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Fashionable Food Fears (part one)

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From butter to sweeteners, carbohydrates to fat, and microwaves to factories, food fears surround us daily. Everyone has an opinion about what is good for you and what is bad for you, and most of those opinions are wrong. (Part one of a short series.)

Other than sex, there's nothing we're more neurotic about than food. It is perfectly understandable that we worry about what we eat.

“Live fast, die young, and leave a good-looking corpse,” [as the saying goes](#), loses a lot of its rebel thrill once you're no longer young, or have young ones of your own to care for.

Everyone would like to be healthier, stronger, and feel younger. Everyone wants simple, easy-to-remember solutions to their dietary or medical concerns. Entire business empires are built on allaying fears of sickness, under-performance or death. And many of those are based on little more than sensationalism and lies.

Is there anything that takes the pleasure out of life faster than having to worry that your next meal is sodium-free, preservative-free, gluten-free, lactose-free, baked or grilled instead of fried, unprocessed, organic, raw, whole, low-GI, sugar-free, fat-free, low-carb and grass-fed?

Most of these simplistic labels are based on exaggerations or over-generalisations. It takes only one study, put in a nutshell for the masses by lurid tabloids, to start a food myth. Folklore passed down by oral tradition is venerated for its wisdom, despite the fact that old wives' tales are derided as such for a reason. Purveyors of vitamin supplements, diets, and superfoods regale us with carefully-crafted marketing spiels, which are uncritically accepted and passed on to friends over lunch.

Once a myth takes hold in the public imagination, it is almost impossible to dislodge. Don't cook with salt. Eggs are bad for you. Use margarine instead of butter (no, wait, the other way around). High-fructose corn syrup is worse than sugar, and honey is better. Artificial sweeteners cause cancer. Irradiated food is bad for you. Avoiding pesticide residue is a good reason to buy organic. Nutrition is a good reason to buy organic. Frozen food is not as good for you as fresh fruit and vegetables. Canned food is worse. And don't even start with preservatives. Using a microwave will nuke you, your food, or both. Use a plastic cutting board instead of wood. Low-fat food is good for you. Low-carb food is good for you. Raw foods preserve enzymes and are better than cooked foods. Detoxing is good for you.

All of these notions are exaggerated or false. In this, the first of a short series, we'll look at these fears.

Salt has long been accused of causing hypertension (high blood pressure) in some (but not all) people. Hypertension, in turn, is a risk factor in heart disease. The panic about salt led to official government warnings and shelves full of fashionably low-sodium products.

Although a speculative link between hypertension and salt intake had been established as early as 1904, the modern fear about salt is largely based on the work of a single researcher at Brookhaven National Laboratory, a physician named Lewis Dahl. In 1960, he [pumped mice full of salt](#) and discovered that this raised their blood pressure. Sure. Being force-fed large quantities of salt would raise my blood pressure too. I might even punch my feeder. But by 1970, Dahl felt confident enough to declare that [processed baby food is rat poison](#).

The problem is that Dahl's idea of "chronic salt intake" was a dose 60 times higher than humans actually consume. Subsequent studies within genetically similar populations – to rule out genetic factors in hypertension – have found no relationship between sodium intake and high blood pressure. Note: not a small relationship, or an uncertain relationship, but *no relationship*.

According to [a feature in Scientific American](#) that called for an end to what it calls "the war on salt", a study that looked at the direct correlation between salt intake and heart disease, rather than hypertension, found that the more sodium people ate, the *less* likely they were to die of heart disease. Another study found that it was the balance between sodium and potassium, rather than the levels of each, that made all the difference. A third, [as recent as 2007](#), found that "the effect of sodium and potassium intake on [cardiovascular disease] morbidity and mortality in Western societies remains to be established".

In short, the science is inconsistent and inconclusive. There is some evidence to suggest that people with high blood pressure ought to reduce their salt intake, increase their potassium intake or both. Other research suggests only overweight people need worry. But there is just as much evidence that it doesn't matter, and cutting salt intake can have negative consequences – ironically including raising blood pressure – too.

Such are the flimsy grounds on which major governments base recommendations developed at great expense to the taxpayer, and preached to us as if we're children who must eat what we're given.

You now get two bottles of soy sauce with your sushi: one with a red cap to signal danger, and one with a green cap to make you feel smug. But for all that smugness, you gain exactly no health benefits from choosing the sodium-free green version, and the salty red version might actually be better for you.

Eggs, I was told all my life, are a prime source of cholesterol, which clogs arteries and causes heart attacks. The warning was simple enough to understand even for a child: avoid eggs if you don't want to die.

In the US, where you can buy egg whites and egg yolk separately (because Murica!), the [whites are now more expensive than the yolks](#). There's a shortage of the stuff, because of the celebrity-fuelled craze for albumen-only breakfasts. If it sounds awful to eat only egg white, fear not. Not only is the yolk the tastiest and most nutritious part of an egg by far, but the cholesterol won't kill you either.

Confused? Yes, the American Heart Association [figures you might be](#), because for decades it has maintained a general warning against foods containing cholesterol. But it recently [changed its guidelines](#), following research that showed [dietary cholesterol actually isn't what raises blood cholesterol levels](#). The liver does, in response to the intake of saturated fats and trans-fats. These are often associated with cholesterol-laden food, and Occam's razor turned out to be wrong in this case. This was a typical case in which correlation – that two factors coincide – did not imply causation – that one factor causes the other. Even people with high cholesterol can perfectly safely eat two or three eggs a week, provided they limit the saturated and trans-fats they eat. The rest of us can get away with an egg a day. And those yolk-free omelettes? Tasteless pretentiousness, nothing more.

Speaking of trans-fats ... Trans-unsaturated fatty acids, to give them their full name, were developed in industrial food processing to keep oily substances solid at room temperature. The most common method is to hydrogenate vegetable oil. And one of the most common uses of hydrogenated vegetable oil was to make margarine, a butter replacement.

Although developed in the 19th century as an alternative to expensive butter, medical research about the link between saturated fats and cardiovascular disease led to a rise in its

popularity. For decades, official advice was to opt for the mono-unsaturated or poly-unsaturated fats of margarine rather than the saturated fats of butter. Not knowing the difference, and trusting the experts, most people dutifully did so.

But many margarines turned out to contain trans-fats, which is now considered to be the worst possible kind of fat if you're trying not to die of a heart attack. The American Heart Association recommends you keep your trans-fat consumption below 1% of your daily calorie intake.

So everyone switched back to butter, which tastes a lot better in any case, and the Daily Mail, swinging wildly in the opposite direction, called margarine “[chemical gunk](#)”.

This is not a problem if portion sizes are limited. As long as less than 7% of your daily calories come from saturated fats, you should be okay. But it can quickly add up if you cook with butter, bake with butter, and eat butter on your sandwiches. This is why the South African Heart Foundation [still recommends margarine](#), as long as it is soft. (Remember, hydrogenating oil, which is where trans-fats come from, makes the oil solid.) Short of reading the label, so you can be sure to avoid hydrogenated vegetable oil, this is fairly good advice. Equally good advice is to use light or whipped spreads – whether butter or not – whenever you can, keeping portion sizes the same.

In the end, however, the entire margarine versus butter fiasco was much ado about nothing. A dab of butter on your porridge isn't going to kill you. I'll bet it kept hundreds of bureaucrats occupied on the taxpayer's dime to tell us otherwise, though.

The moral of the story, so far, is not to panic. It is rarely necessary to avoid something completely, and many health scares around food are nothing but sensationalist exaggeration. The human body is capable of dealing with small amounts of poison. That's why we have a liver, kidneys and a spleen.

Indulging our fears, however – inspecting every label for suspected traces of toxicity, and fretting about what poisons we're putting in our children's lunch boxes – is only likely to lead to anxiety, depression and gastric trouble.

Oscar Wilde said: “Everything in moderation, including moderation.”

After all, our happiness demands not only that we minimise our fears, but that we treat ourselves now and again. There is no reason to believe that this will kill us. **DM**

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Fashionable Food Fears (part two)

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When it comes to food, even the simplest things can scare people. E-numbers, for example. Oh, what fear they inspire! Even if you don't know what they mean, you can be sure each one is a secret code for a noxious poison that'll give you cancer and turn your child into a monster. Let's take a look at some of those fearful food additives.

Last week, we [tackled some myths](#) about the dangers of salt, eggs, margarine and butter. Those were only the first few in a long list of food fears and fads. In this, the second in a series of as-yet-undetermined length, we'll push on with some more of the myths we raised.

There is a long tradition of public fear about substances we do not understand. A spike in concern about artificial colouring, flavouring and preservatives in food led to the establishment of a system for numbering food additives approved by the European Food Safety Authority. Known as E-numbers, the system began with food colouring in 1962, with later expansion to preservatives, anti-oxidants, emulsifiers, stabilisers, thickeners and gelling agents. E-numbers were supposed to ease the public's fears, but replacing scary chemical names with incomprehensible numbers did little to rehabilitate their reputation.

On the contrary: people [are now being told](#) that E-numbers in general are dangerous, and ought to be avoided. These fears date back to the 1970s, when a paediatrician, Dr Benjamin Feingold, claimed there was a link between food additives and childhood attention-deficit disorder and hyperactivity. Much research was conducted to establish whether such a link existed, but very little conclusive evidence was found.

One famous study, conducted in 2007 at the University of Southampton, tested six synthetic food colouring additives, along with sodium benzoate, a preservative. These colours – Tartrazine (lemon yellow, E102), Quinoline Yellow (E104), Sunset Yellow (E110), Carmoisine (maroon red, E122), Ponceau 4R (scarlet red, E124), and Allura Red (E129) – became known as the 'Southampton Six'. Even in non-alarmist circles, it is [recommended that these be avoided](#). Yet the European Food Safety Authority has repeatedly reviewed the study in question, and concluded that it could not be extrapolated to the general population, its results were inconsistent, and the [available scientific evidence does not substantiate a link](#) between the colour additives and behavioural effects.

Now check out [this list of 'symptoms'](#) that your child may be hyperactive as a result of food additives. Many of them constitute perfectly ordinary child-like behaviour, and the rest cover just about any condition a child might suffer. Any child whatsoever could be held up as 'evidence' that food additives are bad for you.

By such loose standards, any child could be held up as evidence for anything else, too, of course. You could make a similar list and blame it on air pollution, rock music, organic food, polyester clothes, television, and plastic toys – and in fact, many hyper-fearful safety nannies do. This isn't science. This is emotional scare-mongering.

Many food products, including in South Africa, contain these so-called E-numbers on the ingredient list. The fact that they are identified and numbered says that they have been tested and found safe for consumption. It certainly seems preferable to know the ingredients in foodstuffs, rather than not knowing them. Besides, many of the feared E-numbers are perfectly natural substances, such as paprika (E160c) vitamin C (E300),

vitamin E (E306-309), gum arabic (acacia gum, E414), gelatine (E441), beeswax (E901) and even oxygen (E948).

Besides, why don't we treat natural foods or additives with equal suspicion? In general, natural additives are not tested or regulated by food safety authorities. Besides for the inconvenient fact that many natural food colourings are inconsistent and add unwanted flavour, some may be just as dangerous as artificial additives. Carmine, a red colourant extracted from cochineal bugs, can [cause allergic reactions](#) ranging from mild hives and itchy skin to dangerous anaphylactic shock. An all-natural orange-red food colouring, annatto, [has been anecdotally linked](#) to irritable bowel syndrome. Caramel, which is one of the oldest and most widely-used natural food colourings, can contain 4-Methylimidazole, and there is [clear evidence](#) that this causes cancer in mice. It is produced by the [Maillard reaction](#), which is the process of browning when food is grilled, baked, roast or fried.

We don't demand labels on apples that discloses they contain amygdalin, which, when digested, breaks down into hydrogen cyanide, also known by its notorious Nazi name Zyklon B. [They did the math](#), and the ground-up pips of 18 average apples could kill a 70kg man, if that man was stupid or unlucky enough to eat them. The chemical warfare agent ricin [is made of castor beans](#), and was famously used as the poison on the tip of an umbrella used by the KGB to assassinate a Bulgarian dissident in London. Nutmeg is a powerful psychedelic drug. If you can find a way to [consume about 35 grams of it](#), you'll be tripping for days, although along with the hallucinations you may experience nasty side-effects like nausea, vomiting, dry mouth, flushing, a racing heart, and painful urination.

The point is that there is no fundamental difference between natural and synthetic chemicals. Either can be dangerous, and many are, in large enough doses. If you test them for carcinogenicity, they'll pass your test about half the time, either way. Usually, it's the dose that makes a substance toxic, not its basic nature.

High-fructose corn syrup is another additive many people fear. [There is no evidence](#) (to date) to suggest that it is worse for you than sugar, honey or agave syrup. It is no less natural. All of them consist of fructose and sucrose in roughly equal proportions, all are metabolised in the same way, and all have the same caloric content. All of them can cause obesity, if consumed in excess.

At the risk of stating the obvious, go easy on the sweets and soft drinks, because all the sugars add up quickly. If, however, you keep your sugar (or honey, or corn syrup) consumption below 10% of your daily calorie intake, you'll be just fine, no matter what form that sugar takes.

Sugar, like salt, is a critical ingredient in cooking. It makes a great many otherwise dull foods taste delicious, and plays an important role in preventing food-borne illnesses. But if you're afraid of consuming too much of it, you could try artificial sweeteners. The problem is, they're subject to a range of fears of their own.

I've told [the story of saccharin](#) before. Because of a rat study that was not applicable to humans, it became the subject of a cancer scare and mandatory warning labels, scaring the bejeezus out of millions of mothers who thought it was a great alternative to teeth-rotting sugar. It wasn't until more than 20 years later that it was [officially vindicated](#) by the bureaucrats who decide what we are and aren't allowed to eat.

Saccharin now lives a quiet life on the shelf as E954, approved as a food additive but unwanted by anyone, since better sweeteners have been developed since.

Each of these alternatives has been subject to claims that they cause cancer, too. This typically happens when lab tests that involve stuffing rats full of the highest tolerated dose for the duration of their lives throw out positives for cancer. That such tests do not match

real-world human consumption doesn't stop researchers from making alarming 'cancer link' claims that they know will be picked up by the tabloid media.

The most notorious of these is aspartame, which one paper linked to a rising incidence of brain tumours, and another study linked to more lymphomas and leukemias in rats fed staggering amounts of the stuff. The first study turned out to be a weak correlation with a trend that began long before aspartame was introduced, precluding causation. The second was weak with inconsistencies, and drew conclusions that were not supported by its data.

The US Food and Drug Administration made [a clear statement](#) at the time: "Since it was first approved for use in the United States, the safety of aspartame has been questioned by some. To date, however, the agency has not been presented with scientific information that would support a change in our conclusions about the safety of aspartame. Those conclusions are based on a detailed review of a large body of information, including more than 100 toxicological and clinical studies regarding the sweetener's safety."

There's always a brave band of heroes, combating the government-corporate conspiracy to hush up the deadly consequences of additives like aspartame. According to blogs and e-mail chain letters, it causes a range conditions other than cancer, including multiple sclerosis, lupus, obesity and birth defects. I couldn't do a better [debunking of this paranoid conspiracy](#) than Dr Steven P. Novella, a medical doctor and academic clinical neurologist at the Yale University School of Medicine.

Similar arguments hold for xylitol, sucralose and other artificial sweeteners. [None of them cause cancer](#).

The constant fear that toxic chemicals in food will cause cancer or mental disorders, combined with the belief that scientists, journalists and public health regulators cover up these dangers to protect the profits of big corporations, betrays unhealthy levels of anxiety and paranoia. Such fear will do you far more harm than a few drops of red, blue or yellow food dye.

Neurotic rejection of broad swathes of food ingredients, based on a complete lack of knowledge beyond the fact that they are known by E-numbers, or worse, based on the nonsensical distinction between 'natural' and 'artificial', distracts from the real goal: simply enjoying a balanced, nutritious, affordable and tasty diet. **DM**