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REVIEW SYMPOSIUM

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The uses of uncertainty

Akos Rona-Tas*

Department of Sociology, University of California, San Diego, CA, USA

**Correspondence: aronatas@ucsd.edu*

Throughout his career, David Stark has always been attracted to novelty. He has studied organizations at their early stage while they were still riding the wave of the future. In two and a half decades, he caught three big historical waves: the disintegration of communism, the rise of the Internet and the financialization of the world.

These three waves set the stage for his rich and engaging book. His theory is developed from three ethnographies he conducted, each with a different collaborator, and published in various forms throughout his career. Each represents one of the waves. The first is a study of a machine tool factory in socialist Hungary in the 1980s, the second explores new media firms in New York's Silicon Alley in the late 1990s, while the third investigates an arbitrage trading room in New York at the turn of the millennium. In these three ethnographies, we visit places, encounter objects, observe organizations and even meet a few people. Through these case studies, we are introduced to a set of intriguing and highly ambitious theoretical insights that are bounced off the details of his fieldwork. The theoretical narrative that builds strongly on American pragmatist philosophy features several connected themes, but just as he disdains hierarchical social organizations that attempt to unify everything within their jurisdictions into a single system, Stark is uninterested in constructing a systematic theory and builds his theoretical contribution through multiple plots. There are a few well-developed characters that reappear again and again such as dissonance, orders of worth, heterarchy, search, inquiry and discovery but there are many concepts and ideas that are given walk-on parts, make only cameo appearances or show up on Stark's intellectual stage simply as extras. Almost all, however, carry valuable and often profound insights and perform in a larger theoretical drama. As a theoretician, Stark is a director and not an engineer. His theory works less as a piece of machinery—the kind of theory to which most economists aspire with strong emphasis on mechanical consistency and parsimonious design—and more as a well-directed play. This is not an incidental characteristic of his theorizing but stands at the very heart of what he sets out to accomplish. Form follows content: Stark wants to explain the creative force of dissonance, and although he writes with great analytic clarity, the last thing he would want to do is to hand us a round, smooth theory with each of its parts carefully harmonized with all the others. Such a theory, Stark would argue, gets in the way of creativity and discovery. Stark's main theoretical message is that our foremost job as sociologists is not to iron out the wrinkles of reality with our theories. Our key task is to see how actors deal with those wrinkles, how they manage what they see as inconsistent, uncertain or incompatible and how that dissonance can force them to come up with new solutions.

Stark claims that dissonance emerges from conflicts among multiple standards of valuation, when one set of principles counsel one path and another, equally dearly held set advises a conflicting course. This opens up a terrain of uncertainty, which demands search, inquiry, discovery and creative entrepreneurship. Dissonance and the resulting uncertainty enable us to act, to break free from Max Weber's iron cage. Good organizations nurture dissonance rather than squash it. This is the advantage of organizational heterarchy, a governance structure designed to accommodate the creative tension among competing principles.

The three ethnographies show in different settings how people must face dissonance by having to reconcile different principles of evaluation ('orders of worth' after Thevenot and Boltanski) and are driven to come up with new solutions. Stark has unusual powers of observation and a feel for subtleties. He writes well and has a unique ability to present social situations commanding, in Michael Polanyi's famous phrase, the 'tacit knowledge' of his subjects. Yet

Stark's ethnographies are not about particular people but about social organizations. We do not get to know any particular individual, not even Farkas, the Hungarian worker who led the enterprise work partnership he formed with his fellow workers in his factory and who is the most detailed character in the book. Stark depicts his subjects with warm respect, but restricts his attention to the work organization. The practical advantages of limiting fieldwork to the confines of the workplace are obvious, but disembedding the enterprise from its broader context also means that Stark must forfeit the study of rich sources of dissonance: those that emerge between the realm of the work organization and other social and institutional domains. For instance, social ties maintained outside work often create a second, informal hierarchy at the workplace (Farkas probably earned his informal leadership position, at least partially, after work and on weekends, socializing with co-workers), or discrepancies between the academic preparation and the job tasks that must be accomplished can be a fertile source of friction (as it was for the quants who invaded Wall Street with advanced degrees in physics and math rather than finance).

Another consequence of his strong organizational focus is that when actors speak, they do so to illustrate a point about the organization. In Stark's ethnographies, in accord with his theoretical stance, it is the social organization, not individuals, that thinks and solves problems. Stark is especially deft at presenting organizational dilemmas, and when he turns over a dilemma, he almost always finds dissonance and conflicting notions of worth teeming underneath.

Because there is more than a decade and a half between the first and the last case, it would be surprising if they were researched and written up exactly the same way. In the oldest piece on the Hungarian factory, dilemmas often remain unresolved. There are miscalculations and failures, and the workers still relate to one another in the story: Farkas, the older skilled worker who was hated by Róka, the unit manager, was replaced by Szabó, a young engineer.

In contrast, the ethnographies of the Silicon Alley new media firm and the arbitrage trading room have fewer edges. Both organizations appear to be wiser, and here Stark uses his empirical material to defend the usefulness and illustrate the beneficial effects of heterarchy, dissonance, abrasion or distributed cognition. In these later pieces, people are linked only through their common employer and anonymously, by their organizational functions. In those cases, we see less of the downsides of dissonance, and only in the last chapter does Stark address the potential costs of friction and disruption.

It is also ironic that all three ethnographies are about worlds that soon after Stark's fieldwork experienced cataclysms. The Hungarian enterprise work partnerships that workers could form at their own workplace disappeared with the dramatic and abrupt end of state socialism, never to return. It was a strange idea after all. Workers were wearing two hats; they worked some of the time as employees and at other times as group contractors doing the same job.

The new media firms were swept away by the burst of the dotcom bubble. Stark quotes extensively from the documents Silicon Alley companies filed upon their initial public offerings with the Securities and Exchanges Commission. Warning investors, the prescient disclosure statements emphasized how risky the operating conditions of these companies were. Indeed, Stark's own research site folded when the market tumbled. Was it not naïve to think that in the long run these businesses could raise millions of dollars with no discernible capital or track record?

Today the arbitrage trading room too must look different than it did before the financial markets collapsed. In the aftermath of the meltdown, we have a different view about the success with which cognitive complexities of financial markets can be processed. Today it seems that many inventions designed to manage loss and uncertainty actually amplified both.

Stark wisely refrains from exploiting hindsight, but one cannot but wonder if there is something that ethnography with its local focus is bound to miss about larger forces. It is possible that the enterprise work partnerships, the new media firms and the securities traders did everything right on the margin. Given that there is a socialist factory where incentives function poorly, enterprise work partnerships are the best response. Once we have irrational expectations on financial markets about a new technology, one should take advantage of them as long as possible. And if one can trade with huge leverage, using other people's money, or in an incentive system where downside risks and upside benefits accrue asymmetrically and trade success is rewarded while failure is not punished to equal extent, the thing to do is what people were doing at the trading room. But should we not also scrutinize those conditions which these actors need to accommodate and also ask how individual adaptations influence those structural conditions?

One can also argue that failure is not the end of the story. A few enterprise work partnerships participated in the privatization of their companies, others trained some of their members to start their own small business. Today, new media is everywhere even if our expectations are now less fanciful, and arbitrageurs will always be with us in one form or another, even if financial markets become more regulated and sedate. Even if the organization disappears, the organizational field survives in some shape.

Moreover, if we take seriously Stark's approach and see the world move because of the dissonance created by competing assessments of worth, we may notice that these objections rest on a single value assumption: market success. Yet there are other benefits that these organizational forms delivered that were less tangible than profit. Enterprise business partnerships and new media firms were popular partly because they increased autonomy at the workplace and allowed their workers to be more creative in solving problems. Traders enjoyed the same benefits together with the addictive arousal and focus that comes with high stakes decisions that are both quick and irreversible. Even if the organization fails, its employees can still benefit. Yet shifting the focus from organizations to organizational fields or to individual employees would require abandoning a strictly organizational approach.

When Stark in his final chapter takes stock of the costs of the entrepreneurial world created by the productive friction of conflicting standards, he acknowledges that relentless search for novelty can result in anxiety and burnout and that many achievements of this innovation are of questionable value. I would add to this other worrisome consequences. The embracing of uncertainty, what Stark calls hyperentrepreneurial capitalism, underwrites the withdrawal of various forms of insurance and protection from a large segment of the population. Forcing people to be entrepreneurial brought among other things the decline in the number of secure jobs, limits on welfare benefits, growth in private pensions and the substitution of private consumption for public goods. Deregulation is especially prolific in creating the exact kind of dissonance that fosters entrepreneurship, as it eliminates laws designed to reconcile competing standards by the power of the state. But regardless of what we think about the limits of entrepreneurship and innovation, with this book we understand better how they happen.

On 'The Sense of Dissonance': innovation, entrepreneurship, and uncertainty

David Dequech *

Institute of Economics, University of Campinas, São Paulo, Brasil

* *Correspondence: dequech@eco.unicamp.br*

1. Introduction

David Stark's *The Sense of Dissonance* (of which three chapters were written each with a different co-author) is an excellent, fascinating and challenging book. I cannot do justice to its richness here. Given the space constraints and my own background and interests, I shall concentrate on just a few of what I take to be the most fundamental issues of the book.

I begin by highlighting four positive aspects of Stark's approach: (a) the emphasis on a combination of the social context of action with uncertainty, cognition, divergence, and innovation; (b) the view of cognition as crucial and going beyond habits and taken-for-granted scripts or beliefs; (c) the prominence of the possible coexistence of different principles of evaluation of worth; (d) the resort to contributions from different approaches, 'borrowing from each while belonging to none' (Stark, 2009, p. 166, n. 6). For the moment, I have intentionally described these important aspects in quite general terms. I can thus, on the one hand, identify them as points of convergence between my own views (e.g. Dequech, 2006, 2009) and Stark's, while noting, on the other hand, that the specific way in which Stark uses some concepts, develops his arguments and builds his topics of study is very original. In its turn, Stark's originality has allowed me both to learn a great deal from his book and to suggest a different perspective on some issues, which I have grouped into two interrelated sets: (a) the possible usefulness of some distinctions and (b) the restrictive character of some of Stark's concepts or propositions. The following sections examine these two sets of issues, respectively, before providing some concluding remarks.

2. Some suggested distinctions

Individuals or groups may employ different evaluative principles, which emphasize different units, dimensions or qualities of measurement (different metrics, as I call them). According to the market principle, for instance, monetary units are used to measure worth. In this sense, market value—as distinct from value in general—can be said to equal price, understood as a number of monetary units, although price may be estimated differently by different agents and thus may be different from the market price, understood as the price prevailing in a market at a certain point in time, when there is such a market. Other principles emphasize different units (at least in ordinal terms), dimensions or qualities. The first distinction I would like to suggest is one between the cases in which the actual coexistence of different evaluative principles occurs without the dominance of a single principle over the others, on the one hand, and the cases in which there is such a dominance, on the other. In the first situation, no evaluative principle is secondary to any other; none of the metrics is superior to the others. There is incommensurability and/or uncertainty about which principle to employ. In contrast, the second situation is such that one principle, with one metric, is the most important or the principal one; any other principle is secondary, and there may be a multiplicity of secondary principles. In my view, this is the situation of two of the empirical cases discussed in *The Sense of Dissonance*: the new media firm and the arbitrage firm. In both cases, I would argue—despite Stark's comments on profitability within the new media firm (2009, p. 106)—that *the market principle*, with monetary units, dominates. There is *uncertainty about how best to pursue the market logic of action*, especially uncertainty about future events and future consequences (measured in terms of the same units: monetary consequences, such as costs, revenues and profits). Within a capitalist firm, there may be agreement on the focus on profits, with possible disagreements on the calculation of expected profits, i.e. different measurements with the same unit: money. There may exist different views on what is worthy in non-market terms and on how to convert non-market worth into expected market worth (monetary units). There is *uncertainty about which of the secondary principles best serves the market logic*, i.e. generates the best results when worth measured by each principle is converted into expected monetary units (market worth).

The second distinction I would like to make is between cases in which different evaluative principles actually coexist within an organization, regarding a specific decision, and cases in which they do not. Sometimes there may be internal agreement about both the primary and the secondary principles. Even so, there may still be uncertainty about future events and consequences in terms of the primary principle. Within capitalist firms, for instance, even when there prevails a single way of employing the market principle and estimating future profits, this is based on limited knowledge about the future.

Even in this case, with different individuals within a firm conceiving the future in a single, shared way, different possibilities must be distinguished: the shared image of the future, with a shared view on how to pursue the profit motive, may be conventional or not. While Stark (2009, p. 184) rightly warns us against the danger of reducing cognition to the taken-for-granted and sees agents as capable of 'reflective cognition', I would add that individuals who actively think about their situations may come up with novel ideas (even when not actually exposed to conflicting principles of evaluation) or not; and they may act in accordance with existing conventions and norms or not.

All this leads to a fourth distinction, between two questions: (a) in what kind of organization is innovation possible and the corresponding uncertainty present? (b) what kind of organizational form best promotes innovativeness? In my opinion, the heterarchical form of organization emphasized by Stark potentially is (and further research may confirm it as) a much more compelling general answer to the second question than to the first. Can firms without Stark's kind of internal dissonance innovate? Do they innovate? To a large degree, these are empirical questions, but in principle the answer may be yes. If so, these organizations also face the kind of uncertainty inevitably involved in considering the introduction of an innovation. Perhaps internal agreement about how to pursue an objective is easier to achieve in small organizations, but in principle they also seem capable of innovating.[1] In reality there seem to exist several examples of firms that introduced important innovations at a time when they were quite small and possibly non-heterarchical, even if afterwards their success in doing so transformed them into larger companies. Creativity and innovation might be better stimulated and more frequent in heterarchical organizations, but this does not mean that they are necessarily absent from other types of organization.

This is related to another issue. Stark extends from the societal to the organizational level the organizational ecologists' argument that diversity is good for adaptability: 'Firms, or organizations more generally, with a greater diversity in ways of doing things are more likely to have the capacity *to adapt when the environment changes*' (2009, p. 179, emphasis added). This is quite reasonable, but it does not mean that they are the only kind of organization with the capacity *to create changes in the environment* by introducing innovations.

3. The defence of less restrictive concepts or propositions

Stark's treatment of innovation contains several statements whose usefulness and degree of generality I do not wish to question. For example, Stark conceives exploration in James March's sense, referring to 'processes that break from successful, familiar routines to sear into the unknown' (2009, pp. 3–4). He sees innovation as 'deeply disruptive of cultural taken-for-granteds and routines of organizational cognition' (2009, p. 4), and, accordingly, entrepreneurship as fostering something 'that disrupts organizational taken-for-granteds, generates new knowledge and makes possible the redefinition, redeployment, and recombination of resources' (2009, pp. 18–19). He associates innovation with 'the kind of search that works through interpretation rather than managing information' and that 'requires reflective cognition' (2009, p. 4, emphasis deleted). For Stark (2009, p. 6), 'organizations are engaged in a search for what is valuable'. What new products can be brought to market? What new technologies or production processes should be pursued? Which will prove to be valuable, and which will be a costly dead end? And how should the performance of units, of teams, and of the individual employees within them be evaluated?' In addition, 'the most innovative ideas are not "out there" in the environment of the group. Instead of waiting to be found, they must be generated' (2009, p. 17).

On the other hand, his conception of entrepreneurship and innovation is not general enough if it is only the friction between different evaluative principles that

[1]These organizations may be smaller than the cases studied in *The Sense of Dissonance*, although Stark (2009, p. 199) notices that his ethnographies were limited to settings with relatively few employees (from 100 to 160) and wonders if larger organizations can adopt heterarchical forms.

is seen as that which is fostered by entrepreneurship. For Stark, entrepreneurship ‘exploits uncertainty’ and ‘is the ability to keep multiple evaluative principles in play and to benefit from’ the resulting friction of their interplay (2009, p. 6; also p. 15). In his view, the uncertainty associated with entrepreneurship is then the uncertainty about which evaluative principle or order of worth is operative (2009, p. 15). I find these latter concepts and propositions too restrictive.

A more general and, in this sense, better concept of entrepreneurship equates it with innovativeness, the ability to introduce a new way of thinking and doing things (this is also better for the purpose of communicating with other contributors to the entrepreneurship debate, who often adopt a similar concept, while it does not go as far as defining entrepreneurship in an excessively broad way that includes the imitation of innovators and/or the creation of new firms, regardless of whether they are innovative). Even with a single evaluative principle (and thus without internal disagreement regarding this principle in a small or large organization), innovativeness always requires interpretation, creativity, exploration, active thinking, breaking from taken-for-granted beliefs etc. From this perspective, Stark is actually referring to a specific type of entrepreneurship or a specific way of achieving it (even if it turns out to be revealed by future research to be the most common or relevant one), and to a specific type or manifestation of uncertainty.

According to a more general concept of uncertainty associated with entrepreneurship (in the general sense suggested above), what I call fundamental uncertainty is the lack of knowledge created by the possibility of innovation and other types of non-predetermined structural change (Dequech, 2006). Entrepreneurship as innovativeness not only exploits uncertainty; even with a single evaluative principle (such as the market principle), it also involves and creates uncertainty.

By the same token, Stark’s notion of dissonance is also too restrictive. Divergence—or dissonance, in a broader sense—is not always inside an organization. An innovative organization deviates from the established way of thinking and acting in its field or in society more broadly. Stark is mostly concerned with a specific, internal type of dissonance.

4. Concluding remarks

The Sense of Dissonance is impressively filled with original, useful and relevant ideas. The comments made above were mainly intended to point this out and to better specify the degree of generality of these ideas, with the constructive purpose of suggesting that their originality, usefulness and relevance may be essentially preserved if they are combined with a few less restrictive concepts and propositions. I do not deny that heterarchy and internal dissonance regarding evaluative principles may facilitate innovation and entrepreneurship and may even do it better than other factors. Arguing this is an extremely valuable contribution. I would not, however, go as far as *conceiving* or *defining* reflexive thinking, innovation, entrepreneurship and the associated uncertainty only in terms of internal organizational dissonance, excluding other possibilities.

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Coordination through dissonance

Jens Beckert*

Max Planck Institute for the Study of Societies, Cologne, Germany

Correspondence: jb1@mpifg.de

1.

Today a widely accepted premise of economic sociology and organization sociology is to make uncertainty the starting point of research. Numerous scholars have analysed the organization of economic activities and the structures of exchange by beginning with the problems emerging from the unknowability of future conditions, an unknowability that derives in large part from the complexity and interdependencies of social interactions (Beckert, 1996; Podolny, 2005).

Scholars have investigated how institutions, networks and cultural scripts help guide decisions even when it is impossible to discern optimal choices. For Fligstein (2001), institutions, property rights and conceptions of control are the building blocks of stable markets. Podolny (2005) analyses how the differences in status among firms in a particular market can serve as a point of orientation for clients in search of, for example, investment bank services or a corporate law firm. Sociologists researching the markets for wine or for the arts point to the important role of reputable market intermediaries, whose assessment of the market and suppliers influences purchasing decisions and prices (Beckert and

Rössel, 2004; Velthuis, 2005). The French economics of conventions (Storper and Salais, 1997; Boltanski and Thévenot, 2006) investigates how actors turn to conventions that help coordinate their actions in situations involving uncertainty. Institutional organization theory (DiMaggio and Powell, 1991) demonstrates that, in situations of uncertainty, actors imitate legitimate models prevailing in the field and thereby contribute to the homogenization of organizational forms.

There are at least two pitfalls in this recourse to relatively fixed social structures as points of orientation in uncertain situations. First, this approach risks defining away the problem from which it sets out. If actors ground their decisions on familiar models, why would there be a problem of uncertainty in the first place? Second, the assumption of an orientation towards prevailing social structures entails an overly static picture of the economy. How can the dynamics of the economy—its dominant trait in capitalism—be explained if actors consistently take recourse to already existing models?

An answer to the first question might be that social structures do not wipe out the uncertainty inherent in the situation but instead enable actors to make decisions, despite the uncertainty of outcomes, by providing templates for action. A popular answer to the second question has been the introduction of the notion of the institutional entrepreneur, an actor who, rather than follow an institutionalized script, deliberately departs from existing templates (DiMaggio, 1988). This idea has generated an astounding number of research articles but nevertheless leaves many questions open: How is it possible that actors enmeshed in institutions can step out of them? Is change initiated by heroic individuals, or is it a collective operation? Are only entrepreneurs 'creative', or is work as such a creative activity that changes institutional structures?

2.

By taking uncertainty as its starting point, David Stark's new book *The Sense of Dissonance* converges with these approaches in economic sociology and organization sociology. However, his book is not another study on uncertainty and the embeddedness of actors in social structures—be it networks, institutions or cultural scripts. On the contrary, Stark distances himself precisely from this perspective. Instead of focusing on the creation of shared understandings of how to respond to a situation, Stark makes the point that firms establish structures that allow for *different* evaluations of the situation. In a nutshell, the core hypothesis of the book is formulated in this statement: 'Entrepreneurship exploits the indeterminate situation by keeping open diverse performance criteria rather than by creating consensus about one set of rules' (Stark, 2009, p. 17).

By making the diversity involved in evaluating a situation the building block of his theory, Stark is able to develop a conceptualization of the firm (and of markets) that does justice to specific traits of capitalist economies. Capitalism as an economic system is the unlimited search for profit. Knight (1985) argued that profits can be made only in situations of uncertainty, and Schumpeter (1934) demonstrated that entrepreneurs seek new profit opportunities by deviating from established routines.

Profit is the difference between product costs and market price. Seen from the demand side, profits require purchasers who see value in the product offered on the market. But rather than focus on the demand side of markets, Stark's book deals with the organizational structures of firms that make it possible for them to offer products or make investments that turn out to be profitable. He deals above all with the question: What are the organizational structures that allow firms to create value?

In answering this question, Stark introduces the notion of heterarchy—that is, organizational structures that combine two key features enabling them to deal with uncertainty. The first feature is distributed intelligence, which Stark describes as a 'radical decentralization in which virtually every unit becomes engaged in innovation' (p. 21) and in which 'the functions of exploration are generalized throughout the organization'. The second feature of heterarchy as an organizational form is the 'organization of diversity enacted through the friction of competing performance principles' (p. 19). Stark demonstrates the operation of these two organizing principles in three impressive ethnographies of firms which he studied for over two decades. These ethnographies are fascinating not only because of their precise observations, but also because of their unity despite the heterogeneity of the subjects they investigate. Stark finds the features of heterarchy in a machine-tool factory in socialist Hungary, in an Internet firm in New York's Silicon Alley and in the trading room of a hedge funds firm in lower Manhattan.

3.

I will not discuss the findings of these ethnographies as such but instead make four points that highlight the general contribution of these ethnographies to the fields of economic sociology and organization theory.

(1) The first of these contributions is the systematic linking of economic sociology and organization theory. Of course, new economic sociology has developed in many ways from organizational analyses. Core contributors to economic sociology, such as Dobbin (1994, 2004), DiMaggio and Powell (1983), Zukin and DiMaggio (1990) and Fligstein (1990, 2001) have been organization scholars as much as they have been economic sociologists. However, David Stark connects these two fields in an especially interesting way by inquiring into the organizational preconditions for the market

success of firms. Though the ethnographies are about organizations and their structures, the implicit focal point of the studies remains the market: What organizational structures are needed for a firm to succeed in a highly volatile market environment?

(2) The second contribution of the book is that Stark places the issue of value (or worth) in the forefront. The investigation of value has become an important topic in economic sociology in recent years. Only if purchasers consider products valuable are they willing to buy them. French economic sociologists in particular have dealt extensively with the question of how value is produced in firms and how it is assessed in the market (Dubuisson-Quellier and Neuville, 2003; Vatin, 2009). For Stark, economic sociology is the study of worth. In emphasizing different orders of worth, he follows closely the French economics of convention. However, he views the research on valuation from a specific angle: whereas much of this research has dealt with what Karpik (2010) calls judgment devices—ranging from social networks to guidebooks—and with the organizational *activities* in the market that create value (Callon et al., 2002), Stark focuses the spotlight instead on the organizational *structures* of firms that enable them to produce valuable products or make profitable investments.

(3) The third contribution is made to the theory of economic sociology. The critique of rational actor models has been a consistent vantage point of economic sociology. While this critique has been partly normative (Etzioni, 1988), it has mostly been based on the critical assessment of the cognitive premises assumed in rational actor theory. In situations with fundamental uncertainty, intentionally rational actors lack the preconditions for calculating optimal choices (Beckert, 1996; Dequech, 2006). If this holds true, then we must ask how we can conceptualize action in highly contingent, complex and volatile environments. In other words, what is an alternative to the rational actor model? Stark follows the growing interest of economic sociologists in exploring American pragmatism as a possible alternative to the rational actor model (Sabel, 1993; Whitford, 2002; Beckert, 2003; Barbalet, 2009).

Why pragmatism? Stark opens his book with a paragraph about the notion of 'search', which is what he calls the 'watchword of the information age'. The kind of search he has in mind throughout the book is not the search stemming from a lack of information but 'the kind of search during which you do not know what you are looking for but will recognize it when you find it' (p. 1). As Stark points out, this kind of search is what John Dewey had in mind when he introduced the notion of inquiry. According to Dewey, inquiry takes place when an action situation becomes problematic and the actor is forced to reflect upon the problem and test possible solutions to it. This process anchors action in the actor's experience of the situation. The way out of this kind of troubled situation is not the calculation of the optimal decision, but rather a trial-and-error process in which solutions are discovered through novel interpretations of the situation, which finally lead to a course of action.

'Interpretation' might very well be replacing the concept of calculation as a core premise of economic theory. It is an adequate concept for the kind of activity taking place in situations with uncertainty. Even what actors themselves consider to be calculation can often be better described as the interpretation of a situation, given the many assumptions brought into mathematical models. To bring interpretation to the foreground of a theory of economic action leads to the type of discursive pragmatism advocated by Stark. Introducing the term 'interpreteurship' might help characterize the activities of economic actors in uncertain situations.

How an actor interprets a situation depends both on the social setting and on cognitive mechanisms investigated by psychologists. These social and cognitive structures, however, never determine the response. If they did, no new value would emerge. Actors are creative in their responses, and this creativity of action—as Stark argues—is shaped by the organizational structures in which it takes place.

(4) As I have indicated, I see the main source of reorientation to be Stark's departure from the notion that actors handle situations involving uncertainty on the basis of scripts, institutions or social networks. Economic sociology and organization theory can learn in profound ways from this idea. How would *The Architecture of Markets* (Fligstein, 2001) or much of the literature from sociological institutionalism change if they took into consideration Stark's notion of innovation through dissonance?

At the same time, there exists a danger of overemphasizing the notion of dissonance. Stark himself is aware of this potential when he stresses that heterarchy and 'coordination through misunderstanding' (p. 192) amount not to a cacophony but to 'organized dissonance' (p. 27). The coordination of economic activities in firms and in markets presupposes both social structures that actors can take for granted and behaviour that is not completely random. Stark may take too much order for granted without explaining it from the conceptual premises he develops. This point would be minor if it amounted to no more than a reminder to bring more structure and stability back to the argument. However, the challenge is theoretical in nature: How can one conceptualize the simultaneous occurrence of dissonance and stability in one theory?

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