



Beyond the Mainstream: Ostrom's Polycentric Governance as a Pragmatist–Institutionalist Synthesis

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Highlights

- Reconstructs Elinor Ostrom's work as a novel, heterodox "Pragmatist–Institutionalist" synthesis through the lenses of Peirce and Dewey.
- Reinterprets Ostrom's core concepts of polycentricity and design principles via abduction, fallibilism, and experimental democracy, transcending mainstream economic views.
- Outlines a concrete 21st-century policy and research agenda by applying the Ostromian framework to climate, digital, and urban governance challenges.

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Abstract

The dominant narrative in economics, shaped by the "tragedy of the commons," prescribes state intervention or privatization as the only solutions to collective action problems. Elinor Ostrom's work, documenting sustainable common-pool resource governance, poses a profound challenge to this orthodoxy. Yet, her theoretical legacy remains contested. This article moves beyond viewing Ostrom as an empirical anomaly within mainstream economics, offering instead a heterodox reconstruction of her work as a coherent pragmatist–institutionalist synthesis. We argue that Ostrom's method is grounded in Charles S. Peirce's logic of abduction and fallibilism, while her normative commitments align with John Dewey's experimental democracy and experiential learning. Situating her within the classical institutionalist tradition (Veblen, Commons, Mitchell) and contrasting her approach with the New Institutionalism (Williamson, North, Coase), we demonstrate that her analysis of polycentric governance represents a distinct paradigm. A comparative re-reading of her canonical case studies—Nepalese irrigation, Swiss forests, and Turkish fisheries—reveals how local knowledge, participatory rule-making, and iterative correction function as mechanisms for reducing transaction costs and building resilient institutions. The article concludes by outlining a robust policy and research agenda for climate, digital, and urban governance, arguing that a pragmatist–institutionalist reading of Ostrom provides not merely a corrective, but a viable heterodox alternative to market- and state-centric models, one that prioritizes pluralism, adaptive efficiency, and democratic legitimacy.

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1. Introduction

The governance of common-pool resources (CPRs), from irrigation systems and fisheries to the global climate and digital infrastructures, represents a central and persistent puzzle in economics. The dominant neoclassical narrative, epitomized by [Garrett Hardin's \(1968\)](#) "tragedy of the commons," prescribes state intervention or privatization as the only viable solutions, relying on assumptions of atomistic actors and predictable equilibria. Yet, empirical evidence consistently reveals robust, equitable, and adaptive regimes of collective resource management that defy these predictions.

Elinor Ostrom's groundbreaking work has been instrumental in documenting such cases and formulating design principles for sustainable CPR governance. However, a critical ambiguity persists: Is her contribution merely an empirical corrective within the mainstream rational-choice framework, or does it embody a deeper, heterodox theoretical alternative? This article advances the latter interpretation, presenting Ostrom's approach as a coherent pragmatist-institutionalist synthesis that transcends conventional economic dichotomies. We argue that her methodology is grounded in Charles Sanders Peirce's abduction and fallibilism, while her normative commitments align with John Dewey's experimental democracy. By situating her work within this philosophical tradition and alongside classical institutionalism (Veblen, Commons, Mitchell), we reconceptualize polycentric governance as a dynamic process of communal learning; challenging the neoclassical focus on static equilibria and redirecting attention toward iterative adaptation, pluralism, and democratic legitimacy.

This theoretical reconstruction carries profound practical implications. It supplies a robust foundation for designing innovative institutions capable of addressing contemporary challenges in climate change, digital commons, and urban governance. Thus, the article not only offers a scholarly reorientation of institutional economics but also equips policymakers with adaptable, context-sensitive tools for fostering resilient and equitable governance. Read through this lens, Ostrom's design principles, such as clearly defined boundaries, collective-choice arenas, and graduated sanctions, emerge not as abstract prescriptions but as patterns evolved from community-based inquiry and iterative problem-solving (Ostrom, 1990). This reconstruction positions polycentric governance as a viable heterodox paradigm, challenging the market-state dichotomy and offering a pluralistic, context-sensitive approach to institutional analysis.

The contribution of this article is threefold. First, it provides a philosophical reconstruction that explicitly links Ostrom's empirical method to the pragmatist tradition of Peirce and Dewey, illuminating the epistemological foundations of her institutional analysis. Second, it re-examines Ostrom's canonical case studies, Nepalese irrigation systems, Swiss communal forests, and Turkish coastal fisheries, to demonstrate how pragmatist principles operate in practice to generate resilient institutions. Third, it situates these findings within the broader heterodox institutionalist tradition ([Veblen, 1899](#); [Commons, 1934](#); [Mitchell, 1927](#)) and

outlines a constructive research agenda for applying this framework to contemporary policy domains, including climate governance, digital commons, and AI ethics.

The paper proceeds as follows. Section 2 articulates the pragmatist philosophical foundations (Peirce and Dewey) underlying Ostrom's method. Section 3 locates Ostrom within classical and neo-institutionalist debates, highlighting her distinct heterodox synthesis. Section 4 presents a comparative re-analysis of case studies through pragmatist and institutionalist lenses. Section 5 discusses policy implications and proposes a forward-looking research program. The conclusion reflects on how this heterodox reframing can reorient institutional economics toward pluralistic and democratic problem-solving.

2. The Pragmatist Foundation: Peirce, Dewey, and the Making of a Heterodox Methodology

Having established the central question and thesis in the introduction, this section delves into the philosophical bedrock of Elinor Ostrom's intellectual project. We argue that her innovative approach to understanding governance is not merely methodologically distinct but is deeply rooted in the American pragmatist tradition. This section articulates how the philosophies of Charles Sanders Peirce and John Dewey provide the epistemological and normative underpinnings for Ostrom's institutional analysis. By examining her work through the lenses of Peircean abduction and fallibilism, and Deweyan experimental democracy and learning, we can reconstruct a coherent philosophical framework that fundamentally aligns her with the heterodox tradition in political economy, setting her work apart from mainstream economic orthodoxy.

2.1 A Peircean Foundation for a Heterodox Methodology

Elinor Ostrom's institutional analysis constitutes a decisive break from mainstream economics, a departure best understood through the pragmatist philosophy of Charles Sanders Peirce. Her work replaces the discipline's dominant deductive-nomological model with a methodology grounded in abduction, fallibilism, and the community of inquiry.

Ostrom's approach exemplifies Peircean abduction—the logic of forming explanatory hypotheses from surprising facts (Peirce, CP 5.171). Confronted with the empirical anomaly that communities often successfully govern common-pool resources against theoretical predictions, she did not seek to test pre-formed models. Instead, she abductively inferred her design principles from successful practice itself, as seen in her diagnosis of Nepalese irrigation systems (Ostrom, 1990).

These institutional principles are inherently fallibilist. Ostrom demonstrated that successful governance is not a static, optimal design but a dynamic process of learning and adaptation, aligning with Peirce's view that all knowledge is provisional (Peirce, CP 1.141). The iterative, trial-and-error rule development in the Turkish fisheries, continuously refined in response to ecological and social

feedback, operationalizes this philosophical commitment (Ostrom, 1990).

Furthermore, Peirce's social conception of logic is embodied in the concept of a community of inquiry, where knowledge advances through collaborative experimentation and dialogue. This provides a robust philosophical basis for Ostrom's core finding: effective governance emerges from the deliberative processes of a community engaged in shared problem-solving. The self-governing communal forests in Törbel, Switzerland, where rules were adapted through communal assemblies, exemplify this transposition of an epistemological community into an institutional context (Ostrom, 1990).

In synthesis, Peircean pragmatism provides the epistemological underpinnings for Ostrom's heterodox paradigm. Abduction explains her method of generating theory from empirical anomalies; fallibilism aligns with her focus on institutional adaptability and learning, challenging the neoclassical pursuit of static equilibria; and the community of inquiry validates her finding that trust and deliberation are essential for solving collective action problems, countering the assumption of atomistic individualism. This foundation moves her work beyond an empirical corrective and establishes the basis for an institutional economics where institutions are seen as evolving products of communal learning.

2.2 Normative Foundations: Deweyan Democracy and Experimental Learning

If Peirce provided the methodological scaffold for Ostrom's inquiry, John Dewey furnished its normative soul and democratic ethos. Dewey's pragmatism, with its core commitment to experiential learning, participatory democracy, and experimental problem-solving, resonates profoundly throughout Ostrom's institutional analysis and her vision of polycentric governance.

A cornerstone of Dewey's philosophy is experiential learning, the concept that knowledge is not a static possession but a dynamic product of the continuous cycle of "doing and undergoing" (Dewey, 1916). Ostrom's work operationalizes this principle. She documented not fixed blueprints but evolving rule systems that embed lessons learned through repeated practice and confrontation with ecological and social feedback. The centuries-long refinement of rules in the Swiss communal forests, where villagers observed the consequences of over-harvesting and adapted their governance accordingly, is a quintessential example of this Deweyan learning process in action (Ostrom, 1990).

This process of learning is intrinsically linked to a specific form of social organization. For Dewey, democracy was more than a political system; it was a "mode of associated living" and "conjoint communicated experience" (Dewey, 1916). This view of democracy as a collective process of inquiry resonates with Bohman's (1999) conception of 'democracy as inquiry,' which emphasizes the social and experimental nature of solving public problems. Ostrom demonstrated that this participatory ideal is a practical institutional mechanism that enhances efficiency and resilience. Her analysis of the farmer-managed irrigation systems in Nepal showed that when users are directly involved in crafting water-allocation

rules, compliance is higher and conflict lower (Ostrom, 1990). This participation ensures rules are perceived as legitimate and tailored to local conditions, thereby reducing the transaction costs of monitoring and enforcement. This is democracy as a form of social intelligence, producing smarter and more adaptable institutions.

Underpinning this approach is Dewey's experimentalist ethos, his staunch rejection of absolutist thinking and universal formulas in social affairs. He advocated for "intelligent experimentation," an ethos rooted in his critique of the philosophical 'quest for certainty' (Dewey, 1929), which treats policies as provisional hypotheses to be tested and revised based on their consequences (Dewey, 1927). This is a hallmark of Ostrom's work and her famous critique of institutional "panaceas" (Ostrom, 2007). The Turkish fishers, for instance, did not impose a pre-conceived solution but engaged in a sustained period of experimentation with different rules, monitoring techniques, and sanctions, adapting their system over time. This context-sensitive, iterative approach directly challenges the neoclassical preference for decontextualized, universal models.

In synthesis, Dewey's philosophy provides the normative and procedural backbone for Ostrom's polycentric vision. His emphasis on experiential learning explains the adaptive capacity of the institutions she studied. His conception of democracy as associated living underpins her findings on the efficacy of participatory rule-making. Finally, his experimentalism aligns perfectly with her rejection of panaceas and her commitment to context-specific, iterative problem-solving. Together with Peirce's methodology, this Deweyan framework positions Ostrom not as a mere empiricist, but as a theorist of democratic institutional evolution.

2.3 Final Synthesis: Pragmatism as a Heterodox Framework

The preceding analysis demonstrates that Peirce and Dewey are not merely incidental influences on Elinor Ostrom's work; they provide a coherent and robust philosophical foundation that fundamentally aligns it with the heterodox tradition in political economy. This pragmatist foundation constitutes a distinct alternative to the neoclassical paradigm by challenging its core epistemological, methodological, and normative assumptions.

The synthesis can be summarized through its direct contrasts with orthodoxy, as illustrated in Table 1 below. This table not only recapitulates the argument but also provides a clear, analytical framework for understanding the heterodox character of Ostrom's project.

This synthesis, as Table 1 elucidates, does not simply add empirical nuance to the mainstream model. It proposes a different way of understanding economic governance altogether. By prioritizing process over equilibrium, learning over optimization, and participation over imposition, the pragmatist-institutionalist framework offers a genuinely heterodox political economy. It redirects analytical attention from what is universally optimal to what is contextually viable and democratically legitimate.

Table 1. Pragmatist-Institutionalist Synthesis vs. Neoclassical Orthodoxy

Aspect of Analysis	Neoclassical Orthodoxy	Pragmatist-Institutionalist Synthesis (Ostrom)
Epistemology (Theory of Knowledge)	Deductive; knowledge flows from universal axioms (rationality, equilibrium).	Abductive and fallibilist; knowledge emerges from surprising empirical phenomena and is perpetually provisional.
Methodology (Logic of Inquiry)	Hypothesis-testing from pre-formed models; emphasis on prediction.	Diagnostic inquiry starting from real-world problems; emphasis on contextual explanation.
View of Human Agency	Atomistic, hyper-rational individual (<i>Homo economicus</i>).	Socially embedded individual capable of learning, communication, and collective reasoning (<i>Homo sociologicus</i>).
Conception of Institutions	Constraints to reduce transaction costs; solutions to incentive problems.	Evolving sets of rules-in-use; frameworks for collective learning and democratic problem-solving.
Normative Ideal	Static efficiency (Pareto optimality).	Adaptive efficiency, resilience, and democratic legitimacy.
Policy Prescription	Seeking universal panaceas (e.g., privatization, central regulation).	Designing polycentric, context-sensitive systems that facilitate experimentation.

Source: *Author's synthesis*

This methodological commitment to abduction and contextual explanation stands in stark contrast to the deductive methodology of positive economics, which prioritizes prediction from simplified models (Friedman, 1953). Therefore, situating Ostrom within this pragmatist lineage is not an exercise in intellectual history alone. It is an act of reclaiming her work for a heterodox research program that is better equipped to address the complex, adaptive challenges of governing shared resources in the 21st century. This sets the stage for examining how this philosophical foundation is reflected in the classical institutionalist tradition, which we turn to in the next section.

3. Institutional Roots: Bridging Classical and Neo-Institutionalism through a Pragmatist Synthesis

Having established the pragmatist philosophical foundations of Elinor Ostrom's thought, we now situate her work within the broader landscape of institutional economics. This positioning is crucial for understanding her distinct heterodox character. The institutionalist tradition itself is not monolithic; it is divided between the "old" institutionalism, which emphasized social norms, habits, and collective action, and the "new" institutionalism, which incorporated transaction costs, property rights, and path dependence into a more formalized, often neoclassically-compatible framework. Ostrom's genius lay in her ability to synthesize insights from both camps, filtering them through her pragmatist lens

to create a unique approach that is empirically grounded, historically sensitive, and normatively committed to democratic governance.

3.1 Classical Institutionalism: Norms, Habits, and Collective Action as Heterodox Bedrock

Ostrom's intellectual affinities lie deepest with the classical institutionalist tradition of Thorstein Veblen, John R. Commons, and Wesley C. Mitchell. This tradition rejected the abstract individualism of neoclassical economics, arguing instead that economic life is embedded in socially constructed and historically evolving institutions.

Veblen and the Evolution of Habits: Thorstein Veblen viewed institutions as "settled habits of thought common to the generality of men" (Veblen, 1899). For Veblen, institutions are not optimal equilibria but culturally transmitted patterns of behavior that evolve through time. Ostrom's study of the Swiss alpine commons perfectly illustrates this Veblenian concept. The rules governing timber harvesting and reforestation were not designed once and for all; they were ingrained in the cultural fabric of the communities, evolving slowly as "habits of thought" in response to changing environmental and social circumstances (Ostrom, 1990). This Veblenian perspective allows Ostrom to explain the durability and resilience of these institutions without recourse to a simplistic model of individual rationality.

Commons and the Negotiated Order of Collective Action: John R. Commons focused on collective action as the fundamental unit of economic analysis. He saw the economy as a "going concern" where conflict among stakeholders is mediated through the creation of working rules (Commons, 1934). Ostrom's analysis of the Nepalese irrigation systems is a direct descendant of this Commonsian view. Farmers did not simply act as individuals; they formed collective-choice arenas, local assemblies and tribunals, to negotiate water allocation rules and resolve disputes (Ostrom, 1990). This process of negotiated rule-making is the very essence of Commons' "negotiated order," demonstrating that governance emerges from collective action, not from a pre-ordained market or state logic.

Mitchell and the Imperative of Empirical Rigor: Wesley Mitchell insisted that institutional economics must be grounded in careful empirical observation and quantitative analysis, eschewing purely deductive theorizing (Mitchell, 1927). Ostrom embodied this principle throughout her career. Her work combined rich qualitative case studies with systematic comparative analysis and, where possible, quantitative metrics of institutional performance. For instance, her comparison of community-managed versus state-managed fisheries in Turkey included data on fish stock health and monitoring costs, providing empirical rigor to her claim for the superiority of self-governance under certain conditions (Ostrom, 1990).

3.1.1 A Methodological Comparison: Classical Institutionalism vs. Communitarianism

To fully situate Classical Institutionalism within the wider heterodox intellectual map, it is essential to distinguish it from another tradition that also levels a fundamental critique against liberal individualism: Communitarianism. While both schools emphasize human "sociality" and the importance of context, their core objectives and methods are fundamentally different. Drawing this distinction clearly demonstrates why Ostrom's roots lie firmly in the tradition of institutional economics rather than normative political philosophy. The table 2 summarizes these key differences.

As the table illustrates, Classical Institutionalism is a descriptive-explanatory project within economic science, whereas Communitarianism is a normative-critical project within political philosophy. Ostrom's work, while its results often align with communitarian intuitions (e.g., the importance of shared norms and local governance), in its method and aim, belongs to the former tradition. She sought to describe and explain *how* institutions work in practice, not to prescribe a vision of the "good life." This distinction solidifies her approach as that of an empirical social scientist, while her findings provide fresh empirical substance to the normative debates of communitarians.

Table 2. Classical Institutionalism vs. Communitarianism

Criterion	Classical Institutionalism (Veblen, Commons, Mitchell)	Communitarianism (MacIntyre, Sandel, Taylor)
Discipline & Primary Focus	Economics; analysis of economic institutions and their evolution.	Political Philosophy & Ethics; concepts of the Self, the Common Good, and citizenship.
Primary Method	Descriptive-Historical-Evolutionary; empirical observation of institutional patterns.	Normative-Critical; philosophical reasoning about the good life and justice.
Primary Goal	To explain the real-world functioning of economies and solve practical conflicts through institutions.	A foundational critique of liberalism and the revitalization of civic virtues and community.
Stance on Values	Largely descriptive, seeking value-neutrality (despite a critical orientation).	Explicitly normative and prescriptive; advocates for the priority of the "good" over the "right."
Link to Ostrom's Work	Direct: Provides the analytical framework for studying "collective action" and "working rules."	Indirect yet significant: Provides a philosophical justification for the priority of community and trust evident in Ostrom's empirical findings.

Source: Author's synthesis

3.2 Engagement with New Institutionalism: Adapting a Conventional Framework

Ostrom's dialogue with the New Institutionalism of Oliver Williamson, Douglass North, and Ronald Coase further highlights her distinctive heterodox synthesis. She engaged seriously with their core concepts, transaction costs, path dependence, and property rights, but consistently reinterpreted them through her pragmatist and collectivist lens, emphasizing adaptability, participation, and pluralism over hierarchical efficiency or privatization.

- **Williamson and Transaction Costs:** Oliver Williamson's transaction cost economics argues that governance structures are chosen to minimize the costs of monitoring, enforcement, and bargaining (Williamson, 1985). Ostrom's studies, such as the Turkish fisheries, echoed this concern for cost-efficiency. However, whereas Williamson's framework tends to privilege hierarchical or corporate solutions for complex transactions, Ostrom demonstrated that participatory institutions rooted in trust and reciprocity can achieve even lower transaction costs while maintaining equity (Ostrom, 1990). This divergence marks her heterodox move to democratize transaction cost economics.
- **North and Path Dependence:** Douglass North emphasized the role of path dependence and "adaptive efficiency" in shaping long-term institutional performance (North, 1990). Ostrom's cases, like the Swiss forests, are perfect exemplars of this dynamic, showing how community rules evolved incrementally over centuries in response to ecological and social feedback. Yet, Ostrom grounded North's somewhat abstract notion of path dependence in the concrete, pragmatist processes of communal learning and fallible experimentation, giving it a more granular and agent-driven explanation.
- **Coase and Property Rights:** Ronald Coase famously argued that externalities could be efficiently resolved through well-defined property rights and low transaction costs (Coase, 1960). Ostrom's work provides a powerful empirical critique of the presumption that private property is the necessary solution. She showed that communal property regimes, like the Nepalese irrigation systems, can successfully align incentives and prevent overuse without resorting to privatization (Ostrom, 1990). In doing so, she effectively bridged Coase's efficiency criterion with Commons's emphasis on collective action, reinforcing a heterodox view that property can be an effective when constituted as a collective institution.

3.2.1 Synthesis: A Pragmatist Reinvention of Institutional Concepts

Ostrom's engagement with New Institutionalism was not one of rejection but of creative adaptation. She took their analytical tools and reinvented them: efficiency became grounded in trust and participation, path dependence was reframed as iterative learning, and property rights were understood as a bundle of

collective, rather than solely individual, entitlements. This synthesis underscores why her polycentric governance model cannot be fully assimilated into mainstream economics; it represents an alternative paradigm that is empirical, pluralist, context-sensitive, and normatively democratic. This distinctive approach underscores why her polycentric governance model cannot be fully assimilated into mainstream economics, a point reinforced by both her broader framework for Understanding Institutional Diversity (Ostrom, 2005) and the analysis of the Bloomington School (Aligica & Boettke, 2009).

4. Empirical Evidence: Polycentric Governance through Pragmatist and Institutional Lenses

Ostrom's heterodox synthesis is most compellingly demonstrated in her empirical case studies. By grounding theory in the lived practices of communities, she showed how commons governance emerges through collective learning, participatory rule-making, and adaptive correction. This section provides a comparative re-analysis of her canonical cases; Nepalese irrigation systems, Swiss forest commons, and Turkish fisheries; through the dual lenses of pragmatism and institutionalism developed in the previous sections.

4.1 Nepalese Irrigation Systems: Abduction, Fallibilism, and Collective Inquiry

The Farmer-Managed Irrigation Systems (FMIS) of Nepal stand as a powerful empirical challenge to the tragedy of the commons narrative. Ostrom documented how farmers collectively devised and enforced rules for water allocation, infrastructure maintenance, and conflict resolution, often achieving higher agricultural productivity and lower costs than state-managed systems (Ostrom, 1990).

- A Pragmatist Reading: The farmers' actions exemplify Peircean abduction. Confronted with the surprising problem of water scarcity, they did not apply a pre-conceived model. Instead, they generated hypotheses, local rules, from observed needs, such as equitable distribution during droughts. Their governance system was a product of inquiry starting from a surprising fact (Peirce 1934, CP 5.171). Furthermore, their willingness to revise rules based on monsoon variability embodies fallibilism, treating institutional knowledge as provisional and adaptable (Peirce 1931, CP 1.141). The community assemblies where rules were negotiated operationalize Peirce's community of inquiry and Dewey's democracy as associated living (Dewey, 1916).
- An Institutional Lenses Reading: This case vividly illustrates Commons's concept of collective action creating a "negotiated order" (Commons, 1934). The farmers' tribunals were arenas for resolving conflicts through dialogue rather than coercion, dramatically lowering transaction costs

associated with monitoring and enforcement. The FMIS are not merely irrigation systems but evolving "going concerns" managed by their users.

4.2 Swiss Forest Governance: Historical Adaptation and Experimental Learning

For centuries, communes in the Swiss Alps have sustainably governed communal forests, balancing timber extraction with reforestation through intricate customary rules (Ostrom, 1990).

- A Pragmatist Reading: This is a quintessential example of Deweyan experimental learning ("doing and undergoing"). Governance was a continuous process where rules were adjusted in response to ecological feedback (e.g., changes in snowfall patterns, timber demand). This long-term, iterative process embedded ecological constraints into social norms, showcasing governance as a form of social intelligence (Dewey, 1927).
- An Institutionalist Reading: The Swiss case aligns perfectly with Veblen's view of institutions as "settled habits of thought" (Veblen, 1899) and North's concept of path dependence (North, 1990). The rules were not designed from scratch but evolved incrementally, guided by historical memory and cultural transmission. This historical embeddedness created a foundation of trust that reduced transaction costs far more effectively than any external enforcement mechanism could.

4.3 Turkish Fisheries: Transaction Costs, Democratic Experimentation, and Equity

The self-organized fisheries near Alanya, Turkey, demonstrate how communities can avoid the race to fish. Fishers developed a system where fishing spots were allocated by lottery and rotated seasonally, coupled with peer-monitoring and graduated sanctions (Ostrom, 1990).

- A Pragmatist Reading: The fishers engaged in democratic experimentation. They tested different rules, observed outcomes (fish stocks, conflict levels), and adapted their system accordingly. This embodies Dewey's "intelligent experimentation" (Dewey, 1927) and Peirce's fallibilism.
- An Institutionalist Reading: This case directly engages with New Institutionalism. The rules were explicitly designed to minimize transaction costs (Williamson, 1985), but through participatory means that built legitimacy. It also serves as a critique of Coase (1960); the fishers solved the externality problem through a communal property regime without privatization, demonstrating that well-defined rights can be collective rather than individual, a point central to Commons's work.

5. Implications for Policy and Research: A Heterodox Manifesto for Institutional Design

The pragmatist-institutionalist synthesis advanced in this paper is not merely an academic exercise; it provides a robust, alternative framework for institutional design that directly challenges the panacea-driven approach of mainstream policy. This section translates our theoretical reconstruction into a coherent set of principles and applications, demonstrating its transformative potential across three interconnected domains: institutional economics, pragmatist philosophy, and heterodox political economy. Our goal is to make explicit how this reframing offers not just different solutions, but a fundamentally different way of thinking about governance.

5.1 The Core Contribution: A Tripartite Heterodox Framework

The primary contribution of this article is the articulation of a tripartite framework where pragmatist process, institutional analysis, and heterodox critique are inextricably linked. This framework asserts that effective and legitimate governance requires:

1. An Epistemic Shift (The Pragmatist Contribution): Moving from a model of decisionism (where experts design optimal policies) to a model of social learning (where policies are treated as provisional hypotheses tested through collective action). This shift is rooted in Peircean fallibilism and Deweyan experimentalism.
2. An Analytical Shift (The Institutionalist Contribution): Moving from a focus on static structures (markets vs. states) to a focus on dynamic rules-in-use and the transaction costs of monitoring, enforcement, and adaptation. This draws on the combined toolkit of Commons, Williamson, and North, as reinterpreted by Ostrom.
3. A Normative Shift (The Heterodox Contribution): Moving from a primary goal of Pareto efficiency to a balanced pursuit of adaptive efficiency, distributive equity, and democratic legitimacy. This challenges the value-neutral pretensions of mainstream economics and aligns with the critical tradition of Veblen and the democratic ethos of Dewey.

This tripartite framework is our core contribution. The following policy implications flow directly from it.

5.2 Innovative Policy Principles: A Design Toolkit for Polycentricity

For policymakers, our framework translates into a set of innovative design principles that are fundamentally different from standard recommendations.

Principle 1: Design for Iterative Learning, Not Static Optimization.

- Pragmatist Root: Dewey's experimentalism; Peirce's fallibilism.
- Policy Application: Replace one-size-fits-all legislation with "sunset clauses" and mandatory review periods. Establish permanent, funded "policy labs" at local and regional levels tasked with monitoring

outcomes, facilitating community feedback, and proposing rule adjustments. This institutionalizes learning.

- Contrast to Mainstream: Mainstream models seek an optimal equilibrium. Our model seeks a resilient, learning system.

Principle 2: Foster Pluralism of Ownership and Rule-Making.

- Institutional Root: Ostrom's design principle of "nested enterprises"; Commons's emphasis on collective action.
- Policy Application: Legally recognize and support a spectrum of property regimes; communal, cooperative, private, public—for managing resources like housing, data, and energy. Create "legal pluralism" frameworks that allow customary or community-generated rules to have standing alongside formal law, provided they meet basic fairness and sustainability criteria.
- Contrast to Mainstream: The mainstream oscillates between privatization and nationalization. We advocate for a pluralistic ecosystem of governance.

Principle 3: Invest in Facilitation, Not Just Regulation.

- Heterodox Root: The recognition that capacity for collective action is not evenly distributed and that transaction costs can be prohibitive.
- Policy Application: Shift public funding from purely punitive regulatory bodies to "governance facilitation units." These units would provide communities with training in conflict resolution, financial management, and participatory rule-making; lowering the transaction costs of self-organization.
- Contrast to Mainstream: Mainstream policy focuses on altering incentives (sticks and carrots). We focus on building collective capacity (skills and tools).

5.3 Sectoral Applications: The Framework in Action

5.3.1 Climate Governance: Integrating Polycentricity into Carbon Pricing Frameworks

The prevailing neoclassical approach to climate change champions a singular solution: carbon pricing. While theoretically efficient, this monolithic model faces political resistance and fails to address critical concerns of distributive justice and adaptive management. Applying an Ostromian lens, we propose a more nuanced, polycentric climate governance framework that embeds a carbon price within a broader ecosystem of democratic experimentation.

This model, which operationalizes [Ostrom's \(2010\)](#) core argument about polycentricity for complex systems like the global climate, operates at three distinct but nested levels:

- The Macro Layer (Price Signal): A national carbon fee establishes a consistent economy-wide signal.
- The Meso Layer (Democratic Experimentation): A significant portion of the revenue is directed to regional and municipal 'Climate Resilience

Funds,' governed by multi-stakeholder councils (local officials, community representatives, industry, scientists). These councils decide how to invest in local mitigation and adaptation projects.

- The Micro Layer (Community-Led Action): Communities, co-ops, and businesses access these funds for projects like community solar microgrids or housing retrofits. This process institutionalizes Ostrom's design principles: clearly defined boundaries, collective-choice arenas, and monitoring of outcomes and co-benefits like job creation.

This integrated model operationalizes fallibilism by treating cities as testbeds for climate solutions. It addresses equity by targeting investments toward vulnerable communities and builds democratic capacity by involving citizens in tangible action, shifting the focus from price alone to building resilient socio-ecological systems.

5.3.2 AI and Digital Commons Governance: Beyond Corporate Control or State Bureaucracy

- Application: Reject the false choice between corporate-driven AI and heavy-handed state control.
 - To move beyond the corporate-state dichotomy, we propose establishing legally recognized 'Data Commons' for key resources like medical imaging or public texts. This approach directly applies the institutional analysis of knowledge as a shared resource (Hess & Ostrom, 2007) to the digital age. Governance would be delegated to multi-stakeholder councils—comprising researchers, citizens, and ethicists—who could employ democratic methods such as sortition (citizen juries) or deliberative polling. This ensures that decisions on data access, ethics, and benefit-sharing are not only participatory but also informed and representative, creating a viable public option for data governance rooted in Deweyan democracy.
 - Contribution: This applies Ostrom's principles to a 21st-century resource, showing that collective stewardship is a viable alternative to both privatization and centralization, thereby democratizing technological evolution.

5.3.3 Polycentric Governance for Affordable Housing in the Iranian Context

The Challenge: The housing crisis in Iran cannot be resolved through financial instruments, such as subsidies, alone. It necessitates a fundamental shift in the governance of land and housing. The conventional policy approach oscillates between the binary of a "free market" and direct state provision, both of which have proven inadequate in delivering truly affordable and equitable housing.

A Polycentric and Context-Sensitive Solution: A polycentric governance model, adapted to the Iranian context, can leverage existing institutional

frameworks such as cooperatives (ta'āvonī), endowments (waqf), and municipal bodies. This approach moves beyond the state-market dichotomy by creating a nested system of governance.

5.3.3.1 A Practical Proposal: Long-Term Rental Housing Cooperatives with Municipal Support

- The Macro Layer (Legislation and Facilitation): The central government would formally recognize a specific category of "non-profit housing cooperatives" through targeted legislative amendments. Support would be provided in the form of tax exemptions and access to low-interest financing.
- The Meso Layer (Land Provision and Supervision): Municipalities, as key local institutions, would play a pivotal role. Instead of selling surplus or underutilized public land to private developers, they would grant these cooperatives long-term usufruct rights (e.g., 99-year leases). This action de-commodifies the land, removing it from the speculative market. The municipality would also retain a supervisory role to ensure adherence to technical and social regulations.
- The Micro Layer (Collective Management and Residence): The future residents form a housing cooperative, which becomes the primary governing body. This community of end-users:
 - Participates directly in the design and implementation of the housing project (collective-choice arenas).
 - Holds units under long-term, non-transferable leases rather than individual ownership, ensuring permanent affordability.
 - Develops and enforces internal rules for maintenance, management, and conflict resolution (monitoring).
 - Reinvests any surplus income from rentals into property maintenance or a solidarity fund to support members in need (nested enterprises).

5.3.3.2 Realizing Ostrom's Design Principles in the Model

This proposal operationalizes Elinor Ostrom's core principles for sustainable commons governance:

1. Clearly Defined Boundaries: Membership in the cooperative explicitly defines the community of beneficiaries.
2. Congruence between Rules and Local Conditions: Rules are crafted by the residents themselves, allowing them to be tailored to local needs and contexts (e.g., varying between Isfahan and Tehran).
3. Collective-Choice Arrangements: The cooperative's general assembly serves as the primary arena for participatory decision-making.
4. Monitoring: Residents directly monitor both the performance of their elected cooperative managers and compliance among neighbors.

5. Graduated Sanctions: Violations of internal rules (e.g., non-payment of fees) are met with a series of proportionate sanctions, potentially culminating in lease termination.
6. Conflict-Resolution Mechanisms: Low-cost dispute resolution is first sought within the cooperative's own governance structure (e.g., board of directors or assembly).
7. Minimal Recognition of Rights to Organize (Polycentricity): The central government and municipality legally recognize the cooperative's right to self-governance and its internal rule-making authority.

5.3.3.3 From a Speculative Asset to a Social Good

This model effectively re-frames housing from a speculative commodity to a social good. Its practicality for the Iranian context is derived from several factors: it utilizes familiar institutional forms (cooperatives, municipalities), does not require radical overhaul of the national ownership system, reduces the fiscal burden on the state, and actively strengthens social capital and local accountability.

This proposal demonstrates precisely how an Ostromian polycentric framework can inform the design of effective, localized institutions for housing policy in Iran.

5.4 A Forward-Looking Heterodox Research Agenda

This framework opens several new research pathways that bridge institutional economics, behavioral science, and policy design:

- Measuring Adaptive Efficiency: Develop new metrics to evaluate policies not just by static cost-benefit analysis but by their capacity to learn, adapt, and maintain legitimacy over time.
- The Behavioral Political Economy of Transition: Investigate the cognitive and social barriers that hinder the adoption of polycentric governance. Future research should focus on:
 - Behavioral Inertia: Why do policymakers default to state or market panaceas despite robust evidence for polycentric alternatives?
 - Collective Biases: How can group dynamics within polycentric councils be designed to overcome collective biases like short-termism and foster adaptive learning?
- Experimental Governance: Testing Polycentric Designs in the Field. A critical next step is to move beyond theoretical case studies and into rigorous, real-world testing. This involves:
 - Designing Field Experiments: Collaborating with communities to implement and compare different polycentric institutional designs for managing local commons (e.g., community energy grids, watershed management, urban green spaces).

- Measuring Behavioral and Institutional Outcomes: These experiments should explicitly measure the impact of different designs on key variables such as trust, levels of cooperation, compliance with rules, information sharing, and the speed of institutional adaptation to unforeseen shocks.
- Creating Policy Labs: Establishing dedicated "governance laboratories" at municipal or regional levels to serve as permanent platforms for this kind of iterative, evidence-based institutional experimentation, directly applying the pragmatist cycle of inquiry.

5.5 The Unmistakable Contribution

The contribution of this article is unambiguous. We have provided a philosophically coherent, institutionally granular, and politically viable alternative to the mainstream canon. By reconstructing Ostrom as a pragmatist-institutionalist thinker, we have done more than just reclassify her work; we have unlocked a paradigm that treats democracy, experimentation, and pluralism not as secondary concerns but as central ingredients for solving the most pressing collective action problems of our time. The policy implications outlined here are not mere tweaks but stem from a fundamental rethinking of economic governance; a rethinking that is both intellectually rigorous and practically essential.

6. Conclusion: Reclaiming Ostrom for a Heterodox Future

This article has undertaken a fundamental reinterpretation of Elinor Ostrom's legacy. Moving beyond the conventional view of her work as an empirical correction to mainstream theory, we have reconstructed it as a coherent and powerful pragmatist-institutionalist synthesis. By tracing the philosophical foundations, she shared with Charles S. Peirce and John Dewey, and by situating her within a heterodox institutional tradition, we have argued that Ostrom's polycentric governance constitutes a distinct paradigm for understanding and designing economic institutions. This reconstruction not only reorients scholarly debate but also, and perhaps more importantly, yields a robust and practical framework for policy innovation. The contribution of this synthesis is unequivocal, bridging the gap between abstract theory and actionable governance solutions.

First, the philosophical re-grounding of Ostrom's work provides a new epistemic foundation for policy design. By anchoring her method in Peircean abduction and fallibilism, we recast policy not as the implementation of universal blueprints, but as a diagnostic process of generating context-sensitive solutions from lived practice. Similarly, her normative alignment with Deweyan experimental democracy shifts the goal of institutional design from static optimization to fostering adaptive learning and democratic legitimacy. This philosophical shift has direct, practical implications: it mandates that policies be treated as provisional hypotheses, embedded with mechanisms for iterative

review and revision—such as the sunset clauses and policy labs outlined in our climate governance proposal. This moves policy beyond the rigid, panacea-driven approaches that frequently falter in complex, real-world environments.

Second, our empirical re-analysis demonstrates how pragmatist principles operate as tangible mechanisms for building resilient institutions. The cases of Nepalese irrigation, Swiss forests, and Turkish fisheries are not merely historical curiosities; they are proof-of-concept for a viable model of governance. They show that mechanisms like participatory rule-making, communal monitoring, and adaptive correction are not abstract ideals but practical tools for reducing transaction costs and enhancing compliance. The direct policy implication is clear: investing in the capacity for collective action—through facilitation units, legal recognition of community rules, and nested enterprises—is not a secondary concern but a primary lever for effective public administration. This is vividly illustrated in our proposal for affordable housing in Iran, where translating Ostrom's design principles into a cooperative governance model directly addresses the core challenges of affordability, equity, and maintenance.

Third, and most critically for policymakers, the article translates this synthesis into a clear and actionable policy toolkit. The tripartite framework—epistemic, analytical, and normative—directly informs the design of polycentric systems across diverse sectors. In climate governance, this means complementing a carbon price with democratically controlled local funds, turning cities into laboratories for adaptive learning. In digital governance, it means creating data commons governed by multi-stakeholder councils, thereby democratizing technological evolution beyond the state-market dichotomy. In urban housing, it means leveraging existing institutions like cooperatives and municipal land trusts to de-commodify housing and empower resident communities. These are not theoretical speculations but concrete institutional designs derived directly from Ostrom's pragmatist-institutionalist core. They provide a clear alternative to the repeated failures of one-size-fits-all solutions.

In conclusion, this article reclaims Ostrom's work for a heterodox future that is as practical as it is theoretical. The true significance of the pragmatist-institutionalist synthesis lies in its ability to generate context-sensitive, democratically legitimate, and adaptively efficient policies. It offers a clear pathway for policymakers to move beyond the sterile debate between market and state by providing a set of principled yet flexible tools for building governance from the ground up. The task ahead is to embrace this paradigm—not as a mere academic exercise, but as an essential guide for tackling the complex, collective challenges of the 21st century, from climate change and digital monopolies to urban inequality. By doing so, we can transform governance from a technical problem of optimization into a democratic process of continuous social learning.

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