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Boundary-Pushing Citizen Engagement

A DISCUSSION OF

How Would You Defend the Planet From Asteroids?

BY JASON L. KESSLER, MAHMUD FAROOQUE

READ RESPONSES FROM

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In "How Would *You* Defend the Planet from Asteroids?" (*Issues*, Winter 2023), Mahmud Farooque and Jason L. Kessler reflect on the Asteroid Grand Challenge (AGC), a series of public deliberation exercises organized by members of the Expert & Citizen Assessment of Science and Technology (ECAST) network and NASA in 2014. Center stage were the positive impacts that citizen deliberations had on NASA representatives and NASA decisionmaking. However, the authors lament that citizen engagement at the agency similar to the AGC has not happened again. As Kessler points out, while the value of citizen engagement is acknowledged within NASA to this day, the "interstitial tissue that enables it to happen" is lacking.

In response to this replication challenge, Farooque poses an "existential question" specifically to the ECAST network, but one that resonates more broadly for engagement scholar-practitioners: Should we continue to pursue experimental engagement from the outside or work to concentrate capacity for engagement within federal agencies? While this "outside" vs. "inside" debate remains perennial for pursuing political change, we suggest that the two strategies must work hand-in-hand. From our perspective, the AGC case study provides a road map for how to embrace the nexus of agency process (inside) and boundary-pushing engagement (outside).

First, crucial partnerships between the inside and outside enable success for citizen deliberations. Professionals such as Kessler search and advocate for opportunities and resources for citizen engagement from the inside of agencies such as NASA. Practitioners such as Farooque transport and translate questions, ideas, and perspectives from the outside that expand the immediate priorities of the agency. For example, although NASA presented only two options to focus citizen debate, Farooque explains that citizen discussions produced additional governance questions and options that broadened the impact of deliberation.

Should we continue to pursue experimental engagement from the outside or work to concentrate capacity for engagement within federal agencies? While this "outside" vs. "inside" debate remains perennial for pursuing political change, we suggest that the two strategies must work hand-in-hand.

Second, centering citizen deliberations around agency priorities yields important impacts for agency decisionmaking. In the AGC, a planetary defense officer confirmed in Farooque and Kessler's account that an important outcome of the exercise was learning from public perspectives on

planetary defense and hearing "how important it was for NASA to be doing it." This social learning was valuable to agency decisionmaking, as experiencing this public support somewhat alleviated NASA's decisionmaking gridlock and "pushed it over the threshold." Citizen deliberations organized from the outside might not gain the internal audience to have such impacts on decisionmaking.

Lastly, interaction between agency representatives and citizens energizes both parties. As one participant reported, the opportunity to interact with NASA representatives "made this session special" for citizen participants. Moreover, interactions could be extended to the outside by inviting agency representatives to participate in external events. Continuous agency exposure to public perspectives could in turn build more support for engagement from the inside. The AGC's success as institutionalized citizen engagement came from linking the spheres of agency process and boundary pushing engagement. This inside/outside strategy poses more of a model than a dilemma, as such exercises accumulate to build the "interstitial tissue" that could support a more dynamic, continuous, boundary-crossing engagement ecosystem.

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Mahmud Farooque and Jason L. Kessler's first-person account of how scholars and policymakers worked to integrate public views into NASA's Asteroid Grand Challenge initiative describes the twists and turns involved in deploying a relatively new social science research approach, called participatory technology assessment (pTA), to provide policy-relevant input from members of the public on how NASA should prioritize and implement its approach in designing a planetary defense system.

The article provides many helpful takeaways. One of the most important is that even though there is much talk about the importance of involving the public in discussions about how new technological innovations could impact society, figuring out how to do this in practice remains challenging. The pTA approach—daylong events that combine informational sessions about a cutting-edge area of technology with interactive, facilitated discussions on how these technologies might be best managed—advances a new way of strengthening the link between public engagement and decisionmaking. Over the past decade, the pTA approach has been applied to numerous topic areas, and new efforts are underway as well. This includes a project funded by the Sloan Foundation, led by Farooque at Arizona State University, that will apply the pTA methodology to the issue of how to best manage the societal implications of carbon dioxide removal options—which seek to remove greenhouse gases from the atmosphere—that are in the process of being researched and deployed. This pTA effort heeds the call of two landmark consensus studies from the National Academies that highlight the need for more social science research on the rollout of negative emissions technologies and the ocean's role in carbon dioxide sequestration.

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More funders from philanthropy and government need to be willing to support this innovative social science approach and help to scale its application across a wider range of technological domains. As Farooque and Kessler so tellingly describe, it can be difficult for funders to make this leap. Due to unfamiliarity with the process, there is inevitable uncertainty upfront about the value of these pTA sessions. Since funders may not know what to expect from pTA processes, that can lead to caution in deciding to finance these efforts. Additionally, it can be difficult for funders familiar with supporting expert-driven science to adapt their mindsets and recognize that such public deliberation activities generate invaluable insight into the strengths and drawbacks of different technology governance options.

There are ways of overcoming these barriers. First, experiencing pTA sessions first-hand is key to understanding their value. Kessler helpfully reflects on this point, noting that going into the pTA sessions, NASA "didn't really know what would come out of it," but that as the sessions progressed "it was clear the results could exceed even our most optimistic expectations." Second, funders can view pTA as a methodological tool that can complement more typical social science approaches, such as one-on-one interviews, focus groups, and surveys. Unlike individual interviews, the pTA approach benefits from group conversation and interaction. Unlike focus groups, pTA is structured to engage hundreds of participates over multiple dialogue sessions. Unlike surveys, time is taken to inform public participants about a technology's development and lay out available governance options.

This is a period of experimentation for funders of science, with philanthropies and governments trying wholly new forms of allocating resources, from lotteries to grant randomization to entirely new institutional arrangements. Along with experimenting with how scientific research is supported, funders need to be similarly bold and willing to advance new approaches to social science research, which is critical to ensuring that public views are effectively brought into science policy debates.

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IN FOCUS

Navigating a Polluted Information Ecosystem

Fake news, *misinformation*, and *disinformation* have become bywords for the kinds of false and misleading information that's rampant online. But these terms—and a focus on fact-checking problematic content more generally—provide little understanding of the ways people create and share information. The essays here identify ways to help people navigate today's polluted information ecosystems.