Reducing the Epistemic Gap
A Guide to Empowering the Masses to Recapture Freedom in Modern Technocracies

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Abstract
To have freedom is to be able to make decisions that truly reflect one’s inner values and that come to define what gives life meaning. We are only truly free if we know exactly why we make the choices that we do and can hold ourselves responsible for those choices. However, we are gradually losing our ability to make these decisions ourselves because of the ubiquity of technological complexities in our everyday lives, the dominance of technocratic governance, and the failure of our educational system to keep pace with the technological transformation of the public sphere. Today, the most pressing moral issues no longer concern politics per se but instead its intersection with advanced technologies, whose moral ramifications are simultaneously more global and individual than ever before. Yet, most citizens are unable to engage in discussion of regulating the technologies that play huge roles in their own lives because they don’t understand the science behind them. Instead, they defer to the opinions of experts, often unconsciously, and huge portions of our lives are decided for them. In this essay, I will argue that we must fight against this trend, which I term an increasing epistemic gap between the insufficient amount of knowledge we currently hold and the knowledge we must strive towards if we are to have deliberative democracies. I hold that this poses one of the greatest modern threats to freedom in its purest form and that to shrink this gap, we must promote science and technological literacy in schools, in citizen’s assemblies, and in policymaking circles. By normalizing the inclusion of citizens in the policymaking process and expecting them to have a basic understanding of science and technology, we can come close to closing the epistemic gap and ensuring that we all retain the freedom that we’re entitled to.

Introduction
Jean-Paul Sartre once said, “Man is condemned to be free; because once thrown into the world, he is responsible for everything he does.” Man, the sole creature able to amass enough material wealth and social stability to label such a state of being as freedom, is also the sole creature doomed to never definitively know what he ought to do with it and yet be forced to choose anyway. The more we innovate
and invent, the less we have to restrict us from pursuing what we truly want – and the more terrified we become because who the hell really knows what he or she wants? We fill our time with fleeting relationships and lame jobs to avoid answering this question and avoid admitting that the freedom of existence places on each of us the enormous burden of defining through every choice we make what exactly the purpose of life – the purpose of this day, this hour, this second – is.

But that’s nothing new. We’ve been dealing with this problem of living authentic and meaningful lives at least since the Enlightenment, and arguably long before that. What I wish to discuss here is rather that modern civil society has been slowly stripped of this existential freedom, despite having more material comforts and less violence than any other time period in history. This is because all citizens in advanced nations live under technocracies, where almost every aspect of our lives, from the websites we use to the policies that our taxes fund, relies on the design and knowledge of experts, reducing our ability to choose how we wish to live our lives. As a result, we defer to the opinions of these experts, often unconsciously, and huge portions of our lives are decided for us. While this loss of choice and freedom is unsurprising in advanced authoritarian nations like China, it is extremely concerning in liberal democracies, which rely on informed political participation and deliberation.

In this essay, I deem this ever-widening disparity between the knowledge average citizens hold and the knowledge they need to make autonomous, informed decisions rather than deferring to expert opinion, or worse peer pressure and ideologies, the epistemic gap. I argue that this poses one of the greatest modern threats to freedom in its purest form and that to shrink this gap, we must promote science and technological literacy in schools, in citizen’s assemblies, and in policymaking circles. Before expanding on these cures, I will begin with a brief overview of where this gap is most obvious in civil society and why this is an issue unique to modern technocracies.

The Expanding Epistemic Gap in Technocratic Societies

The term “technocracy” often refers to governments using empirical data and pragmatic, scientific approaches to govern society and create policies. Derived from Greek words tekhnē, skill, and kratos, power, the term finds its roots in post-revolutionary France in the works of Henri de Saint-Simon, who advocated for a form of technocratic socialism, in which industrial titans make up the pool of our political leaders. While technocratic societies and their associated technological progress have created enormous economic growth in industrial societies, they have also given rise to deeply undemocratic systems that undermine the freedom of their citizens. A seemingly unlimited but blind faith in the expertise and leadership of the intellectual vanguards who create this technical knowledge has replaced moral reasoning and democratic deliberation just where we need it. The ethos of technocratic governance, which prioritizes scientific and technological expertise over traditionally political, ideological, or moral judgments, is found throughout civil society and the reasoning we use in everyday decisions.

In his study on technocracies, political scientist Robert Putnam defines technocrats as people “who exercise power by virtue of their technical knowledge.” In this conception, technical elites hold political power and may use the authority of their expertise to advance policies that are not only technical. This definition has been subject to the criticism that upholding individuals with certain educational and professional backgrounds undermines democratic equality and representation as well as the criticism that these individuals may not have the necessary political expertise and will only further their own interests. Others have argued that it fundamentally undermines democracy’s core challenge of obtaining broad political consensus among “the people” to challenge
the self-serving interests of the few. While technocrat-led states do have the advantage of putting national interest above specific party interests, they may also empower a minority of crony technocrats that are driven by self-interest. This may result in rampant corruption, elite capture, and the enactment of morally disastrous policies.

Today, the most pressing moral issues no longer concern politics per se but instead its intersection with advanced technologies, whose moral ramifications are simultaneously more global and individual than ever before. Yet, most citizens, and indeed most policymakers, have a very limited understanding of science and technology, including the actual science behind man-made climate change and how climate scientists arrive at such conclusions, the limits of gene editing and the (im)possibilities of designer babies, how social media companies design their platform to be addictive, the process by which reinforcement learning algorithms generate deep fakes or improve surveillance systems, and the existential risks of value-misaligned AI. However, gene editing, automation, social media, and geoengineering are all technologies with applications that create difficult moral decisions, both policy and personal. The aggregative effect of many individuals failing to understand the algorithms behind deep fakes and thus failing to foresee their risks is a society that allows or even condones the negative consequences. And given that technology seems to operate under Murphy’s law, in that if humans can find an immoral use of whatever comes out of the frontier of progress, it’s almost inevitable that we will, that only increases the stakes of our ignorance. At the very least, if we were to go down those roads and make these mistakes, we must be able to hold each other accountable, rather than point fingers at invisible actors.

Freedom is having the ability to choose, but we currently don’t even understand the options available to us. It is only if we all approach these decisions with the same foundational understanding of the facts at hand that we can have a productive debate about values, instead of talking past each other with incomplete knowledge. If we don’t, as we haven’t time and time again, many of these decisions will be made for us.

**The Cure: Promoting Science and Technological Literacy**

As the applications of science and technology become ever more ubiquitous in our daily lives and ever more morally ambiguous, it is crucial that citizens participate in the decision-making processes that shape their impact. And to be able to participate effectively, as intellectual and thus political equals, citizens must be able to converse in the language of engineering, genetics, neuroscience, computer science, machine learning, etc. Thus, the first cure for overcoming the epistemic gap is investing in educational strategies for informing children and adults alike on important topics in science and technology. Computer science should be taught alongside reading skills, political science majors ought to be required to take courses on the basics of biotechnology, and policymakers must know how to evaluate scientific arguments in favor of or against man-made climate change.

Moreover, a deeper understanding of science and technology ought to be coupled with the ability to think critically about the social and political processes around us and develop a system of values with which we enter these public discussions. It is a travesty that most American high schools don't offer classes in philosophy and that many Americans don't encounter the type of rigorous training in logical thinking that philosophy imparts until college, if then. This must be remedied if we are to equip ourselves with all of the cognitive tools necessary to engage in difficult moral discussions around advanced technologies. Additionally, citizens from a young age should be exposed to recent progress in psychology and neuroscience that enable greater control over our own
cognitive processes. Books like *Thinking, Fast and Slow* by Daniel Kahneman and *Moral Tribes* by Joshua Greene provide insights into how we can be more rational, consistent, and open-minded in making decisions and in our interactions with others.

With this background knowledge, citizens should have a greater say in the policies that regulate these advanced technologies and the corporations that develop them. My final proposal is to set up citizens’ assemblies for all of these potential regulations, similar to the French Citizens’ Convention for Climate, in which 150 randomly selected citizens gather to learn about the climate crisis and set the country’s carbon emissions policies. The same model can be applied to issues surrounding algorithmic bias, surveillance and privacy, social media addiction, AI usage in warfare, abortion, genetic enhancements, and, maybe in the future, the rights of artificial agents, self-driving cars, embryo selection, and brain-machine interfaces. This model can be enhanced by creating national holidays that require citizens to attend local policy discussions or learning sessions that provide deep dives into the technical details of these issues. By normalizing the inclusion of citizens in the policymaking process and expecting them to have a basic understanding of science and technology, we can come close to closing the epistemic gap and ensuring that we all retain the freedom that we’re entitled to.

**Conclusion**

Freedom is a privilege but not a blessing. We are lucky to complain about it, but complain we must, given the huge amount of responsibility it places on us. Freedom requires knowledge, learning, reflection. We are only truly using our freedom if we know exactly why we make the choices that we do. As society becomes ever more complicated, it is incumbent upon us that we keep up with it and not sacrifice freedom for ease of mind. Doing so would be throwing away this great privilege, and with it, all that makes life worth living.

**References**
