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An exchange of ideas about knowledge governance: seeking first principles and microfoundations

Teppo Felin and J.C. Spender

10.1. Teppo Felin (Henceforth Teppo):

First, let me thank the Oxford University Press and the editors, Nicolai Foss and Snejina Michailova, for allowing us to engage in this informal, unusual, and we hope, informative interaction and exchange of ideas.

To get us going, let me propose a few points and positions that might be worth pursuing. These are informed by what Nicolai labels the 'knowledge governance approach' (KGA) (Foss 2007)—which I see as an attempt to focus on some fundamental issues in the area of knowledge management (KM); that is, issues which have heretofore received relatively little attention. So let me start with three 'first principles' that might anchor our discussion in KM more generally and the KGA in particular. These three points in essence represent areas of research that deserve more attention in knowledge-based arguments of the firm, and, the KGA may indeed provide a vehicle for addressing them.

First, 'microfoundations' are needed for knowledge-related arguments pertaining to organizations. By microfoundations I mean there is a need to understand various individual-level factors in knowledge creation and production: abilities, decision-making, actions, beliefs, expectations, interests, imagination, preferences, and so forth. Thus, rather than assume individuals are simply heavily socialized toward perceiving their environments in a certain way, the KM literature would benefit from starting out from lower-level notions and systematically building theory upwards to understand how macro, knowledge-related outcomes emerge and form from these microlevel antecedents. This microfoundations program and intuition shares much with the social theory pioneered by James Coleman (1990, cf. Felin and Foss 2006).

Second, building on the above, the key microfoundations of organization and organizing—and KM—are individuals. That said, I recognize that JC has helped pioneer a version of KM that focuses quite heavily on collective issues, perhaps at the expense of individual-level factors or microfoundations (Spender 1996). The analysis that builds on JC's work, such as his widely used matrix of knowledge types (Spender 1993), seems to have continued along this heavily collectivist route (Felin and Hesterly 2007). But, it would seem that a natural, next step is to explicate the underlying microfoundations of KM. In other words, the natural progression of the KM field requires that it move toward understanding *the origins and sources* of where knowledge resides as well as toward an understanding of how knowledge develops and transfers. All this implies a renewed focus on the relevant microelements, of how these micro-, individual-level elements create and aggregate up to the macro-, organizational-level. It might be worth noting a similar progression in theoretical understanding, from the macro- to more microelements—generally seen as a shift from macro-explanatory variables to micro-explanatory variables—has also occurred in numerous other disciplines where progress has been made. Elster in fact argues that 'science progresses through reduction' (Elster 1989). I should note that the shift toward the microlevel is less a critique of the work that JC and others have pioneered, rather it is more of a natural and necessary next step in helping us understand the origins of the collective knowledge structures that have been posited.

The third point is that a focus on microfoundations scarcely precludes or denies the importance and existence of the social environment in which individuals are embedded. In other words, microfoundations ought also to be highly sensitive to the fact that individual-level activities (or preferences, interests, and so forth) are often necessarily pursued in collective settings, via collective action. That is, while individuals may have preferences, interests, and dreams that they hope to realize, the actualization or realization of these interests often can only happen via collective action, via an organization. In modern society, collective action and organization provide the key vehicles through which many meaningful, large-scale, innovative, and valuable activities are accomplished. A key point then is that individuals need to negotiate and interact with others to ensure that interests are aligned, that interests and preference cohere.

This type of 'political' negotiating and coalition building was important to the early Carnegie school (March 1962), but that intuition seems to have been lost in more recent theories of organization.

10.2. JC Spender (Henceforth JC):

OK Teppo, let's see if we are headed in the same direction here. You offer us three principles—first, a focus on microfoundations; second, the assumption that these are where individuals are, and third, that we need not leave the macrolevel behind. I cannot help but agree with these principles, but perhaps not in the way you want me to; so let me start in by responding to your first two points.

In the long tradition of methodological individualism (MI), for example, the Hayekian argument that economic and social theorizing needs to be grounded in the observable characteristics of human beings, there is much debate. It reflects a reductionist mode of explanation that goes back to Heraclitus and beyond. You, others, and Nicolai too, have written to this (Arrow 1994; Elster 1989; Felin and Foss 2005). The problem, of course, is that the supposedly universal characteristics of the individual are far from self-evident or undisputed. Most of the time those now appealing to MI are actually doing a 'bait and switch,' citing Hayek but actually suggesting the individual they have in mind is the familiar fully rational *homo economicus*. Since Hayek's time we have two substantial attacks on this poor chap, Simon's 'bounded rationality' (Foss 2003) and, more recently, 'behavioral economics' (Camerer 2003). So I need to know more about the putative individual underpinning your MI and why invoking her or him is going to clarify things.

Second, I am concerned about KGA's problematic. What question is it targeting and hoping to answer? My assumption, based largely on my reading of Nicolai's considerable contribution, is that it heralds a new round in his wrestling match with formal economics as he attempts to develop a nontrivial theory of the firm—and here I would cite Demsetz's critical assessment of the discipline's situation (Demsetz 1991; Gibbons 2005). I am guessing Foss's interest in the KGA starts, first, from the Coasian intuition that organizations exist because they are home to or congenial to some knowledge phenomena untypical of markets, such as the exercise of hierarchical power, and, second, if we think about the various modes of organizational governance, accepting power as opposed to letting individuals pursue their self-interest rationally, these seem more appropriate to managing such nonmarket phenomena.

This kind of distinction between free choice and power has long been present in Williamson's work (Williamson 1975, 1986) so it might be clarifying to talk about the differences between TCE and KGA. Are the KGA's alternative modes of governance not focused on cost? Does poor governance not lead to economic inefficiency? On the other hand, if cost is actually determinable, why the exercise of power, why not let actors choose, applying their rationality? Williamson would say that power is necessary because we see uncertainty colliding with guile—an assumed dimension of individuals, supplementing their rationality. So if the KGA sees there is more to it than optimizing cost, I suspect we need some clarification. I raise this point because I suspect the new theory of the firm we all have in mind here may well address the question last seriously framed, as far as I am aware, by Cyert and March. On page 16 of their classic (Cyert and March 1963), they suggest a viable theory of the firm—defined as one useful to practicing managers—would also bring microeconomics together with organization theory (OT). Hence, I hope the KGA's agenda is a move toward such a theory for I see OT today as an endangered discipline. On one flank the RBV advances its neo-economic reasoning against the ancient art of strategy, on the other, the survivors' retreat into organizational psychology and OB is cut off by economics's new behavioral analysis. Where are we to look for a defensible basis for OT?

To search in the knowledge management (KM) literature for some insight into how economic reasoning might explain the existence or clarify the operations of organizations may strike many as hopeless. After all, the KM discipline itself is also in parlous condition, increasingly unsure of its foundations and its objectives (Spender and Scherer 2007; Tsoukas 2005). As Nicolai's citation of Argote's work indicates (Argote 1999), the bulk of those working within KM treat knowledge as unproblematic; an objectifiable commodity, sometimes valuable but often costly to produce, that can be collected, stored, redistributed, and applied to produce value in the future. This defines organizational knowledge as a form of capital (Dean and Kretschmer 2007) and there is no obvious reason why it cannot then be handled by market-typical modes of choice and governance. If, on the other hand, knowledge is too sticky or slippery for markets to handle, 'tacit' perhaps or more a process of knowing, then other issues open up which may call for other ways of managing actors' choices. So I would ask about your notions of organizational knowledge and your confidence that what economists mean by governance can actually impact its creation, flow, or application.

10.3. Teppo:

First, I do not see the attempt at microfoundations, nor the knowledge governance approach more specifically, as an attempt to smuggle in the old *homo economicus*. Scarcely so. Rather, a better conceptualization might be what Baker and Pollock recently label '*homo-multifacetus*' (2007). That is, it is evident that individuals seldom have all the answers given uncertainty, limited time, information processing capabilities, and local knowledge (cf. Hayek 1945), *but*, it is important to note individuals also have heterogeneous preferences, interests, expectations, and understandings about the types of actions that they consider valuable rather than assume these preferences emerge simply from social interaction, or socialization more broadly. So, the goal of a microfoundational approach is to specify the individual's nature and decision-making capabilities appropriately, and to understand how heterogeneous interests—thus, perhaps taking the existence of individual interests for granted—are negotiated and aggregated. And, importantly, evidence suggests that we can move forward with the presumption that individuals not only have their own independent preferences and interests, but also that human capabilities exist somewhere between the highly idealized, perfectly rational, agent of economics and the heavily bounded and socially determined agent of sociology. The attempt, in terms of microfoundations, is to expand the bounds of rationality, to recognize and theoretically account for, not only heterogeneous interests, preferences, and so forth, but more importantly to account for (or, be able to explain) the many correct and imaginative decisions that individuals make, something that Grandori has recently called 'epistemic rationality' (Grandori 2006).

Thus, as has been recently noted in social psychology as well (see Krueger and Funder 2005), there has been much too heavy a focus on incorrect, poor, and biased decision-making. While poor decision-making undoubtedly exists, as do biases, the social sciences, management science included, have not accounted adequately for much of the progress of the past century, and the associated *correct* and imaginative decision-making. This type of intuition is emerging in psychology (e.g., Gigerenzer et al. 1999; see McKenzie 2005 for an overview), so perhaps its diffusion into management science will take a while. That said, the organization sciences should be at the forefront of understanding decision-making and associated actions and outcomes, as much of human activity and accomplishment and decision-making happens in collective, organizational settings.

Second, what is being advocated here can be construed as a need to understand some of the forgotten behavioral and social foundations of human and organizational action; these foundations indeed were originally embodied in the work of the Carnegie tradition (see Felin and Foss 2005, cf. Gavetti et al. 2007). That is, a need to focus on how individual preferences get negotiated in collective settings (March 1962), how organizational goals aggregate from individuals preferences and interests (Simon 1964), and so forth. This intuition has been lost as extant behavioral approaches focus heavily on the environmental aspects of organizational behavior (for a summary, see Greve 2005). So, rather than begin the analysis with a taken-for-granted environment, or taken-for-granted organization (cf. Coleman 1990), or taken-for-granted routine for that matter, all these collective constructs require further explanation, which microfoundations can indeed provide.

Third, you are reacting fairly negatively toward economic reasoning, wondering whether it can contribute anything to organization theory and the knowledge literature specifically. Economics absolutely has, and continues to, contributed to our understanding of organizations and knowledge. It is not that we need to import the full theoretical apparatus and assumptions of economics to understand organizations and knowledge; rather, I would suggest that a selective use of the logical and methodological intuition from economics can provide tremendous insights for organization theory and strategy. The logical and methodological intuition I am advocating here is not only embodied in economics, but an equally persuasive source of intuition comes from rational choice theory in sociology (cf. Boudon 2003; Coleman 1990). Both of these literatures assume—commensurate with recent evidence from psychology (cf. Stanovich 1999)—that individuals are rational and 'prone' to *correct* human decision-making and this intuition naturally lends itself to opening up the bounds of rationality, even warranting an assumption of a (more) rational agent (McKenzie 2004). Humans are not perfectly rational of course, but agents who do an admirable job of making decisions correctly with little information, little time, much uncertainty, and natural constraints to computation. Rationality for some reason appears to be a dirty word in management—thus the heavy emphasis on boundedness rather than rationality—but, I believe a rational choice model provides a promising future path for management science (Felin and Foss 2006).

Economic and rational choice reasoning and intuition will also help us unpack (open up the black box of) many of the collective constructs that are so readily taken for granted so in the organizational literature: whether it is the organization itself, or networks, culture, the environment, and so forth. Thus, methodological individualism adds some helpful analytical rigor and leads to a much-needed unpacking of various collective constructs. I should restate that my call for a rational choice program—and, I see KGA as one potential embodiment of it—should not be seen as a critique of extant work, rather, again, I see it as a natural progression for the field to begin to explicate underlying microfoundations, to make progress via reduction (Elster 1989).

10.4. JC:

Well, Teppo, I agree with you completely that the overarching project is to 'specify human nature and decision-making capabilities appropriately' hence I do not see what you find helpful in the work of Stanovich or Baker and Pollock or, indeed, in that of Krueger and Funder. As I read them, these authors seem to stand on some fundamental misunderstandings about the notion of rationality and what it means to attempt to modify or add to it. Frankly, I am not familiar with this literature or with their kind of psychologizing but I sense they are confusing some observational impressions—that people seem to exhibit characteristics they find difficult to capture using the notion of logicality—with some epistemological notions of rationality. So they feel driven to seek alternative forms of thought and/or explanation, unsure about whether these are empirically based or conceptual. In particular, Baker and Pollock's notion of *homo-multifacetus*, which I presume means 'multifaceted man,' is neither defined nor developed and seems more like a throwaway observation than a real theoretical proposition (Baker and Pollock 2007: 301). My immediate problem is that we are not told whether the 'multi' here is of the multiple goals which a fully rational person might pursue, or whether it implies something like a 'tolerance for ambiguity,' often associated with leadership, which finds some unspecified way of dealing with a truly heterogeneous goal-set. My reading is that 'the facets' are the different goals a single rational mind might be able to hold onto rather than some conceptually distinct mode of thought or action like intuition. Likewise you speak of 'heterogeneous preferences, interests, expectations and understandings' so I guess you see the facets as multiple goals, each pursued 'mind*fully*' as Weick might say, which seems a reasonable enough observation of our fellows and ourselves perhaps.

But how do you see this kind of heterogeneity being resolved, so moving us on from mere description toward a coherent theory-based explanation? Likewise I am not sure what it means to position the individual's operating goals somewhere between being the freely chosen and the negotiated or enforced. Do you have some algorithm for netting out the psychological and sociological determinants? Even then there would surely be residual heterogeneity since neither offers any coherent theory of the person. Perhaps you see some form of meta-preference against which all your heterogeneous goals can be ranked, so moving us on from the mere observation? Absent this Archimedean place of full rationality, such as the economists' rational self-interest, the heterogeneity you raise seems to push us irrevocably toward a relativism of 'it all depends' or 'anything goes,' as Feyerabend so famously remarked (Feyerabend 1993).

While not at all suggesting goal heterogeneity, Krueger and Funder's piece seems to be an expansive critique of the methodological dispositions of a particular research community, again with little consideration of what it might mean to move away from rationality as the basis for explanation and theory. Their avowed target is the 'negativity' of focusing on how people are sometimes less than fully rational, a parallel to medical research's evident focus on people who are sick. They correctly point out the ideal of total rationality is their null hypothesis, just as medics take wellness as the null to which they are trying to restore their patients. But their call for a 'more balanced' research program, one that lauds their assumption that people sometimes act rationally, or maybe even always try to be (intendedly) rational, seems a misunderstanding of how empirical research actually works. We can invoke Popperian falsification and argue that theoretical progress is about the empirical falsification of the reasonable conjecture that we thinking rationally about what we see around us. So the balanced program they call for could either be a careful recording of every observation of people acting rationally, the kind of everlasting verificationist project that drove Popper nuts, or, more interestingly, an attempt to explain our rationality itself. By this I mean to go behind the mere assumption of Rational Man typical of economics to some kind of explanation for the occurrence of this characteristic of our minds—psychological, neurological, or evolutionary perhaps. This searching behind the assumption seems to be what interests you about Krueger and Funder's work. But they are not, in fact, proposing any modes of thought as alternative to full rationality, nor do they seem interested in plotting the empirically discovered boundaries to practical reason—a task they would presumably see as 'negative.' Equally many neurobiologists search behind the assumption of rationality without pausing to consider the implications of trying to use the notion of rationality—as embedded in the notion of cause and effect—to construct an explanation of rationality as an neurobiological effect. Perhaps they are searching for some overarching biologically determined characteristic of which rationality is simply one manifestation, contingent perhaps on the excitation particularities of the different domains of the brain or on the quantum issues explored by Penrose (Penrose 1989). Likewise most of our fellow commentators seem happy enough with rationality as the principal explanatory characteristic of human thought, that is, to explain is to propose a logical and falsifiable cause and effect relationship. Most rational choice theorists simply presume the dominance of rationality as their null, entertaining illustrated in Harford's new book (Harford 2007), and you certainly seem sympathetic to this position.

I am not sympathetic, so we clearly differ on this. For me the challenge is to find a way of moving beyond the limits to rationality which Simon reminded us of. I think one way to do this is to define and adopt as axiomatic some contrasting characteristic of mind that can stand *pari passu* with rationality, so I am especially interested in what you call the 'forgotten behavioral and social foundations of human and organizational action' and the issues explored in the Carnegie Tech program. But how do you see these? Do you mean the politics of power, as interested March, or some Durkheimian collective consciousness, or some blind nonthinking herd instinct? It is clear that three or four centuries ago rationality was not as fetishized as it is today, so you might have in mind something like the Model of Man adopted by the Enlightenment philosophers. From Locke's position, for he saw judgement as a complement to reason, we can see our task is not to reject rationality, after all we are often logical and goal oriented. Rather the project is to complement the narrow and astringent rationality of *homo economicus* with some of the other modes of human thought and behavior that embrace more of what we know about ourselves and presume about others. Smith, you recall, spun his whole thinking from the notion of 'sympathy,' which interaction generated the social and human space within which rationality was sometimes appropriate. Thus I see the 'behavioral economic' (BE) thrust, in which 'bias' is proposed as a universal characteristic, as an attempt to replace a logically defined rationality with an empirically established behavioral one, so preserving the idea of rationality without either dismissing or complementing it. That is clearly professionally important for economics and might help explain why Kahneman won his Nobel. Personally, having tried out 'prospect theory' on my students, a homogeneous enough population, and found it rather wanting, so I see no compelling reason to think the BE biases are any more universal than are people themselves. And without this asserted universality we slip into the chasm of relativism noted above, in which each person's rationality—or systematic bias—is whatever it is and generalized theorizing is impossible.

At issue is whether we can say anything meaningful about any mode of human thought other than rational reasoning, where the meaning of this phrase is grounded externally in the abstractions of logic and our computer-likeness rather than subjectively in our uniqueness. What sense can it make to talk of reasoning 'illogically'? Is this not a contradiction? As Krueger and Funder note, we often describe emotion as that which disturbs rational reasoning. But does that do more than describe it? It tells us neither what emotion is, nor explicates its causes (if there are any), nor how we might theorize it. The fact that some neurobiologists, such as Damasio or Ledoux, observe 'different parts of the brain lighting up' under circumstances in which they say 'the subject' is experiencing emotion, might well tell us something about the neurophysiology of what they call the emotions but does not tell an epistemologist much about how emotion interferes with rationality. In fact, absent a theory of the individual as an integrated mind/body system, there seems no compelling reason to think these two concepts of emotion—the one epistemological, the other empirical, are even related, let alone interfere with each other. As Nussbaum shows in her fine analysis, the urban myth of this interference is an epistemological overhang from the Greek Stoics, one that cannot be sustained in the light of current philosophy or biology (Nussbaum 2001).

But, to get back to the central topic of our discussion, organizations and the degree to which economic thought (i.e., that based on an MI itself standing on the shoulders of *homo economicus*) can illuminate them. You are quite right I am questioning this. I am more than happy to agree with you that individuals, because they are human beings, often appear to be rational, and as they go about their everyday organizational work frequently apply their rationality. But what is this to do with the nature of organizations? Yes, employees may be pursuing goals that are organizational rather than personal, but is the organization no more than a system for broadcasting the goal of the day? Organizations may be 'made up' of people—though that seems to neglect the role of capital and land in Smith's model—but does that mean organizations can be given the same attributes of rationality that we simply assume in people? Just as an organization is made up of people so is the line at the checkout. Following the rational choice theorists, we might be able to create a tolerably good explanation for why people line up. But can we do the same for their collaboration into organizations? Under what universal, as opposed to socially or politically contingent, circumstance does it make sense for me to labor at less that statutory minimum wage to keep Wal-Mart's shareholders comfortable? With a 60 percent annual turnover, or thereabouts, clearly even the most needy get the message soon enough. So does this selection from a narrow range of feasible alternatives really be what we mean by economic rationality?

At the same time you talk of economic thought illuminating the 'knowledge literature.' I find this curious and wonder if it should not be the other way around. The knowledge management literature, standing as it does on the notion of 'tacit knowledge' to take it beyond the reach of *homo economicus*, certainly embraces a notion of rationality but is, by definition, not limited to it. Were it so limited the 'knowledge literature' would embrace the entirety of all 'scientific' theorizing and the term knowledge would be entirely redundant. Being interested in knowledge management as Polanyi shaped it with the notion of 'tacit knowing,' what I find absent from the economic discourse is something that complements our logicality. The impulse to look for this is not simply the evident poverty of economic reasoning and its inability to explain either why organizations exist or how they work, a situation which many great economists have remarked. Even more it is a result of occasionally recognizing ourselves as something other than mere theorists, cold-blooded (that emotion thing again) and interested only in the pursuit of Truth. On those occasions we struggle to recognize more of what goes on within ourselves and, we suspect, in others as we try to 'get along' with those we love or hate or otherwise share the human condition. I consider economics the lesser for having narrowed itself away from political economy in the pursuit of abstract rigor. I would argue the knowledge management literature rejects this narrowness and kicks open a door to an arational discourse, well illustrated by March's examination of Don Quixote (March and Augier 2004), a discourse that, like novels and plays, embraces politics, love, judgment, morality and, our fallibility in ways that economic reasoning clearly cannot. My hope, therefore, is that by searching beyond rationality alone, as the great economist Simon indicated we should, we might find something intrinsically human about our organizations, that is, that they only exist because of our arational dimensions. If we can indeed 'specify human nature and decision-making capabilities appropriately' we shall also find organization as an aspect of both.

10.5. Teppo:

First, let me defend economic *reasoning* (though, not all of economics), specifically as I think you overreach by pointing to 'the evident poverty of economic reasoning and its inability to explain why organizations exist or how they work, a situation which many great economists have remarked.' This goes too far. Economics remains central to organization science and strategy in particular (cf. Mahoney 2006), even though some would have us 'avoid the dangerous liaison with economics' (Pfeffer 1997: 192, cf. Ferraro et al. 2005). For example, transaction costs economics has said much—much of it seminal—about the origins of firms and their boundaries (Williamson 1975). And, the 'markets-in-hierarchy' type of intuition (Zenger and Hesterly 1997) is central and increasingly relevant to our understanding of organizations (particularly given increasing moves toward professional services which are knowledge intensive—see Greenwood and Empson 2001; Teece 2003). In other words, I think you are throwing the baby out with the bathwater, specifically as economic reasoning provides some of our most central insights about organizations and organizing. This of course is not to say that economics as a whole represents some capital-T truth (e.g., hyperrationality is obviously erroneous), of course not. The point more simply is that the more general ethos and approach of economics has much to commend it, including its focus on parsimony and tendency toward microfoundations, reduction, and so forth.

Second, I think you create an unnecessary chasm between economics and behavioral approaches. That is, while the Carnegie School was explicitly reacting to matters that they disagreed with in mainstream economics, nonetheless the Carnegie School also importantly *retained* much of the underlying intuition of economics, and, rightly so. For example, March and Simon's (1958) classic book *Organizations* is replete with economic reasoning. Note the heavy emphasis they put on 'inducements and contributions' and 'payments'; in other words, individual incentives were critical to understanding organizations (Barnard 1938 made similar points), and still are (Zenger and Hesterly 1997; Zenger and Marshall 2000). And, note that March and Simon's approach is significantly more methodologically individualist compared to where behavioral approaches of organizations have ended up of late, that is, heavily focused on the environment (Greve 2003). Others have also noted that we may have in part lost our way, highlighting the need to understand the micro-foundations of interaction and decision-making (Gavetti et al. 2007). For example, the focus on routines may have unnecessarily masked important dynamics related to where routines come from in the first place, and more importantly the routines 'hegemony' has unnecessarily tied the hands (=rationality) of managers (Felin and Foss 2005). It may be that routines are simply an *epi*-phenomenon. Furthermore, the focus on various *extra*-organizational, environmental factors as *the* locus of knowledge—such as networks or alliances (Kogut 2000; Powell et al. 1996)—has left many underlying, individual-level questions unanswered. So, in sum, I think you create an unnecessary chasm between economics and knowledge-based approaches of organization. I think economic reasoning can deeply and meaningfully help us to understand organizations (just as organization theory itself can also influence economics), as suggested by Nicolai's (2007*a*) efforts to advocate a 'knowledge governance approach.'

Third, what then are the meaningful questions that might be addressed from a behavioral perspective, perhaps with economic reasoning as an analytical tool? I think many of these questions were anticipated by early organizational scholars, and thus in part I think we need to return to these roots. So, for example, you bring up the issue of organizational goals. Goals are exactly the types of matters that I believe need significantly more focus; other closely related matters that deserve emphasis include: beliefs, preferences, expectations, values, interests, and so forth. Specifically, one of *the* key questions is the emergence of collective goals and expectations (or, interests for that matter); where do these come from, how do individual goals aggregate? Note for example that Simon's (1964) early work in this area was explicitly an effort to understand how individual goals aggregate and how new collective goals might emerge. Furthermore, in a key piece in the *Journal of Politics* (1962), titled 'The Business Firm as a Political Coalition,' March wrestles with questions about how coalitions emerge, and specifically how individual interests are in essence negotiated and aggregated (cf. Cohen et al. 2001). The intuition heavily relies on economic reasoning, and in both papers the underlying intuition is almost game theoretic (see similar game-theoretic intuition in Foss 2007*b*). In short, I think there is much here at the nexus of individuals and organizations that deserves significantly more attention.

10.6. JC:

Well Teppo, we seem to be talking past each other, as organization theorists and economists normally do. Why is this? How can I make my point to someone already committed (emotionally perhaps?) to the notion that economic reasoning illuminates our behavior at the microfoundational level, though I see you are now using the term 'intuition' a great deal? Is this intuition, evidently so important to the advance of theory, rational in the sense we have used this term previously? Anyway, I have no problem with macroeconomic (i.e., loose) assertions about, say, supply and demand, or even with the make-or-buy decisions that inform TCE. Although these tend to ignore the evident fact of power and its place in our lives, they are important ways of talking about human behavior that are blessedly free of religious and cultural idiosyncrasy. Yes, it is useful to think through the larger consequences of giving individuals the freedom to pursue their own interests (de Tocqueville 2000). It is simply that when you try to move, as I agree we should, to the microlevel to build a rigorous theory of human behavior, you have to invoke some model of the individual that differs from *homo economicus* if one is to say anything relevant. I am certainly open to the charge of overreaching but, with respect, I think it is you who does this as you glide blithely from the abstract assumption of *homo economicus* into making assertions about real human behavior.

Let me illustrate. It is clear that disciplines in general, and economists in particular, develop sophisticated ways of protecting their discourses from those who, like hecklers, would upset them. The crux of *sprachethik* is to know the distinction between the discourse's axioms and its reasoned deductions. Disciplines remain open to criticism of their deductions, indeed that is much of what research and theoretical debate is about, but they are immunized *ex definitio* against having their axioms replaced. There is a tautology here, for new axioms mean a new paradigm, in a Kuhnian sense, or more specifically, a new theory and discourse. For example, commenting on peoples' marriages we would normally use language that cannot be related to Becker's analyses of why people have children. Do our comments then critique Becker's work? No, they are part of a different language game. In this same vein I have given various economists occasion to remark 'Well that's interesting JC, but it isn't economics.' So you and I are using different languages. This is why all of us should study McCloskey's work closely, especially her wonderfully tart summary of economics as a rhetorical pastime (McCloskey 1998).

At a more specific level let me rebut your suggestion that Williamson's work or indeed the TCE has illuminated the origins of organizations, that is why they exist. I'll give you that they might provide insights into the movement of an existing organization's boundaries. But what they have really done is given economists the smug feeling that they know something about firms, and this is far from being the same thing as addressing managers' questions. If you tell the average entrepreneur that her or his firm came into existence because its transaction costs were lower than those in the market for those same transactions you'll likely get a terse and not-too-friendly response about ivory towers and economists not understanding anything about innovation and the travails of making it happen.

As I have written elsewhere, the idea of comparing transaction costs within and without the firm seems obvious enough to managers, among whom I would include myself, while considering a make or buy decision. Indeed it was Coase's conversations in 1934 with real American corporate executives, rather than with economists, that precipitated his 1937 'intuition.' But such managers are not making the comparison economists suggest—about an isolated transaction, as Williamson insists was Commons's assertion. Commons's argument was actually quite different, but let us skip that for today; rather his point is that every transaction is embedded in a complex situation (Commons 1924) and it is from their grasp of that managers bring a substantial amount of tacit knowledge to bear—all of which is effectively disallowed by your *homo economicus*. But let's stick with your characterization. Let's take the notion of the internal cost of a transaction. Even assuming we could get our cost-and-works accountant to estimate this—which is why they are known as 'estimators'—what about the allocation of overheads, that is, the classic managerial accountant's problem? How much of the unique, historically contingent, and ongoing costs of setting up the firm and maintaining its infrastructure should be allocated to this particular transaction? Here the abstract and not very demanding idea of determining this cost collides with the reality of a firm which cannot ever calculate, as opposed to estimate, such costs. The possibility of doing this, even if one had a complete record of every cost incurred going back to the foundation of the firm, is finally completely undercut by the uncertainty on which Penrose's work (Edith's that is, though Roger's would do as well) pivots.

What is the value to the business of its recorded resources and other inventory? We cannot tell—that's the point. The only thing we know for certain is that it cannot be 'at cost,' for if its value is really that then we are denying the possibility of profit, and with that, survival in an imperfect nonzero transactions cost environment. Thus, managers estimate rather than calculate when considering their make-or-buy decisions and these processes are (*a*) historically and subjectively contingent and thus cannot be illuminated by the abstraction of *homo economicus* and (*b*) can never be pinned down enough as basis to provide a 'theory of the firm.' I leave on one side the complementary issue that organizations are composed of more than managers and the question of how managers communicate their make or buy decisions to those managed, given that they too are less than fully rational. Thus your assertion that economic reasoning underpins organization theorizing is precisely incorrect. On the contrary, economics deploys its rhetoric, unsuccessfully from the organizational or management theorist's point of view, to hide the very arational intuitive aspects of human beings that must be brought into view if we are ever to understand why organizations exist rather than simply taking them for granted—as economists do when applying a TCE approach to the location of their boundaries (yet another contentious concept). To presume we can bypass these issues of uncertainty and bounded rationality with some a-cognitive behavioral notions seems quite bizarre to me, denying as it does the whole notion of human agency. Thus, while the Carnegie Tech group's work is extremely interesting and provocative it ultimately fails because of its horror of abandoning *homo economicus*.

You go on to cite Barnard and the 'inducement/contributions schema.' This is especially curious for you are appealing to a critic of MI rather than its supporter (I think you really mean to cite March and Simon). I have long regarded Barnard as one of less than a handful of people who have said something fundamentally revealing about organizations. Taylor, Veblen, Coase, and Penrose would be others. But it has taken me 35 years to grasp where I part company from Barnard. It is a bit peripheral to our discussion but at issue is whether the organization is a closed and thereby calculable system. This bears on our discussion in the same way that I try and distinguish estimation and calculation above—estimation being our intuitive way of abbreviating or 'closing off' an open system to render it calculable. There is a wonderfully evocative paper by Klapp about the 'opening and closing' of systems (Klapp 1975). Thus managerial estimates depend on heuristics (routines?) rather than on theory or calculation, and these are inevitably specific to the firm and its operations and history. In all probability, they are all that can be known of the firm. This is why Penrose's theory requires one to consider not only the difficult-to-estimate costs of learning how to generate services from resources in a first period but also the reduced costs of reapplying the resulting knowledge in a second period. It is this second and subsequent period reduction, and the resulting dynamism, which drives the growth of the firm, not the costs incurred in the first period. At the same time the knowledge generated is hostage to unforecastable changes of circumstance that might render it worthless. Penrose's firm is open, closed only by the management team's intuitions and actions, and their learning as a result of their experience of applying that knowledge. Likewise the richness in Barnard is that he positions 'the executive' as the one whose intuition and creativity 'closes off' the epistemological openness that he defines into his analysis with his trinity of subsystems 'incommensurate between themselves.' Thus, the inducements/contributions schema is the very antithesis of rational calculation. No one can calculate the ultimate benefits of participating in a firm. Nor can the inducing firm do this, since much of what it requires of its participants is to innovate in the face of the inevitable uncertainty of business. Nor can the firm ever know the entire set of inducements acting on any one individual—it may all be due to his mother or sibling jealousy. Thus the Benthamite calculus fails and both Penrose and Barnard see managers and all others as having arational capabilities which go far beyond those implied by *homo economicus*.

Let me wrap up my case. Yes, I completely agree with you that it would be good to surface and clarify the microfoundations to our theorizing about organizations (and markets too perhaps, but that is for another day). I also agree with the general thrust of your comments, along with Nicolai's, that the way we see collective level notions deployed often indicates no more than sloppy thinking. In my defense, I originally intended to use the contrast of individual and collective levels to mutually define and so illuminate some KM issues rather than, as you presumed, proposing we could talk usefully about collective knowledge on its own. But as we probe for some microfoundations we differ widely in our views of the consequences of doing this. I suspect you and Nicolai both want to hang onto *homo economicus* because it is the mother lode of and justification for economic discourse, for example, you see bright prospects for rational choice theory. You know that if you move to another model of man, one that embraces intuition and emotion, perhaps, you depart the discipline itself—interesting perhaps, but it's not economics.

For my part, I am narrowly interested in managers and their organizations and believe we face stark conceptual choices, that is, either we believe that economic theory can give us a managerially useful theory of the organization or we do not. Likewise we might assume and take organizations as axiomatic and unproblematic, self-evident socioeconomic entities that have boundaries and exist, and are separable from their managers. This is the main attraction of systems theory, for the popularity of which Barnard must clearly take some blame. From this assumption we probe for the organizational system's inherent nature and characteristics—feedback, double-loop learning, environmental sensing, and autopoietic perhaps. I see such theorizing about human organizations as a blind alley simply because it pushes people and their arational characteristics out of the analysis. Organizations are made up of people, we say. The alternative is to see organization as the problematic and place our modest conceptual chips on an axiomatic model of the individual, which is the MI impulse.

But here comes the hook. We have to adopt a model of man that makes being organized, as opposed to operating self-interestedly in a market, explicable. *Homo economicus* is actually Nonorganizable Man, by assumption, for there can never be a decontextualized rational reason for him to collaborate with others in the pursuit of a nonpersonal goal, so goals and goal-setting are central, as you suggest. The explanation for an individual's adopting an organizational goal as opposed to a personal goal lies in the particularities of the context of that choice, and the resulting theory is thus about that context rather than a universal theory of organization. The *apologia*, the idea that a participant's goal can be perfectly aligned with that of an organization is just the kind of rhetorical stuff which McCloskey exposes. *Homo economicus* is a creature of self-interest alone. There can never be a theory of human organization which makes such an inhuman axiom its basis.

I applaud your drive to the microfoundations for it forces these questions to the surface and in so doing brings nearer the time when we go beyond *homo economicus* and adopt a richer more contextualized and realistic model of man—such as might appear in any of great novel. So I believe you have yet to come to terms with the fact that our project will ultimately render mainstream microeconomic discourse a curiosity of the past, as McCloskey suggests. As we probe the governance characteristics of real organizations and extend the KGA we confront the core issue for our theorizing, of managing the intuition and agency of human others. *Homo economicus* is not a good place to start for he, alas, has neither.

10.7. Teppo:

JC, I agree. Transactions are complex and hard to calculate. Power is important, so are social dynamics. Disciplines have their norms: perhaps we are engaged in 'language games.' *But*, the underlying ethos that informs my approach to management science is more analytical in nature and more realist in perspective. That is, in the end we have to explain something theoretically, in parsimonious fashion. We cannot include everything in the model. Or, we cannot simply say that everything is mutually instantiated (cf. Giddens 1984). Rather, we have to focus on key elements and drivers and assume away the rest: idealization and abstraction is the essence of science, its power and beauty. So, it is not sufficient to simply point to complexity, or some other x-factor (whether environment or power) and say that an approach is somehow wrong. Rather, we need to come up with alternative or complementary or expansive explanations to the ones already proffered, to offer better idealizations and models. Now, economics is certainly not a panacea, I have simply advocated economic *reasoning* and intuition given its analytical nature and tendency toward reduction. I might note that—despite your pronouncements to the contrary—Barnard (1938) and March and Simon (1958) certainly appeared to share this intuition. For example, Barnard was fairly clear not only in his emphasis on inducements and contributions, but more generally his approach was explicitly driven by methodological individualism: 'The individual is always the basic strategic factor of organization' (1938: 139).

Now, where does this leave us? Let me offer two concluding thoughts: an epistemological point and then hopefully some key points oriented toward 'first principles'-type of research questions.

First, I do not think that caricatures of economics help us advance discussions about understanding organizations, knowledge, and organizing. In short, I really do not buy into the language game intuition of epistemology introduced by Kuhn, Wittgenstein, and others. I would rather like to think, naively perhaps, that we are all engaged in an effort to truly understand organizations: their nature, origins, advantage, and so forth. Microfoundations are central to this. I do not see disciplinary boundaries as being relevant to the effort to understand organizations. There is excellent work on organizations being done in economics (e.g., Garicano 2000), much of it formal and analytical, and there is excellent work being done in strategy and organization theory (e.g., Nickerson and Zenger 2004). I see 'transdisciplinarity' as offering an important future for organization science, the boundaries simply are unnecessary and the disappearance of disciplinary boundaries will ought to give way to a better understanding about organizational phenomena. Thus, programmatic efforts, such as Nicolai's 'knowledge-governance approach,' appear to be highly conducive to the integration of insights from numerous disciplines, to help us understand specific questions surrounding knowledge and collective effort, organizing, and organizations.

Now, I am not completely naïve. Theoretical insights from different disciplines can be, and often are, contradictory, sometimes wildly so, as illustrated by the reemergence of the neoclassical economics versus organization theory clash (cf. Ferraro et al. 2005; Pfeffer 1997). But, being the naïve realist that I am, I believe that these clashes can and ought to be settled via the merits of the respective arguments rather than merely referring to 'language games.' In other words, we must realize that reasoning and science relies (at least in part) on that 'massive central core of human thinking which has no history' (Strawson 1959: 10). Thus, referencing language games is simply an act of academic cowardice—an effort to avoid engaging with the issues, logic, and arguments at stake. Furthermore, citing language games inherently does not recognize that some theories and arguments and facts simply are false period. Thus, vetting the 'true' and 'false' of arguments, proposed facts, and theories is at the very heart of science.

Second, back to the matter of 'first principles'—what are the key foundational research questions that relate to knowledge and organizations? From my perspective, many of these revolve around the need for a microfoundations 'program': again, I see the knowledge governance approach (Foss 2007*a*) as one vehicle for carrying this out. So, let me try to articulate some key areas that deserve further consideration. A key issue implicated by microfoundations is our model of human rationality and human nature. Specifically, given recent changes in our conception of human rationality and decision-making capabilities (e.g., Gigerenzer et al. 1999; Krueger and Funder 2000; McKenzie 2004), our models of rationality in management also need to evolve and reflect these changing conceptions. Thus, some key questions include: How do we specify rationality appropriately in organization science? How do our specifications of rationality relate to strategy and organizational contexts? Human nature also is central to our understanding of decision-making, learning, and so forth, and thus extant 'blank slate-like,' heavily behavioral, models also need to be updated. And, in general, our conceptions of bounded rationality need to place more emphasis on rationality and less on boundedness.

A second key issue is the matter of how various social effects emerge and originate from individual action and interaction. Specifically two things need to be recognized. First, that various social effects (whether the organization itself or matters such as networks) necessarily have individual-level origins and antecedents. Second, it must be recognized that individual action is taken within social context, which in essence requires the negotiation of heterogeneous preferences and interests. Key questions then include the following: How do various social effects—whether networks, organizations themselves, structure, etc.—emerge from individual interaction? How does collective action emerge from heterogeneous interests or beliefs? How do heterogeneous preferences and interests get aggregated or negotiated?

Another interesting micro–macro issue is the relationship between individual judgment and various organizational forms. Scholars have recently raised these issues (see Knudsen and Levinthal 2007), but numerous important questions remain. The questions are particularly interesting and important in a knowledge economy (cf. Foss 2006; Teece 2003): What are key organizational forms that best tap into knowledge housed in specialized experts? How is an individual's judgment best optimized in collective settings and what implications does this have for governance and new organizational forms? This area of investigation, at the nexus of judgment and organizational forms, appears to be particularly promising, and practically highly relevant given the demands of knowledge work. There are also important and daunting issues to be investigated at the nexus of individual and collective judgment. Extant theories often assume that social interaction somehow optimizes judgment and decision-making, but, there is plenty of psychological literature that suggests that this simply is not the case. Thus, the following type of questions seems to be critical: How does judgment get aggregated? What forms best optimize individual decision-making capabilities and what situations might benefit from forms that privilege collective judgment?

Overall, we've covered much ground here, in part perhaps talking past each other, but nonetheless the exercise has been engaging and, we hope, interesting for the reader.

10.8. JC:

Thanks Teppo, this has been fun and makes for another step in the ongoing conversation we have been having for several years now. We are certainly as one in our interest in organizations and management—and in economics too. They are important frames for the steps we take to try and better the human condition. I think economists are inclined, like Williamson, to argue that 'in the beginning there were markets' (Williamson 1975: 20). I would want to resist this and argue that perhaps in the beginning there were organizations, hierarchies perhaps, which established the title that property owners might then exchange. Irrespective of any historical claims, it seems obvious that in a property-owning democracy such as ours there is something of a conceptual divide between socioeconomic relations in which people pursue their own interests, a system of free exchange that appealed to Hayek and his colleagues, and those in which some individuals are obliged to pursue another's interest within a system of power. If this is accepted we can try to understand our situation from at least two bases in the hope that we might eventually bring them together in the way that physics advanced substantially when mass and energy were equated. Until that time, of course, we risk talking past each other.

But maybe it is only the conversation that is important, for to deny the relevance or usefulness of language games is itself no more than another language game. Thus the implication is that we must continue to interact across our disciplinary boundaries (language games), and resist the temptation to talk only to the members of our own community, thereby separating what we do and whatever intelligence we produce from the really important questions that concern those whose life is not lived in the ivory tower, the people who create real value, and the real conditions of life.

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