Book Reviews

The Power of Words in International Relations: Birth of an Anti-Whaling Discourse. **Cambridge, MA: MIT Press. 333 pages. ISBN 978-0-262-55069-7, $26.00. Charlotte Epstein. 2008.**

Charlotte Epstein's book *The Power of Words in International Relations: Birth of an Anti-Whaling Discourse* is an important contribution to critical studies of global environmental politics. Using discourse analysis, she capably demonstrates how both materialist and epistemic arguments for the decline in whaling fail to explain why states not only continue to care so much for whales but why almost half of the United Nations membership has joined the International Whaling Commission (IWC). The evolution of the whaling regime serves as a window into the broader question of normative change in international politics, which the author argues is central to understanding the rise to prominence of discourses. Moreover, Epstein suggests that discourses emerge not merely as symptoms of normative change but as factors of change in and of themselves. This book will interest all students of international environmental politics. Although Epstein's analysis relies on numerous concepts and terms that will be new to readers not familiar with poststructuralist writing, the author offers explanations at appropriate places throughout the book.

Carefully researched, developed, and argued, *The Power of Words* emerges as a manifesto for the social construction of agency in international politics. Epstein suggests that socially constructed agents interact in social fields with their own discursive regulatory mechanisms of recognition and shaming. In these fields, actors' identities and interests are not fixed but continually (re)shaped by prevailing discourses, interactions, and urges of social belonging. Identity construction thus becomes central to understanding the operation of norms in international politics. Unlike in deliberative accounts, however, power operates as an important variable of social inclusion and exclusion, hegemony, and resistance.

The book is divided into three parts. The first part introduces the reader to the past and present world of whaling and the society of whaling states. The second part examines the rise to dominance of an antiwhaling discourse that culminated in the 1982 whaling moratorium. Antiwhaling discourse became a hegemonic discourse not merely because material interest in whaling subsided, Epstein argues, but because environmental activists increasingly operating beyond the traditional space of the state successfully married antiwhaling to discourses on democracy/capitalism and emerging environmental awareness. Furthermore, antiwhaling discourse became powerful because whales came to stand for all endangered species, and endangered species protection meant saving the planet as a whole. Tracing nongovernmental organization (NGO) arguments, Epstein illustrates how the antiwhaling discourse created discourse coalitions of state and nonstate actors wanting to be seen as caring for whales. Saving whales, she argues, became a way for states to establish themselves as "environmental states."

In the third part of the book, Epstein analyzes how individuals and states are socialized into the global antiwhaling economy and polity. Individuals, she argues,

partake in nonconsumptive practices such as whale watching in order to mark themselves as good, antiwhaling citizens. Similarly, states reproduce the antiwhaling discourse at the IWC to mark themselves as green states before the IWC and the world beyond. Conversely, pro-whaling nations such as Iceland, Norway, and Japan view the practice as an integral element of national identity, couched in terms of a sovereign national right, rational, science-based utilization, or the defense of cultural traditions. Turning to "food autonomy/security" and "sustainable use," whaling states have embraced antiwhaling states' own strategy of linking their discourse to broader story lines.

In this way, Epstein argues, the construction of individual and collective identities is inextricably linked to specific discourses and hence more mutable than generally portrayed. Whereas the antiwhaling discourse is more characteristically tied to an individual, deterritorialized identity, however, the pro-whaling discourse is more typical of a collective, nationalistic identity or, as Epstein prefers, subject-position. Incidentally, Epstein argues that the distinction between "subjectivity" and "subject-position" can transcend the dichotomy between a (rationalist) logic of consequences and a (constructivist) logic of appropriateness. At the IWC, she suggests, antiwhaling discourse has permitted states to present themselves as green, ethical, democratic, and civilized, on the one hand, and promote the view that opposition to whaling coincides with neoliberalism because antiwhaling is determined by economic demand for whale watching rather than whale eating. Paralyzed by voting stalemates, the IWC has become a stage for performing whaling and antiwhaling identities.

Epstein's book offers a novel perspective on the evolution of the (anti)whaling regime and powerfully demonstrates the analytical leverage of discourse analysis. Yet the concept of discourse, defined in her case (as elsewhere) to encompass both words and actions, sometimes leaves the reader wondering where a discourse begins and ends. For instance, while Epstein highlights the dialectical relationships between norms, discourse, and (anti)whaling, she spends less time discussing corresponding relationships involving material interests and practices, other than suggesting that shifts in the latter are insufficient to explain continued interest in whaling. By her own admission, whaling would have come to an end eventually because of economic factors alone. Because the value of nonconsumptive uses such as whale watching equaled the value of commercial whaling even before the moratorium was adopted, changing material interests and practices may well have enabled the antiwhaling discourse to come to life in the first place (not just the association of antiwhaling with Cold War and environmental narratives). In the final analysis, such broader questions will no doubt be addressed elsewhere and cannot detract from Epstein's superb scholarly accomplishment.

Jörg Balsiger
Institute for Environmental Decisions, ETH-Zürich

***Adaptive Governance: The Dynamics of Atlantic Fisheries Management*. Cambridge, MA: MIT Press. 391 pages. ISBN 978-0262731928, $27.00 paper. D. G. Webster. 2009.**

D. G. Webster has written an excellent book about the international politics of the management of the Atlantic tuna fishery. In *Adaptive Governance* she argues that

international organizations adapt their regulatory output as new conditions change the interests of member states. In environmental management, this can lead to cycles in which levels of regulatory protection improve in response to worsening environmental conditions but then falter as the new rules stabilize environmental conditions and undermine the immediacy of political concern.

The overall track record of international cooperation to manage international fisheries is not brilliant. Management efforts happen through Regional Fisheries Management Organizations (RFMOs), a set of intergovernmental institutions tasked with creating rules to prevent overfishing. The results of RFMO regulation vary widely by species and over time. What explains this variation? It cannot be explained by environmental need—some species that are in serious trouble, such as bluefin tuna, are among the most poorly managed. Nor can it be explained by the characteristics of species or particular fisheries because management success changes over time even when these characteristics do not. Changing preferences of member nations drive a good part of this variation, but that just begs another question—why do national responses change over time?

Webster proposes to answer this question by creating what she calls the vulnerability response framework. She argues that national responses to overexploitation of fisheries resources are driven by the economic vulnerability of the affected part of their fishery industry. This vulnerability is in turn a factor of the flexibility of the industry (its ability to access other fish resources) and its international competitiveness. Industries that are both inflexible and uncompetitive, such as the American swordfish fishery, are highly vulnerable and will generate an early and strong government response to get effective management in place by any political means necessary. Industries that are both flexible and competitive, such as the Japanese and Korean swordfish fisheries, are only mildly vulnerable to stock decline, and their governments will generally work to block cooperation. When the industry is either flexible but not competitive or competitive but not flexible, it will be gradually or moderately vulnerable, respectively. In these cases, governments' responses will be slower and will focus on compromise regulation.

This framework tells us the positions that relevant countries will take, but it does not tell us which positions will prevail. Webster addresses this issue in the concluding chapter. She argues that national power is a key in determining outcomes but that states representing highly vulnerable fisheries are unlikely to be successful in generating strong management measures on their own. It is only when states with gradually vulnerable industries come to support strong measures that effective management becomes a likely (although not certain) outcome. Often, however, this does not happen until stock collapse has already occurred, and it is too late.

Webster supports her arguments through a detailed examination of the International Commission for the Conservation of Atlantic Tunas (ICCAT). This was one of the first RFMOs to be created and has jurisdiction over various kinds of tuna and tuna-like species throughout the Atlantic. The empirical chapters are organized around individual species, and each provides a thorough overview both of the fishery and of the history of management efforts. Despite ICCAT's poor reputation among environmentalists, it does boast some management successes, and these successes, along with its failures, provide the variation for the empirical assessment of the vulnerability response model. Further empirical work would be needed to

establish that the model works for other RFMOs as well, but intuitively it seems that it should have at least some explanatory power across the range of these institutions. For those readers more interested in the history of fisheries regulation than in analytical models, these chapters provide an excellent overview of ICCAT and of the history of the regulation of the Atlantic tuna fishery.

This book will be of great interest to anyone interested in international fisheries management. It tells ICCAT's story more thoroughly than is done anywhere else and provides a useful model of change in the overall levels of RFMO regulation. The book will also be of interest to students of global governance more broadly. Although the specific model she develops is tailored to the dynamics of the fishery issue, the broader idea of vulnerability response and adaptive governance may prove to have significant applications in other issue-areas of global governance as well.

Samuel Barkin
University of Florida

Institutions and Environmental Change: Principal Findings, Applications, and Research Frontiers. **Cambridge, MA: MIT Press. 373 pages. ISBN 9780262240574, $28.00 paper. Oran R. Young, Leslie A. King, and Heike Schroeder (Eds.). 2008.**

Institutional analysis is an essential and dynamic part of the study of international environmental governance. *Institutions and Environmental Change*, edited by Oran R. Young, Leslie A. King, and Heike Schroeder, brings together and summarizes principal research findings generated by an impressive line-up of scholars associated with the Institutional Dimensions of Global Environmental Change (IDGEC), which was a core project of the International Human Dimensions Programme on Global Environmental Change (IHDP) (see: http://www.ihdp.unu.edu). The IDGEC project operated between 1999 and 2007.

Research associated with the IDGEC project tackled, in different ways, the question of whether institutions matter in addressing environmental problems, and, if so, how. This research reflects the "new institutionalism" turn taken in many social sciences and encompassing several analytical strands. The IDGEC project defined an institution as "a cluster of rights, rules, and decisions-making procedures that gives rise to social practice, assigns roles to participants in practice, and guides interactions among occupants of these roles." As such, researchers analytically separated institutions from organizations and other kinds of agents.

The IDGEC project was designed to be both analytically rigorous and policy relevant. The book fulfills this goal. It builds on insights from a large number of governance systems from the local to the global addressing issues such as the depletion of fish stocks, air pollution, biodiversity loss, ozone depletion, and climate change. Drawing from empirical cases, the book focuses on conceptual issues of causality, performance, design, fit, interplay, scale, and the science–policy interface. The full extent of propositions and arguments offered in each of the book's nine chapters far exceed what can be covered in a short review, but several deserve mention.

Overlapping areas of research foci addressed in several chapters focus on how the design of institutions, including a multitude of environmental regimes,

influences their performance and ability to achieve socially desirable outcomes. This includes the issue of how to evaluate institutional performance. Chapter authors note the importance of designing institutions so that they fit relevant biophysical systems and the environmental problems they are intended to solve. Authors also identify factors that cause mismatches between biophysical systems and institutions, as well as discuss ways in which such mismatches may be addressed, leading to improved governance.

Several chapter authors stress the importance of creating flexible institutions. This is needed to be able to adjust key regulatory and management provisions over time in response to changes in social and/or biophysical systems. To this end, Oran Young, a key member of the IDGEC project, in the introduction chapter suggests that future research should pay more comprehensive attention to the reformation and operation of regimes. Such research is becoming increasingly relevant as a growing number of international environmental regimes reach maturity and face a host of challenges adapting to new conditions.

Design issues are also addressed with respect to multilevel governance. The book observes that effective governance is often dependent on the coordination of governance efforts across multiple geographical scales (global, regional, state, and local). This discussion ties in with studies on how linkages between separate regimes may have both desirable and undesirable effects on policy making and implementation across policy forums. Such institutional interplay is becoming increasingly common as more and more global and regional regimes are established to address environmental issues, becoming politically and/or biophysically linked.

Chapter authors discuss how the growth in global and regional regimes may shape the interests and behavior of organizations and states. This includes efforts to scale up or scale down governance efforts from one level of social organization to another (for example, from the national to regional or from the global to the regional). In these cases, states and organizations may engage in both forum shopping and scale shopping as they seek policy venues that are receptive to their interests. In addition, chapter authors note that governance within and across geographical scales often require efforts to bridge important obstacles to effective science–policy interaction and communication.

As noted by the editors and chapter authors, the many research themes and issues examined by the IDGEC project deserve further analytical attention and empirical research. Several of the analytical and conceptual issues raised within the IDGEC project are continuing to be explored by researchers collaborating under the Earth Systems Governance project, which also operates under the IHDP (see: http://www.earthsystemgovernance.org). Some of the activities to be carried out by researchers associated with the Earth Systems Governance project are discussed in the final chapter of the book.

Institutions and Environmental Change is packed with notable information and insights of relevance to both analysts and practitioners. It is indispensable reading not just for the participants in the Earth Systems Governance project but for all scholars interested in international institutions and the ways in which they influence human behavior and shape collective problem solving. The sharp analysis and clearly presented arguments offered throughout the book provide a significant

platform for future research as well as the development of policy-relevant propositions for improving the effectiveness of environmental governance structures.

Henrik Selin
Boston University

Protectors of Privacy: Regulating Personal Data in the Global Economy. Ithaca, NY: Cornell University Press. xi + 240 pages. ISBN 9780801445491, $39.95 cloth. Abraham L. Newman. 2008.

Technological advances such as splitting the atom or sequencing the human genome often move more quickly than the development of an ethics of how these technologies should be used. The same holds true for the information revolution: the speed with which it has created new possibilities for transmitting data has exceeded that of societies' ability to reach consensus on how much data should be generally available. This gap is troubling for advocates of individual privacy.

In the wake of 9/11, the tug of war in the United States has been between individual privacy and national security, with the federal government attaining broad powers to mine personal data to identify potential terror suspects. In this important new book, Abraham Newman of Georgetown University explores the murkier question of commercial use of private information, in which individual privacy is pitted against the desire of both governments and businesses for access to data for their own purposes.

Newman's focus is on the adoption of a comprehensive regime safeguarding individual privacy in the European Union (EU) and its diffusion to countries with more limited protections, including the United States. This development is puzzling: not only did this EU regime emerge in the face of opposition from powerful European firms and governments but did so in the presence of strong commercial and security rationales for eliding privacy concerns. Newman explains this outcome primarily as a result of the early development of strong regulatory capacity among national-level regulators and experts in Europe. These policy entrepreneurs acquired the expertise and authority necessary to define and implement privacy rules prior to the EU's landmark 1995 privacy directive, allowing them to exert decisive influence on the directive's subsequent design and diffusion.

Newman divides his analysis into three parts, addressing the national, EU, and international phases of policy development in Europe and beyond. Doing so allows him—requires him, really—to address several distinct literatures.

The first phase coincides with the advance of digitization and mainframe computers in the 1970s, in which governments adopted rules of varying strength to regulate the spread of personal data. Newman examines the distinct political arenas in the United States, France, and Germany to show how countries with a larger number of veto points tended to give actors opposed to comprehensive rules (primarily businesses) greater opportunity to block them. He suggests that other explanations for cross-national variation in such rules—different functional responses to distinct regulatory problems or different national legacies of authoritarianism—fail to account for these differences.

The second phase culminated in the adoption of the EU privacy directive in 1995. Newman rejects standard intergovernmentalist and neofunctionalist accounts of EU policy integration, pointing out that the directive was not supported, at least initially, by powerful member-states such as Germany or the UK, by key businesses, or by the usual suspects of supranationalism (the commission and the European Court of Justice). Rather, it was the agency of the emerging network of national regulators, motivated both by a belief in individual privacy and by a desire to protect their regulatory turf, that ultimately promoted and shaped this directive.

The third phase is one of international policy diffusion, with EU regulators promoting or imposing their preferred privacy regulations on often-resistant policy makers in other countries (including the United States). Contrary to the work of Daniel Drezner and others who focus on actors' market power—of which the EU has plenty but not much more than the United States—Newman points to EU regulators' capacity to leverage control over EU market access, the EU enlargement process, and the increase in EU competence in international negotiations to pressure other states to adopt the EU model.

The book's primary contribution is to the literature on transnational government networks, most commonly associated with Anne-Marie Slaughter. Like Slaughter and Steven Vogel, among others, Newman shows that authoritative regulation is not locked in a death struggle with globalization; rather, technological change and economic integration transform the political arena within which rules are designed. The book also enriches our understanding of the EU as an international actor, identifying its primary role as a regulatory superpower—one that does not raise the usual *sui generis* objection about lessons from EU-centered analyses.

Newman's analysis does raise a few questions, some of which are addressed more fully than others. One involves generalizability: does his argument about regulatory capacity travel beyond the privacy case? Newman anticipates this question, devoting two chapters to how regulatory capacity relates to data regulation in the post-9/11 security context. He finds that EU regulators enjoy lower capacity with respect to security issues, leading to more limited internal privacy protections and external influence on international privacy-versus-security debates (especially *vis-à-vis* the United States).

However, one might ask whether the distribution of regulatory power in the world is as clearly bipolar—with the EU and the United States as superpowers—as he suggests. The rise of China begs the question of the limits of intentional policy diffusion: while the EU recently gave Google a seat on an advisory council on data protection, China continues to dictate to Google on how information can be disseminated. This example reminds us that EU or U.S. capacity to project a particular policy model is not independent of the inclination of powerful, sovereignty-vigilant countries like China or India to resist it.

At the micro level, Newman relies on the assumption that regulators are motivated in part by a normative commitment to be "protectors of privacy." He is hardly alone in starting from the image of the beneficent public servant, but those adopting a public choice perspective might demur. This gap is important because although regulators have varying capacities to establish privacy regulations, we cannot be fully confident about the effect of this variation unless we know how strong this normative commitment is or where it comes from. Newman's assertion that Euro-

pean regulators also had turf-related interests in promoting a comprehensive privacy regime closes this gap somewhat but not completely.

These objections are minor. Overall, this book expertly engages and informs several distinct literatures, an uncommon virtue in an era of disciplinary overspecialization. But more important, I think, is that Newman powerfully injects the topic of individual privacy—an issue of major normative, theoretical, and policy importance at the global, national, and individual levels—into the study of international relations. By framing privacy as a civil rights issue—which many would agree it is—Newman's book opens new avenues for exploring not only the highly relevant topic of regulating the international economy but also the tensions among individual liberties, commercial pressures, and security imperatives in a digital world.

Edward A. Fogarty
Colgate University

***Technology and International Transformation: The Railroad, the Atom Bomb, and the Politics of Technological Change*. Albany: State University of New York Press. 265 pages. ISBN 9780791468678, $65.00 hardcover. ISBN 9780791468685, $21.95 paper. Geoffrey L. Herrera. 2006.**

International relations (IR) scholarship, argues Geoffrey L. Herrera, has paid too little attention to the relationship between technological innovation and change in the international political system. In this interesting and ambitious book, he examines two major historical instances of technological change—the rise of railroads and the development of nuclear weapons—and in each instance traces the structural political effects of the new technology at the international level. He also relates the two case studies to an overall theoretical model of the interaction between technological transformation and international system change.

Herrera is critical of IR theory for too often failing to take technology into account. As he notes, many mainstream American theories (specifically neorealism, neoliberalism, and Alexander Wendt's version of constructivism) do a poor job of explaining change in the international system. The common flaw in these theories is an overly narrow definition of international system structure that locates the key mechanisms of change outside rather than within the system, thus requiring the theories to treat systemic change as an exogenous, *ad hoc* phenomenon. Herrera argues that because the international system is historical in nature, a satisfactory IR theory needs to incorporate a generative logic of change. He identifies technology in particular as a mechanism of change that needs to be integrated into IR theory. It is important to note that Herrera's conception of technology encompasses much more than hardware and technical know-how. It also includes the institutional developments that accompany new technologies as they are adopted by societies. The institutional consequences of both railroads and nuclear weapons were far-reaching, producing a substantial reordering of state–society relations in the countries where these technologies were pursued most extensively.

The bulk of the book is taken up by the two principal case studies, both of which are broadly conceptualized and richly detailed. Much of the source material is drawn from the works of historians of industrialization and science and will be new

to many IR scholars. The case studies focus on the institutional and political dimensions of technological development rather than on the technical aspects. For example, much of the nuclear weapons case is devoted to examining how different institutional structures for scientific research in Germany and the United States led to national differences in the way physics evolved as an academic discipline in the late 19th and early 20th centuries.

Technologies, Herrera argues, are "socially constructed," in the sense that their development is shaped by political and social choices. New technologies do not spring up spontaneously or inevitably. Their development requires the allocation of resources that might, depending on circumstances, be allocated elsewhere. With this framework in mind, Herrera offers a persuasive analysis of the complex evolutionary relationship between major new technologies and international politics. In the early stages of a technology's emergence, when its potential economic and military implications are unclear, its development is strongly affected by contingency and human will. As Herrera shows, historical accidents played a crucial role in the evolution of both railroads and atomic physics. Given slightly different circumstances, railroads might never have been developed at all, and the first nuclear explosion might have been delayed by decades. But as a technology continues to develop and its strategic ramifications become more apparent, the role of contingency diminishes. If a given technology offers decisive advantages to those countries that possess it, then the imperatives of survival will compel those countries' rivals to acquire it as well. As the technology approaches maturity and becomes widely diffused, its existence becomes a largely unalterable reality of the international environment. In other words, major technologies may start out from circumstances that are highly contingent, but as they develop they become increasingly embedded in international structure until they form, in effect, a defining part of that structure.

Herrera argues that technology changes the international system mainly by altering the system's "interaction capacity," meaning the speed, scale, and intensity of interactions among states. As he puts it, an international system that relies on horses and sailing vessels for communication is intrinsically different from one that relies on global computer networks. Viewed in these terms, both railroads and nuclear arsenals have certainly made a difference in international politics. But I believe that in making this argument, Herrera actually misses the larger significance of his analysis. Technology does not merely affect interaction capacity: it changes the international system at an even more fundamental level by helping reshape the interests and goals of the actors (states) that constitute the system. Changes in the interests of individual states become "systemic" features of international politics when they are institutionalized as new international norms—for example, the norm that emerged after World War II prohibiting colonial territorial conquests. But technology is just one of the factors that contribute to international system change in this more fundamental sense. Ideology, religion, and the internal administrative and economic evolution of states are crucial as well and will need to be incorporated into any IR theory that aspires to offer a truly satisfactory explanation of systemic change.

Stephen A. Kocs
College of the Holy Cross

Transforming Science and Engineering: Advancing Academic Women. Ann Arbor: University of Michigan Press. xiii + 362 pages. ISBN 9780472116034, $75.00 cloth. Abigail Stewart, Janet Elizabeth Malley, and Danielle LaVaque-Manty. 2007.

Over the past decades, the problem of the underrepresentation of women full-time faculty in science and engineering has generated political discussions, studies, and interventions. Whereas earlier approaches supported individual women through research fellowships, attention has more recently shifted to the academic scientific work environment. The National Science Foundation (NSF) has embarked on a new strategy—targeting academic institutions themselves. NSF ADVANCE Institutional Transformation (IT) grants support efforts to create equitable policies, procedures, and practices to improve the working climate for women professors. Since 2001, over 40 universities have received grants of up to $5 million for five-year projects. This collection of essays is the first to describe these first-generation projects. The book provides valuable insights into the institutional and historical context of ADVANCE IT grants (see interview with Alice Hogan), interventions, challenges, suggestions, and future possibilities.

The introductory chapter by the editors and Susan Sturm's chapter explain both the assumptions and model for institutional change underlying the NSF IT-funded projects. Grounded in social science theories and research, the projects assume that there is no one cause for the small numbers of women in science and engineering. Institutions vary; therefore, there cannot be one solution to the problem. The main issues identified are solo status, token status, stereotyping, and gender schemas that work across the career to create a "leaky" pipeline. The key argument is that institutions do matter and can effectively improve the work environment for women faculty in science and engineering.

The NSF ADVANCE IT model for institutional change uses social science data on the underrepresentation of women and uses perceptions of institutional climate to support raising awareness. The envisioned changes are both "top-down" and "bottom-up." Grants enable key actors to involve other administrators and respected academic leaders (e.g., chairs) in the process. In addition, the model involves mobilizing individual women and men faculty.

The 19 chapters include different case studies that describe the approaches tested at these institutions and their first outcomes. The main goal of the projects is to recruit and retain more women, to get women into leadership, and to improve the "climate" for women to succeed. The solutions vary across the institutions. The institutional settings range from teaching-oriented colleges (Hunter College, University of Texas at El Paso) to major research universities (Georgia Tech, University of Michigan, University of Washington, Case Western Reserve, Kansas State, University of Colorado). The most common efforts include educating, networking, improving mentoring and faculty development, providing new forms of institutional support for women faculty, and transforming institutional practices, procedures, and policies.

For example, several projects are working to change the climate and raise awareness of gender schemas for administrators, hiring committees, and faculty.

Other projects enhance networking for women within institutions through intersecting multiple network structures, peer networks, and networks between women and administrative leadership. Several projects provide innovative institutional supports through small grants for women faculty. Other projects valorize intensive mentoring through stipends to mentors (Vita C. Rabinowitz and Virgina Valian) or support "change agents" with designated ADVANCE chairs (Mary Frank Fox et al.). Finally, projects also include policy evaluations and new policies, for example regarding tenure-clock extensions for parents.

Many of these empirical studies are informed by, and engage with, interdisciplinary social science theories of human behavior, education, organizations, and networks; feminist political science theories of institutional change; and social movement theories. All face the same methodological challenge of not being able to control for factors aside from the intervention; hence, it is difficult to link the projects to the outcomes. While short-term impacts can be assessed, long-term effectiveness cannot yet be determined. Patricia Rankin and others discuss these pitfalls of studying social change while seeking to transform the institution. Several authors demonstrate convincingly how they have assessed the outcomes of interventions with social science data, including surveys of perceptions of effectiveness, and institutional data assessing the representation of women.

The book makes a major contribution to studies of gender and science and raises the broader question of the conditions for change and what feasible interventions to promote institutional transformation look like. Most of these approaches do not center on helping mothers balance family and work but address broader workplace aspects to fully integrate women into science. Most chapters focus on how to create new (informal) communication and networking structures or how to change practices rather than on how to change (formal) procedures and policies. There is also surprisingly little discussion of how the projects work toward increasing top-down accountability mechanisms for decisions, which, according to Kalev, Dobbin, and Kelly (2006), is a major component to promote women and minorities into management in private organizations and which also helps to make networking more effective. The authors found that diversity training was least effective.

The book is accessible to both advanced undergraduate and graduate students in courses in educational policy, gender and organizations, and social movements. Furthermore, it will be of interest to science and technology and education scholars who study conditions for science and innovation research in a changing academic demographic workforce. The ADVANCE IT case studies also provide rich empirical evidence and theoretical insights for social and political scientists interested in institutional change.

In sum, because the book focuses on solutions and documents change, rather than on problems, it is upbeat and a must-read for scientists, engineers, and administrators considering programs for their own campus. The chapters will be useful because they provide practical details: how programs were set up, funded, administered, sustained, and institutionalized. Sue V. Rosser and Jean-Lou A. Chameau discuss conditions for change by offering a set of questions for actors to use to determine whether their institution is ready to embark on such projects. Based on the experiences of ADVANCE IT projects in general, Lee Harle concludes

the volume by describing low-cost interventions that institutions can adopt without generous funding.

Kathrin Zippel
Northeastern University

Reference

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