

Title: Elinor Ostrom's Commons Theory meets the Academy: Exploring Complementarities and Overlaps

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Organizer: Nuno GIL, The University of Manchester

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HESS (Syracuse); Peter KLEIN (Missouri); Phanish PURANAM (Insead)**

Abstract

This 2-hour PDW aims to bring together theoreticians and empiricists from a variety of academic traditions who share intellectual curiosity by the potential value that Elinor Ostrom's commons theory of polycentric governance (Ostrom 1990) can bring to the Academy. We expect the PDW will attract a large number of scholars, as well as practitioners who are interested in, or at least intrigued with the idea of exploring the overlaps and complementarities between commons theory with other theories germane to the academy of management. Hence the PDW will create an arena to provoke thinking about, first, the reasons why commons theory has remained largely disconnected from contemporaneous theoretical debates in the academy of management. This situation is so more intriguing if we consider that Elinor Ostrom and Oliver Williamson, the founders of commons theory and transaction cost economics respectively, two bodies of theory that developed largely concurrently over the last decades, shared the Nobel prize in economics in 2009. Second, we are interested in understanding better the complementary and overlaps between commons theory and theories germane to the academy such as inter-organizational collaboration theory, the economic theory of relational contracts, and property rights theory, as well as with management philosophies that pivot around inter-organizational collaboration notably lean management and rapid prototyping practices. And third, we are interesting in discussing the extent intersecting commons theory with other research veins in management and organization can help to improve the predictability power of existing research frameworks, and illuminate phenomena underexplored in the academy such as commons organizations created to manage natural resources or inter-organizational collectives of legally independent specialists created to develop long-term, large-scale infrastructure assets.

The Structure of the PDW

To run this PDW we have assembled a panel of eminent theorists in their own fields all of which have accepted our challenge to reflect about the potential value that commons theory can bring to the academy. The structure of the PDW will be as follows:

Introduction (15 min) **Professor Nuno GIL, University of Manchester** will introduce the PDW by first sharing a story about how he stumbled across commons theory as part of his enduring goal to advance our theoretical understanding of the development process for long-term infrastructure assets and of the links between alternative structures to organize and govern the new infrastructure development process and capital project performance.

Commons theory: An Insider's Perspective (15min) **Charlotte HESS** a co-author and co-editor with Elinor Ostrom including co-editor of the 2007 book *Understanding Knowledge as a Commons* (MIT Press), and a longtime researcher, writer, and speaker on the study of the commons and collective action will share some insights of her collaboration with Elinor Ostrom and of the fundamental premises underpinning commons theory.

Commons theory and the Academy: Complementarities and overlaps (60 min): Our three panelists (biographies included in the end) are:

Professor Shaz ANSARI, Judge Business School (20 min) Shaz' studies institutional processes and diffusion of practices; social and environmental issues in management, and the creation of commons, and technological and management innovations.

Professor Carliss BALDWIN, Harvard Business School (20min) Carliss studies the process of design and its impact on firm strategy and the structure of business ecosystems and is the author, with Kim Clark, of *Design Rules, Vol. 1: The Power of Modularity* (2000).

Professor Peter KLEIN, University of Missouri (20min) Peter's studies the economics of organization, entrepreneurship, and strategic management, with applications to diversification, innovation, food and agriculture, public policy, and economic growth.

Discussion (15min) **Professor Phanish PURANAM, INSEAD** will lead the discussion Phanish studies the design and management of collaboration structures within corporations as well as between corporations. His research has sought to develop and refine the implications

of one central idea: collaboration problems arise not only from incentive conflict, but also coordination failures.

Final Debate (15min) We reserve 15min in the end to open the debate to the audience, and invite the audience to ask questions to the presenters and to share emerging thoughts.

Theoretical Motivation for the PDW

Traditionally, a commons is a natural resource that gives rise to the social dilemma of collective action: individuals acting alone will arrive at outcomes that are bad for all (Olson, 1965). In this “tragedy of the commons” (Hardin, 1968), herders overgraze their common pastures, fishers overfish the seas, manufacturers pollute the atmosphere, and pumpers deplete underground aquifers. According to Hardin, averting a tragedy of the commons requires some form of coercion: either government regulation or private property rights backed by the police powers of the state. Hardin’s own vision of human nature was bleak and his recommended measures commensurately draconian. Speaking of the threat of overpopulation, he said, “The only way we can preserve and nurture other and more precious freedoms is by relinquishing the freedom to breed” (Hardin, 1968, p.1248).

Against this backdrop, Elinor Ostrom began to study how commons were managed in practice (Ostrom 1990). Ostrom’s theory of governance proposes a third form of organization besides private firms and government agencies based on her own observations that the claimants to a “common-pool resource” were sometimes able to self-organize themselves to create and enforce rules to manage the commons day-to-day and to adapt to a changing environment. The resulting organizations were neither wholly decentralized (each person acting independently) nor centralized (as with a government agency or private firm), but instead encompassed multiple levels of action and rule-making. Ostrom called this mode of organizing “polycentric governance”, and observed that it “created complexity, not chaos” (Ostrom 2010). Much of Ostrom’s work aimed to show that this third organizational form is not only feasible, but often superior to other forms. Setting up and maintaining a “governed commons” is a complex undertaking, but can lead to better, more efficient management and stewardship of the resource base than either regulation or private management.

In the settings Ostrom and her colleagues studied—fisheries, forests, water management, animal husbandry—commons organizations were created to manage a natural common-pool resource. These resources are qualified by the juxtaposition of two properties related to the

flow of benefits from the resource. First, common-pool resources exhibit ‘low excludability’ since it is not easy to exclude claimants from accessing the resource. And second, common-pool resources exhibit ‘high subtractability or rivalry’ since the consumption of the resource by one claimant reduces the flow of benefits to others (Ostrom 2005).

The scarcity of work extending commons theory into the world of organizing and managing man-made or artificial resources triggers the two core questions motivating this PDW:

- What forms of artificial resources fit within the category of a common-pool resource?
- If commons governance is more advantageous than other types to manage natural resources, under which conditions can a commons organization also be more advantageous to manage the production of man-made artifacts?

A subsidiary question motivating the PDW relates to the inductive framework that Ostrom developed for assessing the ‘robustness’ of commons organizations. A fragile commons, prone to tragedy, is *not* a “superior form” of organization to tackle the two main problems facing the participants in a commons organization: the problem of appropriation (roughly translated into “who benefits?”) and the problems of provision (“who supplies effort and knowledge?”) (Gardner et al. 1990, Ostrom, 1990). Given that these problems are most likely to exist in any organization to varying degrees, we also believe it is worth exploring whether Ostrom’s framework can be extended to assess the robustness of commons organizations designed to produce man-made things, and to evaluate their performance.

Emergent Conceptual Positioning

Gil and Baldwin (2013) argue that Ostrom’s theory of polycentric organizations and commons governance is related to the theories of interorganizational collaboration (Schelling 1960, Raiffa 1982, Gray 1989, Pitsis et al. 2003, Ansari et al. 2013), the economic theory of relational contracts (Poppo and Zenger 2002, Baker et al. 2002, Gibbons and Henderson 2011), and property rights theory (Gordon, 1954, Libecap 1989).

Interorganizational collaboration theory, for example, tends to focus on the negotiating process—the phases, options, tactics, formal rules and protocols, as well as the role of external parties (courts, arbitrators, and mediators) in settling disputes. In contrast, Ostrom’s commons theory focuses on the efficacy of social norms, the rules of governance, and the goodwill generated by face-to-face interactions. Negotiations occur in all commons

organizations and thus the two literatures are related, but the emphasis of Ostrom's commons theory is not on negotiating and collaborating per se but on the rules that structure the claimants' interactions and reward or sanction their behaviour.

The economic theory of relational contracts in turn considers the structure of agreements that do not require enforcement by a third party such as a court. Agreements between self-interested agents can be self-enforcing if the value of continuing to cooperate is higher (to all parties) than the value of defecting or renegeing (Baker et al. 2002, Gibbons and Henderson 2011). Participants in a commons organization must believe that staying within that organizational framework, with all its rules, is more advantageous than leaving. And in that sense they must be bound by a relational contract. But commons organizations are complex and hard to reduce to simple games of tit-for-tat. Thus, Ostrom includes relational contracts in her theory but her work is focused more on the practical design of a robust commons than on theorizing the phenomena of collaboration in terms of a small set of formal properties.

Like Ostrom, some property rights theorists have focused on common pool natural resources that demonstrably cause conflicts of interest and hence collective action problems. Weakly defined or poorly enforced property rights are known to hinder the efficient use of resources (Libecap 1989, Wiggins and Libecap 1985, Alston et al.1985). Both the commons and property rights literatures agree on the reasons why claimants struggle to cooperate, highlighting the number and heterogeneity of the parties involved, information asymmetries, and conflicts over value distribution. But scholars working in the property rights tradition focus on law and/or formally negotiated contracts as the "solution" to collective action problems. In contrast, scholars working in the commons tradition highlight the role of socially-embedded local organizations and the bottoms-up rules that they create. Thus, although property rights theory and commons theory focus on the same phenomenon, and the parallels are suggestive, up to now, the relationship between the two literatures has hardly been explored. (Klein et al. 2011, is a recent and notable exception.)

Why should this PDW be of interest to the divisions of Organization and Management Theory, Technology and Innovation Management, Operations Management, and Public and Nonprofit?

This PDW looks to bring together academics from across the globe and different research traditions to discuss the potential value of commons theory to the academy. This will be a

novel discussion in the context of the Academy, and can have major implications for ongoing theoretical debates in management and organization theory in general, and in particular to the domains of technology and innovation studies, management of operations, and the management of public and non-profit enterprises. In line with the 2014 Academy of Management's theme, the Power of Words, this PDW will invite a group of preeminent scholars to *talk* and exchange thoughts about how they see the potential of commons theory to further contemporaneous theoretical and empirical debates in the academy, and improve the predictability power of existing theories, as well as the power of commons theory to illuminate the logic behind both well explored and less explored empirical phenomena.

Clearly, the PDW is relevant for management and organization theorists. Part of the discussion it will provoke may well revolve about the extent to which a commons organization can exist beyond the natural resources domain, and make it into the world of corporate and public agencies. Another question that the PDW may trigger relates to the extent fundamental principles in management and organization theory remain valid to predict how to organize and manage a high-performing organisation, and are or not consistent with Ostrom's principles to design a robust commons. Robust commons organizations succeed to entice self-interested individuals to volunteer their resources to the enterprise whilst dampening problems of collective action. This is potentially an important insight to further our understanding of collaboration between legally independent organizations, and it merits further research how robust commons deal effectively with the division of labour and the integration of effort, the two fundamental problems in the design of organization structures (Puranam et al. 2011). A last interesting question to management and organization theorists that the PDW may address relates to whether the interplay between formal and informal governance structures (Gulati and Puranam 2009) in a commons organization shows or not any specificity relative to how the two interplay in the firm.

Other ideas that can perhaps surface during the PDW pertain to how to theoretically position a commons organization within emerging debates about business ecosystems, meta-organizations, distributed communities of production, and other modes of inter-organisational collaboration that go beyond the boundaries of the firm. Growth in inter-organisational forms that bring together participants with a broader range of capabilities is expected as information and knowledge become more distributed (Scott 2001), organizational boundaries become more porous (Santos and Eisenhardt 2005), and new business models emerge that draw value from less conventional resources (Baldwin and Hippel 2011). Inter-organisational collaboration allows the

organizations to tap into the resources available in their environment which in turn can be leveraged, through the generation of innovation, to create additional value (Adner and Kapoor, 2010). Like any commons organization, these inter-organizational forms to organize work unify under a system-level goal self-interested actors. In some cases, these actors can have very different logics including private enterprise, central and local public administrations, and voluntary communities of contributors. Still, these cross-value systems can now be found meeting real-world challenges ranging from the development of novel technology products, delivery of services in education and health care, to the creation of infrastructure assets vital to support the socio-economic development of modern societies.

Last but not least we also see some links between the lean management and rapid prototyping paradigms with attempts to extend commons theory to advance our knowledge of how to unify under a superordinate goal different organizations tasked to produce man-made artefacts, and create structures to promote effective and efficient inter-organizational collaboration. Gil and Baldwin (2013), for example, argue that in a robust design commons organization—an organization created to design a man-made artefact—the parties with knowledge of the physical production process and capability to produce reliable cost and schedule estimates for different designs need to participate in the commons so they can keep tabs on the design deals ex-ante of physical production. This condition requires designing the commercial arrangements that bring on board the profit-seeking suppliers in such a way that reassures other commons participants of the quality of the information the suppliers are expected to share throughout the design process. Hence, in this regard, extending commons theory into design production reaffirms the structural conditions long observed in business outfits that adopt lean management principles (Womack, Jones, Roos 1990, Clark and Fujimoto 1991) and rapid prototyping (Wright 2001), whilst it simultaneously seeks to extend the membership of the community of design production to non-paying users of the artefact.

In summary, we argue the PDW can contribute to illuminate the role that theory on commons organizations can play in advancing our understanding of distributed innovation processes, and of development and production processes that require mustering a raft of resources distributed across many legally independent actors. Thus the discussion may perhaps address issues around the differences and similarities between a commons organization and distributed communities of production such as ‘open source’ communities of individuals who develop free software, or between a commons and collectives that unify actors with antagonistic logics under a superordinate goal because of their success in delineating ex-ante

the boundaries of the collaboration (O'Mahoney and Becky 2008). The PDW can also perhaps shed value on whether business ecosystems that draw on unconventional sources of value such as Apple Store and social networks like Facebook and Twitter can find value in the commons form of organising work and in its qualifiers notably its polycentric governance structure, the autonomy of the local groups, and the consistency of the representation of interests across local and top levels, and thus shared governance.

Without attempting to prescribe how panellists will frame their presentations and provoke thinking, these are some of the salient conceptual directions to which we can anticipate, to the best of our knowledge, how the PDW has potential to make an original contribution.

Short bios of the Presenters (by alphabetical order)

Professor Shahzad (Shaz) ANSARI, University of Cambridge Shaz is a Reader (Associate Professor) of Strategy at the Judge Business School, University of Cambridge and Visiting Faculty at the Rotterdam School of Management, Erasmus University. He holds a doctorate degree from the University of Cambridge. He serves on the Editorial Boards of *Academy of Management Review*, *Organization Science*, *Journal of Management Studies* and *Organization Studies*, and is a High Performing member of the Erasmus Research Institute of Management (ERIM). His research interests include institutional processes and diffusion of practices; social and environmental issues in management, creation of commons, technological and management innovations; value creation and new market development; reputation management, bottom-of-the-pyramid strategies. With Frank Wijen and Barbara Gray, Shaz argue that the emergence of a commons logic in a transnational field is a nonlinear process and identify five mechanisms (collective theorizing, issue linkage, active learning, legitimacy seeking, and catalytic amplification) that underpin how and why actors changed their frames at various points in time—enabling them to move toward greater consensus around a transnational commons logic. The authors also argue the emergence of a commons logic in a transnational field is a nonlinear process and involves satisfying three conditions: (1) key actors view their fates as being interconnected with respect to a problem issue, (2) these actors perceive their own behavior as contributing to the problem, and (3) they take collective action to address the problem.

Professor Carliss BALDWIN, Harvard Business School. Carliss studies the process of design and its impact on firm strategy and the structure of business ecosystems and is the

author, with Kim Clark, of *Design Rules, Vol. 1: The Power of Modularity* (2000), the first of a projected two volumes. Volume 2, *Modularity on Trial* will consider how modular technologies are affecting the basic structure of the global economy—for good and for bad. With Nuno Gil, Carliss has intersected design theory and commons theory in an empirical study of the relationship between design structure and organization structure in the context of infrastructure projects. Carliss and Nuno extend commons theory from the world of natural resources into the production of man-made artifacts. Specifically, they extend the central prediction in commons theory that, if a robust governance structure is created, a commons organization gives claimants incentives to contribute to the enterprise whilst dampening collective action problems (Ostrom 1990). Hence, applying Ostrom's (1990) principles of robust commons governance, Carliss and Nuno show that a design commons organization can be created and be robust by these criteria, and hypothesize that robustness contributed to its success. Carliss and Nuno conclude their study with the rudiments of a theory describing when and why a commons organization can be advantageous for production of a design, and discuss design flexibility as an intervening variable that is critical in reconciling divergences that governance alone cannot resolve.

Professor Nuno GIL, Manchester Business School (PDW organizer). Nuno studies the design and development process of new infrastructure assets. Nuno's enduring research goal is to advance our theoretical understanding of the structures employed to develop new long-term infrastructure (e.g., transport and utility systems, social assets like hospitals and schools) and explore links between different co-existing structures and performance. Whilst infrastructure is a setting critical to modern society¹, it is also a very challenging sector for advancing management and organization theory attending to all the resources critical for new schemes to go ahead, and the distribution of design rights stemming from the distribution of the ownership of the resources caused by the large-scale and long-term nature of infrastructure. With Carliss Baldwin, Nuno coined the term *design commons* and argue a design commons can be an advantageous form of organizing the production of infrastructure

Charlotte HESS is the founder and former Director of the Digital Library of the Commons and is Emerita at Syracuse University where she was Associate Dean for Research, Collections and Scholarly Communication for the SU Libraries. Hess has written and lectured

¹ Infrastructure development has been dubbed one of the grand challenges for the 21st century¹, and the McKinsey Global Institute (2013) estimates that the world needs to spend \$57 trillion on new infrastructure to keep up with projected population growth through 2030.

extensively on knowledge, cultural, and new commons. She collaborated with Economics Nobel Laureate Elinor Ostrom on a number of publications including their 2007 co-edited book *Understanding Knowledge as a Commons: From Theory to Practice*, MIT Press. Hess continues to be an affiliated faculty member at the Ostrom Workshop in Political Theory and Policy Analysis at Indiana University. She also actively works as a professional artist.

Professor Peter KLEIN, University of Missouri Peter G. Klein, Peter is Associate Professor of Applied Social Sciences and Director of the McQuinn Center for Entrepreneurial Leadership at the University of Missouri. Peter's research focuses on the economics of organization, entrepreneurship, and strategic management, with applications to diversification, innovation, food and agriculture, public policy, and economic growth. Peter jointly with Anita McGahan, Joseph Mahoeny, and Chistos Pitelis have developed an argument that insights from an economic analysis of property rights, developed to explain and predict the institutional governance of common-pool resources, provide theoretical principles of organizational governance of “club goods” central to inter- and intra-firm coordination in strategic management. Specifically, they show how Ostrom’s (1990) institutional design principles of clear boundaries and memberships, congruent rules, monitoring, graduated sanctions, conflict resolution mechanisms, and federation, combined with characteristics of the bargaining parties and economic values of the underpinning resources—outlined in Libecap (1989)—help explain and predict when inter- and intra-firm adaptation is likely. They also show that design principles developed for institutional level (e.g., common-pool resource) problems are isomorphic to governance level (e.g., club-goods) problems.

Professor Phanish PURANAM, INSEAD Phanish studies the design and management of collaboration structures within corporations (i.e. between divisions or departments) as well as between corporations (i.e. alliances and acquisitions). His research has sought to develop and refine the implications of one central idea: collaboration problems arise not only from incentive conflict ("cooperation failures"), but also coordination failures. Coordination failures occur when interacting individuals are unable to anticipate each other's actions and adjust their own accordingly (Schelling, 1960; Simon, 1945), and are distinct from and can occur independently of cooperation failures, which arise when the interests of interacting individuals are not aligned. Phanish argues that the central issues in corporate strategy pertain to how managers can create the most value from the portfolio of businesses they control by managing the organizational and governance linkages between them. Thus, Phanish argues,

organisation design and corporate strategy are intimately linked, and many of the central phenomena in corporate strategy pertain to designing collaboration between distinct but interdependent organizational units, strategic partnerships, re-organizations, outsourcing and M&A integration. Phanish's goal is to extend what he has learnt about how coordination takes place within organizations in order to revisit some of the basic issues in organization design. In 2011 Phanish was listed among the "World's 40 best business school professors under the age of 40" by Poets & Quants. In 2013, he was included in the "50 Most Influential Business Professors" by MBA rankings.net.

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