Institutional and Stakeholder Mapping: Frameworks for Policy Analysis and Institutional Change

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Abstract Despite its importance and its widespread employment in policymaking practice, the theoretical and epistemic foundations of institutional mapping have not been elaborated and its legitimacy is yet to be fully granted by the academic community. This paper is a contribution to this overdue effort. The paper has two parts. First it introduces mapping as a cognitive process and explores in this context the structural similarities between maps and theories. While doing that it identifies the basic elements of mapping as a cognitive procedure and based on that it outlines the optimal features of the possible meta-theories framing policy-oriented institutional mapping. The second part goes a step further and discusses two concrete examples that may come close to illustrate the meta-theoretical ideal-type outlined at the end of the first part: the theoretical system implied in the Chicago School of sociology and the Institutional Analysis and Development framework inspired by the new institutional economics.

Keywords Policy analysis · Stakeholder mapping · Public policy design · Institutional analysis

The applied social science and the public policy literatures abound with references to institutional and stakeholders mapping or analysis. That reflects the importance that this procedure and the problems that it is meant to deal with have in practice. Indeed any social change initiative or any policy project needs for strategic and tactical reasons to get an inventory of institutions involved, identify the key players, assess potential support or opposition among them and to highlight the relevant institutions' roles and the inter institutional linkages. A stakeholder is defined as persons or groups whose interests and activities strongly affect and are affected by the issues concerned, who have a 'stake' in a change, who control relevant information and resources and whose support is needed in order to implement the

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change (Morgan and Taschereau, 1996). Stakeholder analysis 'identifies the stake-
holders and maps out their relative power, influence and interests' in a certain
domain or in regard to a specific initiative, identifies the role and action arena of
each stakeholder 'and indicates the relative priority to be given to meeting the
interests of the stakeholders, thus assessing the importance of each stakeholder to
the success of the project' (Morgan and Taschereau, 1996: 2, Brugha and
Varvasovszky, 2000).

Irrespective the way they are defined, 'relative power,' 'influence' or 'interests'
are profoundly determined by the institutional environment within which social
actors interact. Therefore stakeholder mapping and institutional mapping are not
two separated procedures but the faces of the same coin, two dimensions of the
same analytical formula. As such they do not make up only for an efficient ana-
lytical, investigative tool but also for an indispensable strategic instrument. Mapping
is a basic tool for achieving an understanding of potential roles of the stakeholders
and institutions involved, for identifying potential coalitions of support for the
project, for scenario and strategy building and for assessing the relative risks en-
tailed. If carried out with the participation of stakeholders, the procedure can also
be essential for building legitimacy and policy ownership.

However despite its importance and its widespread employment in policymaking
and institutional development practice, the theoretical and epistemic foundations of
this approach have not been elaborated and its legitimacy is yet to be fully granted
by the academic community. Even worse, in many cases the procedure is looked
down upon and neglected by theorists and academic researchers that consider it a
distant second best to more academically reputable techniques. What is needed is an
effort to investigate the theoretical and epistemic foundations of institutional and
stakeholder mapping, both as a social theory and a policy procedure, to anchor it in
the relevant literatures and research traditions and to demonstrate that there is a
solid reason that so many practitioners have increasingly come to rely on it. This
paper is an attempt to contribute to this overdue effort.

Mapping as a Cognitive Process, Social Theories and Institutional Mapping

In order to outline the basic features of mapping, one can use a functional
understanding of cognition processes consisting of two elements: the real world and
the mind able to generate simplified models of that reality (Rubinstein et al., 1984).
Rubinstein, Laughlin, and McManus analyze the dynamics mind-external reality by
introducing the distinction between the 'cognized environment,' consisting of all the
information modelled in the mind and the 'operational environment,' i.e., the real
world. In understanding the relationship between the two, the key word is
'isomorphism.' Isomorphism means that 'the elements and relations between the
elements of one system completely map the elements and relations between the
elements of another system' (Azevedo, 1997, Gordon, 1991). However, it is very
important for any mapping theory to note that 'isomorphism' is always imperfect
and that the cognized environment is always only partly isomorphic with the
operational environment. Cognitive modeling is always selective, and even more
important it is interest or value driven (Azevedo, 1997, Rubinstein et al., 1984).
Consequently the cognized environment comprises many representations shaped by
various interests, values and idiosyncrasies and varying in their degree of ab-

stractness, cognitive content and isomorphism. These representations often take literary the form of maps, i.e., they are presented visually rather than linguistically (Turnbull, 1989, Monmonier, 1993, Azevedo, 1997). But the cognitive structure associated to the idea of maps are more complex and go beyond the mere notion of 'visual representation.' Mapping is in fact one facet of 'adaptive isomorphism' at work.

Of special interest for this paper is the structural similitude between maps and theories and an exploration of those similarities is crucial for understanding the nature of institutional mapping. The key fact is that theories, could be seen as a special class of maps-isomorphic, generalized, abstracted representation of a body of information on some aspect of social reality: 'A map is not just an accumulation of data. Rather, it is a necessarily abstract representation. It selects certain features and represents them in a schematic form that is generally quite unlike the original except in terms of the mutual relationships between the elements' (Azevedo, 1997). In a similar way scientific knowledge is more than the aggregation of observations on reality. Rather, 'scientific theories abstract regularities from the world and produce explanations of them in terms of the relationships between entities and/or phenomena. Scientific theories, like maps, are necessarily abstractions, and are quite unlike the world they map except in terms of the relationships that they represent' (Azevedo, 1997).

The diversity of conceptual structures that are part of the 'maps' family is thus daunting. Besides geodesic maps, hydrographic maps, authority maps, mathematical maps, maps of processes and geographic maps, cognitive structures such as organizational charts or social theories can be seen as well as a species of maps: maps of social reality. The variety of the family is determined both by the *object* of each specific member of the class and by its *composition principle*. Although there is great variety even among geographic maps and it is a simplification to speak about 'geographical mapping' as an unitary genre, this type of maps are best known and the most emblematic for the entire family and so a discussion of mapping is naturally turning to them as examples and reference points. Therefore in the discussion of institutional mapping and social theory it is natural to implicitly use geographic mapping as default reference point in order to illuminate how various cognitive features one associates with typical maps apply to them.

As it has already been mentioned, one of the most important features of mapping as a process is that it may take place from different perspectives, inspired by different objectives and employing different techniques. Consequently there is no single or uniquely correct map of a particular 'territory.' One may have different and incomplete representations of a particular territory but they may be equally accurate as maps. The implications for policy research are momentous. The idea that there is one privileged way of mapping a social space or phenomenon-that there is one privileged conceptual structure that gives a comprehensive account of a phenomenon is naïve. If that is the case, and 'universalism' and 'comprehensiveness' are out, then the instrumental functions become the main arbiters. Maps and theories have their content and validity directly related to the interests of their creators. The purposes for which they are constructed dictate their structure. Maps reflect reality, but they are not merely mirror images. They are human artifacts and so are social theories. As Azevedo (1997: 68) wrote 'when a cartographer or surveyor sets out to make a map of some particular territory, she starts with the purposes of the prospective map in mind, a body of theory about projections, and so

on. She then has to choose a baseline, orientation, scale, method of projection, and system of signs.' The type of map created is a result of the purposes and the body of background theory involved. However the fact that a specific set of choices out of a larger set lays at its origins, 'does not make the map less correct relative to the purposes for which it was constructed. Indeed, there is no way that a map can be made without such choices. Map making requires a body of prior theory, and interest-related decisions must be made over the choice of appropriate construction tools.'

What is true about cartography, is true about institutional mapping and social theorizing. The objectives and the choice of tools are interest-related and will affect the type of conceptual structure produced. Therefore if institutional maps and social theories are designed to be guides to action and decision-making, the choice of a specific mapping approach and the assessment of its quality/validity should be made in terms of how well it manages to achieve those objectives, i.e., 'according to its relevance to the problems it is intended to solve' (Azevedo, 1997: 98). A map may be a perfect guide in terms of crossing a river but not at all useful for finding an ore deposit. Or to be more precise, if the goal is to identify a viable strategy to produce institutional reform in a specific community, no description of reality in general formal terms, irrespective how sophisticated, will help crafting a reform coalition. Instead what the map should capture in its content are key actors, their interests, their interrelations etc. If the problem is to generate solutions in a collective action situation, then using prisoner's dilemma and neoclassical economics formal models to investigate the situation would not lead very far. Instead, identifying actors, rules in use, decision nodes, and the specific context offers clues about the parameters that once modified may change the entire situation (Ostrom, 1990).

An important corollary of that discussion is that not only the content of a map is interest-related, but also the form is, at its turn, shaped by the problems, intentions and objectives defining the content. Topologic maps differ in form from topographic maps. A mapping of the rules and the actors including the key decision makers in a community differs from mapping the relationship between education and income, or of age and social structure. If the objective is policy-oriented and implies institutional change, the information brought by the last two are important but the one contributed by the first and the way it is presented is essential. A map is good insofar as it enables us to successfully complete the activity the map is designed to orient. In many cases, 'more general and abstract maps may be better than highly detailed and accurate maps, by virtue of the very fact that they leave out irrelevant detail, thus making the task of following them easier' (Azevedo, 1997). To sum up, not only what but also how to portray in an institutional map is determined by the task at hand. One expects that when the task is to generate institutional change strategies, the emerging map will be different from the one inspired by the task of building a general social theory. The measure of validity of an institutional map is given by its ability to guide the strategic decision-making.

An additional corollary is that not only the form, content, and validity of mapping but also the *methods* used to produce a map are interest-induced. Mapping methods are explicitly connected to the purposes for which the map is intended. But even more than that, they are also shaped by background assumptions regarding the 'territory' (Turnbull, 1989). In other words, a map or a theoretical model is a function not only of the object but also of a meta-level set of assumptions regarding the object and the way that object should be approached and depicted. Given the interests of the user, a theory of what data is appropriate is required. And given the

purposes for which the map is to be used, 'there must be a theory of what relationships an appropriate map for that purpose is required to represent, to what degree of accuracy, and in what form'(Monmonier, 1993: 14). For instance, as Azevedo noted (1997: 88), in geography there is a trade off between the accuracy of shape against the accuracy of scale and the relationship between the map and the data should not be seen merely as a relationship-preserving mechanism. 'The data selected for mapping, the form and scale of the map, the degree of accuracy required, and even the projection theory itself, are directed by the fact that the value of the map lies in its ability to guide actions relevant to purposes in the area of interest. These metatheoretical features of a map are as important in determining its validity as is the relationship between a map and its domain.'

To sum up: (1) The process of mapping involves three dimensions or levels: (a) the territory or the phenomenon to be mapped, (b) the map itself, and (c) the metatheory of mapping. All levels reciprocally determine the dynamics of each other. The first belongs to what is called the operational environment, the last two to the cognizant environment. (2) Although institutional maps like other maps, are shaped by interests, specific problems and objectives, the validity of a map may be objectively evaluated by public assessment. Assuming commonality of interests and objectives, a particular institutional map aimed at guidance in a specific area should be as useful for one person as for another. A map is a guide to action, i.e., it is used as a prediction tool: telling an individual with precision that certain features of social space or territory will be encountered at one point or another. So ultimately the validity of maps is of a predictive nature. (3) Maps may be tested via prediction, which is in fact a measure of the ability to guide action in pursuit of particular interests. The other assessment criteria are subservient to prediction. Explanation and coherence that enable to explain or identify general connections among the data are secondary or instrumental. The final test of an institutional map, as an element of the cognizant environment, is to guide the actors through the social space mapped, i.e., operational environment. (4) The notions of what data are appropriate to a particular map, and of what kind of method, form etc. should be employed belong to the metatheory level. The metatheoretic level includes notions such as the sort of background theories applicable, concepts of what an appropriate map for a particular purpose should consist in, the standards of accuracy required of the particular map, and other standards that may apply to the validity of maps in general. In other words, each map is a representation of data, selected and organized by the principles of the metatheory of mapping (Azevedo, 1997).

If that is the case, then a great deal hinges on the metatheory. The metatheory determines the selection of a specific mapping technique and method, defines the criteria for excluding the irrelevant elements, and provides the working link between objectives and domain in the mapping process. Given the importance of this metatheoretical level, the obvious question is: What are the best meta-theories of institutional map making? What are the meta-theories that should shape the process of mapping the special domain of social institutions? The first answer is anything that serves a given set of intentions, policy objectives etc. There is no one social theory that fits all purposes. The best map is the one that helps best to orient the social action or the policy of interest. The nature of the task at hand determines what is the best meta-theory.

The second answer is more precise. If one is interested in policy practice, strategic decision-making or in managing social change, then one expects to have a

type of map that has some specific features: i.e., that map should be able to capture the essential elements of the strategic space: the actors, the rules of the game, the processes set into motion within those rules. Therefore in terms of metatheoretical design one needs to look at a 'paradigm' or a theoretical tradition that: (a) emphasizes social actors rather than disembodied properties of those actors, (b) gives a special attention to the interpersonal relations, roles and processes, (c) focuses more on the analysis and interpretation of institutions, situations and events and less on general laws, regularities or variables and (d) finally takes seriously into account social change and tries to captures the dynamics of change in real historical time. In other words, one needs a 'paradigm' that looks at actors, institutions, and histories first and foremost and only subsequently at scales, tables, variables and coefficients (Boettke, 2003). There are several good examples of theoretical frameworks that capture all or most of these features and a literature on case studies addressing these issues (Macpherson et al., 2000: 49–61). The last section of the paper will illustrate and further develop these points by using as a vehicle the example of two significant schools that fit the aforementioned features: the Chicago School of sociology and the interdisciplinary Bloomington School of institutional analysis.

Institutional Mapping Meta-Theories and Frameworks: the Chicago and Institutional Analysis and Development Schools

With its focus on social actors, social interactions and social situations and the pivotal position given to contextuality and processes, the approach developed by the Chicago School of sociology (Ernest Burgess, Louis Wirth, Robert Park, Herber Blumer and their students and followers) represents one of the ideal paradigms for defining the meta theoretical level of institutional mapping procedures. Abbot (1997, 1999) one of the most knowledgeable historians and commentators of this tradition (and whose presentation and interpretation of the school has inspired this section) makes a very convincing case in this respect. In his view, the strengths of the Chicago School comes from its capacity to avoid the problems that come as a result of the analytical decontextualization of the study object and that plague social research once its is reduced to a 'variable approach': (1) failure to capture the subjective ambiguity of the situation and (2) the denial of contextual determination in causality in general of which the subjectivity problem is merely a part (Abbott, 1997).

The basic source of the relevance of the Chicago approach for mapping and policy research is precisely the effort to avoid concentrating on abstractions like 'corruption' and 'social status' indices and variables, and fiddling with the construction of regularities or general laws. Instead, the priority is to focus on a specific community or a certain social/policy issue and its context, identifying the actors, their connections, their histories and their interests and to reconstruct the structures of power and the nodes in the network of influences (Faris, 1967, Bulmer, 1984). However as Abbott (1997: 20) put it, this interest in specific places, situations and events and their careful documentation didn't mean that the Chicago approach implied a pure descriptive meta-theory: 'Chicago theory focused on the locatedness of social facts and the importance of contextual contingencies. This theoretical commitment entailed the Chicago mixture of methods, for if the effects of causes

were so shaped by environing factors that no causes had uniform effects, specific theories must be theories about constellations of forces, not theories of individual causes.' The best approach to illuminate and analyze 'such constellations of forces' was 'by case study, since the sheer combinatorics made studying the matter at the aggregate level difficult. And more generally only the eclectic combination of ethnography, statistics, life history, and organizational history could do full justice to the multiple layers of spatial and temporal contexts for social facts.'

All that entails a very important assumption about how things work in reality, about the connections between actors, conditions and consequences, in other words about social causality. Thus a closer look at the Chicago school approach illuminates the fact that in the case of institutional mapping, the assumption about the nature of social causality involved is crucial because it infuses the meta-theories used and thus the very way the mapping process proceeds. One may think of causality as combinations of necessary causes governed by universal laws, a set of relations between abstract variables. That way of conceptualizing causality may determine the selection of a specific meta-theory and by implication of a specific technique of mapping the social phenomenon in question that will try to identify in a given field or social situation precisely those laws and correlation. And in some cases, given the objectives, that might be a viable approach. However if one considers that (either in general or in the particular case one is dealing with) the relevant causality structure depends fundamentally on context, then one needs to 'situate facts' and replace 'a particularly simple version of the variables approach with a much more nuanced contextualist approach' (Abbott, 1997). This is absolutely mandatory if the objective of the investigation, or mapping, requires not empirical generalizations, broad abstract, universal maps lacking the contextual determinants, but the identification of concrete configurations of institutions, communities and networks of decision makers in a dynamic process defined by uncertainty. In other words, if one wants to find why and how and in what context particular social or policy problems occurred and how to solve them, then a localized approach is vital.

The notion of 'field' (and the implicit idea of 'mapping' of the 'field') become essential. And with them the idea of dynamics and change. Hence the notion of 'interactional field,' a social situation/space defined by its contextualities, a cluster of actors and processes with geographically, socially, economic, and politically defined boundaries. However it is crucial to note that all these are *processes* and as such should be understood in their *temporal* contexts. That implies a look at social spaces in time/dynamics. In other words, a temporal process is dependent on *social* contexts and at the same time the *spatial* or *social* structures are dependent on the *temporal* context. This notion captures one fundamental and somewhat paradoxical aspect of institutional mapping: institutional mapping can never be static. The idea inherent in the mapping procedure is not only to capture the actors'; positions, resources, preferences and institutional context but also to build on them in identifying their principles of motion or action, and with that the dynamics of the entire interactional field investigated.

In this respect, following the directions opened by the Chicago School, two types of processes could be distinguished: On the one hand, some of them are of the 'natural history' type. A natural history is 'a temporal pattern that followed a relatively predictable course.' It could be diverted or shaped by contextual factors, 'but its general sequence could be understood as a whole, beyond the contingent details. They might be diverted or reshaped. They might fail. But the general logic is

regular' (Abbott, 1997, 1999). On the other hand, there are processes that evolve with nor identifiable regular logic, totally open to contextual influence. One may call defining points on their trajectories 'accidents,' 'tipping points,' 'path dependent,' 'historical contingent' but irrespective the label, the basic idea is that they define the dynamics of an interactional field as much as general laws, natural histories, structural and configurational factors etc. do (Abbott, 1997, 1999). Both types of processes should be captured by the institutional mapping approach.

To sum up, the institutional mapping process has two dimensions: one static and one dynamic. The suggestion that institutional mapping or stakeholders mapping is just a list of actors and their resources is incorrect. A comprehensive institutional mapping procedure should be able to outline not only actors, resources, interests and institutions but also the trajectories, laws of motion, natural histories and accidents and contingencies hinging on a specific case. That was what the Chicago school tought and although the Chicago School never managed to fully recover from the onslaught brought on it by the variable thinking, universal social laws searching schools mushrooming in the '50, its program remains today as viable and significant as seventy years ago. That viability and significance is confirmed today by the flourishing of a school of significant impact in social and policy sciences that in a way or another carries with it a resumption of some of the most interesting ideas of the Chicago tradition. The Institutional Analysis and Development (IAD) Framework developed within the new-institutionalist movement is an example of an attempt to move beyond the standard theoretical and methodological constraints and re-establish the social action field or 'action arena' as a focal point of social and policy research.

The roots and inspiration of the IAD approach to institutional mapping are in the experience gained in the study of common pool resources, and the tragedy of the commons literature, by a group of scholars associated with the Indiana University Workshop for Political Theory and Policy Analysis (Ostrom, 1990, McGinnis, 2000). The term "tragedy of the commons" referred to the problem that common-pool resources, such as oceans, lakes, forests, irrigation systems, and grazing lands, can easily be overused or destroyed if the systems of rights and duties regarding these resources are not well defined. The Bloomington institutionalists' work came to stress the danger of using models and metaphors untamed by the confrontation with the empirical reality. One of the major concerns regarding the way the problem of the commons and collective action in general was treated in the previous literature was that the models and metaphors used were misleading. Without being opposed in general to modeling and using models for policy analysis the institutionalist from the IAD school come to oppose to using models like the 'prisoners' dilemma' or the metaphor of 'the tragedy of the commons' as ways to depict concrete social situations and cases. Extensive fieldwork has called into question the universal application of those models and metaphors by demonstrating that the conclusion that the participants in a commons dilemma are trapped in an 'inexorable process from which they cannot extract themselves'—a conclusion predicted by these models and depictions of reality—was discarded. Numerous field studies in various countries revealed and analyzed how local groups created a wide diversity of institutional arrangements for cooperating within common-pool resources situations. Field studies also found multiple cases where resource users failed to organize. Thus, the need to find out what were the specific differences accounting for the variation. And in this case general and abstract models like 'prisoners' dilemma'

were far from being helpful. Needed was a method of assessing the specific institutional arrangements, the specific contexts and environment within which each specific common pool resource problem was dealt with in particular communities or circumstances and the IAD scholars started to develop it.

Central in the IAD approach to institutional analysis is the identification of a conceptual unit called an *action arena* and the analysis of configurations of actors and institutions and their change within its parameters. The action arena is the focus of examination, mapping and prediction and has two components: an *action situation* component and an *actor* component. Action situations refer to the social space where individuals 'interact, exchange goods and services, engage in appropriation and provision activities, solve problems, or fight' and is determined by a set of factors-the *rules* organizing inter-individual relationships, the attributes of a *physical world*, and the *nature of the community* within which the arena is located–(Ostrom et al., 1994). The boldness of the approach comes from the fact that it is not interested in 'creating mirror images' but instead it tries to develop a unified framework composed of the *same set of elements* for all cases explored and that could be applicable to any social space investigated. Thus the institutional mapping procedure is defined by a similar set of elemental parts: An *action arena* is composed of an *action situation* involving *participants* who have preferences, information-processing capabilities, selection criteria, and resources and who must decide among diverse actions in light of the information they possess about how actions are linked to potential outcomes and the costs and benefits assigned to actions and outcomes.

In other words at the minimal level an action situation is characterized in the IAD framework by several key parameters: (1) participants: the actors who are involved in a situation. (2) positions: place holders that associate participants with a set of authorized actions (employee, voter, judge, monitor), (3) actions: 'nodes in a decision tree,' particular positions taken at different stages of a process identify actions that make an essential difference for the entire process in their consequences, (4) potential outcomes: the results of individuals interacting with one another in a regularized setting (quantities of output, interpersonal relations, changes in rules, externalities etc.), (5) a function that links inputs to output–in the case of voting for instance, 'the transformation function takes the symbolic actions of individuals and produces a collective decision,' (6) information: the data about an action situation and its implications, and finally (7) payoffs, positive and negative weights assigned to the outcomes and the actions leading to outcomes. When it comes to actors the same logic applies. Four key elements are mapped out: (1) actor's preferences regarding certain actions and outcomes, (2) the way actors acquire, process, and use information, (3) the decision criteria actors use regarding a particular course of action, and (4) the resources that an actor brings to a situation (Ostrom et al., 1994).

In turn, each of these elements may be further elaborated and specified in function of analytical needs. The framework stresses a universality of working parts, but at the same time it also enables theorists to analyze unique combinations and to capture the specificities of a contextualized situation. The filling in of the 'actor' and the 'action situation' black boxes in the framework (the mapping of an action arena) is just one aspect of the IAD mapping effort. Institutional mapping is a procedure that takes one by one all the predefined elements of the IAD framework, a framework that includes more than the action arena and creates a rich image of the situation. Only when the

broader picture is drawn including the *rules* organizing inter-individual relationships, the attributes of a *physical world*, and the *nature of the community* within which the arena is located, the map is able to identify the relevant configuration of factors and to 'generate predictions about likely outcomes given the structure of the situation' (Ostrom et al., 1994). The IAD framework builds around the action arena as a quasi input-output structure and the procedure continues by specifying the other elements of the framework on the input and output sides.

Clarifying and elaborating the meaning and attributes of rules, physical conditions, and community is technically similar to the way the action arena is specified. The procedure identifies how rules combine with a physical and cultural world to influence the way the elements of an action situation generate particular types of situations and processes. Thus, the institutional analysis procedure looks in parallel at these factors while identifying 'some of the typical action situations that result from particular combinations of these factors' (Ostrom et al., 1994).

It is important to note that the approach offers a mapping method not only for stakeholders and institutional structures but also for the processes involved. A change in any of these elements produces a different action situation and may lead to very different outcomes. More complex situations are mapped by adding to the complexity of the elements.

The IAD approach has important policy implications (hence the 'development' from its name). As rules are usually the most obvious and likely target of policies aiming at institutional change, special attention is given to them. Rules are seen as 'prescriptions that define what actions (or outcomes) are *required, prohibited, or permitted.*' The importance of discovering and mapping the rules is hard to exaggerate as rules provide information not only about the actions an actor 'must' perform, 'must not' perform, or 'may' perform but also about the nature of sanctions that result from failure to follow them (Ostrom and Crawford, 1995). In addition, the attributes of the relevant physical world matter. The same 'rule configuration' may yield different types of action situations, patterns of interaction and outcomes depending upon the configuration of physical environment. The IAD approach places a special emphasis on the nature of goods that are the objects of human action. Goods that are subtractive in nature, such as common pool resources and private goods, affect rules and outcomes in a different way from the goods that are not subtractive, such as public goods and toll goods. The same logic that applies to the physical environment applies to the attributes of the community: its size and structure shape how rules affect the action arena, patterns of interactions and the final outcomes. Finally recognizing the fact that a social event or process is rarely if ever a one action arena occurrence, the IAD approach looks at various linkages and levels of analysis. Most of social reality is composed of multiple arenas linked sequentially or simultaneously and although for analytical clarity the focus is usually on one arena at a time rather than on the entire set, a complete procedure will take into account, and deal first, with each of them separately and only then with them in conjunction.

The way the IAD approach conceptualizes the multiple institutional levels issue is also noteworthy in the context of a discussion of institutional mapping: The starting point is the idea that action arenas are also linked across several levels. Rules are nested in another set of rules that define the nature and way of changing the first set of rules. The rules used at one level occur within a currently 'fixed' set of rules at a deeper level. Three levels of rules cumulatively affect the actions, in-

teraction patterns and outcomes in any setting, and the IAD approach distinguishes between the operational level, the collective-choice level and the 'constitutional' or 'constitutive' decisions level (Ostrom and Kiser, 1982, Ostrom, 1986, Ostrom and Crawford, 1995). Constitutional or 'constitutive' decisions are the most fundamental because they are decisions about rules governing future collective decisions. They determine the rules to be used in crafting the set of collective choice rules that in turn affect the set of operational rules. They also determine who is eligible to do that crafting. The collective-choice level is the level at which it is determined, enforced or altered. It specifies the basic framework within which actions take place. This level shapes who will be affected and how by rules at the operational level. The operational level consists of direct actions and strategies depending on and directly reacting to everyday, concrete circumstances, expectations etc. In this case, the sphere of action and decision is established by the other, higher levels. Although these actions and decisions affect the higher levels, they do it only in an indirect and aggregate way (Ostrom, 1986, Ostrom and Crawford, 1995).

To sum up: the IAD approach is built around a three step mapping procedure in a predefined framework: (1) Identifying and mapping the action arena (action situation and actors), (2) Identification of factors determining the action arena (the rules, the attributes of a physical world, and the nature of the community), (3) Elaboration or projection of how (1) and (2) once put together generate patterns of interaction and specific outcomes over multiple action arenas. These are the elements of the Bloomington approach to institutional analysis. This institutionalist approach offers one powerful example of institutional mapping that not only satisfies the contextual and temporal parameters defined by the Chicago vision of social analysis, but also creates a link between that and the standard analytical paradigms and economics models. Given the fact that, the validity and usefulness of the institutional mapping procedure is determined by the objectives and intentions of the investigator, it is evident that the IAD framework is only one among other meta-level structures that could shape a mapping procedure. It represents one of the most developed and sophisticated attempts to use institutional and stakeholder assessment in order to link theory and practice, analysis and policy. Its roots are in the common-pool resources research and consequently its potential and resources are shaped by that specific origin. However it is easy to imagine that amended or alternative approaches based on different theoretical frameworks would be needed in order to map different situations and processes.

Conclusions

Institutional mapping is one of the most important tools in the tool bag of the policy practitioner. The notion that it is basically just a precursor tool that is just opening the way for more sophisticated techniques is wrong not only because in most circumstances that is simply not the case but also because it assumes a lack of theoretical and epistemological legitimacy on behalf of mapping that is simply untrue. Institutional mapping entails not only very complex field methodologies and techniques but also has very profound epistemological foundations. The full articulation, elaboration and development of both the methodological and foundational dimensions remain a task ahead.

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