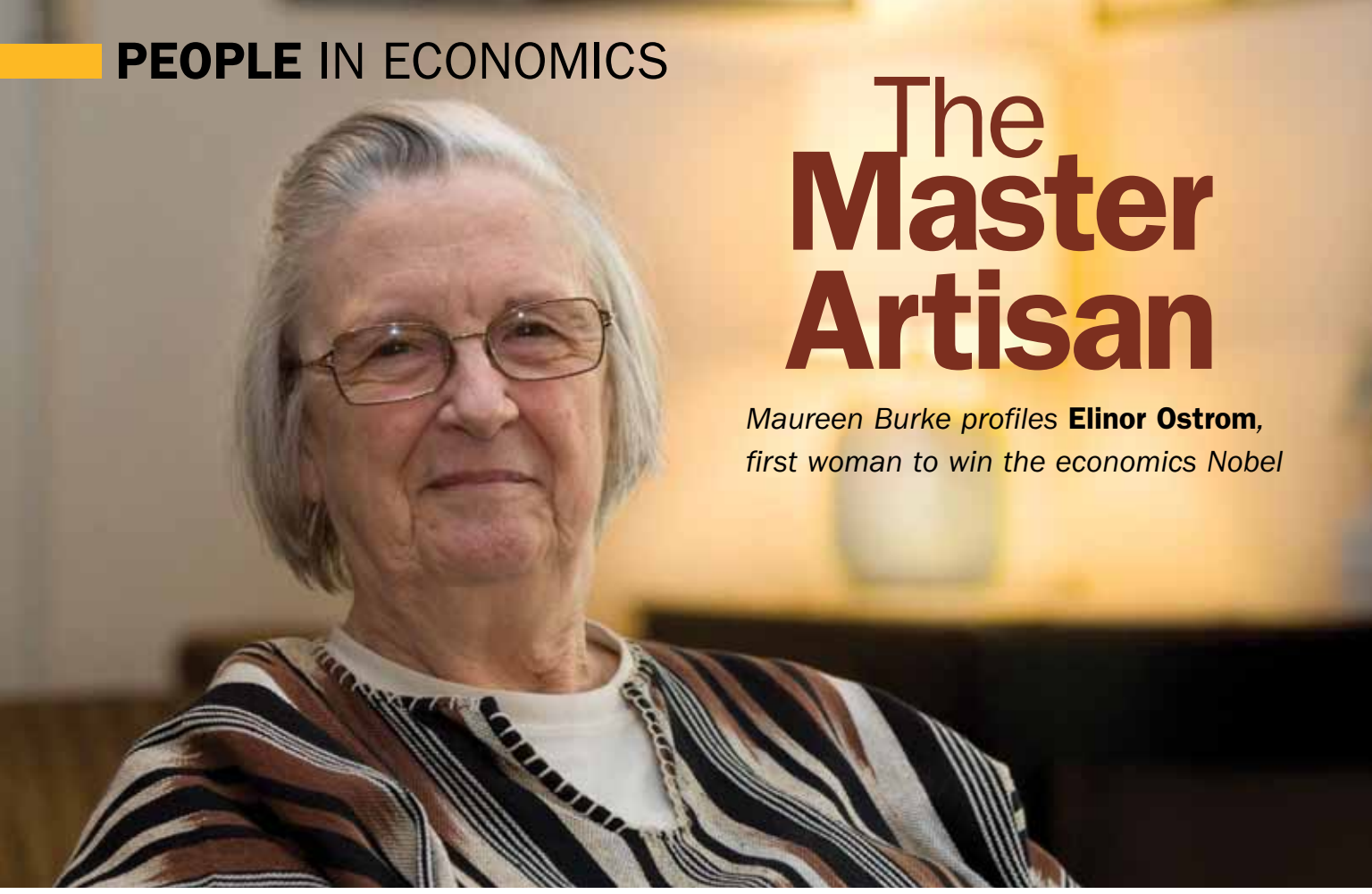

The Master Artisan

Maureen Burke profiles **Elinor Ostrom**, *first woman to win the economics Nobel*

WHEN Elinor Ostrom won the Nobel Prize for economic sciences in 2009, it raised some eyebrows. University of Chicago economist and *Freakonomics* coauthor Steven Levitt wrote in his blog on the day the prize was announced, "If you had done a poll of academic economists yesterday and asked who Elinor Ostrom was, or what she worked on, I doubt that more than one in five economists could have given you an answer."

But Paul Dragos Aligica was not surprised in the least. "The entire philosophy of institutional diversity—of going beyond the dichotomy of market and state—is one of the most revolutionary paradigms suggested in the last 20 years or so for the social sciences," says Aligica, a former student of Ostrom's who is now a Senior Research Fellow at George Mason University's Mercatus Center.

In awarding Ostrom the Nobel for her analysis of economic governance, the Royal Swedish Academy of Sciences observed that her work "teaches us novel lessons about the deep mechanisms that sustain cooperation in human societies." If the choice of Ostrom—along with corecipient Oliver Williamson of the University of California at Berkeley—was viewed by some as offbeat, others saw it as an appropriate reaction to free-market failures highlighted by the 2008 financial crisis.

Ostrom, the first woman to receive the Nobel in economic sciences, is less concerned with markets than with the economic activity that does not get reflected in markets—within households, firms, associations, agencies, and other organizations. She has shown how common resources—forests, fisheries, grazing lands, and water for irrigation—can successfully be managed by the people who use them, rather than by governments or private companies.

She is perhaps best known for debunking the "tragedy of the commons," a theory put forth by biologist Garret Hardin in 1968. In an article by the same name published in the journal *Science*, Hardin theorized that if each herdsman sharing a piece of common grazing land made the individually rational economic decision of increasing the number of cattle he keeps on the land, the collective effect would deplete or destroy the commons. In other words, multiple individuals—acting independently and rationally consulting their own self-interest—will ultimately deplete a shared limited resource, even when it is clear that it is not in anyone's long-term interest for this to happen.

Ostrom believes that the "tragedy" in such situations isn't inevitable, as Hardin thought. Instead, if the herders decide to cooperate with one another, monitoring each other's use of the land and enforcing rules for managing it, they can avoid the tragedy.

Ostrom—who holds a Ph.D. in political science—may not be a traditional economist, but 2001 Nobel laureate George Akerlof (see *F&D,* June 2011), calls her work "utterly central" to the field. "Ostrom is interested in how social norms form and how they are enforced," he says. "These norms are the 'missing matter' in economics. You may be very close to an equilibrium in which everybody cooperates, but then you need something additional that

gets people to cooperate. And what gets people to cooperate are the norms."

Beverly Hills, 90210

Elinor Ostrom—or Lin, as she is often called—was born in Los Angeles, California, in 1933. Growing up poor in the middle of the Depression, Ostrom lived with her divorced mother, who taught her to grow vegetables and can fruit from their trees to save money. Their home was on the edge of the Beverly Hills school district, so she was able to attend the swank Beverly Hills High School and receive a top-notch education. Showing an early disdain for materialism that persists today, Ostrom bought her clothes secondhand, in stark contrast to her classmates at the public school that claims many celebrities as alumni.

She was encouraged to join the speech team, which sparked her interest in debate. "High school debate is excellent training," Ostrom says. "There are two sides to every question, and you have to learn how to make a coherent argument for each, since they randomly assign you to a side." Debate not only sharpened her critical thinking skills—it also cured her of a stutter.

Ostrom enrolled in the University of California at Los Angeles (UCLA), against her mother's wishes. No one else in the family had been to college—there seemed to be no point to it—and her mother refused to provide financial support. Undeterred, the young Elinor put herself through college, working a series of odd jobs. "At the time, UCLA had a very low fee, so I was able to avoid going into debt," Ostrom remembers.

Despite graduating with honors in political science, Ostrom headed to Boston to work as a clerk for an electronics exporting company. "The presumption in those days was that the appropriate job for a woman was as a secretary or a teacher," Ostrom observed in an autobiographical sketch. After a year, she landed a job as an assistant personnel manager at Godfrey L. Cabot, Inc., a Boston firm that had never before hired a woman in any professional capacity.

"I kind of pushed my way into that job, but the fact that I was able to do so successfully when I was 21 gave me confidence that helped me later in life," Ostrom says.

In 1957, Ostrom returned to UCLA, taking a mid-level post in the university's personnel office while pursuing graduate studies in political science. Her mother remained mystified by her choices. "She asked what my salary would be after I got my Ph.D.—would it be more than I was currently earning? I said, no, it'd be the same or less. She just didn't understand," Ostrom recalls with a smile.

In a graduate seminar, Ostrom found herself drawn to the question of how people act collectively to manage shared natural resources in a sustainable way. With a team of fellow students and researchers, she studied a groundwater basin in southern California. The communities were pumping out too much groundwater, and saltwater was seeping in. Ostrom became fascinated with how people from the overlapping jurisdictions that depended on this water source found incentives to put aside differences and solve the problem. She chose the study of this collaboration as her dissertation topic, sowing the seeds for later work on what she terms "common-pool resources."

Overseeing that graduate seminar was Vincent Ostrom, an associate professor of political science 14 years her senior, whom she married in 1963. It was the beginning of a lifelong partnership that blended "love and contestation," as Ostrom put it in the dedication of her seminal 1990 book, *Governing the Commons: The Evolution of Institutions for Collective Action*.

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The scientist as artisan

In 1965, the Ostroms moved to Bloomington, Indiana, where Vincent took a position as a full professor at Indiana University and Elinor began teaching American government, eventually obtaining a tenure-track position. A few years later, they initiated a colloquium series, which brought together researchers from different disciplines to discuss topics of common interest, especially those relating to resource management. "We made a commitment that we would meet every Monday, even if it ended up being just five or six of us. And it grew and grew and grew," Ostrom recalls.

This informal Monday colloquium evolved into the Workshop in Political Theory and Policy Analysis, today a thriving research center that attracts scholars from all over the world in political science, economics, anthropology, ecology, sociology, law, and other fields.

"The logic of our Workshop has always been that there would be a variety of scholars across economics, political science, and other disciplines who worked together to try to understand how institutional arrangements in a diverse set of ecological and social, economic, and political settings affected behavior and outcomes," Ostrom wrote on the Nobel Prize website.

Inspired by a cabinetmaker friend, the Ostroms wanted the center to be modeled after an artisan's workshop. Their students would toil alongside them, allowing the transfer of knowledge to take place much as it does between master and apprentice—rather than through top-down methods such as lectures.

"Vincent envisioned a workshop where people have multiple skills at different levels—so young people are learning how to work with more senior people, but working together, not in a hierarchy," Ostrom says. "And that's very much what the Workshop has been for years now."

Headquartered in a former fraternity house and spanning four buildings on a quiet street near campus, the Workshop

is decorated with delicate Asian wall hangings, sleek African wood carvings, and other exotic art. The atmosphere welcomes scholars who come from all over the country and abroad to research how communities have avoided the tragedy of the commons.

This research—which looks at the management of such resources as water, fish, and forests—is part of a broader effort to develop a theory of how people can be self-organizing and self-governing. Questions are first tested through experimentation in a laboratory, where Ostrom studies the choices her subjects make when faced with hypothetical common-pool resource dilemmas. The resulting predictions about the outcome are then tested in the field through direct observation of real-life situations.

"It is the wealth of data that Ostrom has compiled from communities across the world, across time periods, and across resources that gives her theories credence."

"We take something that theoretically we're interested in, such as a public good or a common-pool resource, and we go back and forth between field and lab," Ostrom explains. "In the field you've got all the richness, but sometimes it's a little too rich to find out exactly what's happening. So you go back to the lab to see if a variable you think is important actually turns out to make a difference in the way you think it should."

Police performance and polycentricity

One of Ostrom's earliest projects at the Workshop was research on police industry structure and performance. In the early 1970s, U.S. public policy experts were recommending a drastic reduction in the number of police departments, believing multiple units serving the same area was chaotic and inefficient. To determine the best course of action, Ostrom and colleagues embarked on a massive study of police service delivery in 80 metropolitan areas.

Ostrom spent 15 years on this project, riding around in police cruisers, interviewing people about their experiences with the police, collecting all manner of data, hard and soft. At the study's conclusion, she and her colleagues found that bigger is not necessarily better when it comes to police agencies. And the widely held belief that a multiplicity of police departments in a metropolitan area was less efficient was *not* borne out. Instead, they found that agencies often developed cooperative networks for delivering public safety across jurisdictional lines. "Complexity is not the same as chaos," Ostrom wrote.

The police study, Ostrom says, was a good illustration of "polycentricity," an important concept in her work. First advanced by Vincent Ostrom, Charles Tiebout, and Robert Warren in 1961, the notion of a "polycentric" political system refers to a system in which citizens organize not just one but multiple governing authorities, at multiple scales.

"An analyst using polycentric theory does not predict that there is one optimal form of organization for all metropolitan areas," Ostrom wrote in her 1997 acceptance paper for the Frank E. Seidman Distinguished Award in Political Economy. Rather, one needs to study the production and consumption characteristics of the urban service in question before deciding what institutional arrangement works best—which is exactly what she did with the study on policing.

Local knowledge matters

The basic question Ostrom is trying to answer is why some resource users manage to self-organize successfully and others do not. The question is not merely academic; it has real relevance for public policy. "If we do not find the means to develop and enhance the capabilities to govern and manage common-pool situations effectively," she said in a 2003 interview, "the absence of such institutions in the twenty-first century will lead to fundamental social and economic problems." The more we learn about these institutions, she says, the more likely it is that policymakers will be able to avoid past errors.

It is the wealth of data that Ostrom has compiled from communities across the world, across time periods, and across resources that gives her theories credence, says Amy Poteete, a former postdoctoral fellow at the Workshop and now an Assistant Professor of Political Science at Concordia University in Montreal. "The evidence is that much more convincing because it comes from such a diversity of situations."

The International Forestry Resources and Institutions research program, started in the 1990s, is a prime example of a Workshop project that spans several countries and years. For this ongoing program, Ostrom and colleagues have established a network of collaborating research centers to study forestry in Africa, Asia, and Latin America. The study examines how governance arrangements affect forests and the people who depend on them. By measuring the long-term impact on both the biodiversity of the forest and the social fabric of the community, they hope to produce data that will help policymakers and forest users in the future.

"People think that it's enough just to have 'protected areas,'" Ostrom says. "Well, we've found that some work and some don't." If the people using the forest before the government designated it a "protected area" were simply kicked out, she explains, they may be bitter and less inclined to help monitor and protect the forest in the future. But if they are brought in and given a role, they help monitor the forest, and it tends to be in much better condition.

The research centers—in Bolivia, Guatemala, India, Kenya, Mexico, Nepal, Tanzania, Thailand, and Uganda—all use the same data protocols and contribute to a common database. They are staffed by local researchers, many of whom have come to Bloomington for training. Local knowledge matters a lot to Ostrom; she always seeks to capture it, or build on it.

Ostrom doesn't consult with local experts just to be inclusive, but because their expertise is often superior. In a study of

irrigation systems in Nepal, she found that those systems built and governed by the farmers themselves tended to outperform those constructed with donor financing and managed by government agencies. Despite the better engineering of these latter systems, those overseeing them lacked understanding of the intricate web of incentives facing the local community.

Ostrom has seen this pattern repeatedly. "The initial plans for many of the major irrigation projects in developing countries focused almost exclusively on engineering designs for the physical systems and ignored organizational questions," she said in a 2003 interview. "While it is essential to understand the physical side of development projects, the emphasis should be on the institutional side." The crafting of such institutions, she stressed, must directly involve the local people, or they risk failure.

Contrasting styles

Given that Ostrom has worked closely with her husband all these years, was it odd to win the Nobel Prize without him? "It was—and yet I could understand," she says. "He has been much more of a philosopher. I had done a lot of laboratory experiments, statistical analysis, and fieldwork, so I could see why they might have picked me. But his work was definitely foundational."

Aligica, who studied at the Workshop in the 1990s, confirms this division of labor: "If you look at Lin's work, you can see that it's part of a broader picture. And the contours of that broader picture—and the broader philosophy behind that picture—were drawn by Vincent."

Vincent, 91, is one of the last remaining scholars of the old style, according to Aligica. Elinor, the more pragmatic of the two, is an "extraordinarily good entrepreneur" who is able to put together interesting projects, find sponsors for them—and even come up with an extra budgetary layer to cover the extra visiting scholar or a student in financial distress.

The Ostroms' contrasting styles seem to have struck just the right balance, as many attest. Researchers are encouraged to form working groups with like-minded colleagues to tackle whatever questions they wish. "It could be a reading group on some particular issue, or a working group trying to get funding for a project," says Poteete. "This idea of self-organizing groups is central to what she's been concerned with theoretically, so I think it's kind of nifty that these theoretical ideas are being put into practice at the Workshop."

And just as Ostrom believes that a "top-down" approach is not desirable in development, she feels the same way about the Workshop, opting not to impose her research agenda but rather let projects grow organically. "These are people that talk the talk and walk the walk," says Aligica of the Ostroms. "They say that they want a master-apprentice relationship with their students—a very personal relationship—and they have it."

In return, they get loyalty. "Even after people leave the Workshop, they still feel part of an extended family," Aligica says.

Still under pressure

Ostrom's pace hasn't slowed since she won the Nobel—requests for interviews and public appearances continue to flow in, even two years on. She stepped down as Director of the Workshop in 2009, ceding her place to Michael McGinnis, who has taught political science at Indiana University since 1985. But she continues to carry a full teaching and research load.

One of the many projects Ostrom is now juggling is a months-old study on health care that McGinnis directs. The study looks at health care systems in three communities—Cedar Rapids, Iowa; Grand Junction, Colorado; and Bloomington, Indiana—that have had varying degrees of success with collaborative models of governance.

In some systems, for example, hospitals compete fiercely, while in others, there is greater cooperation. Ostrom says the study, still in the data-gathering phase, will attempt to answer some fundamental questions: What factors lead some communities to create groups that collaborate and try to improve things? When people have found a way of keeping health care costs low and the quality of health care high, what are the community characteristics?

Ostrom's entire body of work is about social norms and what makes people cooperate, and the health care study is no exception. "She observes these norms in the small, of course, because that's the way that one can observe such things," Akerlof says. "But her theories apply not just to irrigation systems but to entities as large as countries or as large as the whole world, such as global warming."

At 78, Ostrom could choose to retreat from academic life and enjoy the serenity of the six-acre woods on the outskirts of Bloomington where she and Vincent live. But chances of that happening seem slim. Asked by a National Public Radio interviewer whether winning the Nobel took some of the pressure off what she felt she still had to accomplish, Ostrom laughed dismissively.

"I wasn't aiming to win a prize. So winning it doesn't take pressure off in terms of future research." ■

Maureen Burke is on the staff of Finance & Development.