ Primary religious source texts reveal that milk was an esteemed part of life. The Buddha was fed milk and rice to break his ascetic fast, and the Biblical "land of milk and honey" was the promise of a better life. Milk was central to the Vedic religion.

Ancient baby bottles provide evidence that milk from animals was used to feed human infants at least eight thousand years ago. Around the same time, clay vessels for straining curds and whey were also in use.

Stone carving at the ancient Sumerian temple of Ninhorsag showing typical dairy activities.⁶



Hindus consider milk a gift from the gods, and rivers of milk also flow in the Muslim paradise.

By the time of the Roman Empire, humans had been drinking milk from animals for thousands of years. The Romans drank milk and used it to make a variety of cheeses. Cheese provided Roman soldiers with easily transportable nourishment with a long shelf life. The wealthy even used milk for bathing, as it was considered to be great for the skin.

In the 1600s, early settlers in America relied heavily on milk from cows and goats for nutrition. Settlers in both the Jamestown and Plymouth colonies benefited from the tremendous advantages of milking animals. Resupply missions brought hundreds of additional livestock to these colonies. Milking animals were important in helping European colonists survive and thrive in America.

LACTASE AND GENETIC ADAPTATIONS FOR MILK

The domestication of mammals and consumption of their raw milk provided a source of biodiverse colonies of bacteria for the human gut. When people began drinking raw milk at least ten thousand years ago, these biodiverse bacteria began the genomic adaptation for lactase production and lactase-persistence genes. Lactase is the enzyme responsible for breaking down lactose into digestible form.

Archaeological evidence shows that humans were consuming raw milk for thousands of years before the widespread appearance of the

lactase-persistence gene.⁷ This has led many researchers to the probably erroneous conclusion that Neolithic humans must have been fermenting or culturing milk to reduce or remove its lactose content. This error is due to a loss of fundamental knowledge about raw milk.

In reality, “lactose intolerance” is primarily pasteurization intolerance. Unlike pasteurized milk, raw milk facilitates the production of lactase in the human gut, so it is not likely that there were widespread issues with lactose intolerance in Neolithic populations. In all likelihood, these early populations would have been able to consume milk in its fresh form

straight from the mammals, as well as in the lacto-fermented curds and whey, which would form quickly without refrigeration.

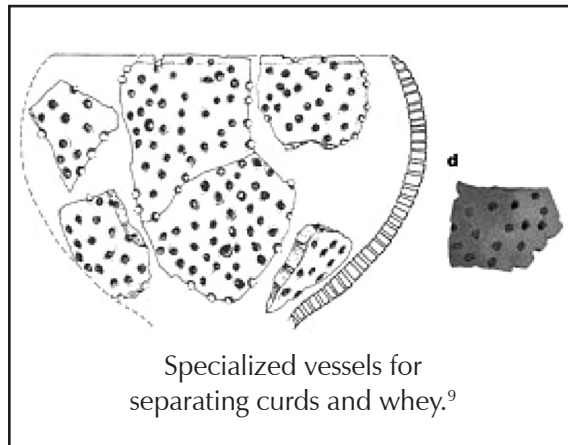
The competitive advantage provided by raw milk is not to be understated. Raw milk allowed humans to thrive in conditions where survival would have otherwise been difficult. It allowed them to migrate and proliferate from region to region with a steady supply of food. Those populations that consumed milk further adapted by developing lactase-

persistence genes. Scientists now believe that the lactase-persistence genes were spread through natural selection.¹² This means that the reproductive capacity and survivability of ancient raw milk drinkers was substantially increased compared to non-milk-drinking populations. Moreover, the lactase-persistence genes would have facilitated the easy digestion of milk in many forms, including boiled or cooked milk. There is current evidence of lactase-persistence genes in people from regions of Africa, Europe, Asia and the Middle East.¹³ However even those without the lactase-persistence gene can generally digest raw milk because of the raw milk bacteria that create lactase for the human gut.

PASTEURIZATION:

A TECHNOLOGICAL SOLUTION TO A MANMADE PROBLEM

By the mid-1800s in America, some raw milk production had shifted away from farms and into highly populated cities. Big cities did not have



Selection of late Bronze/early Iron Age feeding vessels.⁸



pastures or clean water, and the cows in city dairies were kept in filthy conditions with poor nutrition and poor animal health. Many of these cows were fed byproducts from alcohol distilleries, leading to illness in the cows.¹⁴ Raw milk, which had been safely consumed by humans for nearly ten thousand years, became associated with the diseases of filth and poverty, such as tuberculosis, typhoid, diphtheria and scarlet fever.

In the late 1800s, raw milk was accused of causing these diseases, and two solutions were proposed. Pasteurization was one of the solutions on the theory that heat treatment would eliminate pathogenic bacteria in the milk coming from these filthy conditions. The other solution was to produce the milk in hygienic conditions with healthy animals.

Many physicians realized that raw milk was a superior source of nutrition for infants and children, so the American Association of Medical Milk Commissions (AAMMC) was established in the late 1800s to ensure a safe supply of hygienic raw milk.¹⁴ The AAMMC was in operation for nearly a century, certifying medical raw milk for use in hospitals and for feeding infants and children.

Pasteurization was ushered in to address filthy and poisonous conditions and unhealthy cows in cities. It answered the question of how to commercialize dirty milk, rather than focusing time and energy on producing clean milk from healthy cows. Over time, the pasteurization movement gained traction and became the standard for ensuring “safe” milk, even though pasteurization is known to degrade and damage many of the nutrients in milk.

RAW MILK AND IMMUNITY

Unlike pasteurized milk, raw milk consumption provided immune system advantages to people. Cows and other mammals that lived in close quarters with humans mutually shared much of the same biome. The immune systems

of both animals and humans develop antibodies to adjust to their environments. As with the case in human breastmilk and especially colostrum, the milk and colostrum from cows and other milking animals contain antibodies. Such antibodies are damaged or destroyed by pasteurization.



*Goddess Hathor
Suckling Amenhotep II.¹¹*

There is evidence that in some instances contact with domesticated animals actually provided immunological protection to humans. For instance, in the 1700s some people believed that milkmaids who had been in contact with cowpox (a relatively mild illness) were protected from smallpox. The fact that milkmaids had beautiful skin was offered as proof that they had not suffered from smallpox, but a better explanation is that the milkmaids had a daily source of superb nutrition

and healthy bacteria, which conferred natural immunity and good health—including smooth, healthy skin.

RAW MILK’S ROLE IN 2020

It is important to recognize that the human gut loves milk. We are mammals. Our human gut is lacto-loving. For ten thousand years, raw milk has provided a source of nourishment, gut health and immune-boosting to mankind. When one hundred twenty-five years of commercial milk pasteurization are compared to the long history of highly successful raw milk consumption, they do not even register as a blip. Pasteurized milk makes up only 1 percent of the ten thousand years of documented human milk consumption.


The advent of pasteurization ushered in a negative shift in mankind’s relationship with milk as a life-giving food. Raw milk—an innate part of our healthy immune history—is now largely missing in our sterile, sugar-laden, preservative-laced, antibiotic-abusing modern diets and medical culture. Now we are in a time of widespread industrial food, poor nutrition, immune depression, comorbidities and compro-

Pasteurization answered the question of how to commercialize dirty milk, rather than focusing time and energy on producing clean milk from healthy cows.

mised health. For most modern Americans, the competitive advantage of raw milk consumption has never been a reality, and raw milk's immune-building properties and microbiome-friendly traits have been largely forgotten. Instead, we live in the age of biome-destructive pharmaceuticals and antibiotics. Although life-saving in certain applications, these drugs also depress and damage the immune system and gut microbiome. Antibiotic resistance is now responsible for the deaths of tens of thousands of people every year in the U.S. alone.¹⁵ Furthermore, pasteurized milk is now recognized as difficult to digest and a top food allergen.

Fortunately safe raw milk has been rediscovered by those who study history and know the role of raw milk as a nourishing whole food that contributes to a strong, healthy immune system and healthy gut microbiome. That competitive advantage from thousands of years ago is being rekindled in people who consume raw milk, fermented raw milk such as kefir and yogurt, and raw milk cheeses.

Raw milk that is carefully and intentionally produced for direct human consumption is wholly different from milk being produced for pasteurization. Organizations such as the Raw Milk Institute and the British Columbia Herdshare Association mentor farmers in the production of low-risk raw milk, relying on many of the natural methods that humans successfully used for thousands of years while also implementing modern technologies. Raw milk farmers carefully manage the cleanliness and hygiene of the farm from grass to the glass, with much care to ensure that the animals are healthy and the milk is clean. This type of raw milk is tested often and held to rigorous standards to ensure that it is being produced in a way that discourages pathogen growth.

So the next time that someone says, "milk is for cows and not for humans," share with them the intricate link between civilization and raw milk, and the competitive advantage that raw milk provided to humanity for ten thousand years. Many of these misinformed humans are in dire need of gut microbiome rescue like never before. Reach out to them with love, compassion and humanity. They need our support, nourishment and education. 

Mark McAfee is co-founder of Organic Pastures, the world's largest organic raw milk dairy. Mark founded the Raw Milk Institute (RAWMI) in 2011 to assist farmers in producing very low risk raw milk through farmer training, raw milk Risk Analysis & Management Plans ("RAMP"), test standards for raw milk and ongoing testing.

Sarah Smith is a director and board secretary for the Raw Milk Institute (RAWMI). Sarah is also a homeopathic practitioner, homesteader, food and health writer (NourishedandNurturedLife.com) and homeschooling mother of two.

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WISCONSIN - NOW IS THE TIME TO EXPAND RAW MILK ACCESS

Often a state doesn't have to change its laws to increase access to raw milk and other nutrient-dense foods; all it needs to do is interpret the law differently. That is currently the case in Wisconsin. There are two exemptions in Wisconsin law to the general prohibition on the sale of raw milk; a favorable interpretation of the exemptions by the state Department of Agriculture, Trade and Consumer Protection (DATCP) would better enable dairy farmers to make a living while expanding consumer freedom of choice. The timing couldn't be better.

The decline in the number of Wisconsin dairy farms continues unabated. On January 1, 2018, there were 8,801 licensed dairy farms in the state; as of August 1, 2020, just two years later, that number had declined to 7,049. Higher pay prices in the past year or so have not been enough to enable many farmers to remain in business due to debt racked up when pay prices bottomed out in the five years prior.

Since the Covid crisis hit in March, demand for raw milk and other foods direct from the farm has increased for licensed and unlicensed dairies. The increase in demand is coming during a time when raw milk's track record for safety continues to improve. A 2018 study found that the rate of unpasteurized milk-associated outbreaks in the U.S. has been declining since 2010, despite increasing legal distribution. Controlling for growth in population and consumption, the outbreak rate has effectively decreased by 74 percent since 2005. The study looked at outbreaks from 2005 to 2016; the number of outbreaks attributed to raw milk consumption has continued to decline since then.

In 2008, DATCP issued the regulation providing the two exemptions. One of the exemptions is for licensed producers and allows individuals who have a bona fide ownership interest in a legal entity (other than an individual or a married couple) holding a milk producer license to obtain raw milk. DATCP has never specifically defined what constitutes a "bona fide ownership interest." Prior to the regulation, DATCP approved a half dozen or so Grade A dairies where consumers could obtain raw milk in the dairy by purchasing a non-voting share for a nominal fee in the dairy holding the milk producer license.

As far as is known, there have not been any dairies to this point that have operated under the exemption; there is one dairy currently trying to get under the exemption by having a consumer cooperative hold the milk producer license. Under Wisconsin law, each member of the cooperative would have an ownership interest in any property belonging to the cooperative (e.g., the milk producer license). The cooperative model is a way to raise a substantial amount of money to qualify the investment in the license as a bona fide ownership interest.

The second exemption under which both licensed and unlicensed dairies could sell raw milk would be the on-farm incidental sale of raw milk, an exemption the state legislature created over 60 years ago. The 2008 regulation states that "a sale is not incidental if it is made in the regular course of business, or is preceded by any advertisement, offer or solicitation in the regular course of business, or is preceded by any advertising, offer or solicitation made to the general public through any communications media." The statute creating the incidental sales exemption, however, had no prohibition on advertising.

DATCP has never defined what the "regular course of business" is, but now is a good time to interpret the term in a way that is favorable to the state's struggling dairies. Any sale of raw milk by licensed dairies that mainly produce raw milk for pasteurization should be incidental; DATCP could take a more liberal approach as well in determining what an "incidental sale" is by an unlicensed dairy. What exactly is the regular course of business in the economy that has materialized during the Covid crisis?

DATCP interim Secretary Randy Romanski has made an effort to help livestock producers by attempting to increase access to slaughterhouses and to markets; he has an opportunity to help dairy farmers by adopting an interpretation of the raw milk exemptions that is more favorable to the farmers' interests. With the increased demand for raw milk during Covid, the improved safety track record for raw milk in recent years and the continued loss of dairy farms in the state, the time is now.

INFORMATION RESOURCE FOR WAPF MEMBERS

Consult with Pete Kennedy on state laws, regulations and policies including food freedom legislation and issues regarding consumer access to raw milk, cottage foods and on-farm meat and poultry processing. (Pete cannot give individual legal advice or recommend support for or opposition to pending legislation.) Contact Pete at pete@realmilk.com.


FEDERAL - LAWSUIT OVER FDA RAW BUTTER PETITION

The Farm-to-Consumer Legal Defense Fund and Mark McAfee responded to FDA's denial of their citizen petition to lift the interstate ban on raw butter by filing a complaint on May 25 with the U.S. District Court for the District of Columbia, seeking a court ruling overturning the FDA rejection of the petition (see *Wise Traditions* Spring 2020 issue for background.) Among other things, the complaint asks for a court declaration that the denial of the petition violates the Food, Drug and Cosmetic Act (FDCA). On July 24, FDA filed an answer to the complaint, unconvincingly denying petitioners' allegations as to why the raw butter ban is illegal. If anything, the agency's response to the lawsuit further exposed the weaknesses in its justification of the ban.

In its February 27 letter denying the petition, FDA included a five-page table on "Illnesses and deaths associated with butter not known to be pasteurized (1908 to 2003)," listing thirteen outbreaks during the ninety-five-year period attributed to raw butter consumption. The cause of five of those outbreaks was listed as typhoid fever with a sixth outbreak blamed on both diphtheria and tuberculosis. The only deaths listed in the table were six fatalities caused by a typhoid fever outbreak in 1913. The latest U.S. outbreak according to the table was 2002; one of the thirteen listed outbreaks occurred in England.

FTCLDF and McAfee's complaint notes, "... the pathogens causing diseases, including typhoid fever, diphtheria, and tuberculosis, which the FDA attributes to butter in its data in Table 1 are not listed as pathogens of concern in butter in an independent report prepared for the FDA by the Institute of Food Technologists ("IFT"), (FDA/IFT 2001). Instead of using this study and others available to the FDA, or peer-reviewed publications regarding well characterized outbreak investigations, the FDA relied on summaries in chapters in an outdated encyclopedia of food microbiology, a trade newsletter, and a lawyer's website for references to 'illnesses and deaths associated with butter not known to be pasteurized' in its Table 1."

FDA's response to this observation was, "Defendant admits that typhoid fever, diphtheria, and tuberculosis are not included as 'pathogens of concern' in Table 1 on page 11 of the report prepared by the Institute of Food Technologists ("IFT") (FDA/IFT, 2001), available at [fda.gov/files/food/published/Evaluation-and-Definition-of-Potentially-Hazardous-Foods.pdf](https://www.fda.gov/files/food/published/Evaluation-and-Definition-of-Potentially-Hazardous-Foods.pdf)." In other words, FDA believes that six outbreaks with no recorded fatalities attributed to "pathogens of concern" over a period of one hundred twelve years (1908-2020) is justification for the ban.

In addition, FDA is clearly violating the FDCA standard-of-identity law—standards-of-identity requirements prescribing what a food product must contain to be marketed under a certain product name in interstate commerce. FDA has claimed that pasteurization can itself be part of a standard-of-identity requirement. The FDCA prohibits the agency from issuing a standard-of-identity requirement for butter; FDA is claiming that its power to regulate communicable disease has precedence over the standard-of-identity law. The evidence in the case is increasingly showing that FDA is banning a food under its power to regulate communicable disease that has made few people sick. The appeal of the FDA's denial of the raw butter petition will be a costly process. Those wanting to support this important effort to expand freedom of food choice can donate to FTCLDF online at farmtoconsumer.org/rawbutter or call 703-208-3276. 



2000 Raw milk available in 27 states

2020 Raw milk available in 43 states
(thanks to the efforts of A Campaign for Real Milk)

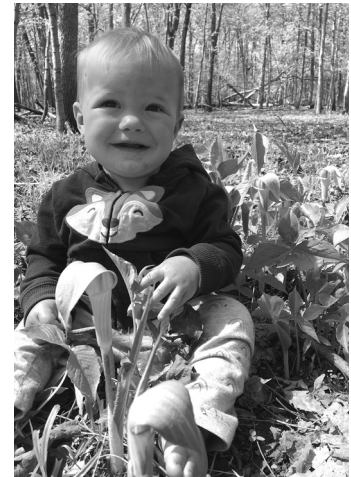
Our Goal: Raw Milk available in all 50 states! Help us make raw milk sales legal in the remaining 7 states.



Healthy Baby Gallery

August, born at home, is now three and a half (pictured right, in the chamomile patch looking for Peter Rabbit). He spends his days in the garden, driving the tractor with papa and hanging out with gramma. He loves all organ meats, kefir, sourdough, butter, books and his balance bike. He asks for his cod liver oil. He is the sweetest kid, and we're very proud of him.

August's baby sister Arisaema (pictured far right, with her namesake plant) was born ecstatically at home into a birth pool (this should be the standard). Recovery from birth was swift and wonderful. Arisaema is sweet and mellow, with a great spark every now and then. She loves all WAPF foods, especially cold bone broth (aka "meat jello")—a real life-saver snack for her busy organic farming mama. We are practicing elimination communication with her and highly recommend that new/expecting parents look into this biological practice. Serious thanks to the Foundation for all your work and outreach. You are changing so many lives.



It wasn't until the third trimester of pregnancy that we really began to integrate WAPF dietary principles, so we were nervous when Pélé was growing only at the 30th percentile during his early months of being solely breastfed. But once he started on solid foods, he skyrocketed! Bone broths, butter, raw yogurt galore. He had a stint of vomiting with egg yolks early on, but after pausing them for a few months, he's now gulping those down, too!

Healthy Baby Gallery

Neila (pictured at thirteen months) was born at home during a five-hour, pain-free labor. She lifted her head up off of Mom's chest moments after birth. Mom drank plenty of bone broth, which calmed heartburn and aided with sleep, as well as consuming raw butter all summer from the family's grass-fed Jersey cow and plenty of cod liver oil, liver, egg yolks, sauerkraut and garden-fresh produce. Neila smiled by a week old and hasn't stopped smiling since. A very happy, easy-going baby, she eats everything and anything and loves her kefir! She took her first steps at ten and a half months, walking perfectly by eleven months. Now at twenty months, she is potty-trained and repeats many words. She amazes us and everyone she meets. We are so thankful to God and WAPF for helping bring healthy babies into the world!



Ava (pictured at age two) was born at home during a five-hour ecstatic birth. We put a moose roast in the slow cooker at 11am, and by 6pm, the family was sitting down for supper with the new baby. Ava smiled within days of birth and still wears the biggest smile. She was walking by eleven months and was saying "have pee" and "want some more" by twenty months, when she was fully potty trained. She has always slept through the night. Many people tell us that we "make it look easy." It is a lot of work to raise and prepare all of the family's meals, but Ava is already a big help with the chores. She loves helping and loves animals!

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SOUTH FLORIDA AND DC CHAPTER DINNER

Anita Schubert hosted a gathering of chapter leaders from south Florida and Washington, DC. It was a lot of fun with nutrient-rich food and intelligent, thoroughly informed conversation. In attendance were (left to right): Reuven Perry (Anita's husband), Hilda Labrada Gore, Gary Roush, Melina Vicario, Durrel Handwerger, Mary Palazuelos-Jonckheere, Anita Schubert and Emilia Gore (not pictured).



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LOCAL CHAPTER BASIC REQUIREMENTS

1. Create a food resource list of organic or biodynamic produce, milk products from pasture-fed livestock (preferably raw), pasture-fed eggs and livestock and properly produced whole foods in your area.
2. Provide a contact phone number to be listed on the website and in our quarterly magazine.
3. Provide Weston A. Price Foundation materials to inquirers, and make available as appropriate in local health food stores, libraries and service organizations and to health care practitioners.
4. Provide a yearly report of your local chapter activities.
5. Be a member in good standing of the Weston A. Price Foundation.
6. Sign a contract on the use of the Weston A. Price Foundation name and trademark.

OPTIONAL ACTIVITIES

1. Maintain a list of local health care practitioners who support the Foundation's teachings regarding diet and health.
2. Represent the Foundation at local conferences and fairs.
3. Organize social gatherings, such as support groups and pot luck dinners, to present the Weston A. Price Foundation philosophy and materials.
4. Present seminars, workshops and/or cooking classes featuring speakers from the Weston A. Price Foundation, or local speakers who support the Foundation's goals and philosophy.
5. Represent the Weston A. Price Foundation philosophy and goals to local media, governments and lawmakers.
6. Lobby for the elimination of laws that restrict access to locally produced and processed food (such as pasteurization laws) or that limit health freedoms in any way.
7. Publish a simple newsletter containing information and announcements for local chapter members.
8. Work with schools to provide curriculum materials and training for classes in physical education, human development and home economics.
9. Help the Foundation find outlets for the sale of its quarterly magazine.

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Resources for chapter leaders can be accessed at westonaprice.org/local-chapters/chapter-resources, including our trifold brochures in Word format, chapter handbook and PowerPoint presentations.

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MD

100% soy-free chicken, eggs, pork and beef. Chicken livers, chicken feet and heads. Bacon and sausage. Raw pet milk. Raw milk blue and cheddar cheese by cheesemaker Sally Fallon Morell. **Will ship** whole cheese wheels. Southern Maryland, within 1 hour of downtown Annapolis and Washington, DC. Saturday farm tours. Store open Thursday to Saturday 10-6 or by appointment. P. A. Bowen Farmstead, 15701 Doctor Bowen Road, Brandywine, MD. (301) 579-2727, pabowenfarmstead.com.

MN

Farm On Wheels offers animals raised green grass-fed & certified organic. Nutrient-dense beef, lamb, chicken, eggs, turkey, goose, duck, and pork, No corn or soy. Farmers Market year around in St. Paul, Prior Lake, Northfield. Linda (507) 789-6679, farmonwheels.net, farm_on_wheels@live.com.

NY

Grass fed Farm Fresh food to help you achieve vibrant health by enjoying high quality, nutritious, 100% grass fed raw dairy from sheep and Jersey cows. 100% grass fed/finished beef and lamb, Soy Free pasture raised pork, turkey and chicken, and lots more. Order online and utilize our convenient home delivery or pick up locations. Shop farmmatch.com/pleasantpastures or call (717) 768-3437.

Dutch Meadows brings you the finest in high-quality grass-fed meats and organic dairy products, raised in harmony with the land. Order online and choose from hundreds of farm products, **WE SHIP**. Convenient pick-up locations in NYC. (717) 442-9208 info@dutchmeadowsfarm.com – DutchMeadowsFarm.com.

OH

Devon beef, 100% grass fed, no antibiotics, no growth hormones. Full cow, 1/2 cow or individual cuts from my ranch in St. Leon, Indiana or at "Lettuce Eat Well Farmers

Market" in Cheviot, Ohio (lewfm.org) first Friday of every month. Pastured pork, 100% antibiotic free, fed minimum amount of organic corn, 100% outdoors on pasture and woods. All meat USDA inspected. Information on how we raise our beef and pork plus important health links at abundantgreenpastures.com or Mike at (812) 637-3090.

Sugartree Ridge Grassfed Herdshare/PMA, located 60 miles east of Cincinnati in Highland County. We deliver 100% grass-fed milk, optional A2-A2 milk and many other products to sixteen delivery sites in Cincinnati. Farm and contact address is: Scott Richardson, STRG Herdshare 6851 Fair Ridge Road, Hillsboro, OH 45133-9548.

OR

Grass-based biodynamic raw milk dairy offering Jersey Hi-creamline milk, cream, golden butter, cottage cheese and aged cheeses. Soy-free veal and pork seasonally. On farm sales and membership club. **Can ship**. Sherry and Walt (541) 267-0699.

PA

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GAP VIEW FARM MARKET Raw milk, raw milk cheese, cream butter, eggs, including duck eggs and fresh vegetables from our chemical free farm. Call (484) 667-1382 or visit our farm market in the heart of Lancaster County, PA at 5230 Newport Rd, Gap, PA 17527.

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VA

Salatin family's Polyface Farm has salad bar beef, pigator pork, pastured chickens, turkeys and eggs, and forage-based rabbits. Near Staunton. Nationwide delivery available. Call (540) 885-3590, polyfacefarms.com.

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VT

Health Hero Farm delivers high-quality 100% grass-fed beef within a wide radius of Burlington, VT. Our farm is certified humane and our pastures are certified organic. Our cattle breeds finish well on only grass. See our video at <https://HealthHeroFarm.com/video>

WY

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HEALTH PRACTITIONER

Have you been eating an ancestral diet for years without the expected results? Do you still suffer from fatigue, anxiety, anger, poor sleep, and digestive issues? Nutritional balancing could make the difference. Contact Moneca Dunham RN, BSN, RCPC mountainthrive@yahoo.com.

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DVDS/ON-LINE VIDEOS

DVD "Nourishing Our Children" recently launched a DVD that may be used for one's self-education or to present to an audience. You will learn how to nourish rather than merely feed your family. nourishingourchildren.org/DVD-Wise.html **Free shipping!**

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EMPLOYMENT OPPORTUNITIES

GRASS VALLEY DAIRY is seeking a motivated website coordinator to manage online marketing of farm fresh food. Secluded log cabin house on 6 acre wooded lot adjoining farm available for rent to qualified party. Also delivery driver wanted 2-3 days of week. Call Mel at (610) 593 2811.

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FILM

AUTOIMMUNE DOCUMENTARY in post production seeks funding or investors. This film tells the stories of those who kept searching for an answer to their challenge and are now lighting the path of healing for others. Contact: Gabe (310) 779-2816 goldenfilmproductions.com/in-production.

Diana Rodgers is a real food nutritionist living on a working farm making a documentary called Kale vs. Cow that will defend the nutritional, environmental and ethical case for better meat. Endorsed by WAPF, Savory Institute, Animal Welfare Approved. Contributions are tax-deductible. SustainableDish.com/film.

HOMES & LAND SALE

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RESEARCH

WITH THE AUSTRALIAN DAIRY INDUSTRY STRUGGLING, farmers walking off the land and suicides at dismal highs—it's time for urgent action. Our biggest project this year will road test the 2009 risk assessment by Food Standards Australia New Zealand (FSANZ). Please DONATE here www.ausrawmilk.org/donate.

Johanna Keefe, PhD, MSN, GAPS/P, has completed her doctoral research through the California Institute of Integral Studies (CIIS) revealing, through in-depth interviews, the lived experience of mothers as they described their lifestyle following a real food diet based on WAPF principles. Please consider sharing a part of your own story with her by email or phone, to see if yours may contribute to one of her forthcoming projects: a photo-essay accompanying an uplifting mini-series or documentary with the working title, "Grass-FedBabies", to inform and inspire our next generation of parents. Johanna looks forward to hearing from you at johanna8@comcast.net or by phone/text at (978) 290-0266 or

DM her on IG @grassfedbabies to set up a time to talk!

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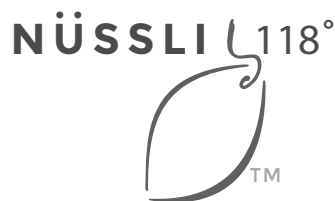
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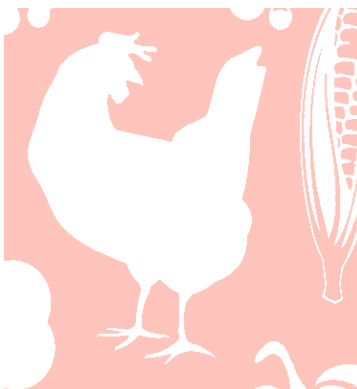
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Wendell Berry

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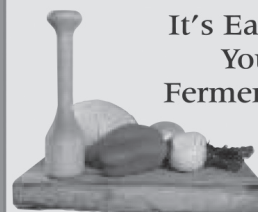
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(Scroll down the page to the Northwest Arctic section, you'll find the link there.)

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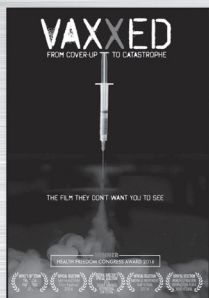


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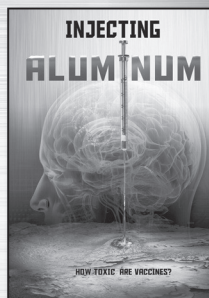
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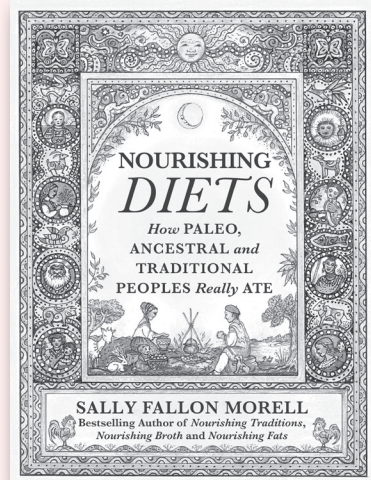
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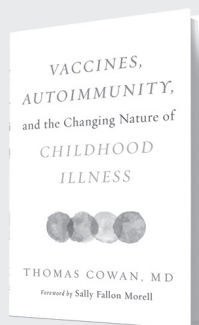
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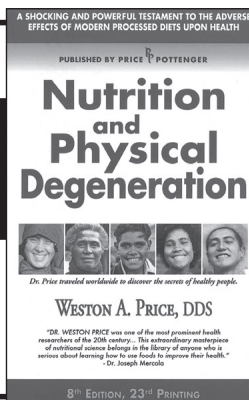
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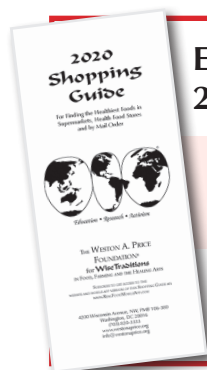
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DR. ANTHONY JAY

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Upcoming Events

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- Oct 26-27** Farm & Food Leadership Conference (Virtual). **Contact:** <http://farmandranchfreedom.org/farm-food-leadership-conference/>, smallproducers@txstate.edu.

2021

- May 15** **Loveland, CO:** Seminar on Nourishing Traditional Diets with Sally Fallon Morell, at Sunrise Ranch and Retreat Center. **Contact:** westonaprice.org/colorado, info@westonaprice.org.
- May 17** **Lincoln, NE:** Free evening seminar on Nourishing Traditional Diets with Sally Fallon Morell. 6:30-8:30 PM. **Contact:** Gus Ponstingl (402) 770-2272, groggygroggy@yahoo.com.

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