

ARTICLE

# The citizen choice architect in an ultra-processed world

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(Received 31 January 2023; accepted 31 January 2023; first published online 1 March 2023)

## Abstract

Two concepts shaped and continue to shape the discussion on the limits of a liberal and democratic state. First, Mill's harm principle, according to which the fundamental justification for a state exercising power over individuals is to prevent harm being done to others. Second, the distinction between the public sphere, where liberal democracies can intervene, and the private sphere, where individuals are, in principle, free to do as they like. I argue that both concepts have to be revisited in the context of today's 'ultra-processed' world, in which sophisticated technologies and highly engineered products reach deep into the private sphere, exploiting human psychology and jeopardizing citizens' health and welfare in the interest of maximizing profit. In this ultra-processed world, where the distinction between the public and the private spheres is blurred, systemic interventions such as regulation and taxation, often criticized as paternalistic, are necessary to minimize harm. However, they must be complemented by interventions informed by behavioural science that modify and guide individual behaviours. Beyond the soft paternalism of nudging, people can be empowered to self-nudge – a non-paternalistic approach that enables them to design and structure their own decision environments and choice architectures as they see fit.

**Keywords:** paternalism; choice architecture; self-nudging; harm principle

## Limits of the state, the harm principle and private vs public sphere

The question of what falls under the purview of the state arises time and again. In Germany, for example, this is evident in debates on speed limits on the autobahn, protective measures in response to COVID-19, and taxes on sugary foods to combat the obesity crisis. Governments have a range of tools at their disposal, from outright bans and taxes to less forceful measures such as educational campaigns to doing nothing at all. Faced with urgent challenges such as obesity, governments have sometimes turned to more paternalistic measures. As of 2020, for instance, taxes on sugary beverages had been implemented in more than 40 countries (World Bank, 2020). Some consider this to be an egregious overreach. For example, Germany's Free

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Democratic Party (FDP), part of the country's current coalition government and self-professed custodian of political liberalism, has forcefully rejected the introduction of a sugar tax, arguing that the state has no business in people's kitchens (FDP, 2018). Germany's Food, Beverages and Catering Union – which represents employees in the sugar industry, among others – agrees (NGG, 2015).

Such debates on the boundaries of the state are not limited to Germany's political discourse. All liberal democracies afford special protection to the private domain, where individuals are, for the most part, free to do what they like without the interference of the state. The value of individual liberty and the resulting need for limits on the power of the state has been emphasized by a long line of political philosophers, including Wilhelm von Humboldt (1854/1969), John Stuart Mill (1859/1993) and Friedrich Hayek (Hayek & Klein, 1992). In their view, citizens should determine their own conceptions of a good life and they should do so unhampered by the constraining bonds of a coercive state. This implies a concept of governance in which state power is limited. Taken to its extreme, this concept dictates that governments may only intervene to prevent citizens from harming each other – anything else would be a paternalistic overreach. As Mill (1859/1993, Chapter 1, paragraph 9) wrote: 'the only purpose for which power can rightfully be exercised over any member of a civilised community, against his will, is to prevent harm to others'.

Mill did not precisely define what he meant by harm (others have offered a range of definitions; see Stanton-Ife, 2022). However, he could not possibly have imagined the extent to which today's industries are able to cause harm in the private sphere. I argue that in domains commonly assumed by liberal democrats to fall outside the purview of the state, where people should have the right to behave as they wish, there is now a substantial risk of harm. Modern technologies have become so sophisticated in their capacity to manipulate human desires that they erode people's ability to make choices consistent with their well-being and autonomy. This intrusion into people's private lives has blurred the distinction between public and private spheres (see also Geuss, 2001). It is time to rethink the limits of the state and also of behavioural public policies.

### Ultra-processed, addictive and harmful

If you thought you were eating potato chips when you last popped a can of Pringles, you may be mistaken. There is so little potato in a Pringle, which consists largely of fat, sugar, salt and flavourings, that courts have had to rule on whether it classifies as a potato chip at all (Hayward, 2009). Pringles are a prime example of the achievements of food science and technology. The 'pleasure engineers' (Cross & Proctor, 2014: 17) who created and perfected them went to great lengths to make their product irresistible. They have considered how the sound of the perfect crunch can optimize the perception of crispness and freshness (Zampini & Spence, 2004), how impressions of saltiness can be enhanced through surface texture (van Rompay & Groothedde, 2019), and how package size affects perception of quality (Yan *et al.*, 2014). The Pringle is science, bite-sized – the result of tireless research into how best to weaken people's self-defences. When they said, 'once you pop, you can't stop', they were not kidding.

Pringles are just one example of ultra-processed foods designed to press all our sensory buttons. A recent study found that more than half (57.9%) of the average American's total calorie intake is from ultra-processed food, defined as 'formulations of several ingredients which, besides salt, sugar, oils and fats, include food substances not used in culinary preparations, in particular, flavours, colours, sweeteners, emulsifiers and other additives' (Steele *et al.*, 2016: 2). Policy papers from a wide range of countries and organizations converge in concluding that a high intake of added sugars – and ultra-processed foods account for about 90% of added sugar in the American diet (see Steele *et al.*, 2016) – increases the risk of obesity, type 2 diabetes, high cholesterol, high blood pressure, stroke, heart disease, cancer and ultimately an untimely death (Pagliai *et al.*, 2021). Furthermore, accumulating evidence suggests that the physical and chemical characteristics of these foods might damage the gut microbiome (e.g., Zinöcker & Lindseth, 2018). Serious harm is undoubtedly being done to consumers.

This harm is compounded by a feature shared by most ultra-processed foods: They contain large amounts of both fat and refined carbohydrates – a potent, irresistible and largely unnatural combination. Over millennia, humans have evolved to eat foods such as fruits, vegetables, meat, nuts, honey, beans and seeds, which are rich in either fat or carbohydrates, but rarely in both. People do not experience addictive behavioural responses to healthy natural foods like strawberries, but ultra-processed foods – like alcohol and cigarettes – have been carefully engineered to trigger addictive behaviours (O'Connor, 2021). They not only damage our bodies, they make us crave more.

### Minimizing harm in an ultra-processed world

Many politicians, as well as lobbyists and trade unionists representing the Big Food industry, argue that there are no unhealthy foods: Health problems are caused not by ultra-processed foods, but by an unbalanced diet. By extension, the blame for obesity lies with the individual who fails to curb their consumption. The majority of citizens in Germany, the United Kingdom, and the United States agree (Mata & Hertwig, 2018). Because the government has no right to regulate people's private choices, measures such as sugar taxes and soda bans that infringe on individual liberty are seen as unacceptable.

Public health specialists, on the other hand, attribute the recent rise in obesity to dramatic changes in the food environment rather than to individual failings. Ultra-processed foods have flooded the market. Designed to be convenient, hyperpalatable and highly profitable, they are liable to displace healthier foods. On this view, the unbridled pursuit of profit in the food industry has led to unhealthy products that are designed specifically to get consumers hooked, with serious consequences for their well-being (e.g., Askari *et al.*, 2020). The food industry has stacked the deck against consumers by targeting their ability to resist ultra-processed foods and, by extension, undermining their autonomy. Taking this into account, even proponents of minimal governmental interference may find that interventions such as food taxes and subsidies are legitimate and not the overreach of a paternalistic or even authoritarian state (especially if they can be expected to produce substantial health gains and health expenditure savings, as suggested by, for instance, simulation modelling; Blakely *et al.*, 2020).

The online world is another ultra-processed environment in which the commercially designed choice architecture can undermine users' control and autonomy over their decisions (see Kozyreva *et al.*, 2020). Take, for example, dark patterns – 'user interface design choices that benefit an online service by coercing, steering, or deceiving users into making unintended and potentially harmful decisions' (Mathur *et al.*, 2019: 1). For instance, *obstruction* (i.e., making it easy for the user to sign up for a service but hard to cancel it) is one documented type of a dark pattern; others are *forced actions* (i.e., coercing users to create accounts or share their information to complete their tasks), *hidden subscription* (i.e., charging users a recurring fee under the pretence of a one-time fee or a free trial) or *sneak into basket* (i.e., adding additional products to users' shopping carts without their consent; all descriptions are taken from Mathur *et al.*'s taxonomy of dark patterns that they observed on shopping websites). These and other types of dark patterns in user interface design benefit the online service and steer users into making unintended and potentially harmful decisions. Another example of an ultra-processed environment that reaches deep into the private sphere is the increasing speed and scope of the spread of false information – steered by AI-assisted architectures that filter information on the Internet and shape personalized information environments. These architectures often amplify biases and reduce agency and autonomy, without people being aware of what is going on (Kozyreva *et al.*, 2020). But the information people consume online can be considered part of their private sphere. As such, the state may be justified in intervening if the harm from false information is discernible and significant – for example, by requiring online platforms to remove offending social media posts or suspend accounts (see Kozyreva *et al.*, 2023).

### **An ultra-processed world requires a policy mix**

Modern-day crises such as obesity, social media addiction and online hate speech and misinformation require government action. But treating choices such as what food to eat and what information to consume as belonging exclusively to the private sphere risks placing all responsibility for the harm caused to citizens' welfare and autonomy on the individual while allowing industries to carry on with business as usual. Many people, including public policy makers and behavioural scientists, are inclined to 'frame policy problems in individual, not systemic, terms' (Chater & Loewenstein, 2022: 3). A risk of this individual (i-frame) approach is that it neglects the need for important systemic (s-frame) policies such as regulation and taxation, often derided by corporations as paternalistic. For instance, an i-frame policy such as educating people on the importance of a healthy diet is important, but not enough on its own to help them resist products engineered to be irresistible. At the same time, s-frame policies may fail – for instance, if a tax on sugary foods pushes people to buy foods that are high in sodium and saturated fat instead. There are no simple solutions to complex public policy problems; the best governments can do is to implement a mix of policies addressing both the individual and systemic aspects of the problem. A comprehensive approach that accounts for as many factors as possible is needed, and that is where measures informed by the behavioural sciences come into play.

### Nudging: a soft-paternalistic i-frame policy

There is no question that the concepts of *nudging* and *choice architecture* played a huge role in attracting the attention of public policy makers to interventions informed by the behavioural sciences. Thaler and Sunstein (2008, 2021) defined nudges as ‘any aspect of the choice architecture that alters people’s behaviour in a predictable way without forbidding any options or significantly changing their economic incentives’ (p. x). The goal of these non-regulatory and non-monetary interventions is to steer individuals’ behaviour towards their ultimate goals (e.g., being healthier, wealthier and happier). Examples of nudging (see also Sunstein, 2016) include establishing default rules (e.g., automatic enrolment in savings plans), highlighting social norms (e.g., ‘most people are vaccinated’) and enlisting order effects (e.g., making sure healthier food options are easier to reach in a cafeteria than unhealthy ones).

A public choice architect who knows what people want for themselves can implement nudging to change what the government deems to be problematic behaviour. That is, they can arrange the choice architecture so that it steers people to make choices in their own best interests. Proactively addressing concerns that nudging might be overly paternalistic, Thaler and Sunstein (2003) placed nudges within the framework of *libertarian paternalism*, a soft version of paternalism. They argued (2008, 2021) that nudges reconcile concerns around individual liberty and the paternalistic goals of making people better off. The key distinction for Thaler and Sunstein is that nudges are easily reversible by the person being nudged, whereas hard paternalistic measures are not. An example is a default option such as a company automatically enrolling its employees in a 401(k) savings plan. Because every employee is free to opt out, this intervention should not be considered hard paternalism but rather soft or libertarian paternalism.

Nevertheless, concerns have been raised about the ethics and paternalism of nudging (e.g., Glaeser, 2006; Rebonato, 2012; White, 2013; but see also Sunstein, 2016). One concern is that nudging undermines autonomy (some nudges ‘typically work better in the dark’, that is, when people are unaware of what is going on; Bovens, 2009: 209). Another is that reversibility in principle is not the same as reversibility in practice, and that there may be a trade-off between a nudge’s effectiveness and its reversibility (Rebonato, 2012). Furthermore, nudges can only be successful (not just harmless) if the policy maker knows what makes each individual better off in the long run by their own standards (a problematic assumption for a range of reasons; see Reijula & Hertwig, 2022). Nudges, while popular, are not a failsafe solution. Fortunately, the behavioural sciences can make another contribution to a public policy mix.

### Beyond nudging – the citizen choice architect

Reijula and Hertwig (2022) have proposed a solution that would address some key concerns surrounding nudging: People can learn to use nudges to regulate their own behaviour. This approach is called self-nudging. Self-nudges belong to a class of interventions known as *boosts* (Hertwig & Grüne-Yanoff, 2017). Boosts systematically foster citizens’ decision-making competencies, thus empowering them to make choices in their own best interests while preserving their agency and autonomy. Boosts teach people to make better decisions by and for themselves.

In self-nudging, people are empowered to design and structure their own decision environments, that is, to be *citizen choice architects*. Many of the psychological principles behind nudges are intuitive and therefore quickly grasped. For instance, the reasons default work – because they seem to reflect the status quo, convey an endorsement or simply save cognitive effort – are easy to understand. Citizen choice architects can put this knowledge to work in all areas of their life: They can set a trustworthy news site as their default homepage in order to avoid falling victim to misinformation, and enrol in green energy programmes in order to protect the environment. They can set environmentally friendly defaults on smart home technologies in order to save money and reduce energy consumption (Sintov & Schultz, 2017), and so on.

Self-nudging addresses many of the criticisms raised against nudging. It respects people's autonomy; they are always aware of the intervention and can choose whether to engage with it. Similarly, citizen choice architects can reverse the changes they have made to their decision environment whenever they wish. It also addresses the fact that a public policymaker can never cater to the needs of all individuals in their target group. In self-nudging, the nudger and the nudgee are one and the same. An effective self-nudge will always be in the best interest of the person being nudged since they are the one creating the intervention. As a non-paternalistic and non-manipulative tool, self-nudging allows interventions generated for the public sphere to be adapted for use in the private sphere – if that is what citizens want.

### Self-nudging and limits of the state

A liberal democracy must respect citizens' privacy and their private spheres. Private and public spheres, however, are not easily separable. Digital technologies reach deep into people's private lives; ultra-processed foods impact their food choices and, consequently, their health, well-being and possibly even their social decision-making (Strang *et al.*, 2017). Various industries – Big Tech (Zuboff, 2019) and Big Soda (Nestle, 2015) are by no means the only examples – have exploited human psychology to such a degree that serious harm is being caused. To the extent that harm is a key justification for systemic interventions such as regulation and taxes, the argument that the state has no business in people's private lives risks perpetuating harmful business practices. But systemic interventions need to be accompanied by interventions focusing on the individual – especially when systemic (regulatory) responses are slow or controversial (e.g., vaccination mandates) and the commercial environment (e.g., the digital information ecology or shopping websites) is rapidly evolving. Insights from the behavioural sciences have thus far been used to develop soft-paternalistic interventions in the form of nudging; going forward, they can and should be used to establish non-paternalistic self-nudging. By teaching people how to harness the concepts and principles of nudging, self-nudging gives citizens a tool to use in the private sphere – where they would otherwise be left at the mercy of industries that prioritize profit over well-being.

**Acknowledgements.** I am very grateful to Deb Ain and Susannah Goss for editing the manuscript and to all participants of the 2nd Symposium on the Behavioural Limits of the State jointly run by the London School of Economics Hayek Programme and Department of Social Policy (organized by Adam Oliver).

**Funding statement.** The author declares no specific funding for this work.

**Competing interest.** The author declares no potential conflict of interest.

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