

The Cognitive Turn in Institutional Analysis:  
Beyond NIE and NIS?

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# The Cognitive Turn in Institutional Analysis: Beyond NIE and NIS?

by

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## 1. Introduction

In the socio-economic sciences, institutions have finally arrived virtually in every discipline, be that sociology, economics, political science or anthropology. Virtually in every discipline, institutions are seen as major determinants of action. As we will see, the basic ideas of what institutions are are quite compatible across these disciplines, rhetoric notwithstanding. But this does not mean that the analyses all come down to the same thing. The major contrast in approaches is between sociology and economics. Within economics, the “New Institutional Economics” may represent best what institutional analysis from an economic point of view is all about even if there are important differences between, say WILLIAMSON [1985] and NORTH [1990]. Conversely, within sociology, the “New Institutionalism” may represent best what institutional analysis means within sociology, even if there are important variants. In order to be able to make quick and easy references to both, I abbreviate “the New Institutional Economics” with NIE and “the New Institutional Sociology” with NIS.<sup>1</sup>

DIMAGGIO and POWELL [1991a] have presented NIS in such a way that they show they know the alternatives well and they clearly contrast NIS against two families of institutional analysis: (a) rational-choice-based institutional analysis, and (b) the “old” institutionalism. Considering that the major differences are between economics and sociology (rather than between versions within these disciplines) I would like to concentrate on the comparison between NIE and NIS.

It is essential to note that both kinds of institutional analysis claim that they owe their specific signatures to the influence of what has been called the “cognitive turn,” a development which started in psychology in the 1950s and spread from there to other behavioral and social sciences. Herbert Simon is a pivotal figure for the spread of these insights from psychology to economics

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<sup>1</sup> To make things more complicated, BRINTON and NEE [1998] have just published a volume with the title *The New Institutionalism in Sociology* by which they mean the application of NIE in sociology rather than what I refer here to as NIS.

and the social sciences in general. The importance the authors attribute to this cognitive turn with regard to their own work suggests that we should get into the habit of speaking of BCT ("Before the Cognitive Turn") and ACT ("After the Cognitive Turn"). The question is whether the cognitive turn has sufficiently arrived in NIE and NIS or whether the embrace is too half-hearted to attach any great importance to the BCT and ACT division yet.<sup>2</sup>

## 2. "Old" and "New" Institutional Analysis

In most cases, when social scientists (including economists) speak of institutions, they mean by that something like "established rules and procedures." The term "established" refers to the idea that the rules and procedures are known by the relevant people and deviations are punished in some way. In this sense, there is no difference between economics and sociology and between "old" and "new." There are, of course, considerable differences in approach. However, in the short space I have, I would like to concentrate on a difference which is entirely concerned with the cognitive turn. Here is where we do see a considerable difference between old and new, both in economics and in sociology, regarding the behavioral assumptions underlying institutional analysis.

In the "old" institutional analysis in economics,<sup>3</sup> institutions are instruments for the regulation of incentives. People are fully informed about what the rules and procedures are, and institutions are seen as doing away with alternative courses of action by imposing infinite costs on deviant behavior. Thus, if property rights are introduced, we can concentrate on its beneficial effects without bothering about details of conformity producing mechanisms. In this sense, the property rights approach to institutions still belongs to the "old" school (BCT).

In NIE, the idea that institutions are instruments for the regulation of incentives has remained intact. However the "full information, infinite costs" argument has been replaced by the twin assumptions of bounded rationality and opportunism, both products of the cognitive turn. These two have been most

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<sup>2</sup> The groundwork for the incorporation of cognitive limits into institutional analysis was laid long before the cognitive revolution. For example, KNIGHT [1921/1971] had dealt with risk and uncertainty. Coase [1937] had introduced transaction costs early on and HAYEK [1945] had dealt with information costs in the comparison of market versus non-market economies. However, only through the cognitive revolution did these early insights become recognized on a wide scale as relevant. As COASE [1991, 1] observed himself in his Nobel lecture: "It is a strange experience to be praised in my eighties for work I did in my twenties."

<sup>3</sup> Given that equilibrium analysis basically ignored institutions, the "old" institutional analysis in economics was already a considerable step, applying the microeconomic apparatus to the explanation of "regimes" and property rights. In the literature, "old" institutional analysis is sometimes identified with the Historical School, or Veblen or Commons, whereas I mean by "old" the much more recent (and solidly microeconomic) approaches to property rights and political institutions.

clearly worked out by WILLIAMSON [1985] but they are also present in NORTH [1990] and, in a milder form, in principal-agent theory (JENSEN and MECKLING [1976]).

*Bounded rationality* in its “mild” form refers to limitations in the *amount* of information people have at their disposal. This leads to the consideration of information costs and asymmetries. In its “stronger” form, bounded rationality refers to limitations in the *amount and processing* of information. For example, for WILLIAMSON [1975] the most important aspects of bounded rationality are the neurophysiological and linguistic limits of formulating and solving problems which translates into the inability to identify future contingencies and specify *ex ante* appropriate adaptations. *Opportunism* is behavior that takes advantage of bounded rationality. For example, Williamson identifies opportunism mainly with a lack of candor or honesty, including self-interest seeking with guile.

In the “old” sociology, conformity producing mechanisms were more closely attended to than in the “old” economics. Institutions were seen as being internalized by the individual in a process of socialization, creating moral obligations which were stabilized by external sanctions. Failure to achieve internalization was equal to a failure in institutionalization (BCT).

In NIS, the “full internalization” argument (which implied moral guidance of behavior) has been replaced by the idea of behavior guided by cognitive processes: categorization, typifications, scripts and schemas. The point is that institutionalization is linked to the establishment of cognitive habits which influence the very experience of reality (as a taken-for-granted reality) rather than just the response to reality (ACT).

### 3. Three Tasks of Institutional Analysis

Institutional analysis has at least three tasks. The first task is to identify problems the solution of which needs institutions. The second task is to answer, with regard to existing institutions, the question “why these institutions and not any other?” The third task is to explain how institutions achieve their effect. What interests us in this paper is what role the cognitive turn plays for NIE and NIS in dealing with these three tasks and how consistent NIE and NIS are in the way they deal with these tasks.

For all three tasks, the behavioral assumptions which underlie institutional analysis are crucial and for this reason, the cognitive turn will also affect the way each of the three tasks is handled.

#### 3.1 How Does NIE Solve the Three Tasks?

The basic behavioral assumption is rational choice (with the maximization of an objective function subject to constraints), stable preferences and equilibrium

structures of interaction. To this are added the twin assumptions of bounded rationality and opportunism.

The solution to the *first task* leads to the concept of *transaction costs*. The master problem that needs institutional solutions in a particular group of people is the coordination of their activity when such coordination leads to higher social welfare.<sup>4</sup> Due to the extension of the behavioral assumptions of neoclassical economics with bounded rationality and opportunism, the master problem, regarding economic transactions, can be pinpointed to be the reduction of transaction costs. Without the cognitive turn, there would have been no attention to transaction costs in any serious way.

The *second task* concerns the question “why these institutions and not any other?” We find two important answers within NIE, one most prominently connected with the name of Williamson, the other with the name of North.<sup>5</sup> Institutions include formal and informal rules. In order to know what institutional adaptations and change depend on, it is important to consider the opportunity for reducing transaction costs. Under favorable conditions of the larger institutional environment, there is a space for economic transactions within which the transactors can come to a reduction of transaction costs through “private ordering,” i.e. through arrangements which create *credible commitments*. These arrangements include the creation of rules and the use of existing rules from the institutional environment. Because the transactors have the ability to reduce transaction costs, the answer to the question “why these institutions and not any other?” is answered on the basis of *efficiency considerations*. The theory identifies conditions for high transaction costs and then suggests what type of arrangements would be efficient to reduce transaction costs. Williamson’s work concentrates on these private orderings in the context of a favorable (i.e. capitalistic) institutional environment. The specific importance of this contribution is that the wider institutional environment is *not* enough to do away with transaction costs in complex economic transactions.

There is no presumption in NIE that transaction costs can be reduced in other contexts. For example, state leaders may create laws that serve their own interests rather than reduce transaction costs and informal rules may reinforce group boundaries that keep transaction costs high. Because of this, institutions other than private orderings within favorable conditions may or may not be explainable on the basis of efficiency considerations. Historical research on path dependencies, of power and of the role of ideas can identify stable but inefficient institutional arrangements as well as pockets of efficient institutional change. This research is guided by a search heuristic: the idea that the basic actors in

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<sup>4</sup> I leave the criterion for this undiscussed. Whether Pareto optimality or total wealth or some other criterion is used matters but not in the present context.

<sup>5</sup> Failure to distinguish these two leads to unnecessary confusion about the role of efficiency explanations in NIE, as evidence in the embedding literature. It also leads to the wrong impression that, say, North and Williamson use very different definitions of institutions (see DiMAGGIO and POWELL [1991a]).

institutional change are *organizations and ideas* (NORTH [1990]). Institutions create opportunities and organizations use them. Institutions also affect the opportunities for ideas (including dogmas, fads, convictions, etc.) to be expressed. Both, organizations and ideas in turn change institutions. North's work is mostly concerned with this answer to the question "why these institutions and not any other?" Note that North uses the cognitive turn also to introduce the role of ideas<sup>6</sup> into institutional analysis and thereby the importance of norms and values that are driven by ideas.

The *third task* is concerned with the question how institutions work. It is clear from the answer to the first question that it is the changes in the cognitive assumptions of the microeconomic theory which drive institutional analysis. However, when it comes to the question how institutions work, i.e. when we look at the microlevel that deals with institutional solutions, then we do not find an equally detailed reflection of the cognitive turn. In North's work, this microlevel is more or less ignored. He emphasizes that "neoclassical economic theory can explain how people acting in their own self-interest behave... It cannot, however, explain effectively the reverse side of the coin, that is, behavior in which calculated self-interest is not the motivating factor." (NORTH [1981, 11]). Here, he assumes that self-imposed codes of behavior constrain maximizing behavior (NORTH [1990, 43]). There is, however, no integrated behavioral theory which deals with constraints on maximization and thus, there is also no theory of conformity to rules. The assumption of the "old" (i.e. purely microeconomic) institutional analysis that infinite costs keep people from deviating from the rules is still present as a background assumption. This also makes the roles of ideas (and "culture") for behavior quite vague. On the one hand all relative price changes go through a cognitive filter of mental constructs, on the other hand, ideas only come into play if they are institutionally "allowed" to come into play (NORTH [1990, 85f.]). Ideas are roped back into the neoclassical apparatus by simply assuming a negatively sloped demand curve for ideas.

For Williamson, the cognitive turn is also largely restricted to the identification of problems. For the solutions to the problem, the behavioral assumptions from the "old" analysis must do. When he elaborated the problems which cry for private ordering, Williamson identified bounded rationality first and foremost as people's inability to identify future contingencies and specify *ex ante* appropriate adaptations (WILLIAMSON [1975, 9]). He thereby turned against one of the central assumptions on neoclassical economics: farsightedness. Farsightedness is the ability to anticipate long-term consequences of one's action. It is the center piece of equilibrium analysis and generally of microeconomic prediction involving a future horizon. Farsightedness generates the clearest criteria of what "rational" would mean and thus of what the behavior consequences of any

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<sup>6</sup> North explicitly refers to culture in cognitive terms as providing a language-based conceptual framework for encoding and interpreting the information (see NORTH [1990, 22f., 37]).

action situation that is more complex than spot markets would be. Years after he identified the relationship between bounded rationality and the importance of *ex post* adaptations, Williamson shifted the emphasis from attention from *ex post* aspects of contracting to *ex ante* aspects, involving *full* farsightedness. Why? Because the price of keeping up a problematic relationship to the neoclassical machinery was too high, as he truthfully admits. "But for farsightedness, transaction cost economics would be denied access to one of the most important 'tricks' in the economist's bag, namely the assumption that economic actors have the ability to look ahead, discern problems and prospects, and factor these back into the organizational/contractual design." (WILLIAMSON [1993, 129]). Here, we see a typical pattern in economic institutional analysis: The rhetoric of the cognitive turn is used to point to a problem, and then the solutions offered ignore the cognitive turn for the sake of keeping the convenience of the micro-economic bag of tricks.

### 3.2 How Does NIS Solve the Three Tasks?

In NIS too, the behavioral assumptions from the cognitive turn clearly drive the identification of the problems which are to be solved by institutions (the *first question*). In order to see how, it is important to make a distinction between types of institutions. Similar to the NIE distinction between "institutional environment" and the realm of governance of economic transactions,<sup>7</sup> there is a distinction in NIS between institutions which regulate cognitions (categories, typifications, identities, schemas) and those institutions which address themselves directly towards action and interaction of identified actors. For example, managers in a particular organizational field may share common categories, typifications, beliefs and schemata and their organizations may be subject to certain governmental regulations and to certain self-chosen organizational forms. When governments impose regulations on organizations, then clearly an efficiency explanation for such a regulation may not be appropriate (neither in NIE and nor in NIS). The contrast to NIE becomes important vis-a-vis the efficiency explanations of private ordering, i.e. organizational forms, regulations and procedures. In NIS, the problem to be solved by institutions refers to the self-chosen second type. Given the cognitive institutional environment, actors (acting in the context of organizations) choose organizational forms which fit the institutions that govern their cognitions. This comes down to the adoption of organizational forms, regulations and procedures which are legitimate in the sense that they are understandable to self and to the relevant audience as "the natural way" to do things.

This also leads to an answer to the *second question* "why these institutions and not any other?" SCOTT [1995] quotes a study by TOLBERT and ZUCKER

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<sup>7</sup> In fact, the concrete depiction of these levels in NIE were adopted by WILLIAMSON [1994] from NIS (SCOTT [1994]).

[1983] on the diffusion of municipal civil service reform in the US. According to Scott the study shows that “early cities adopted these reforms out of rational self-interest; later, cities adopted them because they wanted to be in conformity to prevailing beliefs” (p. 87). DiMAGGIO and POWELL [1991b], who comment on the same study, see it as indicating that the adoption of institutional form may not be guided by efficiency, leading to greater homogeneity of institutional forms among organizations of different kinds. If efficient adoptions or adaptations were driving the process, we would expect less homogeneity. They add that institutional forms may diffuse for reasons of conformity pressure; because of uncertainty (and thus imitation); or because of professional standards. All three may lead to non-efficient governance structures. Thus, the question “why these institutions and not any other?” must be answered differently, depending on whether the institution was adopted as response to conformity pressure, or because of what others did, or because it was the right thing to do, given the professional standards. In all three cases, the adoption may have been rational in some way but not in the sense of increasing efficiency of economic transactions.

The *third question* was how institutions work. Here, the situation is somewhat more complex for NIS than for NIE because there is nothing that can compare to the core-like qualities of microeconomic price theory other than the assumption that behavior is governed by conformity pressures. The rest is a congeries of assumptions and metaphors which in my judgment achieve some sensitizing effects but lack coherence and theoretical punch beyond the point that conformity pressures are important (which, of course, is true and sorely ignored by economists in institutional analysis and elsewhere). Let me briefly elaborate.

Ethnomethodology (GARFINKEL [1967]) had discovered a type of rule that people take for granted, follow without being aware of it. There are no temptations to deviate from the rule and there are no sanctions to enforce conformity. Norms are substantively equal to the accounts they legitimize. Strategic behavior consists of making use of accounts cunningly in order to be and appear reasonable. There are no other goals than to be and appear reasonable or understandable. This ethnomethodological kernel of NIS is truly a product of a cognitive turn. But there is a problem: If there are truly no other goals then how do we analyze differences between organizations within the same institutional environment. What else do we have to look at and why? Do all governmental rules qualify as institutions in the sense of rules which need no sanctions for conformity?

The moment we introduce other goals than to be understood (or to be reasonable), and we should, we need theory to deal with the question how these goals are pursued, what other constraints (including rules) affect the pursuit and how the pursuit of goals and conformity to rules are aligned (if at all).

Practitioners of NIS meet this challenge by “flexibly and reflectively” using theories as institutional environments which legitimate certain accounts. For example, DiMAGGIO and POWELL [1991a, 8] say they reject the rational-actor

model. "The very notion of rational choice reflects modern secular rituals and myths..." (p. 10). Instead, they emphasize the practical, semi-automatic, non-calculative nature of practical reason (pp. 20, 24f.). Yet, whenever the context warrants an account in terms of rational choice, they will use it. For example, when they argue for the incorporation of power into institutional arguments, they begin with the "observation" that actors in key institutions realize considerable gains from the maintenance of those institutions. As an illustration, we hear of museum professionals who pursued museum policies that would "tend to enhance their own position relative to those of their trustees." (p. 30). The evolution of organizational fields, they claim, is shaped by power and interest.

The way sanctions are treated by different NIS scholars is also telling. In certain contexts, it is stressed that institutions are only real institutions if they do not need sanctions to create conformity (ZUCKER [1991, 86]). DIMAGGIO and POWELL [1991a, 26] also claim that NIS moves away from sanctions to "ad hocing." Yet, in the same article, they relate that there are widely differing views on norms and associated sanctions within NIS. Powell comes right out and says that he relies on rewards and sanctions as an intrinsic aspect of institutions (p. 37). These diversified accounts may each be legitimate and make sense in certain circles but – with due appreciation for many of the strong points of the analysis – one must conclude that they do not make for a coherent theory of institutions, and they make it quite ambiguous just what the role of the cognitive turn might be.

A related problem associated with the problem of congeries of accounts is the question of action itself. DIMAGGIO and POWELL [1991a, 16] stress the importance of a theory of action for any macrosociology. It is here that they stress the importance of habits and routines, of taken-for-grantedness and of shared typifications. Yet, there is also space for autonomous play of interests and improvisation. What guides this autonomous play? What constrains the interests? There is no theoretical basis for "agency" in the sense of individual initiative in the pursuit of a goal. This leaves conformity pressure as the only strong behavioral principle, just as it was under the assumption of internalization.

How difficult it is to analyze how institutions work without a theory that includes agency is illustrated by an article by Scott, himself a prominent contributor to NIS (SCOTT [1991]). Scott takes a closer look at the relationship between organizations and institutional environment (as contrasted to technical environment). He observes that most organizations confront a differentiated and competitive institutional environment (p. 170). When the environment contains possibly contradictory claims, there is no clear conformity pressure that can be singled out for the causal mechanism. Scott tries to remedy this by introducing some agency on the spot. He maintains that "organizations are not passive actors being imprinted by cultural templates. Rather, just as is the case within their technical environments, organizations may be expected to exercise 'strategic choice' ... in relating to their institutional environment." (p. 170). This

is probably a very astute observation. When there are contradictory conformity pressures, the organization may exercise some influence by favoring a particular environment. Scott himself uses the example of managers of simple training programs. They can choose to identify the training as occupational training, or as occupational therapy or as recreation. "Depending on the decision, their organization will be located in quite different institutional environments, varying in regulatory pressures, funding arrangements, and many other important respects." (p. 170). It is interesting to note that Scott acknowledges strategic cognitions. However, because there is basically no theory of agency in NIS, such an addition of "strategic choice" to the original sociological argument remains completely marginal in terms of the theories reviewed or developed, leading to an "overly passive and conforming depiction of organizations." (OLIVER [1991, 146]). Despite the central place given by Scott to "strategic choice" in a "differentiated and competitive institutional environment," varieties of conformity pressure remain for him the major causal links and there is no mechanism that specifies how strategic choice and conformity pressures interact. For such an interaction to be worked out, the door would have to be opened to the whole range of relevant factors that could influence the strategic choice, especially a comparison of responses to the various problems that confront the management at the same time, from the environment but also from the internal governance context. In Scott's example, the managers of the training program would also have to face their own bosses and the workers. Both may not support any training program that is defined as occupational therapy or recreation, but they may do so for different reasons, with different consequences for strategic choices.

#### 4. Evaluation of the Impact of the Cognitive Turn

There is no doubt about the fact that the cognitive turn has had a profound effect on the questions that are being asked in institutional analysis. In NIE, we find the traits *institutions, organizations and ideas* which makes path dependency and inefficiencies likely. But unlike explanations which are divorced from an efficiency framework, NIE can trace inefficiencies to rigidities in transaction costs. Where these rigidities do not exist, efficiency explanations should work and *credible commitments* should catch most of the attention.

In NIS, the bulk of institutional analysis boils down to tracing the effects of *conformity pressures, uncertainty and professional standards* on the adoption of institutional forms. A very important consideration in NIS is the question what unit to look at within which cognitive institutions develop. DiMaggio and Powell have suggested the organizational field as such a unit. To focus on dyads of transacting organizations means that one neglects the very context that creates conformity pressure, or imitation, or professional standards. Other units have been suggested (such as "societal sector," or "industry system"). The im-

portant point here is that it is the way NIS has used the cognitive turn that inspires the relevance of these new questions about units, about professions and power.

### 5. *The Missing Link*

What is unsatisfactory, however, is the theoretical basis. As I have argued, in both NIE and NIS, the cognitive turn has not led to any coherent theoretical foundation for institutional analysis. This does not only affect the solutions but also the problems that are being dealt with. As I see it, there is an important element in cognitive psychology that is sometimes mentioned in NIE and in NIS but generally ignored. It is the role of *selective attention*. Here, it is not a matter of having too little information, but of being unable to use all the information one has. Simon has repeatedly stressed this point, but it has not found its way into NIE or NIS even though there is some rhetoric in this direction, especially in NIS.

In effect, most researchers make use on an ad hoc basis of selective attention effects by using some concept that conveys a selectivity of aspects that are being considered, even if they do not incorporate selective attention in their theoretical toolkit. For example, concepts such as “orientation,” “logic,” “action frame,” and “mentality” all point to the influence of a certain selection of aspects for reasoning, decisions and action. Certain developments may increase a “market orientation.” ELLUL [1964] tells us about a “technicist mentality” which fosters systematic, instrumental rules. OLSON [1965, 160] speaks of the “logic of collective action” adding that “the theory is not at all sufficient where philanthropic lobbies ... or religious lobbies, are concerned.” The point is not whether selective attention effects exist, they are amply demonstrated. The point is how they are incorporated into a theory of action which, in turn, underlies institutional analysis. For example, I would submit that unless we incorporate the idea of legitimacy with selective attention, we miss one of the most interesting aspects of institutionalization: that it pushes the costs of conformity and the benefits of non-conformity to institutionalized rules into the background, *thereby creating a partial suspension of strategic action*. In fact, rules which are not at the same time combined with a frame that selectively guides attention away from opportunity costs of conforming cannot possibly be stable in the absence of close monitoring.

Most sociologists and an increasing number of philosophers and other scholars<sup>8</sup> who deal with institutions recognize that conformity to rules and norms cannot be captured by a purely consequentialist reasoning. Yet, unless this insight is integrated in a theory which specifies when consequentialist explanations and when non-consequentialist explanations are in order and why (i.e. how relative price effects combine with non-consequentialist effects), institution-

<sup>8</sup> See, e.g., BOUDON [1996], KLIEMT [1993], KNIGHT [1992] and NIDA-RÜMELIN [1993].

al analysis will remain very incomplete because the institutional solutions do not follow from the analysis of the problem, as we have seen with NIE and NIS.<sup>9</sup> In general, the relationship between different institutional “layers” is not and cannot be adequately handled without a behavioral theory that incorporates both relative price effects and selective attention effects. The distinctions such as “formal and informal institutions,” or “institutional environment versus governance structures” or “legal institutions versus social norms” are made on grounds of conventional categories, not on theoretical grounds. For this reason there is considerable confusion in NIE and NIS regarding what type of institutions would be open to efficiency pressures in the first place and what type would be open to conformity pressures. It is also unclear to what extent different “layers” of institutions depend on each other in order to work. There has been some progress in this direction using the distinction “formal and informal” (see NEE [1998]) but there is still a long way to go. Similarly, the role that professionals play in institutional design or choice has been put on the agenda by NIS and that will probably turn out to be one of the major contributions of NIS. But here it is the same as with the other contributions: the limited use of the cognitive turn was enough to indicate a problem but not enough to work out a theory-based solution. As we have seen, DiMaggio himself acknowledged that professionals may not only be guided by their professional standards but also by opportunities to enhance their position. To my knowledge, there is at present no theory that would be able to combine the influence of scripts or schemas with relative price effects in the work of professionals. In short, the cognitive turn has so far not been sufficiently absorbed in institutional analysis.

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<sup>9</sup> For suggestions on how one may go about adding framing effects to institutional analysis, see LINDENBERG [1992], [1994] and [1995].

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