HEALTH

A FANCY NAME FOR JUNK FOOD

Does the war on "ultra-processed foods" make any sense?

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Once again, Americans are in a panic over what we eat. More than two-thirds of those surveyed now regard the industrially produced, ultra-processed foods, or UPFs, that dominate the U.S. food supply as addictive, according to a study published earlier this month in the *American Journal of Public Health*. That's just the start of it. Most respondents said that UPFs are a major source of type 2 diabetes, cardiovascular disease, and obesity. At least one-third blame these foods for causing cancer, ADHD, depression, and anxiety. And nearly half—corresponding to some 130 million American adults, if the survey's findings can be extrapolated—believe that UPFs are simply "not what God intended for people to eat."

For the past couple of years, concerns about the potential health effects of UPFs have been highlighted in the media, and at nearly every level of the public-health establishment. New restrictions on the sale of UPFs have been introduced or passed in blue- and red-state legislatures alike. Health and Human Services Secretary Robert F. Kennedy Jr. has said repeatedly that UPFs are "poisoning" Americans. And the World Health Organization is planning to put out global guidance on the problem.

To some extent, this is nothing more than a rebranding of an old idea, that the foods being sold at convenience stores or fast-food restaurants are anything but good for us. These products, at least some of which are almost assuredly detrimental to our health, have gone by several different names. For those of us old enough to remember the 20th century, we didn't use to call them "ultra-processed" foods, but simply "processed" foods or "junk" foods. Now an *ultra-* prefix has been added to the same fuzzy category. *Ultra-processed* in the world of nutrition circa 2026 is, first and foremost, just the latest synonym for *unhealthy*.

Any more specific meaning, though, has been elusive. The U.S. government, for all of its UPF-related rhetoric, hasn't even resolved the most basic matter of semantics: "A definition for ultra-processed foods is really hard," one FDA official said in April, to explain why the project of creating one had already taken many months and could still be far from done. So many of the foods we eat are processed in so many different ways. Where do we even begin?

To the staunchest anti-UPF crusaders, though, ultra-processing may also represent an outgrowth of a deeper problem. The nutritional epidemiologists and other scholars who have led this push in public health are out to challenge an entire system of beliefs, propagated by nutritionists for a century or more, about what makes a food unhealthy in the first place. When they swap in *ultra-processed* for *junk*, they are shifting the focus from the nutrient content of a processed food—whatever fats, salt,

carbs, and sugary sweeteners it might contain—to how it's made, where it's made, and even why it's made.

Going by this logic, even basic intuitions about what is good or bad to eat may be twisted into strange new shapes. Keebler's Soft Batch cookies might be labeled harmful on account of their industrial ingredients—preservatives, emulsifiers, and hydrogenated oils—although your grandma's home-baked snickerdoodles could be equally sugar-rich and considered benign. Store-bought whole-grain rye bread, with preservatives added to prolong its shelf life, could be viewed as toxic, but home-baked white bread is thought of as just a wholesome treat.

The war on UPFs, if its advocates are to be taken seriously, has many such confusing implications. At best, these complicate the conversation over how we should address the chronic-disease crisis on a national scale: What, exactly, should we eat and why? At worst, they suggest we're stepping backwards and away from any hope of progress in the science of nutrition.

In the grand tradition of ideological revolutions, the turn against UPFs began with a manifesto—or rather two of them. The journalist Michael Pollan wrote the first. His 2008 best seller, *In Defense of Food*, blames the rise of margarine, low-fat cookies, and other healthy-seeming packaged foods on a scientific ideology called "nutritionism." This refers dismissively to just about everything that nutrition researchers had been doing for the past century—that is, assuming that a food's value is determined by the sum of its nutrients, and that eating healthy means optimizing for that value. Any truly healthy diet would reject this way of thinking, Pollan argues, and instead rely on how people have been eating for generations. Eat real food, the book implores, not "foodlike substances."

That idea has now been taken up in earnest by the U.S. government as the touchstone of its dietary guidance. But Pollan's argument would also feed into the second manifesto, which was the call for scientific revolution. Two years after *In Defense of Food*, the Brazilian epidemiologist Carlos Monteiro laid this out in an academic paper arguing that nutrition science on the whole, and its paradigm of healthy eating, had been a failure. (An editorial accompanying that paper notes Monteiro's admiration for Pollan and references *In Defense of Food*.) People in Brazil had been getting fatter, in keeping with global trends, Monteiro observes, but they had *not* been purchasing more fats, oils, flour, or sugar, as might have been predicted by conventional theories of nutrition. Instead, he focuses on another dietary pattern: In Brazil, he writes, as elsewhere in the world, people tended to be heavier and more likely to have diabetes

when their diets were less traditional and more reliant on packaged, frozen, and fast foods. He had already started using the term *ultra-processed* to describe the latter set of products; now he was declaring it the "big issue" in public health.

Here was the revolution in a single phrase. For half a century, at least, debates about our diet had focused on its nutrient content. That approach was inherently reductive, but it had the benefit of being scientific; it made testable claims about causes and effects. A Big Mac, for instance, contains more than a gram of sodium and almost 100 calories' worth of saturated fat; nutrition science had hypotheses about the mechanisms by which those substances might lead, respectively, to hypertension and heart disease. A 12-ounce can of Coke delivers 39 grams of sucrose or high-fructose corn syrup—nearly 10 teaspoons—and nutrition researchers could study what those sugars do inside a human body, day in and day out, and speculate about the cumulative effects over a lifetime. That work had been going on for decades, and many of its central questions remain unresolved.

According to Monteiro's theory, this nutrition research and the arguments that it has engendered are secondary concerns. The fight against ultra-processing does not fixate on the details of a food's constituents, but on the means of its production. It's not just what's *in* the Big Mac or the Coke or the Cheez-It crackers that should concern us, but what the food industry has *done to* them: the sum total of unnatural ingredients and industrial processes that have been added to make these products cheap, convenient, and desirable.

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Monteiro and his colleagues can only guess at why a food becomes unhealthy when subjected to this transformation. Among their many hypotheses: Precisely engineered combinations of fat, sugar, salt, and refined carbohydrates might override our satiety signals; soft-textured food could lead to faster eating and more consumption overall; toxic chemicals may be leaching out from product packaging; and flavor enhancers, colorings, and other additives might disrupt the gut microbiome and reduce the body's natural secretion of GLP-1.

In November, *The Lancet*, a prestigious British medical journal, published a three-part, 60-page series of papers—co-authored by Monteiro—that explores the science and policy of UPFs. The "key driver" of the global epidemics of obesity and diabetes, it says, is the rise of UPFs, which is itself a product of "the growing economic and political power of the UPF industry, and its restructuring of food systems for

profitability above all else." According to Monteiro and his many co-authors, every aspect of that system is to blame: the food manufacturers, for starters, but also the ingredient suppliers, the plastic producers, the packagers, the grocery stores, the advertising firms, the lobbyists, the industry groups, and even the "research partners" of industry, a category that would seem to include a significant portion of all of the nutritionists and food chemists in academia.

The mere science of "nutrition"—as it has been understood by its practitioners for many years, and implemented by authorities in public health—provides at most a bit of context for this bigger story.

Ultimately, though, the claim that "ultra-processing" is the big issue here—the proximate cause of the obesity and diabetes epidemics—is full of holes. First there is the obvious: What, exactly, constitutes an ultra-processed food? But also: Which aspects of a UPF (however it's defined) are harmful to our health, and how? And finally: Will demonizing ultra-processing really bring us any closer to addressing the country's soaring rates of chronic disease?

These are the kinds of questions that public-health authorities should be asking, and whether they can be answered with the existing evidence is at the center of the controversy. In 2010, Monteiro and his colleagues came up with Nova, a food-classification scheme that identifies UPFs as those food products that are industrially formulated to be "ready to eat or ready to heat with little or no preparation." This working definition was then applied to observational research; the series in *The Lancet* compiled data from 92 such studies that had been carried out through 2024, and says they show that individuals who eat the most UPF-rich diets are 33 percent more likely to have abdominal obesity, and 21 percent more likely to be overweight or obese, than those who eat the least.

That sounds bad, but how meaningful is this kind of evidence? Even the epidemiologists who do this sort of research are unable to reach agreement on whether associations of this magnitude are even *likely* to reflect a genuine causal relationship. For comparison, the purported risks of eating UPF-rich diets are roughly one-hundredth the size of the lung-cancer risk that can be attributed to heavy smoking. The Purdue University nutritionist Richard Mattes, writing with half a dozen colleagues, notes that UPF consumption correlates with obesity to just about the same degree as people's educational attainment, sleep duration, frequency of TV viewing, and many other factors.

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Far better research is necessary to clarify the evidence, but the kind of clinical trials that might be definitive aren't likely ever to be done. Thousands, if not tens of thousands, of individuals—ideally men, women, and children—would have to be randomized to eat diets that are either high or low in ultra-processed foods, they'd have to keep eating their assigned diet for many years, and they'd have to be monitored closely to establish which dietary pattern ended up producing better health. Even if such an expensive trial could be done (at a cost that might run well into nine figures), and even if it demonstrated that a low-UPF diet is superior, which would surprise no one, it wouldn't tell us why: whether because of the industrial processing and food additives that went into the UPFs or because the UPFs were, like any of the foods we once described as "junk," simply high in sugar, fat, processed starches, or salt.

So instead, the two sides of the UPF debate argue over a handful of published clinical trials, lasting from a day to a few months, that aim to demonstrate that the ultra-processing of food itself makes people eat too much. The most influential, by far, was a 2019 study led by Kevin Hall, then at the National Institutes of Health. Marion Nestle, a professor emerita of food studies at New York University and a co-author on two of the three recent *Lancet* articles on UPFs, called Hall's research "the most important study ever done to explain weight gain." But some researchers, such as the Harvard endocrinologist David Ludwig and nutritional epidemiologist Walter Willett, both of whom have co-authored papers with Nestle, have argued that the design of Hall's research is fatally flawed, not least because the experimental diets were maintained for only two weeks each. Willett told me via email that the NIH study and other short-term studies of its kind are not just meaningless but "likely to give the wrong result (which is worse than no result at all)."

Hall, who is now a clinical scientist at AstraZeneca, noted in an email to *The Atlantic* that this type of research will be necessary if you want to measure energy intake with accuracy and precision. "With all of their limitations, our studies are among the longest and largest such studies that assess how changing aspects of participants' food environments affects their energy intake," he wrote.

Whether the results of such research will tell us anything about the cause of obesity remains to be seen. In the meantime, other nutritionists have tried to resolve the conflict between UPFs and traditional nutrition science by amending or rethinking

Monteiro and his colleagues' Nova scheme. In 2024, Susanne Bügel, a nutritionist at the the University of Copenhagen who has studied how plant-based dairy products might be better fortified with vitamins and minerals, proposed a research initiative that would develop a "next generation of the Nova classification" that might account better for each food's nutrient content and quality. She organized a workshop to bring together critics and proponents of the system, food chemists and nutritionists and public-health researchers, in the hopes that a kind of multidisciplinary synergy would emerge—and with it, a means of establishing not only which foods are "ultra-processed" but also which UPFs might be harmful and which benign.

The project quickly exploded into controversy. Monteiro refused an invitation to participate in the workshop and demanded that it abandon any usage of the terms *Nova* and *ultra-processed foods* to avoid the implication that he or his group had actually endorsed the workshop or any new system that might emerge from it. He also took issue with the fact that funding for the project came from the Novo Nordisk Foundation, which is connected to the company that makes Ozempic and other obesity-related drugs. "Public health policy should be based on independent science, not shaped by entities with a financial stake in diet-related diseases," he told the *Financial Times*. By that point, Monteiro's allies had published an open letter calling for a boycott of the project and urging Bügel to "respect the scientific foundations upon which NOVA has been built." (The Novo Nordisk Foundation has said that its grant decisions are made independently of the pharmaceutical company. Bügel told me that the project's funders had not exerted any influence: "They don't interfere; they don't tell us what to do.")

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In an academic article published in January, Monteiro and half a dozen co-authors make clear that any work dedicated to making food-industry products "healthy"—a category that would include Bügel's research into plant-based milks—serves to legitimize "industry narratives," and defeats the purpose of the UPF classification. Even the mere discussion of such products, they suggest, "risks normalizing ultraprocessing and delays effective interventions." In short, traditional nutritionism is so fundamentally broken, and so compromised by its ties to industry, that it's counterproductive to the public health on its own terms.

In spite of the rhetoric—and for all of the talk about a war on UPFs—nutritionism itself remains intact, which might not be a bad thing. The U.S. government's website for this year's update to the dietary guidelines, for instance, doesn't actually use the word *ultra-processed*; it says instead that people should avoid "highly processed foods laden with refined carbohydrates, added sugars, excess sodium, unhealthy fats, and chemical additives." Reductionist science, and the assessment of a food's nutrient components in determining its value, still holds sway.

By the same token, Kennedy announced in February that HHS was backing a petition submitted by the former FDA chief David Kessler that would force the agency to reassess the safety of industrial ingredients in highly processed foods. Although that petition has been portrayed as an attack on UPFs, its scope is actually more narrow. The ingredients in question, which could in theory lose their FDA designation as "Generally Recognized as Safe," are none other than sugar and other "refined carbohydrates." Kessler told me in an email that he is not necessarily worried about the chemical additives in processed foods, so much as he is the carbs—"flour starches and sweeteners." In Kessler's world, the Keebler Soft Batch cookies may be just as harmful as Grandma's snickerdoodles because both are sugar-rich, and both might be detrimental to those predisposed to obesity and diabetes. We have yet to do the research necessary to establish whether that is true.

Monteiro himself acknowledges the large overlap between UPFs and traditional concepts of sugar-rich junk food. The first article in his *Lancet* series notes that food products designated as ultra-processed by the Nova system are dominated by sweetened drinks, as well as "sweet snacks, desserts and confectionery." The same paper notes that these beverages and foods constitute virtually all of the UPFs consumed in low-income countries and, with baked goods added, close to 75 percent of UPFs in high-income countries.

Given those numbers, couldn't much of the global chronic-disease problem be resolved by communicating the message that, say, sugar and refined grains are harmful, rather than targeting an ill-defined new category that lumps in all of these treats with vitamin-fortified oat milk and whole-grain rye bread with preservatives?

I called Monteiro in Brazil to ask this basic question. He responded by turning the question around and pointing out that 90 percent of the added sugars in the American diet come from ultra-processed foods, along with a significant amount of our saturated fat and salt. "If you avoid ultra-processed foods," he told me, "you improve your diet in terms of sugar, salt, and saturated fat." The old advice to avoid

specific nutrients could be dead-on, he said, and dietitians, nutritionists, and doctors should continue to dispense it. But that wasn't enough: "It is not feasible for people to follow advice if you don't change the food system, to liberate it from these corporations."

To Monteiro, critics of his UPF hypothesis are conflating discussions about evidence with discussions about policy. "We cannot mix these two," he said. "One is the evidence, the causality, the explanation for the pandemic of obesity. The other is what each country should do." To worry about whether UPFs might be a useless or pseudoscientific category is to miss this point. Instead of trying to extrapolate the scientific evidence to policies in a "non-intelligent way" that only slows things down, he said, we should take some obvious steps to address the problem: Tax sugary beverages, subsidize farmers' markets, and promote more fresh and minimally processed foods.

This all sounded very sensible. Maybe "ultra-processed foods" can be a way of focusing attention on the sorts of policies we need. But even then, wouldn't the science of nutrition matter? The argument to tax sugary beverages, for instance, depends on evidence that these beverages are chronic toxins that cause obesity and diabetes, and are perhaps addictive as well, not just empty calories that we happen to consume to excess. And if we promote fresh, minimally processed foods, the question is, which ones? Red meat is a minimally processed food, and so are full-fat milk and cream. The current HHS secretary has insisted that red meat and animal fats are good for us, and he's not alone in thinking so. Monteiro has more conventional views, and the evidence is ambiguous. So what exactly should we do?

The war on UPFs is based on the idea that traditional nutrition science will never land on useful answers to these questions. It sees the failures of the past—ill-fated admonitions from experts to cut back on fat, for example, and base our diets, as the FDA once recommended, on starches and grains—as signs of the inherent rot of nutrition science. But there's another way to think about this history. Maybe the nutritionists had the right idea with their reductionist approach to the science, but they did a poor job with the research itself. Maybe a concerted effort to identify precisely what it is about the foods we eat that causes obesity and diabetes, done with far greater care and rigor, would at last produce the understanding that we've sought. If that's the case, then an all-out fight to break the power of the multinational food companies, however righteous that may be, would entail enormous wasted effort—and it may not even work.

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