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Don't simplify, complexify: From disjunctive to conjunctive theorizing in organization and management studies

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Abstract

In this paper I argue that, rather than theory development aim at simplifying complex organizational phenomena, it should aim at complexifying theories – theoretical complexity is needed to account for organizational complexity. Defining the latter as the capacity for "nontrivial" action, I explore a complex "system of picturing" organizations as objects of study that provides an alternative to the hitherto dominant disjunctive style of thinking. A complex "system of picturing" consists of an open-world ontology, a performative epistemology, and a poetic praxeology. Complex theorizing is conjunctive: it seeks to make connections between diverse elements of human experience through making those analytical distinctions that will enable the joining up of concepts normally used in a compartmentalized manner. Insofar as conjunctive theorizing is driven by the need to preserve the 'living-forward – understanding backward' dialectic, it is better suited to grasping the logic of practice and, thus, to doing justice to organizational complexity. We come close to grasping complexity when we restore the past to its own present and make distinctions that overcome dualisms, preserving as much as possible relationality, temporality, situatedness and, interpretive open-endedness. I illustrate the argument with several examples from organizational and management research.

"Nor is wisdom only concerned with universals: to be wise, one must also be familiar with the particular, since wisdom has to do with action, and the sphere of action is constituted by particulars",

Aristotle (2002: 1141b15)

"Blind intelligence destroys unities and totalities. It isolates all objects from their environment. It cannot conceive of the inseparable link between the observer and the observed. Key realities are disintegrated. [...] The dominant methodology produces an increasing obscurantism: because there are no longer any links between the disjointed elements of knowledge, so there is no longer an opportunity to truly absorb them and reflect on them"

Edgar Morin (2008: 4)

"Emergence is *my* ability to see newly"

Heinz von Foerster (2014: 17)

"[...] As we begin [...] to bring into focus the nature of living activity, as distinct from repetitive, mechanical activities of non-living, dead things, we [...] come to focus more and more on what is novel, on what is unique, on what some scientists call *singularities*".

John Shotter (2011:148)

That theory matters in any discipline is indisputable. But what theory should aim at and how it should be developed, especially in a practically-oriented field such as organization and management studies, is less certain. Insofar as theory necessarily involves an abstraction from the world (Elster, 2007; Sayer, 1984; Swedberg, 2016; Thomas, 2006), it is worth exploring how such abstraction is conceived.

In an editorial article, Bettis et al (2014) set out to clarify what "theory" means, at least for the journal they edit. They acknowledge that theory-building is essential for advancing the field of strategic management, define what theory is, and explain why it is important. They write: "Theory has several core elements: simplification, assumptions, concepts, and causal relationships. It is widely agreed across natural and social science that theory involves simplification in varying degrees. Reality is too ambiguous, complex, broad, and diverse to be

fully perceived, understood, or represented without some level of *simplification*. Hence, theory must make *simplifying assumptions*. Such assumptions should be obvious or be stated. For example, microeconomic theory assumes profit and utility maximization, while the behavioral theory of the firm assumes bounded rationality" (Bettis, et al, 2014: 1411; emphasis added). Although the authors are open to several ways for developing theory (hypothesis-testing, mathematical models, computational models, qualitative research, etc.), they suggest that causality is the most distinguishing feature of a theory - "theory is concerned with causality, not with association" (op. cit.).

Leaving aside the causality imperative (one is hard pressed to see causality in some of the most influential theories of strategic management, such as the competitive positioning model and the resources-based view of the firm), it is worth reflecting on the need for theory to "simplify". Although there are good reasons to believe that any model, description or theory about a phenomenon is bound to offer a partial perspective on it (the map is necessarily an abstraction of the territory mapped – Weick, 1990), the reverse from what Bettis et al (2014) suggest may be needed: rather than argue that "theory must make simplifying assumptions", what is important, it could be plausibly argued, is for theories to become more complex to cope with the complexity of the world – after all, "only variety can absorb variety" (Beer, 1985: 26; Ashby, 1956: 207) or, as Weick (2007: 16) put it, "it takes richness to grasp richness". In other words, from realizing that the world that is complex, it does not necessarily follow that our theories must simplify it; the complexity of the world may well spur researchers to seek to develop ever more complex theories to cope with it.

Insofar as Bettis et al (2014) express the scholarly orthodoxy in organization and management studies, they reveal the tacitly upheld metaphysical view concerning "the system of

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picturing […] the structure of the world" (Harré, 1985: 16) that underlies their view of theory: the world consists of patterns, structured by complex relations of causality, which may be reliably ascertained by theories. In philosophical terms, this "system of picturing" underlies the perspective of scientific rationality, which privileges detached contemplation and the view that the most basic form of knowing is the epistemological subject-object relation (Sandberg and Tsoukas, 2011:340). However, "simplified" theories come with a heavy price: they miss the 'understanding backwards–living forward' dialectic that critically permeates the lives of those management scholars study. Life is understood 'backwards' when detached theorists abstract and simplify what practitioners were experiencing while they were living it 'forward'. No surprise, then, that practitioners often complain that management theories are not related to the real world (Weick, 2003: 453): if "simplified" theorizing has left out "most of what matters" (Weick, 2007: 18) – especially, context, uniqueness, process, and time - as it must for causal generalization to be possible, there is little left to reflect practitioners' experience of the rough ground of organizational life (Starbuck, 2006).

Consider the following two illustrations. When Peter Vaill became the Dean of a US Business School in the late 1970s, he found out things about his organization he did not know they had mattered as a management professor. Things like what? "As a Dean […], I quickly learned", he remarks, "that the good things that we management professors were saying managers should do are *all* time-dependent processes. […]. Everything was interactive. […]. I simply had to learn to understand myself in a spatiotemporal field of relationships, flowing and shifting" (Vaill, 1998: 28-29; italics in the original). Similarly, to take a very different example, in their study of the solid waste collection routine in six organizations, Turner and Rindova (2012) have captured the uncertainty inherent even in the most routine operations, since

contingencies cannot be eliminated. As a crew member in one of the organizations studied observed, "we would like for it to happen that way [to perform the routine consistently], but most of the time it don't [laugh] […]". What both examples show is that practitioners' living their lives forward is less orderly, more fluid and uncertain, and of a different kind than what appears to scholars who study it backwards (Weick, 2003: 454). However, the resultant tension between life-as-experienced and life-as-scholastically-represented tends to be ignored by the proponents of scientific rationality.

Does it matter? It certainly does, since the tension does not cease to exist if we turn a blind eye to it. At minimum, left unacknowledged, it generates contradictions, which need to be addressed. Consider, for example, Bettis et al (2014) treatment of time in theory development: "Theories either *explicitly or implicitly* usually include time as a variable, since by definition strategy, competition, competitive advantage, industries, organizations, and environments are considered dynamic in strategic management. Chains of cause and effect are embedded in time and often engender path dependence. Examples of variables that *implicitly* bring time into theory include experience, learning, and cohort effects" (Bettis et al, 2014: 1412; italics in the original). Notice two things in this statement.

First, to acknowledge that time is *implicitly* included in all theories is as illuminating as asserting that breathing is implicitly assumed in all positive psychology theories concerning well-being (Fredrickson, 2009), or claiming that gravity is implicitly assumed in all dancing (Luckmann, 2008: 280). Secondly, to acknowledge the *dynamic* nature of the phenomena studied by strategy researchers requires that we explore how theories are structured (that is, what onto-epistemological commitments theories make) to allow for time and the related notions of change and process in them. Yet, the sad truth is that, in strategy research, most theorizing (especially

theorizing that follows Bettis et al's (2014) advice about theory development) ignores time, or, to be more precise, cannot handle time, except in a spatialized, "abstract" manner - time as a series of snapshots (Guerlac, 2015: 30-33; Sandberg and Tsoukas, 2011; Tsoukas and Hatch, 2001).

The inability to handle time is clearly visible when Bettis et al (2014) elaborate on "predictive hypotheses" (i.e. "testable statistical hypotheses derived from theory"), stating that they are "often removed at some distance from causal parent theory" and, as a result, "this distancing often includes *elimination of time* as a variable, thereby allowing relatively simple statistical models to be used to test predictive hypotheses regarding complex dynamic theory" (Bettis, et al, 2014: 1412; emphasis added). The contradiction is evident: although it is acknowledged that "managers [make] strategic decisions that impact results across time" and although it is realized that "chains of cause and effect are embedded in time" (Bettis at el, 2014: 1412), if theory development follows the methods of scientific rationality, as advised by Bettis et al (2014), time will be eliminated. In other words, we know from experience that time matters but, since we need to "make simplifying assumptions" to account for a complex world (complex in part because of time), we will ignore time! We value time, yet we exclude time! We acknowledge the complexity of the world but deny it in our theorizing!

Consider now a very different example – the handling of ethics in strategic management theories. If the emphasis of theory development is on generating exclusively causal theories, ethics has no place in it, unless ethics is turned to yet another variable (Tenbrunsel and Smith-Crowe, 2008; Tenbrunsel et al, 2010), namely unless ethics is studied 'backwards' in a detached manner, thus, gaining in behavioral clarity but losing in normativity (Marti and Scherer, 2016). Reflecting the classical view of science as a value-free activity, Simon argued that the study of administration will be scientific insofar as facts are kept separate from values. With typical

clarity, Simon (1976: 250) remarked: "The proposition "Alternative A is good" may be translated into two propositions, one of them ethical, the other factual: "Alternative A will lead to maximum profit". "To maximize profit is good". The first of these two sentences has no ethical content, and is a sentence of the practical science of business. The second sentence is an ethical imperative, and has no place in any science". Thus, on this dualistic understanding, facts cannot be reconciled with values and, therefore, ethical notions cannot be part of scientific models. Or, to put it differently, insofar as ethical issues may be discussed at all, this can happen *outside* the realm of scientific analysis - as a postscript to scientific accounts (Tsoukas and Cummings, 1997).

However, practitioners' experience is different. To live life forward is to experience, among other things, its moral uncertainty: practitioners often agonize about 'the right thing to do' (Shotter and Tsoukas, 2014). Gioia's (1992) personal account of his time at Ford as a manger provides a telling testimony to this: should the reports indicating safety problems with a particular car model lead to the cars being recalled? Outlining new directions for integrating strategic management and business ethics, Elms et al (2010) perceptively note that, although strategy and ethics had shared common origins, as strategic management developed as a scientific field questions of ethics were pushed back, in preference of empirically testable hypotheses (typically related to performance measures of firm success and their causal antecedents). In that way, strategic management, Elms et al note, took on the "scientistic amorality" (Elms et al, 2010: 414) that has largely characterized the development of economics (Sen, 1987; Etzioni, 1988) and the social sciences (MacIntyre, 1985; Sayer, 2011; Flyvbjerg, 2001) at large.

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Like the treatment of time, we are well aware of the importance of ethics in strategic management, yet lack the intellectual means to integrate the two. Having assigned ethics to the philosophers, management scholars took it upon themselves to be the 'scientists'. However, in this way, as Morin (2008:4) pithily remarked, "we arrive at blind intelligence". We causally dissect organizational behavior in ever more minute detail, fragmenting "the complex fabric of reality, and [leading] to the belief that the fragmentation inflicted on reality [is] reality itself" (op. cit.). Strangely, we can speak about things that matter to us as scholars *qua* detached analysts but not about what matters to the engaged lives of those we study. How can we change this? To be precise, how can theory development become more complex to acknowledge the complexity of the world? What might be a complex "system of picturing" that will weave together experiences and concepts that have long been disjoined in classical organizational research? This is the question I will address in this paper.

My argument will be that our theories, rather than seeking to simplify the world, they should become more complex to better cope with organizational complexity. I will suggest that this may be achieved by adopting meta-theoretical principles whose core is the need to engage in conjunctive theorizing. I will first sketch two approaches to organizational research, one inspired by classical and the other by postclassical science. Then I will explore the source of complexity in organizations, namely that the latter are capable of "nontrivial" behavior, and will illustrate the argument with examples from organizational research. Subsequently, I will expand, with the help of relevant examples, on what theory development should take into account if complexity is to be taken seriously. Finally, in the conclusions, I will summarize the argument and further discuss the implications of conjunctive theorizing.

From a classical to a postclassical understanding of organization and management studies

Today it is uncontroversially accepted that organization can be seen as both an entity and a process (Langley et al, 2013). This ontological duality is paralleled by an epistemological one: organization may be known through identifying patterns of relations *and* may also be known through enacting patterns of relations. There is a praxeological duality too: organizations may be acted upon instrumentally (as if they were intentional objects) *and* they may provide the contexts for non-deliberate action. A science of organization and management touches on all three: it makes certain assumptions about its object of study; seeks to generate valid knowledge by following what are considered appropriate methods for doing so; and the knowledge claims it generates have certain implications for action (Tsoukas, 2005; Tsoukas and Chia, 2011).

For a long time, organization studies, as a scientific field, has followed "the Newtonian style" (Cohen, 1994; Toulmin, 1990) of thinking of classical science, according to which the goal of scientific research is to search for the universal, the general, and the timeless (Toulmin, 1990: 22-36; Tsoukas, 2005: Ch.9; Tsoukas and Dooley, 2011: 730; Montuori, 2008). The outcome of Newtonian-style thinking has been the privileging of the first component of each one for the preceding dualities, turning dualities to dualisms (Farjoun, 2010; Tsoukas, 2005: Ch.16; Sonenshein, 2016). More specifically, ontologically, organizational phenomena are thought to be *discrete entities* with certain pre-given properties, existing independently of the observer, which can be captured by the human mind. Reality, thus, is identified with what *is*; being is conceptualized as the *is* of things (Sandberg and Tsoukas, 2011). Epistemologically, knowledge of organizational phenomena is thought to be possible through a cognitive system that symbolically represents the pre-given features of those phenomena. Such representations represent what philosophers call the "primary qualities" of the object of study – properties that

capture the 'essence' of the phenomenon at hand and are independent of the observer (Mesle, 2008:45). Representations are assumed to be systematically related, and the task of organizational researchers is to find out how, through the formulations of empirically testable hypotheses. Finally, praxeologically, action is undertaken on the basis of the systematic relationships formally established. Practitioners relate to knowledge instrumentally: they use it just like they use any other instrument to achieve a purpose. Knowledge is external to its users. If practitioners obtain epistemologically valid knowledge, they can confidently act on the basis of that knowledge to rationally obtain the result they desire – typically, to improve organizational performance. Since "to know is to represent accurately what is outside the mind" (Rorty, 1989: 3), the more accurately we represent the world, the better chances we have to improve our action in it.

The Newtonian style represents a historically situated understanding of scientific inquiry (Toulmin, 1990) that aims at *decontextualizing* its object of study, in order to allegedly reveal its inherent properties – to show it as it truly is (Tsoukas and Cummings, 1997). It operates by seeking to explain a particular phenomenon through constructing an idealized model that abstracts away from the complexities of the real world, especially context, values and time, in order for certain regularities to be reliably identified. The Newtonian style is *disjunctive*: it splits the world up, sets apart the knower from the phenomenon to be known, and separates facts from values (Morin, 2008). Disjunctive thinking is dualistic: the mind is here, the world there; science is separated from ethics; stability is what needs to be explained, change is noise that may be ignored.

What, however, postclassical science has shown is that the language and the actions of the observer help partly constitute the phenomenon studied (Plotnitsky, 2002; Toulmin, 1982;

Cilliers, 1998; Fairclough, 2003); the mind and the world cannot be disentangled (Toulmin, 1982; Plotnitsky, 2002; Thompson, 2007; Kuhn, 2000; Von Foerster, 2003), human activities are necessarily context-dependent and underlain by values (Sayer, 2011; MacIntyre, 1985); stability and change, routine and novelty are interwoven (Tsoukas and Chia, 2002; Dionysiou and Tsoukas, 2013; Sonenshein, 2016). Such a perspective brings out the complexity of the world and highlights the need for complex types of understanding. The latter come about from conjunctive (or relational) thinking that seeks ways to connect concepts, in search for more integrated understanding. In practical disciplines, in particular, this is even more important since a practical discipline does not deal with unchanging structures but variable configurations of problems, manifested in particular situations, involving particular agents (Toulmin, 1990, 2001). Unlike theoretical disciplines that are concerned with general features of the world, in practical disciplines "clinical" procedures are required to handle particular cases (Toulmin, 2001: 111). Questions of circumstances, events, timing, history, and subjective preferences, all configured in idiosyncratic ways, matter enormously in addressing the question 'what needs to be done?'. This, as noted by Aristotle, is as true for management as it is for medicine and navigation: "[…] things in the sphere of action and things that bring advantage have nothing stable about them, any more than things that bring health. […] The agents themselves have to consider the circumstances relating to the occasion, just as happens in the case of medicine, too, and of navigation" (Aristotle, 2002: 1104a5).

In epistemological terms, the critical difference between a theoretical and a practical discipline is that, in the latter, the object of study (Aristotle's "*ta prakta*") is inherently variable (hence complex – see Beer, 1985: 21), so much so that its behavior cannot be described through time-invariant propositions (Van de Ven, 2007). It is true that, as scholarly endeavours, both

theoretical and practical inquiries aim at offering general propositions that hold true in the world. Such propositions are expressed as the major premises of deductive syllogisms – "All A's are B's", or "If X, then Y" (Toulmin, 2001: 108; Tsoukas, 2005: Ch.16). However, these major premises hold a different status in theoretical and practical disciplines. In theoretical disciplines, "All A's are B's" is taken to mean "*Any* A is a B". Even when the major premises are qualified ("All A's are B's in conditions C"), they are meant to apply to all of something (all of C). Each particular case is subsumed under a theoretical generalization. In practical disciplines, given the particularities involved, namely that each case retains elements of configurational uniqueness despite resemblances with other cases, the statement "All A's are B's" is taken to mean "*Every* A is (presumably) a B" (Toulmin, 2001: 108). In other words, in practical reasoning, a major premise states what has *generally* been the case in the past (Walton, 2006: 74), which entitles one to treat such a generalization as the point of departure for handling a particular case that appears to be similar (Tsoukas, 2009b). Similarity, however, is not identity: singularity cannot be eliminated and, therefore, complexity is an irreducible feature of the world practitioners face, calling for complex types of inquiry (Tsoukas, 2016).

From disjunctive to conjunctive thinking: Organizations as trivial vs. nontrivial machines

Applied to a practical discipline such as organization and management studies, the Newtonian style treats organizations as "trivial machines" (TMs), namely as systems whose outputs and inputs are connected with a predetermined rule (i.e. for a certain input, a particular output always follows, by applying a known rule) (see Figure 1). Trivial machines are predictable and history-independent (which means that their internal states remain unchanging). Squaring a number is an example of a TM, as is a deductive syllogism – in both cases, knowing the rule, an input is converted to a predictable output. To treat a phenomenon as a TM means that one is interested in

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finding out the rule through which particular inputs are turned into outputs. Thus, in the case of deductively-structured reasoning employed in classical organization and management studies, what is required is to identify the mechanism through which certain behaviors are predictably generated. The core component of such a mechanism is postulated to be the "rational individual", who is taken be "an organized and institutionalized individual" (Simon, 1976: 102). The latter's behavior, in so far as it is "governed by performance programs" (March and Simon, 1993: 142), is predictable and, thus, susceptible to social scientific investigation.

Insert Figure 1 about here

Seeing organizations as trivial machines treats human agency in a "trivialized" manner, namely as following certain "decision rules" (Nelson and Winter, 1982: 14) that generate predictable behavior. Decision rules, note Nelson and Winter (1982: 14), are conceptually close to "production techniques" and are constitutive of "routines" (op. cit.). Nelson and Winter insert the term routines in quotation marks, mindful perhaps of the metaphorical roots of the term at the time of their writing (early 1980s). They liken (organizational) routines to "computer programming" routines (p.97) or "genes" (p.15), attributing to them, among other things, the ability to "determine" behavior (p.14). According to the authors, routines generate predictability and "the smooth uneventful effectiveness of […] organizational or individual performance (p.97). In other words, routines provide the decision rules whose operation guarantees the "uneventful" functioning of organizations – namely, the absence of change. Once the input to a routine (say, a procedure for ordering new inventory) is given, the routine generates the expected output.

To be fair, it is not that Nelson and Winter are oblivious to the uniqueness and unpredictability of organizational behavior, but they assign those features of organizations to the category of "stochastic elements" (p. 15), which, for the purpose of "economic theorizing" (p.15), are hard to predict and, therefore, they need not constitute an object of study. "Most of what is *regular* and *predicable* about business behavior is plausibly subsumed under the heading "routine", especially if we understand that term to include the relatively constant dispositions and strategic heuristics that shape the approach of a firm to the nonroutine problems it faces" (Nelson and Winter, 1982: 15; italics in the original). Notice Nelson and Winter's logic of their Newtonian-style inquiry: 'economic theorizing is concerned with regularity and predictability. Organizations, however, do contain hard-to-predict "nonroutine" behaviors and events, which, insofar as they occur, are "stochastic elements". Since economic theorizing aims at generalizability, such stochastic elements are outside its scope'.

In other words, research captures and accounts for only the stable and the predictable. Since change has been definitionally excluded from the concept of routines, change is not going to be found empirically. Seeing organizations as bundles of routines, and having defined routines the way Nelson and Winter do, human agency is "trivialized" into mechanical rule-following. Accordingly, the organization looks like a trivial machine, whose main function is to generate predictable behavior. Accordingly, organizational research is similarly "trivialized", insofar as it aims at merely recording regularities rather than accounting for the unpredictable and the novel.

If, however, one acknowledges the complexity of the object of study, as one must, especially in a practical discipline, one finds the disjunctive language of the Newtonian style restrictive. Looking at organizational life from within (Luckmann, 2008: 280), context, agency, values, and time, clearly matter, so much so that the major premise of deductive reasoning,

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which is typical of classical science, is of doubtful usefulness. To the extent organizations are capable of taking a great number of possible states they are complex (Beer, 1985: 21), resembling what von Foerster (1984) calls "nontrivial machines" (NTMs). A nontrivial machine keeps changing its rule of transformation: "a response once observed for a given stimulus may not be the same for the same stimulus given later" (von Foerster, 1984: 10). The critical difference from a trivial machine is that the nontrivial machine has an internal state that keeps changing (see Figure 2). The internal state (z) co-determines the input-output relation (x, y) and, moreover, the relationship between a present and a subsequent internal state is co-determined by the input (x). A NTM is recursive: every time it operates it changes its rule of transformation; or, to put it differently, "the machine's experience transforms it into a different machine" (Segal, 2001: 90). Nontrivial machines are extremely complex: for an NTM with just two output states and four input states, the number of NTMs is the astronomical $6x10^{76}$. This is not simply a large number but one that makes it impossible for a particular NTM to be identified from among all possible NTMs (von Foerster, 1984: 12).

Insert Figure 2 about here

Thus, what is critical in an NTM is that every time its internal state changes, it potentially becomes a different machine – experience is self-transformational. Moreover, it is impossible, at any particular point in time, to know which NTM one is faced with. However, our common experience suggests that we do not live in a totally unpredictable world. There are patterns and stabilities around us. How is it possible, then, for nontrivial machines (such as human agents and socially generated artifacts such as organizations) to generate relatively predictable behavior? For von Foerster, patterns and stability arise out of recursive operations. When a NTM

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reprocesses what it has already produced, circular behavior is created, which gives rise to stability.

To illustrate this, Von Foerster (1984: 18) uses the example of taking recursively the square root of any number and ending up with the value of 1, which he calls an "eigen value" (German for "self-value"). More generally, eigen values emerge from the continuous sequence of recursive operations; they represent the convergence towards an equilibrium point – a state of stability. Remarks von Foerster (1984: 19): "in the recursive operation [you can see] a principle of self-organization that allows certain structures to emerge – to crystallize – from early, arbitrary stages". If the primary variable at hand is behavior, we can speak of "eigen behavior". An eigen behavior represents the stability that arises from ongoing recursive operations. Such stability, however, is an *accomplishment*, not a given, and is, therefore, susceptible to change. The observer, dwelling primarily in language, describes stability from the outside – in naming a particular behavior he/she points at an eigen behavior. The agent, however, dwelling in experience, feels the flow, the constraints and the affordances of the situation at hand. The observer observes something already made, while the agent experiences something in the making. And the observer-cum-agent (which is what most organizational members are most of the time) is a member of both camps: thrown in a particular situation, which is *already* defined and structured in some way, an observer-cum-agent engages in recursive interaction with others, thus helping modify the situation. Eigen behaviors are, thus, experienced both as already accomplished *and* as emergent outcomes; the world appears stable and open-ended at the same time. Eigen behaviors give rise to discrete, identifiable states, which, insofar as they enter an agent's field of experience, are susceptible to perturbations, thus being amenable to change.

External perturbations are recursively integrated (Von Foerster and Poerksen, 2002: 61; Von Foerster, 2014: 16-26).

If organization is seen as a nontrivial machine, both stability and change can be accounted for. Indeed, organization is an important mechanism for generating stability, through the systematic carrying out of recursive operations in conditions of closure. More specifically, insofar as organization institutionalizes a network of interconnected feedback loops, with outputs being reprocessed as inputs, conditions of closure are created, and a distinct organizational identity is carved out (Morgan, 1997: 258-261; Maturana and Varela, 1980; Moeller, 2006). Within a context of institutionalized interaction, different participants reciprocally impact on one another, the result of which is the gradual emergence of stabilities. The latter result in the establishment of key categories and the convergence of behaviors. However, categories may be *re*vised, meaning *re*signified, and new behaviors may be adopted insofar as new experiences are generated through recursive *interaction*. The creation of stabilities is an ongoing accomplishment – it is a process. Stability co-exists with change: stability requires *work* for it to be accomplished and change requires stability from which to depart.

Notice how applying such conjunctive thinking to organizational routines leads to markedly different results from those obtained through Nelson and Winter's disjunctive thinking that splits stability from change. Seeing organizations as NTMs enables us to see routines as stable *and* variant, enduring *and* changing (Dionysiou and Tsoukas, 2014; Sonenshein, 2016; Deken et al, 2016). Observed from the outside, routines represent repetitive patterns of interaction, but experienced from within routines are filled with creative agency (Feldman and Pentland, 2003; Feldman and Rafaeli, 2002; Howard-Grenville et al, 2016). Thus, while Nelson and Winter think of agency in terms of following "decision rules", in Feldman's

conceptualization of routines, agency has a far more significant status. "Agency is an important aspect of this [perfomative] perspective on routines", she writes. "Routines are performed by people who think and feel and care. Their reactions are situated in institutional, organizational and personal contexts. Their actions are motivated by will and intention. They create, resist, engage in conflict, acquiesce to domination. All of these forces influence the enactment of organizational routines and create in them tremendous potential for change" (Feldman, 2000: 614).

Feldman's language is remarkably different from that of Nelson and Winter. Since agents are thought to be more than rule-followers, change is seen an integral part of, rather than mere 'noise' in, routines. Organizational routines do not apply themselves – they are rather *performed* by people, whose agency is not merely a matter of cognition but, also, affect. Agency is not the exercise of merely individual preferences but is shaped through its being embedded in several collective contexts (interaction, organizational and institutional contexts). Taking agency seriously prioritizes the epistemic significance of experience over the mechanical application of rules. Writes Feldman (2000: 629): "Plan and actions produce outcomes that influence in conjunction with ideas or values what makes sense to do next. Outcomes at the "end" of each "round" can be compared with ideals as well as with previous plans and can feed into the plans for the next iteration of the routine. Outcomes also influence ideals or values when they change what people see as the possibilities".

Notice the language of recursion Feldman employs. Routines are iteratively performed: outcomes are compared with ideals or plans and are fed back as inputs (plans) for the next iteration. The recursive operation of the routine provides it with stability and predictability – the routine constitutes an eigen behavior. However, insofar as the routine is performed, it is enacted

in time, in open-ended contexts, by embodied-cum-embedded purposive agents. The experience generated through the recursive performance of the routine potentially changes agents and, therefore, the way future iterations of the routine may be enacted. Eigen behavior co-exists with non-trivial performance. Seeing a routine as the accomplishment of interacting nontrivial agents preserves a richer imagery than disjunctive thinking does, since it enables the overcoming of traditional dualisms, such as stability vs. change, repetition vs. creativity, individual vs. context, cognition vs. affect, goal-driven vs. means-oriented behavior (Sonenshein, 2016).

Taking complexity seriously: Towards conjunctive theorizing in organization and management studies

I have argued so far for an anti-dualist mode of thinking to enable us to avoid "blind intelligence" and, thus, to cope with the complexity of organizations. We need conjunctive thinking to find ways of connecting and, thus, accounting for, organizational members' experience as well as for organizational behavior at large. For Morin, to acknowledge the complexity of the world requires the shift from the "paradigm of simplification" (Morin, 2008:51) to the "paradigm of complexity" (op. cit.). In his words: "At first glance, complexity is a fabric (complexus: that which is woven together) of heterogeneous constituents that are inseparably associated: complexity poses the paradox of the one and the many. Next, complexity is in fact the fabric of events, actions, interactions, retroactions, determinations, and chance that constitute our phenomenal world" (Morin, 2008: 5).

Complexity "presents itself with the disturbing traits of a mess, of the inextricable, of disorder, of ambiguity, of uncertainty" (op. cit.). For the paradigm of simplification (and the associated Newtonian style of inquiry), such complexity is undesirable and must be reduced

(recall Nelson and Winter's definition of routines). By contrast, for the paradigm of complexity (and the conjunctive approach it inspires), complexity is the trigger for more complex forms of inquiry (see Feldman's conceptualization of routines). If the paradigm of simplification relies on disjunction and reduction, the paradigm of complexity relies on distinction and conjunction – "to distinguish without disjoining, to associate without identifying or reducing" (Morin, 2008: 6). Complex thinking seeks to account for experience in a unified manner and, accordingly, conjoin concepts by overcoming disciplinary isolation. Complex thinking, however, does not lead to know-it-all thinking. To take complexity seriously means that one realizes the irreducible ambiguity and uncertainty of the world, which present inquirers with the ongoing need to complexify their thinking.

Mindful of the 'forward-backward' dialectic, complex inquiry seeks to "restore the past to its own present with all its incoherence, complications, and 'might-have-beens'" (Weick, 2007: 17). To achieve this, inquirers need to capture organizational life as closely as Vail experienced it as Dean, not as a professor of management; as Feldman's managers experienced the enactment of routines, not as Nelson and Winter's disjunctive scheme conceived of routines. Although a researcher cannot properly grasp the texture of organizational life with hindsight (since the uncertainty and the ambiguity of action-lived-forward are not accessible by the researcher, except known as reports after the event), the researcher can nonetheless seek to register disruptions, surprises, and breakdowns, which disclose the logic of practice (hence, partially at least, the ambiguity and uncertainty) for those involved. Moments of disruption are the moments in which the scholarly understanding-backwards coincides with practitioners' living-forward (Weick, 2003): the logic of practice, normally unavailable to researchers since they are outsiders to the practice, reveals itself when a disruption enables practitioners, who until

then had been absorbed in practice without being aware of it, to pay deliberate attention to what they had been doing (Sandberg and Tsoukas, 2011). This is a moment of "theory" for practitioners, since the disruption brings the relational sociomaterial totality they had been immersed into view (etymologically, in Greek, "theoria" means observing, spectating – Toulmin, 1982: 239; Tsoukas and Chia, 2011: 3). It is precisely such a quasi-detached view, made possible through the disruption of practice, which allows researchers to see, if momentarily, the logic of practice (Sandberg and Tsoukas, 2011).

Weick (2007) reports an account offered by a fire chief and his (and his partner's) failure to drop their tools while attempting to extinguish a house fire, which nearly cost them their lives. To understand ex post facto the fire chief's living-forward experience, notes Weick, we need to pay attention to the uniqueness of his situation ("his ambivalence, the contradictory pressures created by such things as a new truck, an available house, fiery pitch balls that were sticking to his clothing, responsibility for the life of another firefighter, unfamiliarity with the locale, and the effects of increasing anxiety on his sensemaking", Weick, 2007: 17). To avoid simplifying (disjunctive) thinking requires that "we give up clear single-focus hindsight that says simply, he reverted to overlearned behavior and was unable to drop his tools" (op. cit.). To seek complex (conjunctive) thinking, instead, would require that we seek a rich account that will preserve "disorder and confusion" (op. cit.). The disruption Weick (2007: 17) reports is the firemen's failure to follow normal safety procedures and, thus, drop their tools. Such failure reveals both the logic of their practice (the relational sociomaterial totality of firefighting practice they are immersed into) *and* the novel action they undertook in this particular case to escape danger. In other words, seeking to grasp the complexity of the situation, it is the *non-triviality* of the firemen qua agents that is of interest, which cannot be captured through the rationalizing

language that deductively seeks to subsume the particular firemen's behavior under already known generic behaviors (i.e. "overlearned behavior").

Similarly, it is the *non-triviality* of administrators enacting the housing routine in a US university (Feldman, 2000), or of Honda's managers seeking to enter the US motorcycle market in the early 1960s (Mintzberg et al, 1996) that account for the novelty that, in both cases, emerged in practice. Indeed, as noted earlier, if Nelson and Winter's conceptualization of routines is accepted, routines cannot change when performed and, thus, the novel enactment of routines is not possible. Paradigmatic "systems of picturing" not only guide inquiry but do so in a circular manner. Likewise, one may account for Honda's entry into the US motorcycle market in the early '60s through either employing a rationalizing language that subsumes the particular phenomenon under already established generic rules concerning corporate strategy, or may pay attention to the particularity of the phenomenon at hand, seeking to account for its situational uniqueness and the emergent novelty. Doing the former requires a quasi-deductive language, such as that used by the Boston Consulting Group, which, in its report (BCG, 1975), accounted for Honda's particular success by using concepts exclusively from the competitive positioning framework (essentially, pointing out Honda's aim for high volumes, low cost and high growth). Goold (1992: 169-170), a co-author of the report, dismissed the importance of "historical" questions ("How did this situation arise?") for the "managerial" question "What should we do?" Such a style of inquiry does the opposite of what Weick (2007) suggests: understanding 'backwards', Honda's success is rationalized by removing agency from the picture; all the uncertainty, the confusion and the might-have-beens are downplayed; agents' experience is ignored; "all the possibilities of what might have happened are reduced to one" (Dening cited in Weick, 2007: 17).

Interestingly, the only plausible answer to the question "what should I do?" (a question that is at the heart of any practically-oriented field) is thought to be the provision of a generic framework that seeks to register "patterns" in an organization's decisions, in a way that would enable other organizations to "use these patterns in identifying what works well and badly" (Goold, 1992: 170). In praxeological terms, the only useful knowledge is deemed to be deductively structured knowledge, rather than actors' situational knowledge, perceptiveness, and creative potential. However, a complex account would seek to go beyond a detached analysis of the structural enablers that made Honda's success possible to explore the actions of the agents at hand, their beliefs and desires, their perceptions, and experiences, in context and in time (Tsoukas and Knudsen, 2002; cf. Fairclough, 2003). Restoring the past to its present preserves the complexity of the world as experienced by actors living-forward. Rather than seeing agents in a "trivialized" manner (namely, as mere carriers of structural forces), conjunctive thinking views agents as being capable of undertaking novel ("nontrivial") action. Below I expand on why nontrivial action is an intrinsic (rather than contingent) feature of organizational life, and discuss the implications (Sonenshein, 2016).

Nontrivial agents have emergent properties that stem from (a) their complex internal constitution (von Foerster's variable internal state z – see Figure 2), and (b) their mode of engagement with an open world. In particular, agents may always reweave their beliefs and desires, as a result of their interaction with themselves, other agents, and material objects (Tsoukas and Chia, 2002). Such interaction is cognitive, affective and embodied, underlain by a value-laden (moral) orientation that stems from agents' embeddedness into particular discursive practices (Shotter and Tsoukas, 2014; Tsoukas, 2009a; Nicolini, 2013). Moreover, agents' mode of engagement with an open world is such that they not only respond to whatever intersects with

their lines of conduct (Blumer, 1969), but they do so while "thrown" into the world to which they cannot avoid taking a stance: as members of discursive practices, agents find themselves *already* oriented in the world *and* working out possible ways to be. The defining characteristics of agents are not fixed properties but *possibilities* – ever-developing ways of being (Cerbone, 2008: 35).

Insofar as organizations consist of interacting nontrivial agents, they have emergent properties too, which cannot be mapped out in advance (Garud et al, 2011; Garud et al, 2015; Dougherty, 2016). Appreciating the emergent texture of organizations, namely treating them not as mere collections of formal routines, structures and decision rules but as *interactive accomplishments*, leads us to appreciate also the inherently creative role agents play in making interactive accomplishments possible (Bechky, 2011; Joas, 1996; Emirbayer and Miche, 1998; Tsoukas and Chia, 2002; Tsoukas, 1996, 2009). In other words, a complexity perspective on organizations highlights: (a) agents' "throwness" in the world, along with their effort to work out possible ways to be, (b) the situatedness of human action; and (c) the ever unfolding nature of organizational reality, since the latter is not a *fait accompli* but is (re)created through praxis (Bechky, 2011).

In particular, agents are able to act by virtue of being immersed in a discursive practice – a collective, unarticulated background (hereafter: background) providing them orientation, which agents take for granted. The background, being an important part of the relational sociomaterial totality agents are embedded into (Sandberg and Tsoukas, 2011: 344-5), consists of evaluative distinctions agents learn to internalize and on the basis of which they relate spontaneously to their surroundings (Tsoukas, 2009a). To be embedded into a background is to experience one's situation in terms of *already* constituted meanings and values. The latter represent what Sawyer

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(2005: 210-214) calls "stable emergents", namely relatively enduring collective understandings that influence repeated encounters of social interaction. The background provides the quasi-stable frame that makes agents' explicit representations possible and comprehensible. Agents are implicitly aware of the background; their awareness is non-focal. Insofar as agents articulate aspects of their background, in pursuit of particular projects, in the context of particular interactive undertakings, their actions are *emergent* and, therefore, impossible to be known in advance. Sawyer (2005: 210-214) calls this type of emergence "ephemeral", since it occurs within episodic interactive encounters. Although this is an open-ended process, it is also constrained. Interacting agents contribute to an ongoing process of "collaborative emergence" (op. cit.), while, at the same time, being constrained by the shared emergent frame that already exists at that moment. Exploring the mechanisms through which each type of emergence is created and how the two are connected is an important research task. What is especially of interest is the dialectic that is at the heart of any organizational phenomenon that is viewed as an interactive accomplishment: how individuals jointly create and maintain ephemeral and stable emergents *and* how individual action is shaped by those emergents through downward causation (Sawyer, 2005: 210).

As already mentioned, to view organizational phenomena as interactive accomplishments requires that we view them as *performances* enacted in context and in time (Dillon, 2000). Exploring how the process of collaborative emergence unfolds, especially how the past is drawn upon and made relevant to the present, in pursuit of particular future-oriented goals, is an important task. For example, as Gehman et al (2013) have shown, it takes a professionally trained accountant (an accounting alumna) – namely, someone immersed in the discursive practice of accounting and its underlying "standards of excellence" (MacIntyre, 1985:187) - to be

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sensitive to issues of integrity so that she wants to see "integrity" become a key part of the values framework of an MBA graduate. How agents draw on their background to make it relevant to current goal-oriented projects, in open contexts, requires *work*, namely requires the mobilization of particular understandings, tools and sociomaterial arrangements, and such a process is open-ended.

Insofar as a process-sensitive view of the world seeks to capture its ever-unfolding character, it resonates better with practitioners' experience (recall Vail's description of his work experience as Dean). Viewed in process terms, the world is composed of events and experiences rather than substances (Hernes, 2014; Langley and Tsoukas, 2010). Each event arises out of, and is constituted through, its relations to other events. An event can be further analyzed to smaller events (Cobb, 2007:572; Hussenot and Missonier, 2016: 526-529). Organizational meetings like those described by Gehman et al (2013), or the preparations for the annual University Boat race studied in a number of breakdown episodes by Lok and de Rond (2013), are examples of events. These events may become subject to further analysis in terms of smaller events, by focusing, for example, on particular individuals over periods of time and studying how their focal experiences grew out of earlier experiences, interactions, and anticipations.

Past events are internally related to – they are constitutive of – a present event. While substances stand independent to one another, unchanged through time, events or occasions of experience are constituted by their relations to other events and cannot be understood properly unless placed in the nexus of other events (Mesle, 2008). Momentary human experience is meaningless if seen as isolated. On the contrary, it is meaningful to the extent it is seen as arising out of past experiences: just like listening to the final cord of a musical phrase and recognizing it as the completion of the phrase presupposes that earlier experiences of antecedent cords have

become part of the present (Cobb, 2007:570). To use Whitehead's (1929/1978:19) term, the way we "prehend" a current experience incorporates elements of past experiences (Hernes, 2014). As Cobb (2007: 570) notes, "a prehension is the way in which what was there-then, becomes here-now […] the way in which one momentary experience incorporates its predecessor". Seeing the world as patterns of interrelated events enables us to see the endemic change the world undergoes: "every drop of experience is a novel weaving of the world of preceding experiences out of which that drop arises" (Mesle, 2008:43). Every event reconfigures an already established pattern.

For example, critiquing traditional models of decision making, Langley et al (1995:261) urged researchers to stop viewing organizational decisions as "identifiable outcomes of impersonal and isolable processes", adopting, instead, the view that "no decision can be understood *de novo* or *in vitro*, apart from the perceptions of the actors and the mindsets and cultures of the contexts in which they are embedded". When the decision makers are "opened up to history and experience, to affect and inspiration" (Langley et al, 1995:275), we come to see decisions as "interwoven networks of issues", constantly shifting over time. In their study of two "innovation journeys" at 3M Corporation, Garud et al (2011) found that "3M was able to interweave actors, artifacts and practices over time, allowing for productive nonlinear innovation dynamics to unfold. Opportunities, implications and judgments collided; favorable moments became endogenous" (Garud et al, 2011:760-1). Exploring how community identity was resurrected in a US town, Howard-Grenville et al (2013: 113) conceive of identity reproduction as an open-ended recursive process, whose driving force is the ongoing updating and "authenticating" of leader-induced "orchestrated experiences" by filtering them through memories and existing identity symbols. Similarly, Schultz and Hernes (2013) have studied the

ongoing reconstruction of identity at LEGO Group, showing the ways in which different memory forms were evoked and influenced claims to future identity. Their study explicitly follows conjunctive thinking: "identity may be viewed as simultaneously enduring and changing. […] Instead of conceiving the role of time as enduring continuity, it considers how the past and future are continuously reconstructed by organizational actors when seeking to define what the organization is becoming" (Schultz and Hernes, 2013: 17-18).

Notice that in the preceding examples, agents, in various degrees, become alive, composed of thoughts, feelings, and sensory experiences; are embedded in discursive practices, acting in time, in particular contexts; their identities come from memory and anticipation, shaped in context and through particular interactions. Zooming into agents' experiences we can trace how the "there-then" becomes "here-now" and, importantly, explore *how*, in this process, situated "abstraction" from experiences introduces possibilities into the present, which are not necessarily derived from the past (Cobb, 2007: 571). In other words, taking events or occasions of experience seriously, we can better appreciate that the world is *re*-created any moment (MacKay and Chia, 2013: 211; Shotter, 2011).

Conclusions

In this paper I have argued that we need to develop a complex form of theorizing that does justice to organizational complexity. Having defined the latter as the capacity for nontrivial action, I have explored a "system of picturing" organizations *qua* objects of study that provides an alternative to the hitherto dominant reductionist-cum-disjunctive system that has long characterized mainstream organization and management studies as a field. I have argued that a complex "system of picturing" consists of an open-world ontology, an enactivist epistemology, and a poetic praxeology.

An open-world ontology assumes that the world is always in a process of becoming, of turning to something different. Flow, flux and change are the fundamental processes of the world, and whatever stability agents experience arises out of the flow they routinely find themselves in. The future is open, unknowable in principle, and it always holds the possibility of nontrivial surprise. An enactivist epistemology assumes that knowing is action. Agents bring the world forward by making distinctions and giving form to a collectively held, unarticulated background of understanding. Knowledge is the outcome of embodied knowers who are embedded within a discursive practice, on whose cognitive, affective and normative resources they routinely draw. A poetic praxeology sees the practitioner as a nontrivial agent who, while inevitably shaped by the discursive practices he/she is thrown into, he/she necessarily shapes them back by taking a stand on his/her experience through undertaking purposive action that is relatively opaque in its consequences, variably clear in its motives and desires, and contextually situated. Such an agent is inherently capable of reflexivity and, thus, susceptible to chronic change. A poetic praxeology acknowledges the complicated motives of human action and the moral background of action, makes room for the transmutation of the past into new forms in the present, understands the relatively opaque nature of human intentionality, and allows for chance and recursively operating feedback loops, while accepting the inescapable contextuality and temporality of human action.

Drawing on such a "system of picturing", complex theorizing is purposefully *conjunctive*: it seeks to make connections between diverse elements of human experience through making those distinctions that will enable the joining up of concepts normally used in a compartmentalized manner. Analytically, the purpose is "to distinguish without disjoining, to associate without identifying or reducing" (Morin, 2008: 6). A conjunctive-style of theorizing

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privileges: (a) the discursive, materially-mediated practices in which agents are thrown, as well as the intrinsic capacity of agents to take a stand to what they experience and work out possible ways to be, (b) the situational uniqueness that is characteristic of all practical action, and (c) the unfolding nature of organizational reality.

Conjunctive theorizing, driven by the need to preserve the 'living-forward – understanding backward' dialectic, is better suited to grasping the logic of practice and, thus, to doing justice to organizational complexity. We come close to grasping complexity when we restore the past to its own present, thus preserving the uncertainty, puzzlement and emotions experienced by agents during action and better appreciating the situational novelty of action. Making distinctions motivated by the need to preserve as much as possible relationality, temporality, situatedness and, interpretive open-endedness (or variable combinations thereof), generates a language that is complex insofar as it includes a *both/and* rather than an either/or orientation to the phenomenon at hand (Tsoukas and Hatch, 2001). Complexifying the language of description signifies an effort to join up what has hitherto been considered juxtaposed or paradoxically related to (Lewis, 2000).

For example, some researchers have argued that tacit and explicit knowledge (Tsoukas, 2011), stability and change (Feldman and Pentland, 2003; Tsoukas and Chia, 2002; Farjoun,2010), individual mind and collective mind (Weick and Roberts, 1993), social and material arrangements (Orlikowski, 2007), individual and community (Cobb, 2007), *chronos* (abstract time) and *kairos* (experienced time), exploration and exploitation, design and improvisation, intentionality and serendipity (Garud et al, 2011), far from being juxtaposed are, indeed, mutually constituted. The spirit of conjunctive theorizing is conveyed by Tsoukas and Dooley (2001: 732), in their commentary on Weick and Roberts' (1993) theorizing of "collective

mind", as follows: the collective mind is made possible not by aggregating individual minds but by seeing the individual mind as "relationally constituted": "the collective is always already within the individual; the individual always-already helps reconstitute the collective".

Conjunctive theorizing is *performative* in a double sense of the word: on the one hand it conceives of organizational phenomena as interactive accomplishments, thus aiming at capturing the performances involved in helping bring about the phenomenon under study (Gehman et al, 2013: 86-7; Feldman and Orlikowski, 2011); and on the other hand, conjunctive theorizing practices what it preaches: the ontological open-endedness of the world is reflected in the open-endedness of the concepts developed; the epistemological insight that both conceptual generality *and* situational particularity matter is reflected in seeing concepts as being partly defined through practice; and the praxeological understanding that action is inherently creative is reflected in theorists' bringing about conceptual novelty spurred by empirical specificity. For example, for Weick and Roberts (1993), the collective mind does not consist of a set of "primary qualities" to be captured through detached analysis, but is, rather, seen as a style manifested and, thus, shaped, in action. Similarly, for Feldman (2000) routines are not completely defined a priori, but have an irreducibly performative component, which is situationally defined (hence Feldman writes about "routines-in-action"). The emergent character of reality is reflected in the emergent character of conceptual development. A dynamic ontology goes hand in hand with a dynamic epistemology.

In other words, in conjunctive theorizing concepts are not seen as fixed representations of a pregiven world, but as partly emergent creations: they orient scholars and practitioners alike to grasp the general pattern through which a phenomenon is enacted *and* to look for the situational specificity through which such enactment takes place. Experience has an inherent epistemic

value: it provides concepts their particular shape, drawn from particular contexts. Theory does not aim at offering decontextualized generalizations but *elucidation*: to illuminate a phenomenon through making ever finer distinctions that provide practitioners a clearer and more integrated understanding of their practices (Tsoukas, 2009b). Conjunctive theorizing makes agency visible to agents. As a result, agents are reminded of what they *already* do and, crucially, of what *may* do (Shotter and Tsoukas, 2011: 332). Insofar as this is so, agents obtain a more perspicuous account of their practices, thus complexifying their language of description. While Bettis et al's (2014) instruction to theorists is to simplify, von Foerster's (1984: 13) and Weick's (1979: 261) advice is, by contrast, to complexify – to seek, respectively, "de-trivialization" and "complication" of their queries. Although, in this paper, I have not refrained from making my preferences known, which account of theory organizational and management researchers will find more convincing remains an open-ended matter.

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