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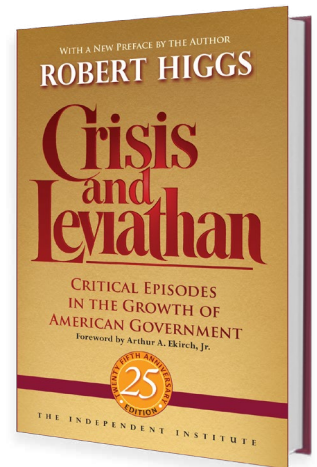
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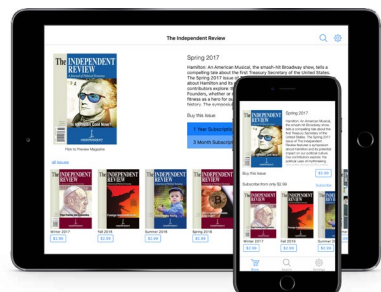
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Elinor Ostrom's *Governing the Commons*

Institutional Diversity, Self-Governance, and Tragedy Diverted



ROBERTA Q. HERZBERG

Just thirty years ago, virtually every common-pool resource (CPR) setting was viewed as a tragedy waiting to happen or an opportunity for the state to swoop in to save the day with a regulatory plan limiting individual choices or restructuring property rights (Hardin 1968). Elinor Ostrom's work *Governing the Commons: The Evolution of Institutions for Collective Action* (1990) changed the trajectory of CPR research and opened up the potential for institutional self-governance more broadly. Building on the important foundation Ostrom laid, scholars and policy makers today consider what might be needed to find sustainable, cooperative solutions to the "tragedy of the commons" and suggest how communities of individuals develop the capacity to create those conditions for themselves. As *Governing* entered the literature, it provided the analytic and empirical support to those who argued that individuals could address their common dilemmas locally, often working them out over time, without depending on Leviathan to enforce social outcomes.

Certainly, Ostrom's *Governing* changed the nature of work on CPRs, but its influence went beyond commons to address the classic dilemma of how individuals can

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The Independent Review, v. 24, n. 4, Spring 2020, ISSN 1086–1653, Copyright © 2020, pp. 627–636.

craft the institutions that will shape their collective decisions. It was a popular concern at the workshop that Ostrom directed, guided by Alexander Hamilton's famous query in *Federalist No. 1* "whether societies of men are really capable or not of establishing good government from reflection and choice, or whether they are forever destined to depend for their political constitutions on accident and force."¹ Ostrom argued that individuals in CPRs are capable of establishing rule systems that can prevent the worst possibilities predicted by Garrett Hardin and others. The title of her book really said it all—*commons* can be *governed* by relying on *institutions* that *have evolved* in response to the interests of the residents *acting collectively*. This classic work, therefore, is as much about the importance of self-governance and local-rule development as it is about the resource challenges that individuals face. Its relevant audience stretches beyond those concerned with the unique environment of common-pool settings to inform those interested in institutional design, self-governance, and liberty more generally.

We might further consider the impact that *Governing the Commons* had in terms of Ostrom's own success in her intellectual community. The success of *Governing* distinguished Elinor Ostrom as an important political economy scholar in her own right and moved both her and her work out from under the shadow of her spouse and collaborator, Vincent Ostrom. Although those familiar with her work before *Governing* had long recognized her distinct contributions, Vincent's longer history of work on constitutional theory, federalism, and polycentricity gave him greater visibility in their earlier joint projects. *Governing* established a separate arena that became the platform from which Elinor would gain the attention of the world, including her selection as corecipient of the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel in 2009. Interest in her work on commons crossed the usual disciplinary boundaries and national borders. This international interest undoubtedly raised her prominence as a scholar and as an academic leader, which in turn helped to raise awareness of *Governing*. In this essay, I briefly outline *Governing's* major contributions to explain why it remains important and suggest questions that remain for future students of the field.

Variety and Self-Governance

Perhaps *Governing's* greatest contribution is that it changed the way we think about citizen options in CPR settings. Before 1990, CPRs were predicted to have one of three clear results—complete destruction, division into private property, or management by an external (state) authority. The tragedy of the commons, the analytic puzzle Ostrom took on in *Governing*, occurs when users of a CPR are incentivized to overuse and deplete that resource (Hardin 1968). CPRs are both subtractable (I can take my fish home from the fishing pond) and subject to high costs of exclusion. These two features leave CPRs vulnerable to tragedy because it is costly to exclude those who overuse the

1. Ostrom, with collaborator and spouse Vincent Ostrom, spent years in analysis of constitutional theory and institutional analysis motivated by this same concern. See, in particular, V. Ostrom 1980 and 1987.

resource, and yet their use depletes the resource for others. Nobody wants to be a sucker, conserving the resource, while others deplete it. Yet if many defect from a sustainable level of resource use, Hardin predicted that all would suffer as the resource is fully depleted.

Most people agree that destruction is worse than the other choices, so that leaves two options—privatization or Leviathan. Ostrom asked, What happens when citizens can think beyond this simple dichotomy to resolve their social dilemmas? Instead of these limited abstract options, an authoritative-state approach such as the Hobbesian sovereign on one side and the privatization of all common property on the other, Ostrom saw a third way. She suggested that these simple models ignore institutional details that are crucial to how residents use real-world CPRs. *Governing* identified a wide continuum of social institutions that individuals use to solve the social dilemma and introduced a new option: self-governance by resource users. Rather than call on Leviathan, resource users can craft rules for themselves that will constrain overuse. As Ostrom noted, “Institutions are rarely either private or public, ‘the market’ or ‘the state.’ Many successful CPR institutions are rich mixtures of private-like and public-like institutions defying classification in a sterile dichotomy” (1990, 14).² Although no “panacea” (Ostrom 2007), institutional self-governance offers this third way. Self-governing responses to common-pool dilemmas are diverse because resource users construct and adapt institutions to their particular social and ecological contexts.

In Ostrom’s model, it is the very diversity of institutional approaches, coupled with the potential for self-governance, that counters the simplicity of the earlier theoretical results. The design of institutions became the path to governing a commons resource in many real-world settings. The prior logic of state or privatization was useful because it established a range of possibilities to be considered between these ends. Yet there was no reason that individuals must be locked into decisions at one end or the other if they have access to institutional mechanisms that could shape better options. As Ostrom noted, “Instead of presuming that the individuals sharing a commons are inevitably caught in a trap from which they cannot escape, I argue that the capacity of individuals to extricate themselves from various types of dilemma situations varies from situation to situation” (14). By opening up the range between state monopoly and purely private control, Ostrom focused attention on the possibility for self-governing and creative institution building to serve the interests of diverse populations. As she pointed out, the prospect for success will vary depending on the circumstances citizens face. Some self-governance structures will succeed, whereas others will fail so that the common resource will continue to face the destruction predicted earlier. Ostrom’s quest in *Governing* was to figure out the conditions associated with success and failure so that the analysis could inform efforts at institutional design and self-governance for people struggling with these choices.

2. Subsequent references to *Governing the Commons* (Ostrom 1990) give page citations only.

Governing was certainly not the first study to suggest that institutional rules affected analytic models of social choice.³ What differed in this treatment, however, was the breadth of different rules Ostrom wished to consider based on the diversity observed in natural settings. The range of possible rules meant that individuals could come together in a way that reflects more of the voluntary, Tocquevillian communities approach (see Tocqueville 2012) than Hardin's authoritative external-state approach.

Furthermore, most examples of CPRs up to 1990 were natural resources, such as grazing lands, fisheries, water systems, and forests. With Ostrom's more general institutional perspective, new avenues for cross-disciplinary work in political economy generated interest beyond resource questions. Analysts have used this approach since its introduction to examine applications ranging from prison gangs (Skarbek 2014) to budgetary arenas (Brubaker 1997) to knowledge and data commons (Frischmann, Madison, and Strandburg 2014), among many others.

Leaving the design up to individuals within the commons arena had significant implications for the freedom of individuals and for the degree of conflict in the broader society. Scholars such as Paul Aligica, Peter Boettke, and Vlad Tarko (2019) have noted the importance of self-governance in Ostrom's work, along with its implications for greater individual freedom. Yet although self-governing approaches are certainly an improvement over analyses that focus on centralized government solving problems for individuals, they are not a silver bullet and pose challenges of their own. The requirements of self-governance are great, often including more time and effort than those interested in maintaining peaceful communities are willing or capable of giving. Members of the commons can collectively work out rules that are sensitive to their community's particular needs, but maintaining the effective execution of those rules requires great effort from those members. Likewise, members of the community may need to continually adjust rules as circumstances change in order to maintain the desired outcomes. These caveats suggest limits on the size and diversity of a community that can realistically use such a strategy. All of the examples of successful long-enduring commons examined in *Governing* were small, stable, and relatively homogeneous in population. As commons settings grow larger and more diverse, the challenge of finding rules that generate desired results increases as well. In recognition of this challenge, analysis of the management of CPRs following *Governing* has focused on more complex ways of organizing and on expanding the structure of the decision process to break out different types of authority.

Individuals designing rules to govern themselves often need to draw on different levels of authority to resolve conflicts. By considering individuals within a polycentric arrangement, Ostrom observed residents' abilities to draw on the appropriate level of authority based on the nature of the conflicts they faced. Many issues could be resolved best locally, but some issues required accessing larger governing arenas for resolution. This feature became a critical part of Ostrom's design principles and a significant area of

3. See, for example, North 1981; Shepsle and Weingast 1981; Kiser and Ostrom 1982.

current research activity.⁴ If Ostrom's focus on more complex rule structures were to advance scholarly understanding, she and those who followed in this tradition would need to develop methods that could represent the range of possibilities.

Frameworks, Theories, and Models

Ostrom built on the precision of a game-theoretic foundation commonly used in public choice but argued that many natural-commons situations would not fit easily into the simple analytic form prevalent in game theory at the time. This general form required analysts to leave out too much of the critical information relevant to success or failure in commons as Ostrom observed them. An approach that could carefully consider various rules and present them in a fashion understandable to a broad audience of policy makers and scholars required new methods beyond the analytic structure. Ostrom developed such a framework that retained the care and precision of the analytic tradition, while allowing the complexity needed to incorporate this institutional variety.

In *Governing*, Ostrom drew on case studies and field tests of fisheries, forests, and common pastures to inform her theory. She argued that to move systematically from the descriptive arena to a level of analytic generality required the development of an approach that would identify whole categories of rules or assumptions that could operate on the social decisions. This was not the first time Ostrom had drawn on the framework approach to make sense of institutions. In earlier work (Kiser and Ostrom 1982; Ostrom 1986), she had suggested a similar approach with the institutional analysis and development framework for understanding institutional and constitutional design.⁵

Despite the institutional diversity identified in the cases, Ostrom noted general patterns that characterize long-enduring, sustainable governance of the commons. She called this general pattern the eight "design principles" of a successful CPR. She includes the following list in her Nobel Prize lecture, slightly modified with further differentiations to the eight principles added in the thirty years between the publication of *Governing* and the awarding of the prize (Ostrom 2010).

1. *Clearly Defined Boundaries*: Individuals or households who have rights to withdraw resource units from the CPR must be clearly defined, as must the boundaries of the CPR itself.

A. *User Boundaries* (Ostrom 2010): Clear and locally understood boundaries between legitimate users and nonusers are present.

4. At the latest Workshop on the Workshop, nearly 20 percent of papers dealt with the newest models of polycentricity, many in CPR settings.

5. See Cole, Epstein, and McGinnis 2019 and McGinnis forthcoming.

- B. *Resource Boundaries* (Ostrom 2010): Clear boundaries that separate a specific common-pool resource from a larger social-ecological system are present.
2. *Congruence between appropriation and provision rules and local conditions*: Appropriation rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and to provision rules requiring labor, material, and/or money.
- A. *Congruence with Local Conditions* (Ostrom 2010): Appropriation and provision rules are congruent with local social and environmental conditions.
 - B. *Appropriation and Provision* (Ostrom 2010): Appropriation rules are congruent with provision rules; the distribution of costs is proportional to the distribution of benefits.
3. *Collective-Choice Arrangements*: Most individuals affected by a resource regime are authorized to participate in making and modifying its rules.
4. *Monitoring*: Monitors, who actively audit CPR conditions and appropriator behavior, are accountable to the appropriators or are the appropriators.
- A. *Monitoring Users* (Ostrom 2010): Individuals who are accountable to or are the users monitor the appropriation and provision levels of the users.
 - B. *Monitoring the Resource* (Ostrom 2010): Individuals who are accountable to or are the users monitor the condition of the resource.
5. *Graduated Sanctions*: Sanctions for rule violations start very low but become stronger if a user repeatedly violates a rule.
6. *Conflict-Resolution Mechanisms*: Rapid, low-cost, local arenas exist for resolving conflicts among users or with officials.
7. *Minimal Recognition of Rights*: The rights of local users to make their own rules are recognized by the government.
8. *Nested Enterprises*: When a common-pool resource is closely connected to a larger social-ecological system, governance activities are organized in multiple nested layers.

These principles became a template that analysts could use to predict success or failure in CPRs. More than any other part of *Governing*, the design principles took on a life of their own and formed a common basis for hundreds, if not thousands, of case studies and policy evaluations. Many scholars working with the principles found them to be helpful but also began to recommend changes as further analysis found consistent patterns at odds with theory. The additional dividing in principles 1, 2, and 4 arose as

those using the rules found variations that created application challenges. This adaptation suggests the strategy Ostrom sought in designing her analytic framework to provide clear, measurable characteristics that distinguish one rule set from another in making good predictions but it must also be flexible enough to incorporate variations in the rules that had not previously been observed or anticipated. The framework was an evolving guide rather than a fixed theory. Ostrom argued that there should be ongoing examination of theory, and even of the framework, as more information from field studies and experimental tests permitted better theory. Within the framework, multiple theories might fit and generate an even greater number of models for specific application.⁶

Some analysts treated the principles as a recipe for institutional design, but the principles were never intended as concrete rules. Therefore, they fall short of being an institution themselves. As Arun Agrawal and Jesse Ribot (2014) suggest, the design principles are effective at guiding evaluations but are too general to facilitate clear guidance to policy makers or citizens in designing specific solutions for themselves. They can suggest markers to remind those interested in institutional design of relevant categories of rules, but they can't determine which rule will prove critical to the success of managing a particular CPR. For example, the principles suggest that clear boundary rules are needed to define users within the CPR users community, but it cannot say which rule will best serve to define those boundaries. That specific information must be generated from within the community.

Value of *Governing's* Approach

In the thirty years since *Governing* appeared, hundreds of studies have used its analytic approach to evaluate identified common-pool settings, relying on the design principles as guidance. Although several studies have challenged one or another of the principles as being necessary or not and have suggested others that might be added, the principles have held up as robust in explaining successful institutional arrangements. In particular, Michael Cox, Gwen Arnold, and Sergio Villamayor Tomás (2010) have confirmed the value of the principles empirically across dozens of studies, finding most of them to be at least moderately robust in predicting success or failure. These institutional features have become the gold standard for CPR evaluation, so it is not surprising that citations to *Governing* make up more than 20 percent of the nearly 175,000 Google Scholar citations to Ostrom's work and that *Governing* continues to be a must read for anyone interested in common property.

The openness of the approach Ostrom used in *Governing* permits it to speak to so many situations in so many disciplines. But the breadth of its use also opens *Governing*

6. For an excellent discussion of the methods used in Ostrom's CPR and institutional analysis, see Poteete, Janssen, and Ostrom 2010.

up to interpretation and perhaps even misinterpretation.⁷ *Governing* has been used to support all sorts of ideological positions regarding the role of government in organizing and regulating potential social dilemmas. A strength of the careful analytic approach that Ostrom advanced is its neutral treatment of outcomes. It sought to evaluate and predict what the effect of a given rule set would be without suggesting whether such a result would be “good” or “bad.” Thus, the normative evaluations associated with the outcomes from any given CPR depend on whose perspective one takes in the evaluation. What may be in the interest of the commons community may be at odds with the interests of members of a broader community. But this has always been the case with such approaches. There is a reason that the prisoners in the famous dilemma are kept apart from each other. Their ability to work together comes potentially at the expense of other individuals harmed by the crime they are accused of committing. Because analysis of Ostrom’s approach takes normative considerations into account, the support for it as a method can break down based on normative evaluations of the results that a “successful” commons creates.

Theorists are among those most critical of *Governing*, challenging potential interpretations of Ostrom’s more flexible range of successful organization types. Some suggest that this neutrality regarding successfully operating commons can open arrangements up to institutions that are harmful to individual or community interests. Walter Block and Ivan Jankovic (2016), for example, worry that *Governing* argues too strongly against privatization solutions and adds little that cannot be incorporated in a more liberty-preserving way through individual contracting at the community level. Others, such as Aligica, Boettke, and Tarko (2019), see Ostrom’s local-governance approach as consistent with a classical liberal approach to checking state power through local self-governance. It is certainly true that Ostrom supported the potential for individuals to enter into binding social contracts and constitutions to serve interests beyond narrow individual interests. As such, she accepted that there were times when the authority of these self-governing communities could act against individual members violating those agreements. This issue may be no more than one concerning the timeframe in considering results. In the short-run, strict rules may be costly, but rules bind to a longer-term positive result. How we evaluate the approach and its success depends on many factors, including the extent to which individuals have rights to exit, power asymmetries in play, and the actors’ knowledge.

On the other end of the ideological continuum, Derek Wall (2017), among others, argues that Ostrom’s logic provides support for radical policies by emphasizing community members’ power to act instead of relying on traditional power bases such as the privileged state or market. Today, this demand for direct participation has gone so far that some suggest that state-reinforced self-governance is possible. This state reinforcement, however, may lead to a growth in state/community authority that would

7. See Sarker and Blomquist 2019 for a recent analysis of misperceptions of Ostrom’s work.

go beyond the community members' interests as Ostrom characterized them. It likewise may act to deter changes to institutional rules that would reduce formal state authority. Once power is passed to higher levels or larger constituencies, the community members' might not be able to pull back that power if in fact the state/community relationship is not working. Certainly, the conclusion to *Governing* suggests Ostrom's support for the flexibility in self-governing emphasized in earlier work on self-governance in place of a race to more government authority. Social scientists before *Governing* often argued in favor of strategies that required citizens to turn to the government for a program. In doing so, they presumed ideal, omniscient government, while underestimating individuals' capacity to see beyond the narrowest of short-term interest. Such assumptions are neither logically nor empirically consistent with Ostrom's work and the hundreds of studies that followed from it.

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