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***Beyond Sputnik: U.S. Science Policy in the 21st Century.* Ann Arbor, MI: University of Michigan Press. xii + 386 pages. ISBN 9780472033065, \$30.00 paper. Homer A. Neal, Tobin L. Smith, and Jennifer B. McCormick, 2008.**

Science policy in the United States manifests persistent tensions that threaten effective action as we move on into the very challenging twenty-first century. Science policy participants share many social values but often use diverging perspectives and employ incommensurate operating logic, evidence, and approaches to consequences and accountability. Scientifically trained policy participants generally favor theoretically relevant research, tight technical definitions, rigorous formal logic, sound experimental methods, and peer review. Political and governmental actors are attuned to the complex and sometimes paradoxical realities of bureaucratic and legislative decision making where several ideologies may thrive, definitions remain vague, no one logical form dominates, evidential rules vary, competing interest groups must be balanced, and accountability is diffused. Public understanding is mediated through print and electronic sources that simplify the complexities of science and politics, persistently conflate science and technology, and construct stereotypic conflict narratives.

The distinguished authors of *Beyond Sputnik: U.S. Science Policy in the 21st Century* ambitiously seek to prepare future participants and to better inform current actors with a broad-ranging treatment of the history, the current situation, and the central challenges of this vital policy area. They seek scientifically and technologically oriented readers, those with policy backgrounds and aspirations, as well as members of the policy attentive public. The book is organized in four sections of five chapters in each. The authors begin with a survey of the main domains of science policy. A historical sketch pivoting around *Sputnik* is provided and measured by federal budget support of science. Key governmental policy players are identified and placed in an initial briefing on the policy-making process. In the second quintet of chapters, the “partners” of the federal government are explored with emphasis on universities, federal labs, industries, states, and the public. The third segment features what the authors propose as the most significant policy issues in the post-*Sputnik* period ranging across national security, the interplay of “big” and “little” science, the necessities of scientific infrastructure, scientific ethics, and science’s demanding educational imperatives. Finally, the authors select some specific future challenges in an increasingly globalized environment to bring together many of the themes, problems, and possibilities touched on in earlier sections.

*Beyond Sputnik: U.S. Science Policy in the 21st Century* is an exceptionally successful textbook in design and organization, in the clarity of its writing, and its potential connections with readers and their informed action. Major scientific research programs and findings are explained in language accessible to intelligent adults. Political and

policy processes are presented in sufficient detail to avoid easy oversimplification or reflexive cynicism. The authors provide relevant and intelligible graphics that illustrate and summarize complicated scientific and policy information. Each chapter includes a “Policy Discussion Box” that poses intelligent, nontrivial questions that flow from the chapter’s materials and can move discussants well beyond mere recapitulation. Each chapter is also buttressed by extensive endnotes providing resource citations and extensions.

A book with such comprehensive coverage and ambition will inevitably leave readers (and reviewers) quibbling concerning some of the multitude of specific details. At the same time, it may leave readers grateful for its inclusiveness and still wanting more. For example, in spite of its frequent use of economic data, the analysis somewhat underplays the pervasive influence of neoliberal market thinking among all the science policy participants. While science-based participants may legitimately bristle at being seen by most of the other policy community actors as just another expensive interest group, competitive market-driven conceptions of science and politics in general, and policy-making in particular, reinforce that understanding. This has consequences for time-related thinking (e.g., scientific horizons are at odds with budget years and quarterly return demands), policy strategies (e.g., agenda setting and the persistent coalitional necessities for federal funding decisions), and prevailing public confusion of science with technology (e.g., science as a near-term solution for specific problems such as a lethal disease, new energy sources, or global warming). The perspective on science as just another expensive commodity has deep significance for the scientific priorities (e.g., distorting the always delicate balance of basic and applied research), for science policymaking (e.g., tipping the coalitional balance in favor of industrial partners), and for science education (e.g., overweighting the immediate educational needs for a scientific workforce to the detriment of scientifically educating democratic citizens).

Overall, *Beyond Sputnik: U.S. Science Policy in the 21st Century* succeeds as a thoughtful, notably well-written, comprehensive treatment of science policy for students, policy community players, and information-seeking readers. It deftly negotiates the difficult textbook terrain of assuming too much of readers without insulting their intelligence. It provides well-researched descriptions, plausible explanations, and thoughtfully mapped action paths for the present and future science policy communities.

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