

*Philip Auerswald and Iqbal Quadir*

## Introduction to the Inaugural Issue

If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea... He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me. That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature...

—Thomas Jefferson, Letter to Isaac McPherson, August 13, 1813<sup>1</sup>

An English country doctor by the name of Edward Jenner discovered in 1796 that inoculation of humans with cowpox conferred immunity to smallpox. To describe the process Jenner coined the term “vaccination,” derived from *vacca*, the Latin word for cow. When the British Royal Society assented to publish Jenner’s findings in 1798, the work was greeted more with derision than with acclaim. Few believed that fluid from a diseased animal could confer benefits to human beings. The doubters were mistaken. Vaccination became a widespread practice. In 1966 the World Health Organization (WHO) launched an effort to eradicate smallpox on a global scale. By 1980, almost two centuries after Jenner’s discovery, there was no longer a single case of smallpox anywhere in the world.

By what process did the invention of the vaccine ultimately lead to the global eradication of a dread disease? Jenner’s work obviously was only the beginning of a long story. The eradication effort required leadership and long-term vision, detailed planning, flexible organization, ingenuity, and hard work on the part of many people. Initially employing a child’s toy construction kit, scientists at the Lister Institute in London developed a method of freeze-drying the vaccine, aiding in storage and transport. Benjamin Rubin of Wyeth Laboratories collaborated with Gus Chakros of the Reading Textile Machine Company to design the bifurcated needle, aiding in administration of the vaccine.<sup>2</sup> To address problems faced in the practice of large-scale vaccination, fieldworkers involved in the WHO eradication effort developed novel approaches, including smallpox recognition cards, watchguards, reward programs, rumor registers, and containment books.<sup>3</sup> Managers and supervisors encouraged experimentation by field workers, and facilitated communication among them.

Discovering the process of vaccination required insight and ingenuity; ending smallpox required a series of innovations.<sup>4</sup> Other cases exist in which technology and novel forms of organization have been employed to address public challenges on a global scale. Yet while problems with major implications for social welfare may be the first to get attention, those with relatively easy answers usually are the first to be solved. In part for this reason, the mag-

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nitide of present challenges exceeds that of past successes. In an era in which the secrets of the genetic code have been unraveled and fundamental processes of life are being newly understood, people everywhere still face a future marred by the stark realities of global climate change, the proliferation of weapons of mass destruction, and the spread of infectious disease.

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And while the beneficial impacts of technological change have been dramatic, they have not been broadly shared. The majority of people in the world continue to live in persistently poor places, where the local environment is deteriorating and sickness is a daily fact of life.

Existing institutions and incentive structures may or may not be adequate to address these challenges. If the past is any guide, continued progress in addressing public challenges will require con-

tinued innovations—the efforts of individuals, groups, and communities who creatively employ new organizational forms, and in many cases new technology, to effect discontinuous change.

This journal is about such innovations and the changes that they bring about. It is less about what needs to be done, and more about what people are doing. Our purpose is to capitalize on the fundamental nature of innovations. Innovations can be copied and possibly scaled up. Innovations open up new possibilities and create the ground for yet more innovations. By drawing attention to innovations in the public interest, we intend to encourage critical thinking about them, and to spur their proliferation.

#### WHY INNOVATIONS?

Academic journals addressing public challenges typically are structured to address the general characteristics of problems rather than particulars of solutions. The problems in turn are binned by academic field of inquiry: for example, environment, development, health, and energy. However, as illustrated by the smallpox eradication effort, solutions often draw from multiple disciplines and modes of expertise. The conventional approach is successful in motivating communities of scholars to advance the frontiers of understanding within disciplinary boundaries—a key component of long-term advances in the social as well as the natural sciences. The system is less successful in providing guidance to those seeking near-term options for action leading to lasting solutions. Important insights with potentially broad application are often lost simply for lack of a common space where they can be found. By focusing on the particulars of practice, *Innovations* is intended to complement existing journals, providing a common space that cuts across academic disciplines, bridges theory and practice, and links human action with global impact.

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This journal emphasizes the reciprocal interaction between technology and society. We are particularly interested in the actions of innovators who employ technology to change relationships and thus transform governance.<sup>5</sup> Here, “governance” refers to the institutions, processes, and traditions that determine how power is exercised, how citizens are given a voice, and how decisions are made on issues of public concern. “Technology” refers to things and processes derived from science and put to practical use. We consider the inspiration and impacts of innovations across multiple scales of analysis, both spatially (local, regional, and global) and temporally (short-term, medium-term, and long-term).

Why this focus? In the past century, technology has fundamentally changed the human experience. It shapes, and is shaped by, our institutions. Today, community, political, and business leaders are challenged to make critical decisions about technology. These decisions transcend state boundaries and have impacts over multiple time scales. They affect both our man-made and natural environments. Understanding their impacts and implications and broadening that understanding can influence the kind of human society we are able to build and the kind of natural environment we are able to protect.

### ORGANIZATION OF THE JOURNAL

Each issue of *Innovations* will consist of four sections.

The first section will be an invited essay on the topic of innovations, focused on the interaction of technology and governance in a global context. In this essay, an authoritative figure will think through a policy issue—interpreting a long-term trend, identifying an emergent pattern, and/or assessing the accuracy of conventional wisdom.

The second section will consist of analyses of innovations in practice. These case narratives will be authored either by, or in collaboration with, the innovators themselves. Each will include discussion of motivations, challenges, strategies, outcomes, and unintended consequences. Each case narrative will be followed by commentary from an academic discussant. The discussant will highlight the aspects of the innovation that are analytically most interesting, have the most significant implications for policy, or best illustrate reciprocal relationships between technology and governance.

The third section will consist of accessible, policy-relevant research articles subjected to a process of peer commentary and/or review. We are particularly interested in publishing research that links practice and policy—micro and macro scales of analysis. The development of meaningful indicators of the impact of innovations will be an area of editorial emphasis.

The fourth section will consist of perspectives on policy. This section will publish analyses of innovations by large-scale public actors—national governments and transnational organizations. These analyses will consider the success and failure of policy informed by both empirical evidence and the experience of policy innovators. The development of improved modes of governance to facilitate and support innovations will be an area of editorial focus.

As the journal develops, we will use published content as the starting point for ongoing conversations among readers and authors. We will publish reader feedback and will host forums on topics addressed, engaging both practitioner and scholarly communities. This process is central to our undertaking. As editors of the journal, we do not view particular innovations presented as definitive or exclusive of others. Rather, it is through the exchange of ideas concerning the innovations that we hope better solutions will arise.

A DEDICATION<sup>6</sup>

The contributions to this inaugural issue establish the novelty, breadth, and analytic rigor of the material that we will publish in *Innovations*. As the biographies that accompany each article indicate, the authors are an exceptional group. We are grateful to all of them for their efforts in bringing this inaugural issue of *Innovations* to fruition.

Among them is one who we would like to acknowledge in particular. Jean Lanjouw was the first person we invited to author a contribution to *Innovations*. We sought her participation because we admired the singular manner in which she was able to maintain the highest technical standards in her scholarship at the same time that she demonstrated a deep and unwavering commitment to addressing issues of profound societal importance.

Lanjouw made important contributions in a variety of areas. Her series of studies on patent litigation and on the value of patents were widely-read and influential. Lanjouw also made significant contributions in economic development. She studied the role of land titles in urban squatter communities in Guayaquil, Ecuador, and emphasized their interaction with informal property rights. Her development of statistical tools that combined census and detailed survey data so as to view poverty and inequality at the village or neighborhood level, received much attention from academics and development practitioners. But her most influential work focused on empirically understanding the relationship between policies regarding intellectual property rights and economic development.

Debates about intellectual property rights are almost always heated. This is particularly true with regard to policies that relate to the impact of patents on access to critical medicines in the developing world. Yet there has been relatively little empirical research into patent policy and its implications. Lanjouw threw herself into this arena and came up with original and daring policy prescriptions.

The article of Lanjouw's that appears in our inaugural issue was first published as a Brookings working paper in 2001. Shortly before its release, the *Wall Street Journal* reported that "Yale University economist Jenny Lanjouw's plan—in which pharmaceutical companies would surrender patent rights for any new AIDS drugs in poor countries but enforce them in rich ones—is creating a stir at the World Bank and United Nations agencies. Executives at Merck & Co., the drug giant, are reviewing it, and the Treasury Department held a seminar on it last week... While the proposal... is far from being implemented, it is attracting attention from policy makers eager to find a way to address the AIDS epidemic, particularly in sub-Saharan Africa."<sup>7</sup>

For four years, Lanjouw devoted substantial time to meeting with government officials and business leaders in settings as varied as corporate board rooms, the National Institutes of Health, and the World Economic Forum. Yet despite initial interest (and tireless engagement by Lanjouw), there was little movement. In June 2005, four years after the publication of Lanjouw's Brookings paper, the *Washington Post's* Sebastian Mallaby sought to redirect attention to Lanjouw's proposal. "There's an appetite to spend taxpayers' money on buying existing vaccines and on a 'pull mechanism' for new ones. But there's a third challenge in this medical battlefield: How to make drugs that have been invented for rich countries available in the poor world... Jean Lanjouw advanced a solution to [this] problem [in 2001]. The idea would cost nothing: It merely involves drug companies giving up patent protection for heart pills and sim-

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ilar medicines in the poor world. Since poor countries buy almost none of these medicines anyway, giving up patent rights in those markets doesn't hurt the drug firms. But it would mean that cheap generic versions of these medicines could be distributed to poor consumers."<sup>8</sup>

Lanjouw's intention was to update the paper printed here, describing her experience in seeking to understand and influence the public policy process on the vital topic of pharmaceutical availability in developing countries. She did not have the opportunity to do so. She died on November 1, 2005, at the age of 43, three months after learning she was ill.

We dedicate this inaugural issue of *Innovations* to her memory.

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1. Text from the Electronic Text Center at the University of Virginia Library, <<http://etext.virginia.edu/jefferson/quotations/jeff1550.htm>>; archival reference given as ME 13:333. A taper is a candle.
  2. Jack W. Hopkins, *The Eradication of Smallpox: Organizational Learning and Innovation in International Health*, (Boulder, CO: Westview Press, 1989).
  3. Lawrence B. Brilliant, *The Management of Smallpox Eradication in India*, (Ann Arbor, MI: University of Michigan Press, 1985).
  4. In preparing this brief description of smallpox eradication we benefited from Chun Wei Choo, "The World Health Organization Smallpox Eradication Programme," unpublished manuscript. <<http://choo.fis.utoronto.ca/fis/courses/lis2102/KO.WHO.case.html>> last accessed 2/8/2005.
  5. We distinguish innovations in technology and governance by assessing them against five key measures: relevance (extent of link exist between technology and governance), novelty, effectiveness, significance, and transferability. We developed these measures with Winthrop Carty in the course of the Innovations in Technology and Governance (ITG) project, sponsored by the Ash Institute for Democratic Governance and Innovation at Harvard's Kennedy School of Government, with support from the Center for Science and Technology Policy at George Mason University's School of Public Policy and the Ford Foundation.
  6. We thank Peter Lanjouw for his help in preparing this dedication.
  7. Michael M. Phillips, "Yale Economist Envisions AIDS-Drug Plan With Two Markets for Companies' Patents," *Wall Street Journal*, 2001 June 13.
  8. Sebastian Mallaby, "Pills for The Poor," *The Washington Post*, 2005 June 20.

*We invite reader comments. Please send an email to <[editors@innovationsjournal.net](mailto:editors@innovationsjournal.net)>.*