On Rationality and the Purposive-Design of International Institutions

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March 2006
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Prepared for presentation at the 14th Annual Illinois State Conference for Students of Political Science (April 2006)

Abstract:

This essay discusses specific assumptions underpinning the rational design of international institutions. Analysis is focused on the tenets of rational-choice theory; the initial concern being whether or not the agenda of purposive institutional design may be advanced in light of significant limitations. Two more specific questions lead this inquiry: (1) could the rational, purposive-design of international institutions address miscalculation and bias of the actors involved? And (2) could purposive-design signify purposive- "frame-management"? Bounded rationality and framing are generally considered 'limitations' to rational-choice models. Yet they may be powerful in providing insights that could advance purposive-design theory. This essay is broken down into three parts: an introductory sections looks at the relevant features of rationality, institutional analysis, and a couple pertinent methodological issues; the second part looks at bounded rationality and its implications for in purposive-design; and the third part analyzes the role of frames and framing. Conclusions stress the significance of informing scholars and generating new understandings of institutional design.

Introduction

The role of international institutions in political science is steadily gaining production: theoretical programs raise important questions about institutional forms and variations, and debates about whether institutions matter at all have been set aside to allow for inquiry as to how they actually work. Adding to the initial wave of "functional" institutional analysis, research now looks at how institutions are intentionally designed: beginning with the important question of how actors define the problems they face and go about fixing them.[1]

Understanding institutions as self-conscious creations has a number of implications. Both theoretically and empirically, analysis of how actors behave when designing institutions may help explain and predict international political phenomena, i.e., cooperation and conflict. And practically, efficiently designed institutions may answer to the disconnect between scholarship and policy.

In advancing "purposive-design", however, assumptions about rationality are pervasive. While many accounts do not use extensive rational-choice models, all more or less ascribe to instrumental-rationality, by reference to which actors maximize expected utility in predictable ways, hold consistent preferences, and are goal-oriented (Elster 1986; Green and Shapiro 1994, 17; MacDonald 2003)[2]. In international relations these basic assumptions are used to aggregate actors and refer to them as unitary in order to make meaningful predictions about their behavior and interaction.[3] While scholarship in regards to the purposive design falls into the rational-choice tradition, advance is aided by outside critiques.

In discussing rationality in institutional design, this essay begins by introducing some pertinent contentions generated by institutionalism. These contentions are followed by a discussion of bounded rationality and framing: these two concepts are generally considered to be limitations of rational models, yet they provide powerful insights for researchers looking to analyze the formation of institutions.

The purpose is to sharpen and provide feedback on both theoretical and practical grounds. As a result, more questions about institutional analysis and empirical research may develop. Better yet, practical advice about both the fortunes and misgivings of 'using' academic findings could follow. This is not a critique because, a) understanding how institutions are self-consciously designed has tangible benefits, and b) framing this research with insights from the rational-choice tradition is useful for advancing perceptive and cogent hypotheses.

But taking on institutional analysis and rationality requires small steps. Past debates in the social sciences [Green and Shapiro 1994, Friedman (ed) 1996] raised caution flags about 'meaningful' research involving rational-choice theory. Addressing a couple potential problems, the essay briefly touches on method versus problem driven research and ad hoc modifications.

Method-Driven Research

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[1] Functionalism stressed the *role* of the institution over its origin.

[2] Granted that it is very difficult to know and decide which version of rationality one is working with.

[3] Green and Shapiro 1994, 16. This concept is reminiscent of (Downs 1957, 3) – While a priori it is difficult to assume that actions are rational, if one tries to analyze and predict behavior then this assumption must be made.

Instead of doing "open minded" empirical work that is not guided by 'theory-fitting,' rational-choice analysis may be driven by the desire to find evidence in order to validate a particular theory (Green and Shapiro 1994). This is represented by changing assumptions about rationality after a theory is tested in order to account for differences found. Likewise data and findings may be included or excluded according to how they fit models.

The distinction between the two is somewhat ambiguous. In general, it is impossible to make assumptions about whether research is or is not. Rational-choice is responsible for raising novel research questions and then sticking with them in light of 'methodological difficulties, e.g., election behavior, public goods, etc. A purely 'method' driven question could certainly be important in aiding problem driven research (Chong 1996).

Leveraging a critique against rationality in institutional design might be overly 'method' driven. But if the emphasis is on exposing difficulty in research in order to advance it, then the question is not too important. The decision to not eschew rationality altogether assumes an interest in furthering institutional design on its own terms. This is not a defense of purposive-design, but rather an analysis how institutions are thought to reflect specific cooperation problems.

Ad Hoc Modifications

A similar criticism is that rational-choice theorists go too far in saving theoretical models by constantly adjusting them. This is not altogether misplaced. Yet — within reason – ad hoc modification reflects a progressive development because it strengthens the empirical power of a theory (Chong 1996, 45).

Consider the following question: Is the goal of this research question to expose problems which can be remedied by ad hoc modifications? A simple way-out might involve a burden-of-proof— placing responsibility on the researcher to make the case for how the modifications move beyond fixing theory and into 'problem' driven directions.

Akin to the problem of method/problem driven research, the role of ad hoc modification is unresolved. It seems that in general acknowledging both of the issues is enough to start. In the end it may even be difficult to distinguish the need for acknowledging them. A research question may be simultaneously informed by theory and not related to ad hoc modification or the method/problem driven divide.

I. A Few Relevant Concerns in Institutional Design

Definitions of institutions in early literature maintained a similarity with market interaction. Simply put, interactions in markets may be inefficient due to the costs of gathering information, risk, uncertainty, bargaining, etc. Structures such as institutions lower these costs and enable more efficient interactions than markets could provide. Borrowing from this, international relations theorists postulated institutions as structures that lower the cost of interaction and facilitate cooperation in a system marked by anarchy.[4] This depiction proved insightful and cogent in understanding instances of cooperation among 'rational' actors. Cooperation is rewarded, cheating is punished.

[4] Anarchy here refers to the absence of a "world government" (Axelrod and Keohane 1993. Keohane 1984, 9).

Institutions gained position by reducing uncertainty and providing stable structures for interaction (North 1990, 6). According to North (p. 34) no institution would be necessary in a world of complete information. North's analysis – along with the earlier functional wave emphasizing efficiency concerns – left off on issues to be picked up by purposive-design.

In regards to actors constructing institutions, Axelrod and Keohane (1993) maintain that institutions reflect a "deliberate effort to change the very structure of the situation by changing the context in which each of them [*actors*] would be acting"[5] This seems to develop North's (1990, 34) earlier insight that institutions are "determined by the motivation of the players…the complexity of the environment, and the ability of the players to decipher and order the environment." Whereas prior theorizing spoke about institutional change reflecting particular conflicts and cooperation problems; purposive design speaks specifically to actors creating solutions. As Morrow (2001, 214) captures it, "actors create institutions to address problems they face, and an institution's character reflects those problems and how they are being addressed." This is the core of purposive-design.

Contentions

One of the more recent and explicit attempts to develop conjectures in purposive-design (Koremenos et al 2001) offers a systematic account of a wide range of features that characterize international institutions…the assumption being that states use international institutions to further their own goals and design them accordingly. This particular "rational design" program well represents the strengths and weaknesses of purposive-design.[6]

To begin with, purposive-design takes for granted (within reason) three basic assumptions about the abilities that actors have. As MacDonald (2002)[7] writes, there may be: (1) impartial or even no understanding of cooperation problem(s) and their possible solutions, (2) disagreement over which institutional form to implement, and (3) a collective-action problem during the implementation phase. Hence extra attention must be paid to how issues are defined, what are regarded as the relevant actors, possible institutional options, and expected results (Duffield 2003).

These assumptions rest on the familiar concepts of uncertainty, risk, and perception. How a situation is perceived in light of information levels defines what problems actors think exist, their severity, and how to treat them (Duffield 2003, 419). For instance, while research (Koremenos et al 2001) may be explicit about dealings with "uncertainty", discrepancies still exist.[8] Alexander Wendt (2001, 272) points out that situations of genuine uncertainty are far different from plain "risk" –where knowledge is assumed – and pose serious questions about purposive-design.

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[5] Term - "actors" – added, not in original.
[6] Koremenos *et al* 2001 is this essay's key departure point for examples of rational design.
[7] Paul K. MacDonald. Unpublished paper, "A Critique of Neoliberal Theories of the Origins of International Institutions."
[8] On the other hand, "discrepancies" could just mean "stylistic" differences in how terminology is used.

In an environment with risk where some knowledge is known, 'purposive-action' may be possible. Under "Knightian" uncertainty where no knowledge is known and no probability distributions are possible, cooperation problems might be ill-defined, and finding optimal institutions could be difficult. While the distinction (or lack of one) between risk and uncertainty is acknowledged by purposive-design (Koremenos et al 2001), consciousness of the difference between the two is at least helpful for maintaining perspective.

The last concern is how purposive-design theory defines an institution. Similar to North's early definitions, "regime" scholarship is critiqued as being too broad—"it seemed that almost anything could be and was called a regime" (Koremenos and Snidal 2003, 432). This is not always the case with purposive-design. In one respect the definition is inclusive—allowing both "informal" institutions and more formalized, bureaucratic and organizational ones (ibid). Yet purposive-design emphasizes institutions as results of actors wanting to engage in behavior that on their own would not be possible—institutions here "do not constrain actors, they are chosen by actors"(MacDonald 2002, 11). This approach considers primarily institutions that are "the fruits of agreements" and the "self-conscious creations of states" and other international actors (Duffield 2003, 413: Koremenos et al 2001).

However an institution is more than just an intentional equilibrium[9]. Institutions "sometimes create actors, endow them with certain capabilities, and define categories of action" (Duffield 2003, 413). Furthermore institutions are often constitutive, creating the possibility to even engage in certain conducts (ibid; See also Kratochwil and Ruggie, 1986, 754).

Defining what institutions do, what they represent, and how they evolve deserves further consideration. Purposive-design research should make explicit why a modification, reduction, or augmentation to definitions is being made. This is important for keeping track of the underlying assumptions about actors involved and their motives, behavior, desired outcomes, and the environment they perceive to exist.

In brief, various assumptions and contentions about institutions and relevant actors in purposive-design are important to theoretical and empirical agendas. Yet weaknesses and missing-links should be clarified in hope of strengthening research questions. The remaining two sections focus on bounded rationality and framing—I explore why and how these two issues relevant to problems within purposive-design. These two concepts show limitations in a variety of rational-choice models. Emphasis at this point is placed not so much on the 'rigor' of applying the models, but on conveying simple insights that the two concepts provide.

II. The Boundedly Rational Design of International Institutions

> "Why can't rational actors in a collective decision-making setting always achieve optimal outcomes? If a superior institutional arrangement is possible, why haven't actors adjusted to it? ...Perhaps the most important reason is the existence of a hidden informational

[9] Formally, this is often referred to as an endogeneity problem.

> constraint: actors do not know which institutional designs will solve particular problems" (Koremenos, Lipson, and Sindal. 2001, 322).

The above questions pose concern about the limitations of "rational" actors in international politics. In institutional design, actors may be uncertain about "best" solutions to their problems, and under an uncertain decision-making environment optimality may break down (Elster1983). This section inquires into these limitations and how they relate to institutional design. To begin with, intentionally designing institutions assumes that actors calculate cooperation problems, possible solutions, and their implementation. In this sense purposive-design is meaningful since it rationalizes how to respond in particular situations. Yet like prior institutional literature, purposive-design makes assumptions about actors' the levels of rationality that may not always help advance research. As Keohane (1984, 110) stated, it may make more sense to view actors as being constrained in their ability to make rational calculations.

Imperfect rationality challenges the basic intuition about an actor's capabilities and preferences—particularly when 'perfect' rationality is used to make more complicated predictions about behavior. Acknowledging the constraints of 'information-processing' on the capacities of an actor may be called *bounded rationality* (Simon, 1982). In this sense an actor ceases to be understood as being perfectly rational.

"Necessity is the mother of invention" [10]

Rather than maximizing, boundedly rational actors "satisfice" –"they economize on information by searching *only* until they find a course of action that falls above a satisfactory level" (Keohane 1984, 112)[11]. I other words, one might go only as far as what is good enough, while not necessarily waiting around for the best answer to show itself (Elster 1986: March 1978).[12] Bounded rationality also applies in "strategic situations" like bargaining and institutional design. [13] Recall three initial assumptions about institutional design, i.e. identifying the "correct" cooperation problem, a possible set of solutions, and proper implementation—on all three accounts, is an actor considered to be perfectly rational? If not, just how relaxed is this assumption. If one actor has consistent, stable preferences, do the rest? In complicated environments actors "cannot rely upon the other agents they are dealing with to behave under perfect rationality, and so they are forced to guess their behavior" (Arthur 1994).

Actors who are boundedly rational might not identify particular cooperation problems, solutions, and "best" strategies for implementation. Also, it is not safe to assume that if the "correct" problem is chosen a solution will be found. Actors may strategically hide information or shift the focus of institutional solutions in self-interest. Maybe this is also a form of satisficing?

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[10] Elster, 1986, 25

[11] Emphasis added.

[12] In more rigorous terms, "waiting around" could mean significant costs without foreseen benefits—it may be more rational to satisfice if this is the case.

[13] MacDonald (2002, 14) states that "it seems more useful to conceive of a period of institutional design as a bargaining situation."

Even more complicated, if a particular combination of problems exists, the "feasible set" of institutional arrangements is broadened. In Koremenos et al's (2001) framework the relevant coordination problems are: distribution, enforcement, numbers, and uncertainty. If no unique arrangement could address a particular combination of these problems (Duffield 2003, 422), could actors agree on an optimal solution? Instincts point to satisficing, not maximization. Considering time-frames that actors face in bargaining or design periods, there is a high probability that they stop calculating once a certain satisfaction-point is reached. Rather, under a feasible set with no optimal solution, actors might then build in institutional features like "flexibility" to allow for unforeseen changes, or "exogenous shocks."

Is Purposive-Design Already Boundedly Rational?

It does seem that almost any question could be looked at from a "bounded" prospective. But it is hard to distinguish if literature takes into account bounded notions or uses other similar terminology. For instance in Koremeos et al (2001), special attention is paid to uncertainty as a cooperation problem—"uncertainty refers to the extent to which actors are not fully informed about others' behavior, the state of the world, and/or others' preferences" (pg. 18). On one hand not separating uncertainty from risk may be problematic. On the other hand, this begs the question of to 'what level an empirical researcher should regard the level of rationality of actors.' Does the use of uncertainty as a variable mean that actors are assumed to not be completely rational? For example, under uncertainty Koremenos *et al* need to make clear if actors stop maximizing and adopt satisficing as their strategy [Further discussion below]. A distinction may be helpful for both the researcher developing empirical tests and for the policy-maker who needs a perceptive theoretical guide.

Furthermore, the definition of uncertainty used by Koremenos *et al* is not clear about its dealings with the rationality of an individual actor, i.e., the extent to which actors are not fully informed about *their own* behavior and preference stability. Keohane (1984) hinted at this, arguing that it makes sense to view governments as constrained in their ability to make calculations, problem solve, and predict their future preferences.

Further Implications

Why don't Koremenos *et al* consider actors in institutional design to be boundedly rational? In stating that an informational constraint makes it harder for actors to see an optimal institutional design, the authors head in that direction. But without being explicit their framework suffers. They could still maintain an instrumental-rationality approach that gives heed to the idea that sometimes actors are incapable of calculating correctly.

For example, if Koremenos et al (2001) see the failure to reach "optimality" as a major impediment, then why should one assume that actors maximize at all. And why is satisficing not introduced?[14] As Wendt (2001) argues, actors facing uncertainty may be better off not trying to optimize—they are prone to mistakes and regrets without a perfectly 'rational' handle on the situation.

[14] Granted by saying that optimality is not reached they may imply satisficing—however no systematic use of the concept is found. Likewise one might argue that although there is a problem of reaching an optimal equilibrium, it does not mean that actors are satisficing. Again, it is not clear how it could not be satisficing and the result of bounded rationality unless the connection is made.

Furthermore considering actors to be bounded in their rationality exposes other important variables for empirical research. Take for instance a recent study on direct-democracy in Switzerland (Fischer 2005). The premise is that direct-democracy does a better job of allocating resources the way voters want—but if the voter is boundedly rational and has 'optimism biases,' then the efficiency of direct democracy is a problem. Fisher (2005) shows how people tend to miscalculate the probability that a crime (X) may be committed. The population may (against what governing officials may advise) vote for less resource-allocation to crime (X) and more to (Y): as a result of direct-democracy their miscalculation and bias is exposed, decreasing the incidence of crime (Y) and increasing that of crime (X).

This can be translated to purposive-design. Designing institutions might yield efficient outcomes that do not answer to the miscalculations of designers. When could institutional arrangement expose these miscalculations? Can purposive-design account for optimism-bias? And how might designers recognize bias?

All these questions are valid extensions of a conversation about intentionally designed institutions. They are also important extensions of bounded rationality. As this short section of shows, actors designing institutions might be under serious constraints of abilities. This might be a result of general 'uncertainty' or 'risk' surrounding cooperation problems. However all these issues beg the question of when theorists should relax their assumptions about preference consistency, goal-orientation, and maximization.

IV. Framing Effects in Institutional Design

This final section discusses the role of "framing" in institutional design. It looks at one of the guiding questions of this research: Does purposive-design mean purposive-frame management? If so, designing institutions could impact the way actors perceive conflict resolution. Like bounded rationality: assumptions about the ability to calculate, discern, and make sense of a situation may be limited or biased. Without digressing too far, "framing" helps make sense of the endless variables that shape, dictate and constrain actors as they design institutions. Likewise framing rationalizes the outcomes that actors themselves can shape. The section begins with the basics of framing before looking more directly at purposive-design.

Framing and Reframing

A frame can be defined as a boundary within which "information is considered, selected, interpreted, evaluated, or simply, understood (Elliott and Hayward 1998, 4).The way a particular problem is framed often dictates what actions an actor might take. According to Elster (1983) frames might lead to undue anticipation about results of a particular action. A person may find a choice 'risky' and therefore avoid it, even if *ex ante* it is perfectly rational.

Frames define a situation, and often determine what is important or relevant to a particular actor (Elster 1986; Tversky and Kahneman 1986). Thus frames and framing are to key making sense of and understanding a particular situation. Framing is also important because it often constrains or dictates action. In a classic study (Tversky and Kahneman, 1986) the way in

which a particular problem is framed can lead an actor to be either risk-seeking or risk- averse. The immediate concern is that risk-seeking might be essential or rational. So a central problem when rational-choice models are used is if they generally assume actors to be risk-averse when a situation might call for risk taking.

Another issue is "reference points" such as status-quo's, which by themselves frame situations (Levy 2000). Reframing can change reference points or move actors towards a new one. For instance, framing is often associated the act of situating a certain problem in a moral, cultural, or socially appropriate context (Elliott and Hayward, 1998; Elseter 1986).

In sum, basic insights from framing help rational-choice models explain more than they could by themselves. And importantly, framing helps understand why some ideas are given value while others are discounted. This is for the most part a logical and helpful analytical tool, for research and even day-to-day decisions…frames and framing are ubiquitous. For example, this essay is both framed and frames: it is framed by what I have deemed important, by what my capacities are as far as knowledge of the subject and desire to spend time explaining. They also frame what others might get out of this paper, or what others will think of my intellect (although maybe these are just other ways that I've been "constrained"). In the end acknowledging framing does not halt my attempts at "rationally" thinking through a situation, it helps inform and clarify them.

Framing in Institutional Design

Within processes of problem solving like bargaining, conflict resolution, or institutional design "managing" frames may lead to important shifts in how actors view their preferences, a particular problem, and the possibility of agreement (Kaufman *et al* 2003). This begs the question of whether or not purposive-design also means purposive and explicit frame management. This is not clear, especially since the modifier (purposive) in institutional design specifically relates to instrumental rationality—does purposive frame management mean that actors reframe in an instrumentally rational way? This may be possible within reason. Yet framing might imply that actors are bounded in their ability to discern which particular frame is the more "rational."

Setting this question aside, framing can be seen on a number of accounts in institutional design. Like earlier theories of institutions (North 1990), where institutions themselves "frame" (Elliott and Hayward 1998), rationally and intentionally designed institutions are also frames and results of framing.[15] Understanding institutions as aspects of equilibria (Koremenos et al 2001) also implies that certain frames may be maintained—in turn framing new institutions. In this sense institutional dynamics and change can maintain reference points and frames over time. While this may be desirable, it may also be detrimental to cooperation efforts—norms of risk-aversion or un-appropriate behavior might be continually upheld. On the other hand explicit management of frames could impact the way cooperation problems are resolved.

On MacDonald's (2002) three criticisms of purposive-design framing might also be a helpful tool:

[15] Koremenos et al 2001. Although they do not explicitly use framing, institutions are "fruits of agreement" that "prescribe/proscribe" behavior. This is consistent with past theories of institutions (Keohane 1984, North 1990).

> (1) On agreeing that a type of coordination exists, this may be impossible if actors are working under different frames, and frame their preferences, biases, and goals in an antagonistic way;
>
> (2) During the "bargaining" period where actors try and match cooperation problems with institutional features, each actor again might have a different frame from which to derive a "feasible set" of solutions;
>
> And (3) in the implementation phase, transaction costs might be framed as being too high, making actors "risk averse and reluctant to gamble on untested solutions"(Koremenos et al 2001, 316).

Reconciling Framing and Design

Yet framing considerations are valuable to institutional design, especially if theorists are set on understanding collective action situations where solutions to cooperation problems are desired. As Kaufman *et al* (2003) puts it;

> An essential element in conflict resolution is an understanding of how frames affect conflict development…During the evolution of a conflict, frames act as sieves through which information is gathered and analyzed, positions are determined (including priorities, means, and solutions), and action plans developed. Depending on the context, framing may be used to conceptualize and interpret, or to manipulate and convince.

Purposive-design, after all, seeks to conceptualize institutions as problem solvers—answering to cooperation problems that *had* no foreseeable solution.

Research programs in the rational-choice tradition may just be cryptic about the use of 'alternative' models such as framing. However it is still unclear as to why purposive-design does not also purposively-frame manage. Would the model lose theoretical conciseness? Would it have to relax 'rationality' assumptions too much? Or does purposive-design simply not care enough about framing?

All these questions are relevant considering purposive-design's existing literature. One answer could be that purposive-design already takes into account framing—and "risk-aversion", for instance, is just another international norm that intentionally designed institutions could change. But going back to the concern over actors not being able to converge on an "optimal" path (Koremenos et al 2001), framing —at least to me—seems to be one of the clearest and most deserving research-questions. Along with bounded rationality, framing analyzes those hurdles that actors find when they attempt to alter the environment around them. It remains to be seen why an explicit discussion of these two limitations to rational models would hinder or not advance the agenda of purposive-design.

V. Conclusion

This essay aimed to advance institutional design by discussing concepts relevant to rational-choice theory. Since institutional design relies on rationality assumptions, analyzing

various limitations might open up new avenues for inquiry. In fact, limitations like bounded rationality and framing are already indirectly incorporated into institutional design research: Notions of bounded rationality help distinguish between maximizing and satisficing in situations where actors may not "care" enough to bargain harder; and The question of "frame management" may be fruitful in discussions about the premium that actors place on making comprehensive and substantial institutions—specifically, successive rounds of bargaining and design might frame or reframe the way actors perceive their environments and possibilities for new and more robust institutions. This in turn might broaden the realm of possibilities and move actors towards "optimal" institutions.

If this is so, then integrating concepts on the outer-bounds of rational-choice models might lead to a better understanding of why actors do not automatically design the best and most stable institutions. In sum, this essay serves a modest purpose: to inform those who desire further understanding of institutional theory, and to generate new, timely, and cogent inquiry.

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