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A Biographical Memoir by Bonnie J. McCay and Joan Bennett

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ELINOR CLAIR **OSTROM**

August 7, 1933-June 12, 2013 Elected to the NAS, 2001

Elinor "Lin" Ostrom was a political scientist, pragmatic thinker, prolific author, and international consultant in the field of common pool resources. At the time of her death on June 12, 2012, she was a Distinguished Professor of Political Science at Indiana University, senior research director of the Vincent and Elinor Ostrom Workshop in Political Theory and Policy Analysis at IU, and founding director of the Center for the Study of Institutional Diversity at Arizona State University. In 2009 she shared with Oliver E. Williamson the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, being cited "for her analysis of economic governance, especially of the commons."



Eleni Ostrom

By Bonnie J. McCay and Joan Bennett

Lin's pathway to the Prize was unusual: During her entire

career she identified herself as a political scientist not an economist. Moreover, her provocative research challenged a deeply entrenched concept concerning the management of common resources. What was it about her background that equipped her to challenge an established paradigm and become "the first woman to receive the Nobel Prize in Economics"?

Born Elinor Clair Awan on August 7, 1933, in Los Angles, Lin was an only child raised in a poor household. Nevertheless, her mother arranged for her to attend the prestigious Beverly Hills High School. Many years later Lin wrote, "While it was a challenge being a poor kid in a rich kid's school, it did give me a different perspective on the future." Moreover, the high school provided an outlet for her competitive streak, and the competitions she engaged in as a member of the debate team had a lasting impact on her approach to problem solving. Debaters had to learn how to make good arguments in support of—and against—both sides of an issue.

Lin graduated from high school in 1951. Although her mother had encouraged her to attend an elite high school, she saw no reason to give her financial support for college.

Luckily, fees at UCLA were low enough at the time that she was able to work her way through college with part-time jobs at the library, at the book store, and in the economics department. In an early indication of her formidable intellect and discipline, she finished her B.A. in political science in three years, debt free and with honors. When she entered the job market in 1954 she learned that women were expected to type and take shorthand. She took a correspondence course and learned shorthand—a skill she never used in a secretarial capacity but later turned to her advantage when she was taking field notes.

After several years working in business, Lin returned to UCLA for graduate school, obtaining an M.S. in 1962 and a Ph.D. in 1965. While in graduate school she married political scientist Vincent Ostrom. For her graduate research she worked as part of a team studying the water industry in southern California. Specifically, her project involved the West Basin Municipal Water District, a system that serves 17 suburbs of Los Angeles and parts of L. A. County. In her Nobel autobiography, she wrote, "Without knowing I was studying a common-pool resource problem, I became very familiar with the kinds of problems that users of a common-pool resource face in trying to manage such a resource."

The year Lin finished her Ph.D., Vincent was offered a full professorship at Indiana University in Bloomington. Fortuitously, the IU Department of Political Science needed someone to teach a course in American government. In those years, academic jobs for women were hard to come by, and Lin gladly accepted a position as a visiting assistant professor in the department. The following year, she became graduate advisor and was offered a tenure-track appointment. There followed a rapid climb up the academic ladder in the political science department, becoming professor in 1974. She also came to hold a part-time professorship in the School of Public and Environmental Affairs. Eventually she became the Arthur F. Bentley Professor of Political Science and finally Distinguished Professor at IU. She also was Founding Director of a Center for the Study of Institutional Diversity at Arizona State University, established in 2009. She served as chair of the department from 1980 to 1984 and acting chair from 1989 to 1990.

Key to Lin's early success was her role, together with Vincent, in founding the Indiana University Workshop in Political Theory and Policy Analysis in 1973, and co-directing it until 2009 when she became senior research director. This interdisciplinary forum for academic collaboration was purposely called a "workshop" based on Vincent's philosophy that science is a form of artisanship (V. Ostrom, 1980).

Renamed for the Ostroms in 2011, the Workshop remains a major international center for interdisciplinary collaboration on institutions, incentives, and behavior as they relate to policy and governance. Its central themes remain self-governance and democratic

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reform, joined since the 1980s by Lin's focus on collective action in the context of sustainable natural resources. The Ostroms' visit to the Center for Inter-disciplinary Research in Bielefeld, Germany, in 1981 was the beginning of the internationalization of the Workshop, which became a go-to place for leaders of new nations seeking guidance about democratic governance. Further visits to Bielefeld stimulated Lin's interest in game theory, which became a key tool in her subsequent work. She also co-directed a major NSF center at IU, the Center for the Study of Institutions, Population, and Environmental Change, from 1996 to 2006.

Lin's dissertation work took place before the publication in *Science* of the famous article by G. Hardin entitled "The Tragedy of the Commons," (Hardin, 1968), but at that time her empirical approach to questions about resource management attracted little attention. Hardin's metaphor of a tragic commons describes situations in which individuals "acting rationally in their own self-interest" deplete a shared limited resource such as a pasture, inevitably resulting in its destruction. Hardin felt that there were only two ways to address the problem: Either resources had to be divided up and privatized, or the government had to intervene and impose regulations. Hardin's article had an enormous impact on the thinking of this era, and the "tragedy of the commons" became a prevailing metaphor that supported policies and practices to convert common lands and resources to private ones or to replace local arrangements for managing commons with top-down government regulation.

Lin, on the other hand, put little faith in simple metaphors and theories not buttressed by empirical observation, or on reliance on government for solutions. She and Vincent pointed out the need to distinguish between "common pool resources," a type of resource, and "common property," a kind of institutional arrangement about ownership and responsibility. This was an important early step toward her later work on the potential for small-scale local management of common pool resources. Toward this purpose she reviewed fieldwork-based empirical studies on a variety of common-pool

resources—fisheries, water for irrigation, grazing lands—for her landmark book, *Governing the Commons* (E. Ostrom, 1990).

In that volume Lin identified the ways in which ordinary people around the globe have came together, often in stable arrangements lasting for centuries, to manage common resources such as forests, fisheries, and water supplies. She asked, "What works?," and she identified key design principles found in the many ways in which people have been observed to cooperate with each other without resorting to private ownership or government regulation. These principles, though often challenged and sometimes modified, inspired decades of research on management of common pool resources, local to global (Agrawal, 2007) (Cox, Arnold, Villamayor Tomas 2010).

The ideas developed in the Governing the Commons project came to function as middle-range theory. That theory and Lin's commitment to theory-inspired empirical research led to further comparative research on the capacity of people dependent upon common pool resources, with some "common property" rights, to develop resilient and effective systems for protecting those resources for the future. An important example, one that underscored her commitment to the use of scientific methods in social and interdisciplinary science, was her leadership in a long-standing interdisciplinary and transnational program on forest use and management, the International Forestry Resources and Institutions (IFRI) research program. It has resulted in the training of scholars in methods of consistent data collection to ensure comparability and a unique database for more than 250 sites in 15 countries (Tucker, Agrawal, & Fischer, 2010).

Lin and her colleagues learned that the forms of these cooperative arrangements varied considerably from place to place, and that context and complexity mattered. University of Chicago law professor Lee Anne Fennell has summarized this perspective into something she calls "Ostrom's Law"—namely, that "A resource arrangement that works in practice can work in theory." Left to themselves, groups of people can figure out ways of sharing resources without depleting them and without tragic outcomes. On the other hand, collective action does not inevitably emerge. Lin always suggested that if the approach of theorists or policy-makers is too simple, "We lose an understanding of what's going on out there." As she wrote in *Governing the Commons*, "Relying on metaphors as the foundation for policy advice can lead to results vastly different from those presumed to be likely." Lin's more recent work sought to inform scientists and policymakers about complex and dynamic systems, at scales that range up to the global. She developed a general framework for the analysis of "social-ecological systems" (E. Ostrom, 2009) that now influences

scholarship on complex systems and coupled natural and human systems. She effectively communicated the dangers of single-solutions or panaceas (E. Ostrom, 2007; E. Ostrom, Janssen, & Anderies, 2007) and spoke publicly about the need to address major issues, such as climate change, from a wide variety of institutional, spatial, and temporal scales, or what she and Vincent called polycentric systems (E. Ostrom, 2012).

Over her long and productive career, Lin's international activities included extensive field experience in Kenya, Nepal, and Nigeria, as well as research visits to Australia, Bolivia, India, Indonesia, Mexico, the Philippines, Poland, and Zimbabwe. Through the Workshop and research grants, she and Vincent supported many foreign students, visiting researchers, and policy-makers. They had no children of their own, and used personal funds as well as efforts to obtain grants to help others. In a 2010 interview, Lin noted that because they had no family to support, "I was not ever concerned about salary, so that's never been an issue for me. For some colleagues who have big families, and all the rest, it's a major issue." Indeed, when she chaired the Department of Political Science (1980-1984) she recalled that "...I purposely kept my salary at zero because our junior faculty were just—we weren't competitive, you know?" (Annual Reviews Conversations 2010).

Her ground-breaking research received support from the National Science Foundation, the Andrew Mellon Foundation, the Hynde and Harry Bradley Foundation, the MacArthur Foundation, the Ford Foundation, the Food and Agriculture Organization of the United Nations, U.S.A.I.D., the U.S. Geological Survey, the U.S. Department of Justice, and the National Institute of Mental Health.

She was active in a number of professional associations, in particular the American Political Science Association, serving as vice president in 1975-75 and president in 1996-97. From 1984 until her death she was active with the Committee on Professional Careers and Standards, Women's Caucus for Political Science. She was also president of the Public Choice Society (1982-1984), the International Association for the Study of Common Property (1990-91), and the Midwest Political Science Association (1984-1985).

Lin was an editorial board member for 24 journals, including the *American Journal of Political Science*, the *Journal of Institutional Economics*, the *Proceedings of the National Academy of Sciences*, and *Science*. She was awarded 12 honorary doctorates from universities all over the world and more than 25 major awards for her contributions. She was elected to the American Academy of Arts and Sciences in 1991 and to the National Academy of Sciences in 2001.

One of us (BM) had the great good fortune to be a colleague and friend of Lin Ostrom. She was a wonderful mentor and associate, highly disciplined, very honest, and exceptionally generous. She and Vincent lent their time, talent, and personal resources to hundreds of students and foreign visitors; their welcoming spirit and collegiality are commemorated every year in the WOW (Workshop on the Workshop) gathering at Indiana University. She understood and by example communicated the idea that academic work, like the common resources she studied with her husband and her students, can benefit from cooperation.

In summary, Elinor Ostrom's belief that ordinary people have a large body of common sense was grounded in her scholarly research. Her legacy will continue to have enormous practical, political, and ethical implications for policies toward public health, climate change, environmental resilience, population growth, and other pressing issues of the 21st century.

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