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Economic Action and Embeddedness: The Problem of the Structure of Action

Abstract

In this article I attempt to contribute to the development of foundations for a sociological theory of economic action. Such a theory, it is argued here, has to make a substantial break with the teleological structure that informs both rational actor theory and normative theories of action. Informed by the tradition of American pragmatism I propose to base the understanding of action in economic contexts on a "non-teleological interpretation of intentionality" (Joas 1996). Such a theoretical conceptualization brings the interpretative acts of intentionally rational actors to the center. It finds its justification in the observation that the complexity and novelty inherent in economic contexts create an uncertain environment for actors which rules out optimizing decisions and provokes the question as to how actors make such an environment intelligible for intentionally rational decisions. I will argue that meaning and perceptions of rationality are established intersubjectively in the action process itself. Embeddedness then refers to the social structuration of meaning which is enacted based on interpretations, a process which is undetermined but not unstructured.

1. Introduction

One of the most persistent themes within economic sociology has been the critical assessment of economics. More precisely, economic sociology finds a unifying denominator in its critique of modeling strategies which proceed from the notion of homo economicus acting in a world with full information, independent decision making, polypolistic competition, transitivity, and fixed preferences. Sociologists have commonly observed that actual economic decision making does not fit this model. Over the last fifteen years, the notion of embeddedness has served as the crucial counter-concept used by economic sociologists to mark a distinctive approach to the understanding of economic processes (Granovetter 1985; Zukin/DiMaggio 1990). Embeddedness refers to the social structural, cultural, political, and cognitive structuration of decision situations in economic contexts. It points to the indissoluble connection of the actor with his or her social surrounding.

It has been given little notice, however, that the critique of the economic model of action on the one hand and the sociological concept of embeddedness on the other are situated on two different conceptual levels. While the former refers to the question of how to conceive of the internal structure of action, the latter tells us about external variables which influence the action process and outcome. If this observation is correct, it is not surprising that the unfolding of the notion of embeddedness did not lead to much theoretical progress in the development of concepts which could provide an alternative to the rational actor model of economics (DiMaggio/Powell 1991; Fligstein 1997). This is not so much meant as a critique of new economic sociology but rather as a suggestion. My point is that new economic sociology has not put enough emphasis on proposing an alternative to the rational actor model. As a result embeddedness was mainly conceived as a residual category which points to external influences on rational decision making without providing a theory of intentionality and strategic agency of its own. Embeddedness understood in this way serves largely as a placeholder which fills the gap between what is explained by the rational actor model and empirical observations which don't find explanation by this theoretical approach. However, the notion of embeddedness does not yet explain how this gap is actually filled by economic agents. For this, economic sociology would need a microfoundation which anchors embeddedness in the structure of action.

In this article I attempt to develop foundations for a sociological theory of economic action. Such a theory, it is argued here, has to make a substantial break with the teleological structure that informs both rational actor theory and normative theories of action. By

"teleological structure of action" I refer to the concept of conceiving action as being split into the ideally independent elements of an actor, an end (or goal), means for achieving the end, and conditions which the actor has to take into account. According to this model, ends are unaffected by means and the molding of ends is seen as beyond the explanatory scope of the theory (Hodgson 1989, Lutz 1979). The different consequences of the application of alternative means are either known, at least probabilistically, or can be found out by experiment.[1] The objective character of the decision process makes it possible that an outsider who knows the preferences of the actor and the constraints could predict the choices the actor will actually make. This conceptualization of action assumes the separation of human cognition from action itself (Joas 1996: 145ff).

Informed by the tradition of American pragmatism, I propose in this article to base the understanding of action in economic contexts on a "non-teleological interpretation of intentionality" (Joas 1996). Such a theoretical conceptualization brings the interpretative acts of intentionally rational actors to the fore. It finds its justification in the observation that the complexity and novelty inherent in economic contexts create an uncertain environment for actors which rules out optimizing decisions and brings the question to the center as to how actors make such an environment intelligible for intentionally rational decisions.[2] Only if they succeed in this task do they have the basis for purposeful action. I will argue that meaning and perceptions of rationality are established intersubjectively in the action process itself. Embeddedness then refers to the social structuration of worlds of meaning in interpretative acts, a process which is undetermined but not unstructured.

My argument will proceed in four steps: First, I will look at selected critiques of the economic model of action from economics and sociology. Second, I will argue that these revisions miss a crucial point for the understanding of economic action by either maintaining the means-ends schema as the basic concept of action-theory or by not developing a systematic alternative to it. Based on this discussion I will propose the use of a non-teleological understanding of intentionality. I will then apply in a third step the theoretical considerations to the realms of cooperation and innovation as two economically crucial situations in which actors are confronted with uncertainty of means-ends relations. In the

[1] See also Max Weber's (1985: 32f) discussion of technology in Economy and Society.

[2] The term uncertainty is used throughout this article in the sense of Frank Knight's (1921) distinction between risk and uncertainty. For a detailed discussion on the importance of uncertainty for economic sociology see Beckert (1996).

last part of the article I will try to shed light on the relationship between economic action on the one hand and social, political and cultural embeddedness on the other.

2. The teleological interpretation of action: rational action and its critiques

Classical and neoclassical economics operate from the assumption of specific behavioral traits which provide an action-theory of considerable power. Most importantly it is assumed that actors are entering an action situation with preferences (tastes) for certain goods and services and a preference ordering which fulfills the condition of transitivity. The notion of preferences is connected to the maximizing assumption which has its roots in utilitarian theory. Actors, the claim states, will chose between different bundles of goods the one which maximizes their utility. If actors have perfect information and competition is polypolistic, a distribution of goods will prevail through exchange in which no actor can increase his or her utility further without making at least one other actor worse off.

The prototypical situation to which this model is applied in economics is a well defined production function. The maximizing problem consists in finding the optimal mix between substitutable factors of production (capital and labor) which minimizes costs at a given output. Although the modeled decision situations can be, of course, much more complicated, they follow the same logic: Goals are determined independently from the action process itself and the question how to act is answered instrumentally by finding the optimal means to achieve the end. This understanding of action informs not only abstract theoretical models in economics but is applied in operations research, design studies, organization theory, and game theoretic approaches to cooperation.

The rational actor model has, of course, not been undisputed. To help clarifying the vantage point of my argument I shall position it first among the two most important lines of critique. One of these critiques has taken issue with the conceptualization of goals. Economic theory is seen as incomplete and biased because it does not explain how preferences emerge and/or it assumes falsely that actors are only motivated by selfish motives. The most prominent representation for this explication is Talcott Parsons' early work The Structure of Social Action (1949 [1937]).[3] Utilitarian theory, Parsons argues, cannot explain the stability of a liberal social order because it has to assume either that ends

[3] Parsons is also especially relevant here because his action-theory is developed out of a critical assessment of economics. See Beckert (1997).

are random or that they are externally determined by hereditary factors or the social milieu. From this critique Parsons suggests a division of labor between economics and sociology according to which economics deals with the rational allocation of means for given ends and sociology deals with the question of ultimate values (ibid.: 768ff). The strategy here is to supplement economics but leave the teleological understanding of action unaffected.[4] This type of sociological critique of economics, i.e. to problematize the reification of the notion of selfishness of economic actors, has been influential in economic sociology (Etzioni 1988) and to some extend even in economics (Sen 1977). Parsons's important contribution lies in the notion that goals themselves - including the utilitarian value of utility maximization - are social constructions and not natural propensities of human agents. But he does not see the conceptualization of the relationship between means and ends in utilitarian theory as problematic itself.

The relevance of Parsons' critique shall not be disputed and it will be briefly discussed in the next section how the emergence of ends can be explained from the pragmatist perspective. But what is striking about this line of critique is that it leaves unaffected the teleological structure of economic theory, i.e. the notion that preferences, once they are determined, can guide decision processes so that actors make optimal use of their resources. I will argue here that this is the profoundly misleading assumption of the economic model of action which should be the focus of critical assessments of economic theory. In complex economic decision situations and in innovations the problem for actors is not so much which goals to pursue but the impossibility to understand means-ends relationships properly. The before mentioned production function is a misleading model for decision making in economic contexts if actors cannot calculate the parameters rationally due to their complexity. This uncertainty of decision situations opens up the sociological question how actors reach decisions if they cannot have accurate understanding of the consequences of their actions.[5] A microfoundation for economic sociology should proceed from this problematic.

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[4] Already at the beginning of *Structure* Parsons quotes Weber in German with the sentence: "Jede denkende Besinnung auf die letzten Elemente sinnvollen menschlichen Handelns ist zunächst gebunden an die Kategorien 'Zweck' und 'Mittel'."

[5] As to the sociological understanding of the sources of uncertainty Christoph Deutschmann (1999) has suggested recently to understand money as the social device which structurally forces actors to constantly innovate. Innovations cause the disembedding of economic activities and thereby produce uncertainty. Deutschmann's book makes a significant contribution to the understanding of the connection between the sociology of money and the notion of uncertainty as a foundational category of economic sociology.

To be sure, the problem of complexity of economic decision making has been the focus of very influential critiques. This is especially the case for the work within the tradition of the Carnegie School and the early writings of Niklas Luhmann. But neither the Carnegie School nor Niklas Luhmann have developed an alternative to the teleological model on the conceptual level of action-theory.

The theory of bounded rationality (Simon 1957) represents the most influential reformulation of the rational actor model from within economics. It states as its starting point a discrepancy between the complexity of a situation and the knowledge of actors. This discrepancy makes it impossible to identify the strategy which leads to optimal outcome. According to Simon, the reason for this are limited cognitive capacities of actors: "The limits of rationality have been seen to derive from the inability of the human mind to bring to bear upon a single decision all the aspects of value, knowledge, and behavior that would be relevant. The pattern of human choice is often more a stimulus-response pattern than a choice among alternatives. Human rationality operates, then, within the limits of a psychological environment" (Simon 1957: 108). Because of their cognitive limitations, actors stop the search process for the best solution to the problem at the point when they have recognized a strategy which satisfies their aspiration level. While this model of action gives explanation as to why decisions do not fulfill the optimizing criteria, Simon still maintains the conceptual framework of the means-ends schema (ibid.: 77). The search process is only not followed to the point at which all possibilities have been calculated. According to Simon the problem of suboptimal decision making could be resolved, at least in principle, if the computational capacities of the human mind would improve. His interest in computer technology (Simon 1992) gives ample prove that he sees the means-ends schema of action as unaffected by the notion of bounded rationality.

A more radical position is taken by Cohen, March, and Olsen in the garbage-can model of decision-making (Cohen/March/Olsen 1972; March/Olsen 1979) which starts out from the issue of complexity of decision situations. They break more radically with the means-ends schema (March/Olsen 1979: 71f) but instead of developing a structured alternative action-theory they conceal the decision process itself in a "black box". According to Cohen, March, and Olsen problems, solutions, actors, and choice opportunities are inseparably interwoven. They all enter in indistinguishable ways into the decision. "The garbage can process, as it has been observed, is one in which problems, solutions and participants move from one choice opportunity to another in such a way that the nature of

the choice, the time it takes, and the problems it solves all depend on relatively complicated intermeshing of the mix of choices available at any one time, the mix of problems that have access to the organization, the mix of solutions looking for problems, and the outside demands on the decision makers" (March/Olsen 1979: 36). Cohen, March, and Olsen have developed a computer model with the elements which enter the garbage can which shows that there is some predictability of the observed processes but they have "no close relation with the explicit intention of actors." (ibid.: 36).

In sociology, the most refined critique of the teleological understanding of action has been developed by German sociologist Niklas Luhmann (1968 b). Based largely on phenomenological and pragmatist considerations, Luhmann brings the problematic status of the means-ends schema at center stage. However, unlike the other authors, Luhmann attempts to leave the conceptual level of action-theory altogether behind. He uses the critique of the teleological concept of action to justify a systemstheoretic approach. In his early work Zweckbegriff und Systemtheorie (1968 b) Luhmann rejects the notion that means are determined by ends on the basis of the argument that causal laws in the social sciences exist, if at all, only in rare instances. Effects can usually not be traced back unambiguously to causes because causes do create highly uncontrollable effects. If the attempt to establish causal laws in the social sciences is not promising, the question of the role of a teleological interpretation of action opens up. Luhmann is inverting the issue by asking for the functions of the means-ends schema. These are seen in its heuristic qualities to bring order into highly complex situations. To distinguish between causes and effects might not reflect actual causal relations but it allows to form alternatives as a basis for decision making (ibid.: 17). Ends have the function to reduce the unlimited contingency of possible actions by providing standards for selecting alternatives. Moreover, they allow to judge the consequences of action. Hence, the means-ends schema reduces complexity for actors which is necessary to make purposeful action possible. But for Luhmann it is entirely clear that the teleological description of action cannot be taken as a valid portrayal of actual causal relations.

Of course, the work of Talcott Parsons, the Carnegie School, and of Niklas Luhmann are not alone in revising the rational actor model. They were only emphasized as crucial contributors to two especially important lines of critique. Other consequential revisions - evolutionary theories (Hodgson 1997; Nelson/Winter 1982), institutional theories (North 1990; Williamson 1985), framing models (Esser 1993; Lindenberg 1993)

and Austrian economics (Hayek 1972) – demonstrate awareness of the theoretical problems arising from complexity and novelty, but also do not develop an alternative to the teleological understanding of economic action.

3. Pragmatism and economic action

The vantage point of the argument had been the claim that the teleological concept of action does not allow for an adequate understanding of actors responses in economic contexts, since situations do not present themselves with unambiguous goals and strategic alternatives which can be ranked according to their efficiency. It is misleading to think of action in economic contexts from the perspective of a well defined production function. The assessment of critiques of the rational actor model showed that the issue of complexity of decision situations does indeed take center place. But the revisions of rational actor theory either remain within the limits of the teleological model of action or, alternatively, give up a systematic understanding of the structure of action in economic contexts at all.

In this part of the article I shall develop a theoretical position on the understanding of economic action which radically breaks with the means-ends-schema of teleological theories. The justification for this consists in two principal observations: First, the formation of goals cannot be conceived as being independent from the social process of action itself. To this point I will come back at the end of this section. Second, in complex and novel situations preferences cannot coordinate action because they cannot be translated into maximizing strategies. Complexity leaves the relevance of parameters and their interlockings in a state of uncertainty so that actors cannot understand the consequences of strategic options properly. If we think of innovation a further feature is added: For logical reasons the end of an innovation cannot or can only very vaguely be described at the beginning of the innovative process. Here it is by definition impossible for actors to choose means rationally because the basis for rational calculation is missing: How shall we apply means rationally if we do not know the goal?

These critical points hold true despite modeling strategies from game theory and general equilibrium theory. It will be demonstrated briefly in the next subsection that these approaches in economics are based on unrealistic assumptions of an artificially reductionist world. Moreover, independent of the question of objective possibility for rational calculation, uncertainty remains a crucial variable for an empirically oriented theory of

economic action if it can be shown that actors do not actually follow the calculative efforts necessary for rational decisions. It also remains relevant independent from possible post factum rationalizations which actors use to explain their action in a narrative of rationality.[6]

Instead of looking for ever increasing refinements for rational calculation it would be more fruitful to develop an understanding of economic action which informs us about what actors actually do to reach decisions in complex economic situations. In such a theoretical conceptualization, action should be characterized as intentionally rational - which means that actors do want to enhance their welfare - but as taking place in complex and therefore uncertain situations - which implies that the concrete meaning of rationality must be formed in the action process itself through the interpretation of a contingent situation, and not from the background of an instrumental calculus. By interpretation I refer to an intersubjective process in which actors evaluate and reconstruct the meaning of a situation and evolving options for action in a "dialogue" with the emerging situation.

Actors, it will be argued, are not only connected to the action situation through preconceived goals. Instead, means and ends are intertwined and formed in the situation itself; they become more pronounced and undergo continous revision as action proceeds, and as actors learn new things through further experiences, disappointments, and encouragements.[7] The recognition of a problem, the formulation of goals, and the finding of means to approach an end are themselves processes of social construction which take place within action and not prior to and separated from the action process. Acts of defining the situation constitute the intelligibility of the principally complex environment and provide the basis for intentional rationality. Actors always start from the background of the meaning of the situation which is, at least in parts, intersubjectively shared. But these horizons of meaning cannot give action an objective contour.

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[6] That actors do exactly this is described by Davies and Castell (1992: 389): "Designers will often resort to rational narrative in order to justify their adoption of a nonrational process. Hence, designers may document the design process and its products as if they had occurred in a systematic fashion." An example from investment decisions is given by Hollis and Nell (1975: 51): "As many studies show, large corporations rarely decide to expand, diversify or merge, in order to achieve clearly defined ends. The ends are understood and defined only afterwards and by then they have often changed." The theory of revealed preferences is also based on the logic of post factum declaration of rationality of choices.

[7] This does not mean the opportunistic changes in preferences described by Elster (1983) in his book Sour Grapes. Also the notion that preferences change with a changing cognitive framework (Hodgson 1988: 97) is limited because it implies a normal state of fixed preferences. The claim stated here goes much further, as will be demonstrated in the text.

For sketching a theoretical conceptualization which takes up these issues I shall draw mainly on American pragmatism. In this tradition a theory of action has been developed which on the one hand is directed against behaviorist stimulus-response models and on the other hand refutes a teleological understanding of action. Hans Joas (1996) has developed a non-teleological understanding of intentionality, largely based on the discussion of the work of John Dewey, which can provide a foundation for the desired conceptualization of economic action.

3.1 Routines and reconstruction

According to pragmatism, the teleological interpretation of action finds its background in the Cartesian dualisms between subject and object, body and spirit or consciousness and being. This leads to the divorce of cognition from action (Joas 1996: 157). Charles Sanders Peirce has raised fundamental objections against this separation and suggested that cognition always takes place within the context of real situations. This anchoring of cognition in the concrete situation can be seen as the most fundamental pragmatist vantage point. Intentions and motives are not seen any longer as part of the intraindividual consciousness of actors which influence a world which stands separated from them, but they are inherently connected (Joas 1996: 158).

The first consequence of this conceptualization for the understanding of action is to view intentionality not as based on cognitive reflections prior to action but as a being formed from a practical background knowledge which informs action and is rooted in the unquestioned ways in which actors relate to their environment. The situation itself constitutes pre-reflexive aspirations and tendencies which are present in the actor. These pre-reflexive aspirations provide the actor with a relationship to the world which is characterized by rather undetermined expectancies as well as tacitly known plans and strategies. The situation is experienced as typical and responses are usually not based on cognitive reflection but on routines and rules of appropriateness which develop from past experiences and provide avenues for action. According to the non-teleological understanding of intentionality a large part of action is based on habits and routines. As long as a specific course of action leads to its expected results actors do not change these routines. Hence, in contrast to the rational actor model, action is not interpreted on the ground of explicitly stated and reflected plans, goals, motives, or preferences which form the basis for the formulation of maximizing strategies. Instead, action is seen to a large

extent as based on "unreflected routines" (Joas). This corresponds with those social theories which emphasize "habits" (Dewey), "practical consciousness" (Giddens), "routines" (Schütz), "knowing-in-action" (Schön) or the "tacit knowledge" (Polanyi) of actors. These concepts all imply that actors are much less calculative in their actions than presumed by the rational actor model.

An empirical theory (in distinction from normative theories) of economic action should take into account that action is to a large extent inherently non-calculative because it is based on unreflected routines.[8] But it would be clearly inadequate to limit a theory of economic action to the notion of routines. Routines can fail to achieve the expected results. This confronts actors with a discrepancy between the perception of a problem in a situation and those solutions which are offered by routines. The consequence is the interruption of the routinized action-flow. At this point a new mode of response to the situation enters. According to pragmatist thinking the blockade of routine activities encourages actors to start a conscious reassessment of the situation, a process which has been termed "reconstruction" by John Dewey (1977 [1917]). Reflexive forms of intentionality and explicitly stated goals emerge when routines fail. "Our perception must come to terms with new or different aspects of reality; action must be applied to different points of the world, or must restructure itself. This reconstruction is a creative achievement on the part of the actor. If he succeeds in reorienting the action on the basis of his changed perception and thus continuing with it, then something new enters the world: a new mode of action, which can gradually take root and thus itself become an unreflected routine." (Joas 1996: 128f). Reconstruction demands imagination and judgment, i.e. a reflective distance from habitual courses of action. Backed by their habitual knowledge actors start a process of innovation by experimentation in which possible future states, ways to reach them, and consequences are conceived and examined until a solution emerges. The two aspects of the concept - routines and reconstruction - cannot be understood as empirically distinct but only as an analytical differentiation. Situations are only in rare exceptions fully identical to prior experiences. But the rule is that situations are not identical which necessitates reflexivity and

[8] It is theoretically unconvincing to state that the renunciation of a conscious choice between alternatives is itself rational because of the costs involved in calculating alternatives (Esser 1993). For this to be a rational decision we would need to know the benefits of the alternative which creates the paradox of a conscious decision for a routine. It is inconsistent that Esser's model of rational choice takes the limited knowledge of actors into account but at the same time sees the choice between frames in terms of unrestricted maximizing.

creative responses from actors as a regular part of their activities. This is especially relevant for action contexts of modern economies since profitable investments depend on the rejection of routines, i.e. on innovation (Beckert 1999; Deutschmann 1999).

3.2 Complexity and intersubjectivity in economic action

How does the reflexive intentionality of "reconstruction" differ from the teleological conceptualization inherent in the rational actor model? I shall argue that the pragmatist theory of action breaks at two crucial points with economic theories based on the rational actor model. One is that it relaxes the information- and consistency-assumptions. The second is that the definition of the situation and the formulation of individual action plans is conceived of as an intersubjective process. Both points will be discussed separately with reference to George Herbert Mead's (1974 [1934] concept of symbolically mediated communication.

(1) For Mead the distinctive character of human interaction is that actors do not merely react to each other's actions but base their responses on the meaning they attach to the gestures of others in interpretative acts. Interpretation takes place in a process of self-indication in which the actor becomes conscious of objects and assigns meaning to them. The possibility of self-indication distinguishes human communication. It implies that an object can be judged, a planned action revised, the meaning of an object changed without ever enacting these possibilities in reality. Actors can take the role of other actors and can orient their action by grounding it in the anticipated reactions of others. This can be the reaction of a concrete other person, or, more importantly for Mead's theory, the generalized expectations of a group or even of the whole society. In determining a course of action actors are involved in a constant "quasi-dialogue" (Böhler 1985: 252) in which they interpret the situation in which they find themselves and all the components of the situation - be it other people or physical objects. Reflection remains always anchored in the situational context in which action takes place. Means and ends are not stringently defined at the beginning of the dialogical process but change with the emergence of new information and their interpretation in the action process itself.

Mead's concept of symbolically mediated communication correlates with the notion of calculation of optimal strategies, asserted by the rational actor model, to the extent that economic maximization presupposes the anticipation of other actors' reactions to possible courses of action and the interpretation of the significance of relevant conditions of the

situation. However, the informational- and consistency-assumptions of the rational actor model play no paradigmatic role in the pragmatist action concept. All versions of the rational actor model which claim more than that actors chose the action which seems right to them, given their understanding, presuppose at least probabilistic knowledge of the parameters involved in the situation and a rational selection of alternatives.[9] All rational actor models must assume at least consistency in choices to maintain the claim of rationality.

From the pragmatist perspective, by contrast, the dialogical reflections upon a situation and possible adjustment are not optimal but are undetermined. This is not to say that actors would not be interested in rational strategies. But pragmatism leaves open whether actors have probabilistic or certain knowledge of relevant parameters, whether their choices are consistent, and whether the believes they form with regard to the causal structure of the situation are right or wrong. What determines action is not the objective situational structure but the interpretation of it which itself forms part of the situation and must therefore be included in any reflection on possible strategies. Actors might have wrong perceptions of other actors goals and motives, they might have faulty views on causal relationships, or ignore the most important variables. But the "irrationalities" which actors exhibit can be integrated into the theory because the contingency of possible reactions stands at its core: "Both the complexity of present situations and the very different pasts that experienced selves carry into situations lead the pragmatist theorist of action to expect that more than one judgment/action will prove adequately responsive to present possibilities." (McGowan 1998: 295). Hence, a pragmatist understanding of economic action assumes that actors act intentionally rational without implying that strategies are rational in any objective sense. This affects the notion of rationality itself: What is conceived to be rational cannot be concluded independent from contingent interpretations of actors and these interpretations themselves become parameters of the situation. Rationality is in this sense a social construction.

(2) The second, and possibly even more important point at which the pragmatist understanding of action diverges from the rational actor model develops around the notion of intersubjectivity. The previous section might create the impression that action in economic contexts would be arbitrary, based on purely subjective estimations of causal

[9] Only under this condition is it possible to define optimal strategies which will lead to the predicted result (Simon 1981: 31ff).

relationships of physical objects and strategies of other actors. If actors act on the basis of their interpretation of the situation it seems to follow that there is very little common understanding between actors in a joint situation. This would create a randomness which would make the coordination of economic action an unstable endeavor. This is, however, not the case. Intersubjectivity forms a core premise of pragmatist action-theory and provides a theoretical path to avoid the subjectivism of rational actor models but also of phenomenological approaches.[10] By intersubjectivity I refer to the point that the orientations and perceptions actors portray in a situation are formed by expectations brought on them (in an undetermining way) by their social surrounding.

This can be explicated once more with reference to Mead's (1974 [1934]) conceptualization of identity formation which distinguishes between the dimensions 'I', 'me', and 'self'. The category 'me' refers to the actor's imagination of the other person's attitude toward him. It is the foundational element of identity. The contact with a plurality of others makes it necessary to synthesize the different attitudes or expectations. Actions must be chosen with reference to rules and goals that are valid not only for one other actor but for the social group which constitutes the social context of the situation. Mead calls this the "generalized other". Mead's conceptualization of identity formation has crucial consequences for the understanding of concrete action and its coordination. Strategies of action do not exist independent from the situation but are formed in social interaction through the interpretation of the attitude of relevant others. The judgment of a situation is

[10] Here I refer mainly to Alfred Schütz's understanding of rationality from a phenomenological perspective. Phenomenology raises in many regards similar points as the pragmatist theory of action. This is especially true for the notions of routine, everyday behavior and open possibilities. Many of my arguments could therefore also be developed based on phenomenology and its sociological applications especially in the works of Garfinkel and Giddens. In some sections of this article I indeed refer to these authors. Nevertheless, this article focuses on pragmatist thinking despite these correspondences. The reason for this is the lack of a truly developed concept of intersubjectivity in most of the phenomenological tradition, including Schütz (see also Coenen 1985: 95). This is due not only to the closeness of Schütz to Husserl, but has its cause also, as Christopher Prendergast (1986) has shown, in the affiliation of Schütz with Austrian economists in Vienna. In my judgment Esser (1993) can only claim the close resemblance of Schütz's work with Subjective Expected Utility-theory because both theories indeed merge at the subjectivist conception of action which is rejected here. The following quote illustrates the subjectivist basis of Schütz's theory of action: "The interest prevailing at the moment determines the elements which the individual singles out of the objective world [...] so as to define the situation. It is by virtue of the same interest that out of the pregiven knowledge those elements are selected as are required for the definition of the situation. In other words, the interest determines which elements of both the ontological structure of the pregiven world and the actual stock of knowledge are relevant for the individual to define his situation thinkingly, actingly, emotionally, to find his way in it, and to come to terms with it" (Schütz 1966: 123).

shaped by the image the actor has of the expectations of others. His action is oriented toward these expectations which thereby obtain a structuring influence on his responses. "It is in the form of the generalized other that the social process influences the behavior of the individuals involved in it and carrying it on, i.e. that the community exercises control over the conduct of its individual members; for it is in this form that the social process or community enters as a determining factor into the individual's thinking" (Mead 1974 [1934]: 155). However, this conceptualization of an intersubjective constitution of individual action does not lead to the elimination of discretion and creativity. The representation of the generalized other marks options for possible action which still have to be selected and enacted by the actor. The reactions toward the assumed expectations are those of the 'I'. The 'I' represents "the response of the organism to the attitude of the others" (Mead 1974 [1934]: 175) and reflects the individual reactions to the indicated social expectations. While the spontaneous reactions of the 'I' are always situated in the structured attitudes of the generalized other the 'I' is, according to Mead, the source of creativity. The reactions of actors are individual, they are not fixed by the representation of expectations; they can create surprises.[11] As Hans Joas (1999: 177) has remarked, Mead oriented his model of social action, contrary to Freud, towards the dialogue between social expectations and creative impulses.

According to the pragmatist theory of action actors act on the basis of the interpretation of the situation. The perception of the situation is embedded in the actor's past experiences, his understanding of causal relationships as well as his action plans, and the recognition of social expectations on his actions. Therefore any interpretation does not portray a purely subjective perspective but reflects the social situation. Actors in economic contexts can be assumed to be interested in the maximization of their individual welfare - but the decisions they make and the strategies they use are based on contingent reciprocal expectations and interpretations which are formed in a social process. This provides a basis for the understanding of the coordination of economic activities in complex and novel situations in which means-ends relationships are unclear. The formation of strategies (or: decision making) is not based on the calculation of a "best way" but is instead anchored in the self-indication of material objects and the expectations of relevant others which give orientation to action. Strategies are social constructions in which actors make sense of a

[11] This does not exclude that the reaction of the 'I' can also conform with past actions.

situation by interpreting their material and social surrounding. By proving successful, strategies can become unreflected routines. But they are not dogmatically fixed. Instead they have the status of preliminary hypotheses which are open to revisions in the process of action if changes in the situation and its interpretation make it problematic again.

The pragmatist perspective expands also to the question of formation of ends. As stated before with reference to Talcott Parsons (1949 [1937]), the rational actor model assumes actors to maximize their utility based on given preferences without explaining where these preferences originate from. For Parsons this was an unacceptable blind spot in a theory which claimed to provide positive explanation for the coordination of social activity. From a pragmatist background preferences are seen, like strategies, as being rooted in the expectations of the generalized other. They are therefore not random, nor are they determined by hereditary factors, but anchored in the social community. The specificity of modern economic contexts is, compared to other social spheres, that the orientation towards efficiency provides - but for exceptions - the basic constitutive assumption from which further interpretations of the situation proceed.

4. The application of pragmatism to cooperation and innovation

In the following two sections I will explore consequences which derive from the pragmatist concept of action for the understanding of two economic situations: cooperation and innovation. This discussion shall clarify to which extent pragmatism can indeed provide a microfoundation for the notion of embeddedness of economic action. Both situations stand as examples for the entering of uncertainty into economic processes. In the case of cooperation uncertainty derives from the complexity of making accurate judgments on the contingent reactions of alter ego to a cooperative move; uncertainty has a social, or strategic, cause. Uncertainty in innovative activities derives from the lack of knowledge of what the innovation is. Therefore the means-ends relationship for solving the problem is unknown.[12] Cooperation and innovation are two of the most important aspects of modern economies. Both situations are widely discussed in economics as well as in sociology. This makes it fruitful to compare the results of a pragmatist approach with established modes of thought on the subjects.

4.1 Cooperation

No economy can be imagined without cooperation. Whenever production is organized through division of labor, be it within corporations or through market exchange, cooperation becomes the dominant social feature of production and distribution. While economists gave broad emphasis to the efficiency enhancing properties of division of labor since the formation of the discipline in the 18th century (Smith, Ricardo, Marx) it is only in post World War II economics that the social qualities of cooperation receive the appropriate attention. In modern economics the topic of cooperation has been formulated in game-theoretic models and, more generally, as principal-agent problem.

The principal-agent problem arises whenever actions have effects on other actors and the effect cannot be accurately anticipated because of asymmetric distribution of information. Managers and stockholders, workers and supervisors, doctors and patients, sellers and buyers of a product each have different knowledge on their activities (or inactivities), intentions, capabilities, and quality of products. From this asymmetry of information develop some of the most intriguing problems of organization which are fascinating economists and sociologists alike (Akerlof 1970; Berger 1999; Kreps 1990; Stiglitz 1994).[13] Principal-agent problems are so crucial that one can even call them the most important social problems in the organization of economic activities. Managers might not work for the benefit of the owners of the company that hired them, workers might shirk while being paid their worktime, doctors might not be qualified to treat their patients, and a company might withhold crucial safety information on its products. Principal-agent problems are endemic in economic transactions and it is only through their solution that the benefits from cooperation can be reached. Otherwise company owners could hire neither managers nor workers, people would hesitate to go to the doctor, and customers would refrain from buying goods - cooperation would be impaired.

Economic approaches to principal-agent problems are based on calculation. The basic assumption is that rational actors will cooperate if their benefits from cooperation are higher than those from defection. The calculus demands that the internal structure of the situation and the effects of investments into changes of the incentive structure of the agent are to be analyzed. (1) Internal structure refers largely to the duration of cooperative

[12] For a discussion of the dilemma of innovation see also Rammert (1988).
[13] Best known is the example of the market for lemons. George Akerlof (1970) demonstrated in an influential article that under conditions of asymmetric distribution of information between buyers and sellers of used cars on the quality of the cars no market will come into existence.

relations. In a non-iterative prisoner-dilemma rational actors will chose non-cooperative strategies. Cooperation, which would enhance the welfare of both players, will not take place (Elster 1986: 7ff) Iteration, however, leads to an increase in cooperation between rational actors because it changes the pay-off matrix of the game (Axelrod 1984).[14] (2) Investment into changes of the incentive structure expresses primarily the installation of control mechanisms. The information asymmetry between principal and agent can at least be reduced if the principal is willing to invest in mechanisms which control the agent. Such mechanisms can be supervisors who control the work process, technical surveillance equipment, or the detailed specification of contracts. Incentives can also be created through efficiency wages (Akerlof 1984) or even investments into the internalization of cooperation-enhancing norms on the side of agents (Coleman 1990: 292ff). All these mechanisms come together in that they produce transaction costs and thereby reduce the pay-offs from cooperation. Rational actors must calculate the optimal investment in control mechanisms which is defined as the point at which any further investment would produce higher costs than gains.[15]

According to this type of reasoning it appears incorrect to say cooperation would be connected to the problem of uncertainty at all. If agents calculate the parameters of the situation they will find a clear answer to the question whether it is rational for them to cooperate or not. The resolution to principal-agent problems follows the teleological model of action: The goal of maximizing is the starting point and the actor will rationally calculate his own and the other persons options until he has found a strategy which optimizes his utility under given conditions.

But how convincing is this modeling strategy for the understanding of cooperation? If one looks closer at the presented solutions to the problem of cooperation one can conclude that the possibility for rational calculation depends on assumptions which are empirically hard to find. This point has been the subject of an extended literature (Elster

[14] However, if the players expect a soon end to the cooperation between them a logic of backward induction sets in (Kreps 1990).

[15] Another strategy to resolve principal-agent problems from the perspective of the rational actor model has been the concept of signaling (Spence 1973). A company can produce features which signal a higher quality of the good for instance by marketing it as a premium label or by issuing extended warranties. Similarly a doctor can signal his above average capabilities by getting additional diplomas or status (for instance as a university professor). However, as Spence himself argued, signaling only resolves information problems if the marginal costs for it are lower for the sellers of high quality products than for the sellers of low quality products. Otherwise the signaling activities do not contain any new information. All sellers would equally engage in signaling activities.

1986; Hechter 1990; Hollis 1992; Taylor 1990). Here few illustrations must suffice. First, in game theoretic modeling, a rational calculation depends on knowledge of how many rounds of the game will actually be played. At least the players must know their mutual expectations on the length of the game. Otherwise the logic of backward induction leads to strategies where players either cooperate too long or not long enough for attaining optimal pay-offs (Taylor 1990: 228f). Second, to play a strategy successfully, for instance tit-for-tat[16], depends on the visibility of the moves other players make. If the other player can hide his move, a rational reaction is impossible: "An individual must not be able to get away with defecting without the other individuals being able to retaliate effectively. The response requires that the defecting individual not be lost in a sea of anonymous others" (Axelrod 1984: 100). Third, the rational application of control mechanisms presupposes that marginal gains from investments into control can indeed be calculated.

These critical objections suggest that the possibility of optimizing strategies depends on the unrealistic reduction of real world complexities. This works for economic modeling but not for empirical actors.[17] From this background I want to propose that the empirical understanding of cooperation demands, in a first step, the opening of the problem for the consequences of genuine uncertainty. Uncertainty in cooperation stems from the inability of actors to exercise control over the other actors' actions and reactions. In addition, incalculable effects might derive from reactions of third parties or the change of exogenous conditions.[18] From this it follows that actors have to make decisions on cooperation on a

[16] The tit-for-tat strategy follows the rule to make first one cooperative move and after this replicate in all subsequent rounds of the game the move the other player has just made.

[17] This does not mean that the expectation of repeated cooperation with another person or the surveillance of ones activities would not influence the outcome of principal-agent situations. It also doesn't mean that actors ignore the possibility of defection. But I want to reject the idea that decisions on cooperation can be fully understood on the basis of rational calculation.

[18] Cooperation is in fact confronted with a Pandora's-box of uncertainties as Herbert Blumer (1969: 71f) has described: "...the career of joint actions also must be seen as open to many possibilities of uncertainty. Let me specify the more important of these possibilities. One, joint actions have to be initiated - and they may not be. Two, once started a joint action may be interrupted, abandoned, or transformed. Three, the participants may not make a common definition of the joint action into which they are thrown and hence may orient their act on different premises. Four, a common definition of the separate lines of action may still allow wide differences in the direction of the separate lines of action and hence in the course taken by the joint action; a war is a good example. Five, new situations may arise calling for hitherto unexisting types of joint action, leading to confused exploratory efforts to work out a fitting together of acts. And, six, even in the context of a commonly defined joint action, participants may be led to rely on other considerations in interpreting and defining each other's lines of action. ... To assume that the diversified joint actions which

different basis than rational calculation of pay-offs, even if they are interested in nothing but their possible material gain from cooperation. They decide on cooperation despite the lack of a complete calculative basis for this decision. Hence the question for the non-calculative presuppositions of cooperation arises.

This leads to a second step in the argument. The introduction of genuine uncertainty allows the reformulation of cooperation as a problem of trust. Trust shall be defined as the expectation of ego that alter ego will not exploit a one-sided, voluntary advance through defection (Beckert et al. 1998: 60).[19] This definition shall imply that the trustor has no guarantee and no probability calculus that the trustee will indeed fulfill this expectation. The trustee is as free and as capricious to reciproke the trust placed on him as is ego to place his trust. Thus defined, trust is a non-calculative concept.[20] "Non-calculative" does not mean that a person does not expect his trust to be reciprocated. It means, however, that it is misleading to understand this expectation as being based on relentless calculative economic reasoning. What, if not rational calculation, makes a person believe a one sided advance move will not be exploited?

Referring to the pragmatist conceptualization of social interaction the answer refers to the character of the situation in which cooperation takes place. The situation consists of the self-indication of physical objects and reciprocal expectations which actors hold with regard to their intentions, needs, motives, goals, and strategies. According to Mead's concept of identity formation it is the ability of an actor to take the position of the other and to form expectations about his attitudes which renders cooperation possible. Action can only be reciprocally oriented because of the ability of role taking. "If we are to cooperate successfully with others, we must in some manner get their ongoing acts into ourselves to make the common act come off" (Mead 1964: 279). To conceive of action as intersubjectively constituted in role taking offers an explanation for the anthropological presuppositions for coordinated social acts. But it does in addition to this also shed light on the question how a person comes to believe that his advance move will not be exploited. In the process of role taking it is not the case that an individual consciousness contemplates

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comprise a human society are set to follow fixed and established channels is a sheer gratuitous assumption.".

[19] Following Harald Wenzel (1999: 364), trust can be interpreted as a routinizing mechanism which enhances rationality by increasing the likelihood of cooperation.

[20] This stands in contrast to economic notions of trust. That trust cannot be a useful category in rational actor theory, precisely for its inherently non-calculative character, has been shown most clearly by Oliver Williamson (1993).

monologically on the possible reactions of an external object world (be it material or social) from which it is otherwise divorced. Instead, the dialogical processes through which the actor makes the world intelligible is itself socially shaped by the representation of expectations from other actors. This is reflected in Mead's notion of social control which states that the reaction of an actor is guided by his reflection on the attitude of the group (Mead 1964: 290). In this perspective, goals but also strategies, have their origin not in the isolated individual consciousness but reflect the individual's interpretation of expectations of the group. These expectations form "constitutive expectancies" for actors which pattern a cognitive and practical background for decisions. The emergence of such constituent expectancies can be pictured as a process in which continued communication leads to their constitution and reinforcement: "The economic process is one which brings groups inevitably closer together through the process of communication which involves participation" (Mead 1974 [1934]: 295f). Constitutive expectancies are created and reinforced in social action and supply a basis on which actors can increasingly generalize the expectation of reciprocity of action. The "rules of the game" or the "generalized other" refer to a common basis in the situation which makes trust partly independent from intimate knowledge of the person we trust. We can trust a stranger (Wenzel 1998: 359ff). The generalized expectations predispose the decision on cooperation from a social horizon without assuming the elimination of contingency inherent in the situation. The expectations are anchored in culturally or institutionally rooted understandings but also in power asymmetries between actors. In fact, economic theory itself can be seen as important part of this social horizon, shaping expectations and actions of actors in economic contexts.[21]

The importance of constitutive expectancies as the basis for trust is also articulated in the work of Harold Garfinkel. For Garfinkel constitutive expectancies provide the basis for a common understanding of the situation and what the situation demands in terms of legitimate behavior. The expectation that others act according to the rules Garfinkel defines as trust. Trust means that a player "takes for granted the basic rules of the game as a definition of his situation, and that means of course as a definition of his relationships to others" (Garfinkel 1963: 194). Trust is communicated by complying to the rules of the game. However, since actors act individually it is never excluded that they violate

[21] See for this point also Marie-France Garcia's (1986) study on the transformation of the strawberry market in the Sologne region of France.

expectations through defection. Uncertainty will be an ever present feature of cooperation as long as actors do not have effective control over each others decisions.

This lack of effective control, the freedom of alter ego to chose a non-cooperative strategy, creates a fragility in cooperative relations which makes their implosion an ever present possibility on the actors horizon. How can trust be maintained despite this threat? As becomes apparent from the discussion of Mead, the creation and sustenance of constitutive expectancies crucially depend on participation and communication of actors. Trust needs a constant reinforcement in communicative acts.[22] The notion that trust depends on communication can be found in several discussions of trust (Coleman 1990; Luhmann 1968 a; Gambetta 1988) but it has been developed most strongly by Anthony Giddens (1991a; 1994). Giddens emphasizes the necessity for communicative reassurance of trustworthiness once institutions and social interaction have been disembedded from traditional contexts. "Trust has to be won and actively sustained; and this now ordinarily presumes a process of mutual narratives and emotional disclosure. An ‘opening out’ to the other is condition of the development of a stable tie - save where traditional patterns are for one reason or the other reimposed, or where emotional dependencies or compulsions exist" (Giddens 1994: 187).

The need for communicative reinforcement of trustworthiness holds also true for trust in abstract expert systems which represent the characteristic units on which trust is placed in modern societies. Be it banks, law-firms or airplanes - trust is not placed on individuals but on systems. Again actors are confronted with principal-agent problems: They cannot judge whether the bank will be cautious in its lending policies so it will be able to repay the money five years from now; whether the lawyer is interested in winning the case or getting the money; and whether the airline puts profits over security. Expert systems signal trustworthiness through communicative performances of their representatives at

[22] This goes beyond Garfinkel's (1963) crucial point, to explain stable patterns of interaction from the existential threat that actors experience once constitutive rules are violated. The surprise of the breaching experiments which Harold Garfinkel and his students conducted in the 1960s was not only the perplexed reactions of the subjects of the experiments but rather their stoic attempts to define the situation as normal. To continue to be able to interpret a situation as normal, even under the stress of great disturbances, seems to be a dominant feature of social interaction because the loss of "ontological security" shall be prevented by all means. The emphasis on communication for the maintenance of cooperative relations points more to the attraction of ritual encounters (Durkheim, Goffman, Collins) for actors which derives from the emotional endorsement actors experience from successful cooperation.

entrance points (Giddens 1991b: 85).[23] This is done for instance through marketing activities of banks, reassurances in personal conversations with the lawyer, or the openly shown confidence of flight attendants before take-off. The performative self-portrayal "on stage" (Goffman) reassures actors in their trust and prevents the implosion of cooperative relations; uncertainty is transformed in a state of confidence. This anchors decisions to cooperate firmly in the communicative structure of the situation itself. It rejects a model of action which sees the decision on cooperation as a calculative contemplation or as the application of externally determined values.

The ability to induce cooperation can be seen as the crucial social skill of strategic actors and as an important prerequisite for the emergence of stable social fields (Fligstein 1997: 33ff). One way of communicating trust is the credible demonstration of one's own interest in the cooperative relation. The effective communication of interest in a continuing relationship between principal and agent ("We hope to see you again!") or credible threats in the case of defection can be means to stabilize cooperation.[24] But, contrary to economic reasoning, what is socially relevant is not an objective rational calculus but the credible communication of the agent's interest in cooperation. This point implies that in complex situations the calculation of the agent might have little to do with the real risks of the situation but be nevertheless decisive for the agent's decision. Risks can be overstated or underestimated. Risk assessments should be analyzed as social constructions which result from the actor's understanding of the situation which is the result of interpretation and

[23] In addition, cooperation is enhanced by supportive structures on the institutional level. Unclear constitutive expectancies and doubts on the accuracy of the self-portrayal of actors and expert-systems can be counteracted by institutional safeguards such as product warranties or the legal system. These institutions take the role of substitute-trustees which serve as functional equivalents. They relieve actors from having to trust the self-portrayal of the trustee himself. However, the institutions themselves have to engage in activities of self-portrayal to create the belief in their effectiveness. Warranties have to be communicated to the consumer to decrease the subjective perception of risk associated with the purchasing decision. Rating agencies make investment decisions possible even if the potential investor does not trust the information of the company on the value of their issued bonds. But only if the rating agencies are able to communicate their disinterested neutrality can they maintain a position as reference points for investment decisions. Institutional safeguards add a higher order level to constitutive expectancies and performances of self-portrayal. They can thereby substitute for a successful communication of trust of the player with whom cooperation takes place. But they do not add any new mechanisms. There have to be constitutive expectancies in the trustworthiness of the institution and this trustworthiness has to be continuously communicated successfully to prevent cooperative relations from implosion.

[24] The communication of interests is not the only way to maintain cooperative relations effectively. The credible communication of commitment to moral values or the claim of having no self-interest in the outcome can be effective alternatives.

principally open to beliefs and manipulation. It is the social construction of risk assessment which can make a person believe that a one sided advance move will not be exploited, but this assessment must not be rational in the sense of calculative economic reasoning. Cooperation is based on the interpretation of situations and the capability of social actors, expert systems, and institutions (the legal system, product warranties) to enhance cooperation inducing interpretations which provide constitutive expectancies for social interaction. The need for a continuous process of communication of trustworthiness for the maintenance of cooperation enhancing expectancies reflects the inescapable uncertainty inherent in principal-agent situations.

4.2. Innovation

Innovation is the second economic activity which shall be discussed from the background of the sketched action-theory. Innovation, like cooperation, is confronted with the problem of uncertainty but it is so in an even more profound sense. In the case of cooperation we can calculate pay-offs from envisioned cooperation but are uncertain with regard to the strategic moves of other players and their influence on the pay-offs. In the case of innovation we are confronted with a paradox in regard to the dimension of ends themselves: We could only devise optimal strategies for activities directed towards innovations if we already knew at the outset what the innovation is. But if we know what the innovation is, there is no need for innovation anymore.

This paradox leads to two related questions. The first refers to the optimal level of investment that should be allocated for activities in research and development. If we do not know what the pay-off in the investment is because we don't know the innovation already at the outset it is not possible to decide on an optimal amount of resources for research and development (Arrow 1985). The second question, which will be discussed here, refers to the actual understanding of processes of innovative activities. If in the process of innovation the goal is not clear at the outset it becomes impossible to understand innovative activity as a rational choice between alternative means to achieve a preconceived end.

Joseph Schumpeter is clearly the economist who showed, as early as at the beginning of the 20th century, a profound understanding of the limits of the rational actor model in explaining innovations and for the need for an alternative action-theory. His distinction between the social types "manager" and "entrepreneur", introduced in his book Theory of Economic Development (1952 [1911]), proposes a bifurcation of action-theory

for economics. Managerial behavior is characterized by routine following and rational calculation. It can be described within the framework of the rational actor model. Entrepreneurial behavior, however, goes beyond these narrow defines and cannot be understood as rational maximizing of utility. The entrepreneur takes unusual tracks, goes beyond a narrow type of calculation and has primarily not pecuniary motives for his activities but the will to found a private empire, the will to victory, and the joy to create (Schumpeter 1952: 138). In a text from the 1940s Schumpeter (1991) takes up this differentiation of action-theory and distinguishes between creative response and adaptive response. One characteristic of creative response is "that it cannot be predicted from the preexisting facts together with the ordinary rules of inference" (ibid.: 411). The second dimension of creative response emphasizes that this mode of behavior has something to do with "individual decisions, actions, patterns of behavior" (ibid.: 412). This suggests that Schumpeter combined his insight into the shortcoming of the rational actor model for the understanding of innovation with the demand to find foundations for a theory of innovation through the investigation of actual entrepreneurial activities. Schumpeter himself, however, falls short of providing a positive alternative to rational actor theory. I want to make use of Schumpeter's insight that the development of a superior action-theory for the understanding of innovations should proceed from studies of the actual behavior of innovators. To this end I will briefly discuss findings of studies on design activities.

Empirical studies of design-research investigate the concrete activities involved in technical innovations. Design, which includes not only the activities of industrial engineers but also of product designers and architects, among others, is broadly defined as "changing existing situations into preferred ones" (Simon 1981: 129). Conceptualizations which proceed from the background of the teleological model of action see design processes as starting with the setting of goals which provide a comparative standard for the evaluation of different means, i.e. the suggested solutions to the problem. This rational approach to design is, among others, proposed by Herbert Simon who suggests to extend the optimizing method to design problems where possible. If the parameters for optimization are not available, or where calculation is too demanding, the task consists in finding computational techniques which allow the identification of an alternative which satisfies "all the design criteria" (Simon 1981: 140). One crucial methodological instrument for the teleological conceptualization of design processes is the notion of a plan that is structured in several independent phases and guides the activities of the designer. At the beginning stands the

identification of the task at hand and the definition of ends. In the next step the designer is asked to design a new system on the basis of the understanding of the existing one. The following step demands the actual construction of the new system which will be implemented in the last step (Glock 1997). The logic of phase models follows a top-down problem decomposition (Davies/Castell 1992: 383). There are, of course, more or less sophisticated phase models but they all come together in subscribing to a teleological interpretation of design-processes, in which the cognitively recognized end-stage directs the intentional activity of the designer.

This understanding of innovation has been fiercely criticized on the basis of empirical studies of actual design processes. Donald Schön (1983: 47) has remarked that the understanding of innovation as an optimizing problem would presuppose that the task of innovation could be articulated as a well-formed instrumental problem. This is, however, not the case because "design processes are inherently ill-defined, and as such possess poorly specified initial conditions, allowable operations and goals" (Eckersley 1988: 87). At the beginning of a design process ends are unspecified and unclear. Empirical studies indicate that ends are developed in the process of invention and become entirely clear only when the innovation process has been completed. As Schön (1983: 68) has argued: The designer "does not keep means and ends separate, but defines them interactively as he frames the problematic situation. He does not separate thinking from doing, rationating his way to the decision which he must later convert to action." Other empirical studies confirm this view. Karin Knorr-Cetina (1984) has found that scientists define their research problem not at the outset but from a solution in sight and Eckersley (1988: 93) comes to the result, from a study of interior designers, that "goals and strategies were generated as needed and not just in initial stages of problem-solving." These findings coincide with John Dewey's concept of "ends-in-view" according to which ends are loosely defined action-plans that structure current action on the basis of the perception of the situation (Joas 1996: 155). Ends-in-view are formed and revised in the action process itself and become more precise with the better understanding of the problem and the means for its solution. Ideas, plans, and theories get continuously revised with the new experiences which are gathered in the innovation-process. Ends "are alive and active only as they exhibit continuous interplay with the means that are devised and tested in order to secure them" (Hickman 1992: 12).

The formation and clarification of goals in innovation has been described as a dialogue (Schön 1983) between the designer and the situation in which at the beginning

only vaguely understood problems and solutions become clearer until a solution has been reached. This interactionist description of innovation finds a theoretical backing in Mead's discussion of instrumental action. For Mead the way of appropriation of physical objects is not so distinct from communication with other actors. As in social interaction, the relationship to physical objects demands the actor to take the role of that object. The designer has to indicate to himself expected characteristics of the object. For example that a brick stone has a certain weight. By indicating these expectations he takes the role of the object and anticipates its "reaction". The actual lifting of the brick stone will either confirm the expectation or create a surprise if it is much lighter or much heavier than expected. Then the relationship to the physical object will change. Mead gives the example of a technician who constructs a bridge: "An engineer who is constructing a bridge is talking to nature in the same sense that we talk to an engineer. There are stresses and strains there which he meets, and nature comes back with other responses that have to be met in another way. In his thinking he is taking the attitude of physical things. He is talking to nature and nature is replying to him. Nature is intelligent in the sense that there are certain responses of nature toward our action which we can present and which we can reply to, and which become different when we have replied. It is a change we can then answer to, and we finally reach a point at which we can co-operate with nature" (Mead 1974 [1934]: 185).

The design activity itself becomes, especially for experienced engineers, a largely routinized process in which intuition, every-day-knowledge, routines and experience play a crucial role. Empirical design studies show that designers solve problems from a background of "unreflected routines" (Joas). This knowing-in action (Schön 1983) is rooted in implicit understandings of the situation which form the basis of intentionality of the designer's action. It contributes to the constitution of a specific course of action upon which the actor usually does not reflect. "As long as his [the designer's] practice is stable, in the sense that it brings him the same types of cases, he becomes less and less subject to surprise. His knowing-in-practice tends to become increasingly tacit, spontaneous, and automatic, thereby conferring him and his clients the benefits of specialization" (Schön 1983: 60). This pre-reflective understanding of design problems also explains the empirical finding that designers verbalize their activities often only very poorly. Moreover, the narrative they give frequently takes the form of a *post actum* rationalization which has relatively little correspondence to the actual proceedings in the innovation-process itself (Davies and Castell 1992). The importance of unreflected routines demonstrates that the contingency of

innovations is not reduced by the telos of action but by the meaning the situation achieves for the actor. This does not imply that actors do not pursue goals, but envisioned solutions to problems cannot be understood independently from the pre-reflected context in which actors act.

It would be misleading, however, to think of design processes as entirely routinized. The anticipation of the reaction of a physical object might be inaccurate and its actual characteristics might be different from the designer's expectations. The reactions of new artifacts or newly discovered objects are either not or only partly known. Moreover, to be stuck in routines inhibits the creativity of innovators (Schön 1983: 60f). The discrepancy between the perception of a problem in a situation and those solutions which are offered by routines blocks the unreflected continuation of action. The routinized action-flow will be interrupted and designers are forced into what Donald Schön (1983) has termed "reflection-in-action", a reflective mode which corresponds to John Dewey's notion of reconstruction. This reflective mode leads actors into an experimental "conversation" with the indicated physical objects ("the situation") until the inquiry has lead to a new line of action - a solution to the problem. If one understands innovations as taking place in complex situations and under conditions of uncertainty, the process of reflection-in-action cannot be depicted as a rational deliberation about means based on known ends. Instead the "conversation" with the situation is based on the meaning given to objects in interpretations. For this the designer takes the role of the object. At the same time he perceives of the characteristics and possible applications of the physical object from the background of the representation of the generalized other. The generalized other can be seen as a frame through which the situation is conceived and structured. This includes not only general knowledge on the characteristics of physical objects but also value judgments. It is this expectational background which structures the situation for the innovator. He can experiment in a "quasi dialogue" (Böhler) with the problem until he has made a discovery which qualifies as a solution. In pragmatist terms this solution is intersubjectively created since the generalized other, i.e. the expectational background, is always socially constituted.

With the notion of reconstruction the pragmatist conceptualization of innovation can find a connection to macroinstitutional structures and to management concepts. The market can be understood as an institutional device which blocks routine activities by providing incentives for innovations and punishment for stagnation in routines. Falling sales figures for a product are a market signal which indicates that the product in its present form is not a

solution anymore to the problem of generating profits. Reflection sets in how to change the product or its marketing until a solution has been found from which the company expects success. The solution is formed from the background of the participants interpretation of the situation. This interpretation, though generally justified in terms of instrumental calculus, does reflect constitutive expectancies which, in complex and uncertain environments, only accidentally reflect actual causal relations.

Management techniques for the inducement of innovations can also be analyzed as institutionalized devices to block routine activities: Benchmarking is the intentional confrontation with alternative ways of doing something. The effect is the questioning of routines. Teams with members from a plurality of backgrounds challenge interpretations of the situation by exposing them to alternative interpretations (von Pierer 1997: 140). Learning by monitoring (Sabel 1995) describes an organizational form in which design goals are reached in a constant process of comparison and modification. "The method of disciplined comparison that defines the core of the new firm can thus be seen as an institutionalization of practical reason: a pragmatic method of economic coordination" (Sabel 1995: 27). Scientific research itself can be understood as the intentional creation of crisis by means of asking questions (Oevermann 1991: 325). The interruption of routine processes forces actors to reflection-in-action.

5. Embeddedness and economic action

To argue that a sociological theory of economic action should proceed from the actor's interpretation of the situation provides a microfoundation for the understanding of economic action but yet leaves out structural features like social structure, power, and culture. By structure I refer here, with Giddens, to factors involved in the overall institutional alignment of society that stretch across time and space. The main trait of economic sociology, which is also followed here, is that economic action has to be understood as being contingent on its embeddedness. From this background it would be inappropriate to focus on the interpretative aspects of action but leave out structural properties which influence the action process. The suggested approach to economic action does not imply this. It does imply, however, that structure can only manifest itself in action and that structure in order to manifest itself in action has to go through the interpretation of actors. Structural patterns have to be enacted in practical interaction. This proposes that

action cannot be determined by structure and thereby become marginalized as a mere epiphenomenon.[25]

What needs clarification is the connection between the structural level of embeddedness on the one hand and the presented above microfoundation of economic action on the other. This does not refer to the fact that many actions have to be seen as rooted in habits or routines, which is crucial for the understanding of action, but does not yet theorize the connection between the structural level of embeddedness and concrete decision processes. It is also not meant that action regularly has unintended consequences. Instead it shall be theorized how to understand the interpretation of situations as being patterned by social structures. Only if this is achieved can we reach a theoretical conceptualization which integrates embeddedness and individual action.

While the notions 'generalized other' and 'constitutive expectancies' indicate on an abstract conceptual level how structural features enter interpretative processes the connection to new economic sociology needs to integrate the notion of embeddedness at a more concrete reference level. For developing the argument in this section I will draw on the distinction introduced by Zukin and DiMaggio (1990) between social structural, cultural, political, and cognitive embeddedness. However, I will not discuss the category of cognitive embeddedness separately because the mental structures producing systematic distortions and limitations in our cognition seem to operate independent from the mind processes which underly action in the pragmatist understanding. [26]

5.1 Social embeddedness

Social embeddedness refers to networks of social interaction in which action takes place. For new economic sociology the analysis of social embeddedness has been at the center of the concept of embeddedness ever since Mark Granovetter's seminal article on Social Structure and Economic Action (1985). The basic insight of network analysis has been that the structure of relations between actors is of crucial importance for the

[25] This position finds support in the pragmatist understanding of the role of structures as expressed by Herbert Blumer: "Structural features, such as 'culture,' 'social systems,' 'social stratification,' or 'social roles,' set conditions for their action but do not determine their action. ... Social organization enters into action only to the extent to which it shapes situations in which people act, and to the extent to which it supplies fixed sets of symbols which people use in interpreting their situations" (Blumer 1969: 88).

[26] That the structures of mental processes are crucial for the explanation of economic behavior finds more recognition recently through the findings from

explanation of economic outcomes. Emirbayer and Goodwin (1994) speak of an "anticategorical imperative" by which they mean that human behavior and social processes should not be explained in terms of common attributes of actors such as social status or normative beliefs but instead with regard to patterns of relations among them. Network theory has been the source for impressive work not only in economic sociology (Burt 1992; Granovetter 1995; Uzzi 1997; White 1981) but has also been put to use in historical sociology (Rosenthal et al. 1985; Padgett/Ansell 1993; Collins 1998) and political sociology (McAdam 1986).

The emphasis on the importance of social relations for the explanation of outcomes seems to stand in a "family resemblance" to the pragmatist theory of the self which points to the self-indication of the attitudes of actors in their social surrounding as the basis for action and is thereby fundamentally relational. For the pragmatist this confers a crucial role upon the actor who has to interpret the social expectations (including the opportunities and constraints) of his surrounding. In deviation from this premise influential variants of network theory offer structural explanations which leave little space for the role actors play in the enactment of the positions they occupy: "Network analysis all too often denies in practice the crucial notion that social structure, culture, and human agency presuppose one another; it either neglects or inadequately conceptualizes the crucial dimension of subjective meaning and motivation - including the normative commitments of actors - and thereby fails to show exactly how it is that intentional, creative human action serves in part to constitute those very social networks that so powerfully constrain actors in turn" (Emirbayer/Goodwin 1994: 1413).

To be coherently connected to the action-theory advanced in this article, social embeddedness must be conceptualized in a way that does not neglect the constitutive significance of agency for the explanation of social outcomes. Among theoretical statements on network theory Harrison White's book Identity and Control (1992) gives interpretation a constitutive role for the construction of social structure.[27] Although far from clear in its presentation, as has been remarked by almost all reviewers of the book, White argues that ties and networks are phenomenological constructs which emerge from narratives. Actors are engaged in control projects, i.e. they take on activities to influence events. The

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the expanding field of behavioral finance. See for instance Thaler (1993, 1994).

[27] Indeed, in the discussion of Identity and Control it has been remarked that the book is "an attempt to write the analysis of social structure that is implicit in Mead's theory of the self" (Abbott 1994: 897).

interventions open new ways of social organization by blocking existing network structures with their positions and characteristic boundaries. This creates a constant struggle between actors in competitive control projects which in turn also forms their identity. By identity White refers to the dispositions and control strategies which are recognized by others and thereby become part of the social situation. Hence identities also influence control projects. While this notion of identity does not yet introduce agency into the theory it clearly departs from rational actor theory by seeing dispositions as result of a social process.

Social structure emerges from social interaction as a constantly contested dynamic equilibrium. It is expressed in recurrent interactions which can be observed as patterns. Through institutionalization these patterns can achieve relative stability. For White, however, the reality of social structure is not independent from its observation. Actors only know about what is happening through accounts of their action and the action of others which are given in reports. It is through these narratives, which accumulate as sets of stories and create patterns, that networks can be identified. According to White networks have stories as their only indication (White 1992: 68), an argument which is directly linked to the problem of complexity. In an example of industry construction White argues that ties in an industry (contracts and cooperation) are so complex that there are a multiplicity of possible perceptions of the structure of the network. It is through the specific account of ties in stories that control is established. Social structures are conceived of as processes which gain stability through their reproduction in narratives.

White attempts to open a path for connecting social structure to interpretation. Quite clearly he distances himself from structural determinist network theories: "Until now, network constructs have lain undigested, increasingly indispensable for phenomenological insight" (White 1992: 65). This opening of network theory to the concept of interpretation connects White's structural theory of action to the pragmatist notion of action. However, judged from the pragmatist concept of non-teleological intentionality White's structural theory of action yet falls short of providing space for the intentionality of action. As Christopher Prendergast (1997: 14) has argued in an excellent critical assessment of Identity and Control, White reabsorbs agency into structure through the media of identity. Identities are shaped by stories and accounts but they "do not act, any more than do roles or positions, which is why it sounds so odd to hear 'identity' used as the subject of sentence" (ibid.: 15). Thus, to be reconcilable with pragmatism, White's structural theory of action must yet be developed in a way that gives a prominent role not only to narratives but also to

the creative and constitutive role of actors in the interpretation and construction of the story-sets which constitute social structure.

5.2 Political embeddedness

The notion of political embeddedness refers to power asymmetries between actors and their consequences. Zukin and DiMaggio (1990: 20) define political embeddedness as "the sources and means of economic action that reflect inequalities of power." Power asymmetries derive from legal frameworks, including property rights and collective bargaining systems, unequal distribution of resources (money, technology, information) but also from social legitimacy. On the level of actors, power is a mechanism which gives the power-holder control over relevant activities of other actors by allowing to enforce compliance (Weber 1985). For the conceptual connection between political embeddedness and economic action it has to be clarified how power asymmetries actually influence social interaction in economic contexts.

The most general point here is that the power holder can set standards which narrow the contingency of possible interpretations of the situation by inflicting costs on deviant actions. Conversely, gratification is granted for compliance with set standards. By controlling resources of need satisfaction whose availability for other actors depends on rule following the power-holder can exercise control over interpretative performances of other actors. The most sophisticated microsociology of power has been developed by Randall Collins (1975; 1987; 1993) based on the notion of power rituals. According to Collins (1993) people seek in interactions not primarily to increase their economic utility but to enhance their emotional well being, i.e. they seek to achieve a condition of high self-esteem, enthusiasm, and good feeling. The unequally distributed resources are cultural capital and emotional energy. Depending on their access possibilities and their position in interaction rituals actors have unequally distributed opportunities to increase their resources in these ritual encounters. The persons who are dominated in conversational encounters or who are excluded from informal membership lose emotional energy. In hierarchical relationships of organizations, for instance, the order givers receive more emotional energy than the order takers from the interaction (Kemper/Collins 1990: 54). The distribution of cultural capital and emotional energy decides on the definition of the situation in future interaction rituals. It decides which symbols and classifications are relevant for the interaction and gives divergent perspectives to participants which manifest themselves for instance in different

orientations toward deviance and punishment.[28] "Underlying the manifest content of conversations is a continual negotiation about one's social membership" (Collins 1987: 198). The most important way in which power is enacted in interactions is, according to Collins, by means of property. Structural position is symbolized in interactions through the appropriation of physical space whose structuring is based on possession. To appropriate office space, desks, or keys gives "signs that one belongs there and that others do not" (Collins 1987: 203). In organizations, right to space but also other enactments of property (for instance to decide who gets paid) symbolize the structure of power which causes the typical and repetitive character of role distribution (position) in interactions. By being able to define repetitive interactions, actors effectively control the interpretation of a situation and unintentionally reproduce the unequal distribution of resources which can be observed on the macro-level as stable patterns of power. The level of political embeddedness is connected in a structured way to the actual encounters of actors and their definition of the situation.

This does not mean, however, that definitions of future encounters are fixed by the distribution of resources. For Collins conversations are "emergent situations": "We should not simply [...] declare that social roles, previously acquired, determine most of subsequent behavior. The 'role' of being a boss, a worker, an expert, and so on is neither merely given nor encoded as a script to which everyone passively adheres. It is something enacted, and not without struggle" (Collins 1987: 202). This corresponds with the findings from work done in the symbolic interactionist tradition which points out that the roles which constitute social order are open to continuos negotiations (Strauss 1963; 1979). The explanation for the fluidity of structure alludes to the necessarily contested character of goals, strategies, and division of labor in organizations due to complexity, different interpretation of norms, and divergent interests. Hence, the role of power as a crucial structural element in economic action does not imply a determination of social interactions. It reaffirms in a more complete and encompassing theoretical conceptualization the significance which interpretations of the situation have for the explanation of outcomes.

5. 3 Cultural embeddedness

[28] This argument coincides with Bourdieu's (1984) notion of classification struggles.

Cultural embeddedness refers to "the role of shared collective understandings in shaping economic strategies and goals" (Zukin/DiMaggio 1990: 17). The influence of culture on economic action stands as the most luminous of the three types of embeddedness but at the same time as the one most difficult to operationalize. After all, few people would deny that systems of shared meaning do influence actors goals and strategies in economic action but to localize exactly how culture influences economic action seems to be especially hard. Culture can be an explanation for almost everything but identifying cultural effects precisely is tremendously difficult.[29]

Parts of this problem could be not just methodological but also stem from theoretical reasons if it turns out that the relationship between cultural embeddedness and action is much more contingent than conceptualized by the influential sociological tradition for which Talcott Parsons stands and which sees symbolic meaning structures and value patterns as having a determining influence on action. Although Parsons' theoretical conceptualization is intended to be multidimensional, it is little disputed, even by defenders of the Parsonian tradition, that Parsons brings within his theoretical schemes the cultural system in a privileged position which is at least in danger to ultimately suggest a determining influence of the shared value system on action (Alexander 1987; 1988). The Parsonian conceptualization of culture which emphasizes the shaping of action through the provision of ultimate ends, has been object of fierce critique in sociology (Garfinkel 1967, Wrong 1961) and is incompatible with a theoretical conceptualization of economic action that proceeds from the interpretative acts of actors. The issue at stake is not so much the ideological question as to how much choice there is in decision making (Collins 1992) but the fact that the Parsonian value concept provides an only incomplete notion of action. The reason for this is, as Harold Garfinkel has argued, that values can only be points of orientation for action but they are much too abstract to steer concrete social interaction (Garfinkel 1967). This observation has been the point of departure for Garfinkel to get interested in studying the microprocesses of social interaction and the mechanisms by which actors make their actions accountable (Mayrl 1977: 270; Wenzel 1998: 348). >From the perspective of economic sociology this finding can be read as an acknowledgment that preferences - or: tastes - cannot determine action, either because the preference ordering is

[29] For an excellent overview on the issue of culture and economy see DiMaggio (1994).

not transitive or because preferences cannot be translated unambiguously into scripts for action.

This suggests to think of cultural embeddedness as influencing economic action in a more contingent way which focuses on the interpretation of symbolic meaning structures in concrete interactions. This proposal has been elaborated by Ann Swidler in her celebrated article Culture in Action: Symbols and Strategies (1986). According to Swidler the influence of culture on action cannot be understood as deriving from the cultural determination of ends. This is a perspective which we are lured into "because of the intuitive plausibility in our own culture of the assumption that all action is ultimately governed by some means-ends schema" (Swidler 1986: 274). The value perspective of action coincides with the rational actor approach in that both view action as constructed new at a time, either based on values or based on interests. The alternative suggested by Swidler sees the significance of culture rather "in providing cultural components that are used to construct strategies of action" (Swidler 1986: 273). This means that action should not be explained by reference to values (or interests) but rather based on cultural competence of actors which is manifested in culturally-shaped skills, habits, and styles. These "strategies of action" help to organize action into relatively stable and enduring patterns which can prevail even if ends change.[30] To change established strategies, which take a status of being taken for granted, involves high cognitive costs, hence established strategies have a tendency to endure. This concept of the relevance of culture in economic action emphasizes its constitutive role in providing cognitive classifications, while the evaluative role of culture has little significance in it.[31]

In the constitutive view of culture the cultural repertoire on which actors draw for their strategies of action does not have a deterministic influence because cultures "contain diverse, often conflicting symbols, rituals, stories, and guides to action" (Swidler 1986: 277). Culture is like a "tool kit" from which "actors select differing pieces for constructing

[30] Hamilton and Biggart (1992: 182) provide a good example for this understanding of the role of culture in the economic context of organizational structures in Asian countries: "Organizational practices...represent strategies of control that serve to legitimate structures of command and often employ cultural understandings in doing so. Such practices are not randomly developed but rather fashioned out of preexisting interactional patterns, which in many cases date to pre-industrial times."

[31] Swidler does not deny the role of values for action altogether, but demands a fundamental shift in emphasis: "We can thus recognize the significance of values, if we acknowledge that values do not shape action by defining its ends, but rather fine-tune the regulation of action within established ways of life" (Swidler 1986: 282).

lines of action" (ibid.).[32] Cultural embeddedness thus understood seems to provide an account for the influence of shared meaning on economic action which is simultaneously not deterministic and breaks with the means-ends schema which forms the basis of the value approach to culture. Actors draw on symbols, styles, or rituals to develop strategies of action but do so in situationally contextualized interpretative acts. This leads, at least in relatively stable situations, to the only loose coupling between culture and action.[33]

6. Conclusion

This article proceeded from the observation that the focus on the notion of embeddedness has lead economic sociology to pass over the question of the foundation in action-theory from which to understand economic action. A sociological conceptualization of economic action cannot simply appropriate the rational actor model. The reason for this is, as has been argued, that the complexity and novelty which actors encounter limits the possibility to think of economic action as a rationally calculated choice between means (strategies) for the achievement of pre-set goals. An alternative to the teleological model of action has been sketched on the basis of pragmatist concepts and applied to the understanding of cooperation and innovation. From this model it can be seen how strategies are constructed from actors' interpretation of their social context and how the understanding of rationality is based on interpretation of expectations from the social group.

Pragmatism is a general theory and as such not limited to a single social realm. Its application to action in economic contexts does imply specifications. The intentionality of actors is predominantly directed towards the achievement of efficient solutions. The tentative process of defining strategies, i.e.chosing means and ends, takes place within the confines of this general orientation. Moreover, in the modern economy, more than in any other social realm, actors are confronted with social mechanisms which destroy routines and make reconstruction of interrupted action flows a permanent task to be fulfilled. In addition, the embeddedness of action in the economy takes specific forms, distinct from

[32] This corresponds also to aspects of Mead's discussion of physical objects. Objects have an indefinite number of ways of using them which compete with each other. The selection of one way of using them makes it necessary to repress all the others without eliminating them in their existence. See Mead (1987, Vol.2: 233ff).

[33] However, in unsettled periods, the role of culture in shaping strategies becomes more direct. Culture in the form of ideologies then shapes action in a highly conscious way and reduces the contingencies inherent in the situation (ibid.: 280).

embeddedness of action in other social realms. Power enters predominantly in the form of access or threat of denial of access to resources but not as a threat to personal punishment. Culture enters through specific classification systems which are distinct from classifications in other social realms. Economic theories are such classification systems which influence the definition of the situation in economic contexts but not (or only more limited) in the polity or the family. Such specifications give further structure to the pragmatist model of action in its application to the economy.

The purpose of introducing the pragmatist theory of action is not to substitute for the notion of embeddedness but to complement economic sociology on one crucial conceptual level. Pragmatism could offer the integration of sociological action-theory on the one hand with the concept of embeddedness on the other. This allows to see how embeddedness of economic action is enacted and shaped in the action process itself without loosing sight of the structuring influences from the "environments of action" (Alexander). Possibilities to connect the notion of embeddedness with the advanced theoretical model have been outlined in the last section of the article. The suggestion is not that economic sociology should proceed as a microsociology. But the systematic connection between micro- and macrolevel should enhance the explanatory scope of a sociological understanding of the economy and shed light on what is may be most needed for the advancement of the sociological understanding of economic processes: an alternative (and not just a critique) to the rational actor model.

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