

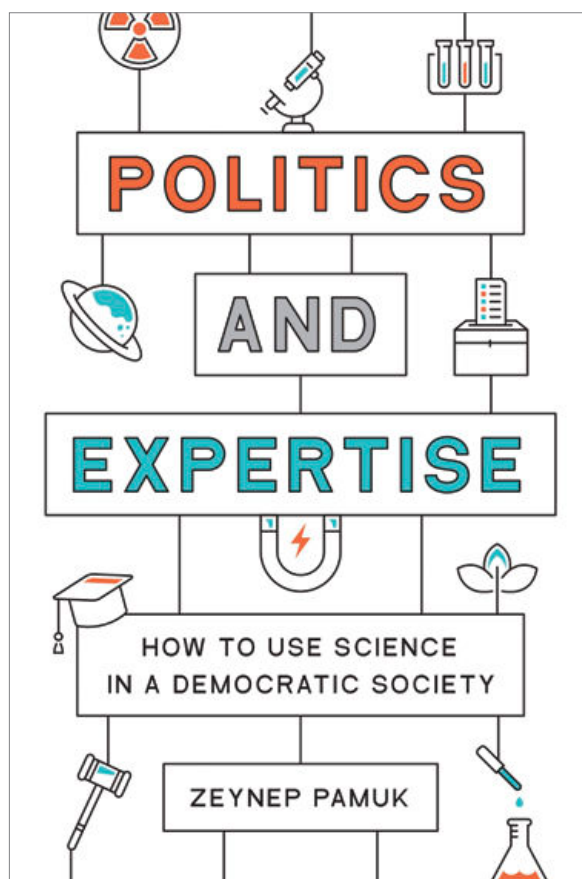
BOOKS

Judging the Science

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In 1801, the French government asked a committee of engineers to decide between two proposed tunnel projects for the Saint-Quentin Canal, which connects waterways northeast of Paris. In the old regime, decisions like this were made by inspectors, who listened to technical reports but came to a final decision on their own. This was the first attempt to derive a decision directly from a panel of experts convened for the purpose. But the committee failed; they decided they weren't qualified to make a final decision. Instead, they issued conflicting majority and minority opinions, enraging first consul Napoleon Bonaparte.

For political scientist Zeynep Pamuk, the author of the timely and well-argued *Politics and Expertise: How to Use Science in a Democratic Society*, this failure is exemplary. The engineering committee recognized, at least tacitly, a core part of her thesis: that it is misguided to expect objective and authoritative scientific decisions under real-world conditions from a panel of experts. "The expectation that committees keep to neutral technical facts is not fully compatible with their fundamental task of providing useful advice to inform policy under conditions of uncertainty and incomplete knowledge," Pamuk writes. What might be called the technocratic ideal—that scientists and other experts are somehow equipped to make neutral, objective determinations about



Politics and Expertise: How to Use Science in a Democratic Society by Zeynep Pamuk. Princeton, NJ: Princeton University Press, 2021, 256 pp.

questions of public policy—is an illusion that ignores the limitations of science and, in so doing, inevitably damages the enterprise and its public credibility.

According to Pamuk, this points to something “intrinsically unstable” in the “partnership between democracy and expertise.” Namely, in laying claim to technical, inaccessible knowledge about broad areas of human concern, scientific experts threaten to take decisionmaking out of the hands of the people and their elected representatives, whether intentionally or not.

Political theory's standard model for avoiding this outcome—which Pamuk associates with the sociologist Max Weber—is to draw a clear line between facts and values. Scientists provide the facts. Politicians, representing the interests of the citizens, add the values. Out of the combination of the two emerge decisions and policies. The trouble is that, in reality, this division between ends decided by the political process and means determined by experts is not nearly as clean as its adherents imagine it to be. They idealize science as capable of providing completely rational prediction unencumbered by values. Even the philosopher Jürgen Habermas, a critic of technocratic encroachment on democratic decisionmaking, assumes, according to Pamuk, that science operates at a purely technical level within its bounds.

To the contrary, Pamuk argues, the very practice of science involves deep uncertainties and dilemmas that require value-based judgments to resolve. Twentieth-century expectations that science would become more and more adept at predicting the behavior of large, complex systems have proven false. She cites COVID-19, climate change, and artificial intelligence as areas of research that have proven intractable for completely calculative prediction. In fact, Pamuk writes, “further research in these areas often increases uncertainty rather than reducing it.” This means that even if citizens democratically set the goals they want science to pursue, they cannot simply hand things off to the experts. Beyond merely beating back undue expert encroachment into practical matters that should be democratically

decided, resisting technocracy requires more democratic input into the funding, dissemination, and use of science.

Given that a scientific apparatus that sticks solely to the facts is simply not possible, citizens of a polity genuinely invested in democratic policymaking must be involved in policy-oriented scientific research to a much greater degree. “The only way to ensure that policies are not determined by the purposes assumed by researchers,” Pamuk argues, “is to submit scientific findings to scrutiny at the decision stage”—that is, when these findings influence new policies.

Pamuk’s preferred mechanism for that scrutiny is a “science court,” where ordinary citizens serve on juries and deliberate over controversial policy issues. Here she is modifying an aborted proposal for science courts developed by physicist Arthur Kantrowitz in the 1960s. Intended to address the low quality of public scientific debate, Kantrowitz’s proposal called for teams of scientists to line up against each other to litigate the facts (and only the facts) around controversial scientific issues, with scientists from uninvolved fields serving as judges. President Ford created a taskforce to evaluate the proposal, but the idea fizzled out after Jimmy Carter’s election.

Pamuk’s revival of the science court idea raises a number of thorny questions and may seem far-fetched, given that much of the current political discourse around science has further devolved since the 1960s and 1970s into thoughtless cheerleading or conspiratorial fearmongering. Nevertheless, it has value—as a thought experiment at the very least.

First, science courts would give citizens legitimate recourse to question and resist policy decisions that are currently made without their input. Under Pamuk’s proposal, a trial would be initiated by public petition around a salient question, such as “Should climate policy A, B, or C be adopted to meet a specified emissions target by a certain

year?” The petitioners would take one side of the issue and be responsible for developing their case, likely with support from invested interest groups or nongovernmental organizations. They would recruit scientists and other experts to testify and argue, drawing on some public funds to do so, while the government-funded staff of the science court itself would take the opposite position and recruit its own scientists to make the opposing case. Crucially, juries would be made up of ordinary citizens—not scientists, as in the original proposal—selected through a process of random sampling in the relevant jurisdiction, whether local or national.

Even so, one wonders how sufficiently diverse interests would be represented, since unlike a legal jury—where jurors are ideally free of bias—many science court jurors would presumably come to the issue with at least some preconceptions. And the jury’s conclusion, rather than that of a scientific committee, would serve as the recommendation to politicians or executive agencies, which raises the possibility that legislators could simply ignore it.

One of the most attractive potential upshots of Pamuk’s proposal is the prospect of actual public debate. Instead of having to merely “trust the experts” and “follow the science” as they are often exhorted to do, citizens would gain an invaluable view into the actual practice of science, if the science court were to function as intended. Ideally, this would go some way to demystifying the scientific process and disabusing the public of the damaging impression that science is an opaque, mechanical procedure for producing objective knowledge about the world.

It would also, one hopes, perform some educative function by giving scientific facts import and meaning. To the extent that the public is ignorant of scientific facts, it is generally because it has no use for them. The passive consumption of information (or

misinformation) without any use value means that its affective value rises to the top. This, I think, is a primary cause of society’s epistemic dysfunction. Because ordinary citizens are largely shut out of actual decisionmaking, they often have little use for scientific information except for entertainment, identity formation, and emotional release. Information is deformed by its various purveyors in order to fit those purposes. A science court—or any innovation that raised the stakes of public discourse by giving ordinary people more of a voice in decisionmaking—might go some way toward repairing the public’s relationship with information.

But observers acutely concerned with epistemic dysfunction and the attendant pathologies of conspiracy theory and misinformation will likely balk at proposals like Pamuk’s, as she is well-aware. Giving a random group of citizens some authority, however measured, over science-based policymaking may sound like precisely the wrong direction to those who feel that the issues are too complex or the stakes too high to be left to nonexperts. Nevertheless, to the objection that juries will lack the competency to serve in this capacity, Pamuk marshals research on jury trials and other “minipublics,” demonstrating that ordinary citizens routinely rise to the task at hand on even the weightiest or most complex decisions.

Furthermore, she argues convincingly that greater democratic input into decisionmaking will expose rather than amplify misinformed views. The procedures of the science court wouldn’t allow just any crank to get a hearing, and to the extent that prevalent unreasonable opinions would be considered, the public would benefit from seeing them exposed to rigorous criticism and debunking. “Without respectable public platforms where the falsehood and bad faith of these claims can be exposed,” Pamuk writes, “even more people may begin to find these views credible.”

Consider the current methods for handling such views in the public sphere: media fact-checks or misinformation warnings on social media posts. However convincing a fact-check or warning label might be on the merits, its audience is usually limited to those already disinclined to believe the falsehood. The overall impression these interventions create is of expertise trying to reassert control, rather than winning over opponents by prompting careful consideration. This is especially true when it is combined with often-counterproductive attempts to suppress such views online. The net result seems to be yet more suspicion of scientific authorities.

Of course, there's no reason to think that the procedures of the science court would be immune from politicization. Political organizations and interest groups would frequently serve as or back petitioners. Compromised experts would be called on to testify. And the staff side of each trial would likely be accused of bias and its own political motivations in choosing experts and determining procedures. Pamuk, I think, would see this largely as a feature, rather than a bug, however. Ideally, the model would force actors who use science to conceal political motivations to subject their views to the public scrutiny of opposing expertise. That said, there is certainly reason to worry that overpoliticization might overwhelm the adversarial ideals of the court and lead to skepticism of its outcomes. The entire procedure might be hijacked by the most engaged and extreme actors and become yet another venue for dissembling and spin rather than productive debate.

In later chapters, Pamuk offers a similar analysis of the public funding and administration of science. Scientific research has the power to set the policymaking agenda and to develop products—including artificial intelligence applications, surveillance software, and new pathogens—that

may prove antithetical to citizens' conception of the good. For Pamuk, this means new mechanisms are required to enable greater democratic control over the funding of science and pursuit of new research, including the ability of citizens to restrict research with "foreseeable harms."

The book concludes with an extended discussion of COVID-19. The pandemic broke out after Pamuk had written the bulk of the book, but it seems almost tailor-made for her argument. Uncertainty about the virus abounded, yet the policy response to it, which was heavily influenced by scientific modeling and recommendations, was conceived and implemented with little democratic input—despite the complex trade-offs and downstream effects involved. Dissenting voices, including within the scientific community, were sometimes dismissed as a danger rather than an opportunity for productive debate. Pamuk cites the example of Alina Chan, a postdoctoral researcher at the Massachusetts Institute of Technology, whose insistence on a thorough investigation of the possibility that the virus leaked from the Wuhan Institute of Virology was initially met with hostility.

Despite its shortcomings, there is little sign that the response to COVID-19 will be regarded by experts as the red flag for technocratic policymaking that it should be. (Recently announced plans to reorganize the Centers for Disease Control and Prevention may prove to be one exception.) Even if her science court proposal strikes many as implausible, Pamuk's diagnosis ought to inspire further reflection on how to better involve the public in scientific decisionmaking.

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