

# Understanding the Institutional Repertoire Required for Effective and Sustainable Polycentric Governance

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Several participants in this workshop have been pioneers in applying the Crawford-Ostrom (1995) institutional grammar to the empirical analysis of large-scale rule systems. This is important work, building on one of Elinor (Lin) Ostrom's lesser-known contributions to the interdisciplinary body of research on institutional analysis. In this discussion paper I outline how this project is related to core issues in the future development of the Bloomington School of political economy (Aligica and Boettke 2009; Cole and McGinnis 2015) and to the field of institutional analysis more generally.

This is a conceptual paper, and my ideas are presented in a sketchy and preliminary manner. I adopt a long-term view. My aspirations for the potential development of this line of research are ambitious, but in this I follow in Lin's footsteps, who made audacious claims about the potential generality of this research tool in her last major solo-authored book, *Understanding Institutional Diversity* (2005). She explicitly sought tools to answer such wide-ranging questions as "Can we dig below the immense diversity of regularized social interactions in markets, hierarchies, families, sports, legislatures, elections and other situations to identify universal building blocks used in crafting all such structured situations? If so, what are the underlying component parts that can be used to build useful theories of human behavior in the diverse range of situations in which humans interact?" (Ostrom 2005: 5-6)

In this paper I briefly outline the following topics:

1. Expanding the ADICO institutional grammar to cover forms of interaction beyond shared strategies, norms, and rules, specifically including shared conceptualizations, coalitions, social roles, and formal organizations.
2. Conceptualizing a society's institutional repertoire as the entire array of institutional statements available to members of relevant policy communities.
3. Developing a systematic method of tracing through the connections among related institutional statements in order to design and implement rigorous comparison of cases and the evaluation of policy interventions.
4. Devising a concept that can encompass the entire array of relevant institutional statements and their inter-connections into a macro-level structure, formed by a networked configuration of ADICO statements.
5. Exploring what additional conditions need to be imposed to transform this complex inter-related configuration of ADICO statements into something resembling the concept of polycentric governance originally proposed by Ostrom, Tiebout, and Warren (1961).
6. Considering whether this mode of analysis might suggest the need for a reformulation or reconceptualization of the Institutional Analysis and Development (IAD) framework.

Clearly, these tasks are way beyond the capacity of any individual researcher, or the outcome of any single meeting. My intention is to lay out this agenda and see if it attracts any interest among those researchers best-placed to move in these directions. In the remainder of this paper I provide some additional details on each of these steps.

### **U.S. Health Care as a Deeply Flawed Proto-Polycentric System**

I begin with a brief overview of my recent research on the U.S. health care system, and how it can be seen as an exemplar of a fragmented system full of many centers of authority with overlapping jurisdictions, but that is not sufficiently coordinated, in several senses, to count as a fully polycentric system (see McGinnis 2014a,b). Among the missing forms of effective coordination are the following:

- Inter-operability of electronic medical records used by different care organizations
- Full communication between patients and clinicians on available options (as recently formulated as shared decision-making protocols)
- Closer coordination among caregiver types engaged in diverse forms of care (care transitions, continuum of care, patient centered medical homes, or PCMHs)
- Alignment of financial interests of care providers and sources of funding, (as in the accountable care organizations, or ACOs, encouraged in the 2010 Affordable Care Act.
- Fuller involvement of social support networks in health promotion campaigns, including ACOs, PCMHs, and SDMs
- Shared stewardship at the local or regional level (multi-stakeholder leadership teams including providers, payers, public health officials, community organizations, and patients/citizens)

These ideas have been around for decades (McGinnis 2014c), but efforts to implement each idea separately have not proven effective. The U.S. system of health care, health insurance, and public health remains fragmented, but it has been built upon many forms of shared access to and/or shared consumption of resources, and shared production, financing, rule-making, monitoring, and sanctioning. These concerns have shaped my ideas about how the ADICO grammar and related analytical tools might help us turn this fragmentation to better purposes.

### **Exploring Institutional Repertoires with the ADICO Grammar**

The original Crawford-Ostrom (1995) formulation defines only three specific categories of institutional statements: **rules** (ADICO), **norms** (AICO), and **shared strategies** (AIC). Further elaboration of the micro-foundations behind the ADICO framework is needed to expand the set of categories that can be constructed on this same foundation. Doing so will enable researchers to encompass a fuller range of the institutional statements or arrangements that are used by human communities as they work together to resolve common problems or realize shared aspirations.

All participants in a collective action setting have to share some basic conceptualizations in common, or else some of them may be unable to understand the choices or preferences of others. The A term designates the array of attributes that members of that community consider to be relevant to the making of decisions, I designates all the kinds of aims that might be reasonable subjects for individual or collective action, and C designates all of the conditions that might need to be taken into account to understand which actions can be taken by individuals with any of these attributes or who are pursuing any of these aims. In this sense, the AIC configuration encapsulates a fundamental way of thinking about

the world, centered on processes of individual and collective choice, and all of the attributes and conditions that seem, to members of that cultural community, to influence these decision processes.

The AIC configuration might be taken to designate a broader range of **shared conceptualizations**. For example, although AIC was originally interpreted as a “shared strategy,” it seems to me that any **strategy** of any single actor could be similarly designated, as long as the strategy in question would be understandable to another member of that same community. In addition, any kind of **decision heuristic** should also be included within the array of decision-making processes to be modelled by ADICO.

Whether a strategy or decision heuristic is shared or not would then become a matter of empirical analysis, to see if distinct actors are indeed coordinating on a single mode of operation, and how they might use norms or rules to support that coordination. If different actors agree to adopt the same strategy, then they might be understood to have formed a **coalition**, and in that context any deviation from that shared strategy might imply normative or practical sanctions. As in the grammar generally, individual actors who deviate from their promised actions might experience losses of three kinds: (1) intrinsic costs incurred by the guilt or shame evoked by choosing inappropriately, (2) extrinsic costs from the loss of an individual’s reputation among other actors, and (3) the direct, practical costs inherent in punishments applied to that individual by some other actor, designated to play the **role** of sanctioner.

By **role** I mean the concept developed by sociologists to designate a configuration of social expectations attached to certain individuals in specific circumstances. In addition, the original actors, their supposed monitors or sanctioners, and the next level of monitors and sanctioners, may experience intrinsic or extrinsic costs from falling short of their own or others’ normative expectations of their behavior. Each role will have certain normative expectations attached to it. Surely such a critically important concept in the design and implementation of institutional processes should be expressible using the components of the ADICO framework. (To maintain consistency with previous work within institutional analysis, it may seem better to use the term **position** instead of role, but I think the term role deserves our attention.)

The members of any social group will be familiar with a wide array of institutional practices, and may have some awareness of options that have been used elsewhere or in earlier times. Also, as communities face new challenges and continue to learn from each other’s own experiences, they will also be working together to creatively combine the elements of familiar institutional statements into new and innovative combinations. In other words, the universe to which any full-scale institutional grammar could be applied will be continually expanding (even though memories of some past experiences may be lost over time).

I use the term **institutional repertoire** to designate the entire set of institutional arrangements available for use by members of a group seeking to attain some common goal. At least some members must be familiar with each of the institutional statements included in that group’s effective repertoire. Such a repertoire can grow over time, as innovative new opportunities are developed, but some previously known choices may be lost through disuse or inattention to past history. No one actor “owns” this entire repertoire, but the actions of all contribute to its growth or decline.

Institutional repertoire is a slippery and open-ended concept; one that could be taken to encompass the full range of a linguistic or cultural tradition, but nothing less can suffice to represent the options available for collective action. The term “repertoire” may not be exactly on the mark, since it does not fully imply the existence of significant interdependencies among its component elements.

For example, the Or Else component implicitly assumes the existence of some other player who has been assigned the role of imposing sanctions on rule violators. And that actor, or others, must have been empowered to monitor or collect information on any of the actions or outcomes deemed relevant under the relevant rule of behavior. In turn, any individual who falls short in fulfilling these monitoring or sanctioning roles can open themselves up to later sanctions, based on whoever has been assigned the responsibility of keeping track of their actions. These multiple levels of collective action and social responsibility are deeply intertwined.

An important follow-up question is where do these normative expectations come from? I would say they point towards the actions of other individuals in a position, or role, to help impact normative expectations onto new members of that community. Parents, teachers, and religious leaders (or their ideological equivalents in more explicitly secular settings) play particularly important socialization functions in any society. Just as every rule points to some other actor assigned the responsibility to enforce punishments on rule violators, every individual's normative predispositions come from somewhere, from the actions of those individuals who were well-positioned to influence them.

It is especially important to find a way to incorporate the concept of organization into the ADICO grammar. Elsewhere (McGinnis, 2015b), I argue that a formal **organization** can be conceptualized as a team of actors connected together in a network of relationships, each directing, monitoring or otherwise affecting the behavior of other members; as specified in a configuration of mutually defining roles/positions, rules, norms, strategies, and shared conceptualizations. Formal organizations typically assign particular tasks or responsibilities to positions known as **agents**. In general, such agents can be understood as a kind of **position-holder**, that is, an actor assigned the responsibility of giving the relevant set of actors a common signal or message upon which their action is coordinated; this may take the form of sending a signal to coordinate strategic choices or deciding which norm or rule is most directly applicable under that given set of circumstances.

I realize how difficult it is to use the institutional grammar to analyze even simple rules, taken one at a time, but if this research program is to ever achieve its full potential, we need to be thinking about how this work might be used as a foundation for working at a more aggregate level.

### **Designing Research and Policy Evaluations**

It may be useful to think of an institutional repertoire as a network or system, given the critical importance of the ways in which its component parts are interlinked. But it is a network that remains open to modification by the players using that repertoire. Elsewhere (McGinnis 2011) I have argued that, within the IAD framework, everything is at least potentially endogenous, since individuals and groups have the capacity to change so many aspects of the social context within which they interact. A similar level of complexity is required to represent the full structures of institutional repertoires.

In effect, no single institutional statement exists in splendid isolation, just as no sentence can convey an unambiguous meaning unless the reader or hearer understands the language from which those words and grammatical construction was taken. If we change one component of an institutional statement, we need to be able to understand how that change affects the other institutional statements upon which the expression of that rule relies (such as the identity or the incentives of the position designed by its Or Else component, or the actions of those who play the critical roles in socializing individuals to understanding the normative consequences of their actions).

Since no rule can be fully understood in isolation, we need some systematic means of tracing through the linkages to other parts of the relevant institutional repertoire that support or modify the operation of that rule. We need an aggregate or macro-level version of the ADICO grammar, to understand what is created by the linked configuration of individual institutional statements. Also, how would an **ADICO aggregate** relate to such standard concepts as political regime or policy sector?

Once we have developed the tools to trace through linkages between different rules and other elements of an institutional repertoire, then institutional analysts will be in a position to enact more precise forms of comparative case analyses, as well as policy evaluation. The basic logic behind both scientific and policy relevant research using this tool would be that any change in one rule has ramifications on other components of the relevant institutional repertoire. Since the magnitude and consequences of these ramifications are likely to be different within different governance systems, any simple difference between the rules in use in different cases cannot be effectively compared, unless this tracing process is followed through for both cases. Similarly, any policy intervention that makes a single change in the contents or implementation of any particular rule or norm or strategy, or indeed any relevant component of the extent institutional repertoire, will have effects that ramify throughout that system. Thus, any evaluation of its likely consequences will have to take these indirect effects into account.

### **From Institutional Diversity to Polycentric Governance**

To be able to use this research tool to understand macro-level structures of governance processes, it will be necessary to develop formal representations of how individual institutional statements are linked together into complex institutional configurations. By means of clarification, by **governance** I mean as the **processes** through which the rules, norms, and social expectations that guide the behavior of individuals and corporate entities in a given area of policy are established and reinforced, whether by formal or informal mechanisms. Generally, especially in the U.S. system, governance is a task undertaken by a complex combination of officials from multiple public agencies as well as by many other important non-governmental entities.

I am concerned that simply knowing that institutional statements are somehow linked together into complex structures would not be enough for us to fully evaluate that structure's likely consequences for that society as a whole. Writing from within the Bloomington School, it is axiomatic that if a governance structure is to be effective and sustainable, then it must comport, to at least a significant degree, to the idealized concept of **polycentricity** as first articulated by Ostrom, Tiebout and Warren (1961).

Ostrom, Tiebout, and Warren defined polycentric order as a system of multiple centers of authority, with overlapping jurisdictions, interacting in diverse ways, acting within an overarching context of laws, rules, norms, and shared understandings, and generating a system of order that may seem to emerge spontaneously but that is really driven by the efforts of a large number of public entrepreneurs. **Coordination** is, by definition, an important form of collective action, one that also needs to be found in polycentric order (McGinnis and E. Ostrom, 2012). I consider a fragmented governance system to be **proto-polycentric** if it fails to deliver minimal levels of effective coordination (McGinnis 2015).

My own research interests focus on exploring the nature of polycentric governance. This is an especially tricky concept to define (see Aligica 2014), and I am engaged in a collaborative project to try to build a sufficiently precise definition of this concept for it to be used, in an effective fashion, for comparative institutional analysis. For current purposes, it's important to emphasize that it is not enough to have a diversity of available institutional forms, but those institutions need to be connected together in the

ways that support the operation and sustainability of polycentric order. In this way the ADICO grammar may help us come to a more precise understanding of the underlying nature of polycentric governance.

Elsewhere (McGinnis 2015) I introduce my preferred line of argument in more detail, still in a preliminary form, but here is the gist of that argument. I use the Aligica and Tarko (2012) definition of polycentricity as my point of departure: “a structural feature of social systems of many decision centers having limited and autonomous prerogatives and operating under an overarching set of rules.” I propose taking the term decision unit (or, alternatively, center of authority) as the basic unit upon which a polycentric system must be built. Informally, *in a decision unit some individuals make collective decisions for themselves and/or for others concerning what resources can be used in what ways, when, and where, and under what restrictions or responsibilities.*

This definition implicitly presumes that there already exist broader sets of people, resources, and institutions from which one can select defined groups of individuals, an array of specific resources, and particular institutions, and then constitute a decision unit by combining them together. In formal terms, a decision unit can be defined as a configuration of subsets drawn from these three broader sets. For this point, which is foundational for my analysis, I draw on Frischmann et al. (2014), who define a commons in a similarly configurational way, as follows: “**Commons** refers to a form of community management or governance. It applies to resources, and involves a group or community of people, but commons does not denote the resources, the community, a place, or a thing. Commons is the institutionalized arrangement of these elements.” (p. 8, underlining added) From this perspective, a commons is also a decision unit, but not all decision units are commons. Other important decision units include households, firms, political jurisdictions, public agencies, and all forms of property.

Yochai Benkler, in Frischmann et al. (2014) and in other writings, distinguishes between two different kinds of commons, one that is much like Lin Ostrom’s work on community-based ownership, or common property, and the other being open access commons, with a public realm that has been constructed and/or is protected by private, public, or community actions, and which anyone in that community has the right to access and use. Each decision center in a polycentric system is like a commons, in both of Benkler’s senses. First, a decision center is a commons in that some group of people is making decisions, for themselves and/or for others, concerning access and use of certain kinds of resources, subject to applicable laws, rules and normative considerations. Second, the diverse array of institutional arrangements available to those encompassed by a decision unit constitute resources that can be drawn upon, by anyone living within that system, to address new problems, or as the raw material upon which still new institutional forms can be constructed to serve new purposes.

A decision unit has jurisdiction over a range of collective decisions concerning the rules, norms, etc., that govern the use of particular resources that are held to be binding on the members of a definable group. This gives us an opportunity to specify that two jurisdictions (or decision units or centers of authority) overlap when they share some of the same people, resources, or institutions in common. I prefer to use the term shared institutional repertoire rather than overarching system of rules or of law, and this definitional characteristic may be construed to be the same as the broad set of institutions from which the specific institutions relevant to any particular decision unit are drawn. In a way, then, this overarching system of shared institutional understandings amounts to a particular kind of overlap among jurisdictions or decision units. This is why, for me, extension of the ADICO institutional grammar to incorporate broader cultural understandings opens up the possibility that it could be directly related to the foundations upon which polycentric governance must be built.

A polycentric system is **effective** (or efficient?) when it enables communities to enjoy the full range of economies of scale inherent in the diverse kinds of collective goods and services that community seeks to enjoy. It empowers communities to make effective use of existing and prospective forms of institutional statements in their efforts to resolve common problems and realize shared aspirations.

For polycentric governance to be **sustainable** it also has to reinforce the self-governing capacities of the citizens of that community. Vincent Ostrom addressed this argument in some detail in his last major book (Ostrom 1997). Aligica (2014) interprets this as the need to solve a “third order collective action problem,” beyond the basic problems of first agreeing to work collectively, and second insuring that participants do what they promised to do while solving the first problem. The third order problem is whether or not the institutions set up to solve the first two problems do so in a way that tends to instill in the participants a set of moral values and practical incentives that support the continued operation of these same institutions. It relates directly to the establishment and the sustaining of the right kind of institutional repertoire needed for effective and sustainable polycentric systems of self-governance.

In addition, all this may imply a potentially profound simplification of the **IAD framework**, which constitutes the methodological core of the Bloomington School. The configurations of people, resources, and institutional repertoires that constitute a commons, decision unit, or center of authority, can also be represented, using the IAD framework, as **action situations**. The three classes of contextual variables (sometimes inaccurately labelled as exogenous factors in some IAD figures) are directly related to these three components. The category known variously as nature of the good/service or biophysical conditions can be expanded to cover the entire array of relevant resources; the attributes of the community reflect the relevant people involved and all of their interactions, and the rule-in-use category should, in my opinion, be expanded to cover the entire institutional repertoire available to that group of people while they are collectively engaged in governing some definable set of resources. In this way, these contextual variables have a close affinity to the action situation, in which these factors interact in ways that may result in significant changes in any or all of those categories.

Rules, norms, strategies, and other institutional factors combine together with the behavior of relevant actors and with the appropriate physical environment in complex ways within an action situation to generate outcomes. We already have tools to understand how goods, services, and resources are connected together in economic or ecological systems, and how people are connected into social networks and communities; what remains is to develop more formal tools to help reveal the underlying structures of rule systems, or more broadly, institutional repertoires.

Further development of the ADICO framework might help clarify the epistemological foundations of this framework. When Ostrom (1986) introduced the **working components** of an action situation as analogous to the “rules of a game,” she was not then using the ADICO definition of rule. In addition to the emerging literature applying the ADICO framework to existing systems of laws or rules, it might also be useful to demonstrate how the working components of an action situation can be understood as resulting from a linked configuration of ADICO statements.

Perhaps one of the key ADICO aggregate structures mentioned above will turn out to be a more formal representation of action situations. This might help us more fully understand the micro-foundations of the IAD framework, and thus be able to use it in a more systematic way in future research and policy analysis on both polycentric and proto-polycentric systems of governance.

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