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Entrepreneurship as Process

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ABSTRACT

Entrepreneurial processes currently rank as the hottest topic in entrepreneurship research. The dominant approach in entrepreneurship studies, however, does not take process seriously. Moreover, entrepreneurship scholars generally tend to neglect the philosophical assumptions that undergird their research on entrepreneurial processes. Consequently, we have much to learn about such processes and our thinking about them needs to be sharpened. In this paper, we use process philosopher Stephen Pepper's four "world hypotheses" as an important resource to identify, articulate, and scrutinize such assumptions. Guided by Pepper's typology, we reviewed 37 articles that portrayed entrepreneurship as a process. We found a quarter of the articles to be "philosophically pure" and the rest of them "philosophically eclectic." We discuss both approaches and then turn our attention to entrepreneurial imagination – a concept largely neglected in the extant entrepreneurship literature, but one represented in over half the articles we reviewed. We offer future directions for studying imaginative processes and their interplay with embodied and unconscious processes, and we conclude with three general recommendations for studying entrepreneurship as a process, which follow from our philosophically informed, reflexive approach.

KEYWORDS: entrepreneurial processes, the process of entrepreneurship, entrepreneuring, entrepreneurial imagination, imaginative processes, philosophical assumptions, Pepper's world hypotheses, Pepper's root metaphors, contextualism, reflexivity

Introduction

Browse any article on organizational entrepreneurship, and you are almost guaranteed to find entrepreneurship discussed as a process. Remarkable too is the sheer number and variety of processes addressed – from opportunity discovery and creation processes, to firm start-up, growth, and exit processes, to broader market and institutional processes. And these are but a few examples! It is little surprise that “entrepreneurial process” currently ranks as the “hottest” topic in entrepreneurship research (Kuckertz, 2013). For the past generation, “the entrepreneurial process” has been an ubiquitous phrase in the organizational entrepreneurship literature. In recent years, “entrepreneurship” – a term that serves as shorthand for entrepreneurship as process – has begun to appear regularly in the scholarly literature. More importantly, pioneering scholars placed “process” at the very heart of entrepreneurship, identifying it as one of the main perspectives in entrepreneurship (Gartner, 1985) and one of the focal areas for future entrepreneurship research (Low & MacMillan, 1988). Recently, entrepreneurship scholars have revitalized these points, proclaiming “process is our fundamental object of enquiry” (McMullen & Dimov, 2013: 1505; see also Chiles et al., 2007; Steyaert, 2007; Moroz & Hindle, 2012). This paper provides a review and discussion of entrepreneurial process scholarship, taking a unique philosophical approach that highlights differences in the fundamental assumptions and knowledge claims made by entrepreneurial process scholars.

Philosophy sensitizes us to the fundamental assumptions we hold about the nature of reality, our place in it, and how we come to know it (Tsoukas & Chia, 2011). Recognition of our own philosophies is important because we tend to be unaware of philosophical assumptions, yet we incorporate them tacitly in our scholarly work (Tsoukas & Chia, 2011; Meyer et al., 2005). Indeed, our philosophical assumptions profoundly influence the metaphors we invoke, the questions we ask, the theories we adopt, and the methodologies we employ (Chiles et al., 2010a). To a large degree, they even determine the very phenomena and problems we choose to study (Meyer et al., 2005). More generally, such assumptions powerfully influence the trajectories of entire fields of inquiry in terms of overall theoretical progress and cumulative knowledge advancement (Scherdin & Zander, 2014).

Despite the importance of philosophical assumptions, organizational entrepreneurship scholars, like their colleagues in other areas of organization studies, tend to neglect them (Scherdin & Zander, 2014). At the same time, we scholars have a strong “tendency to cling on to our preferred views and to dismiss theories [methodologies, metaphors, and questions] that do not conform to our own operating premises and hence to avoid sustained questioning of our own assumptions” (Tsoukas & Chia, 2011: 4). To make matters worse, researchers overwhelmingly use a “gap spotting” and “gap filling” approach – that is, scholars find or construct gaps in the literature that need to be filled and

then fill them – in order to make a scholarly contribution, which means “they rarely *challenge* the literature’s underlying assumptions in any significant way” (Alvesson & Sandberg, 2011: 249). Taken together, these points underscore a pressing need in organization studies generally – and organizational entrepreneurship specifically – to embrace a more reflexive approach in which scholars challenge the assumptions underlying others’ work, as well as their own, in order to produce more interesting and influential research (Alvesson & Sandberg, 2011).

In this paper, we employ process philosopher Stephen Pepper’s (1942) classic typology of four “world hypotheses” as a means of advancing a more reflexive approach to processual entrepreneurship research in organization studies. Pepper’s typology offers a particularly useful framework for both organizing and understanding the different types of formal knowledge produced and philosophical assumptions espoused by a diverse group of scholars (Tsoukas, 1994). Accordingly, this typology is well suited to our goal of making sense of the remarkably diverse entrepreneurial process literature in a way that is both structured and informed by an approach sensitive to researchers’ most basic assumptions.

We begin by explaining Pepper’s typology. Next, we turn to review selected literature that treats entrepreneurship as a process. Our selection – most of which has not been previously reviewed – is heavily influenced by our own philosophical assumptions (specifically, the importance of relativism and contextualism), research interests (which focus on imagination, emergence, and creation), and methodological preferences (particularly qualitative analysis and process research). At the same time, the literature review is sensitive to the dominant assumptions (which prioritize realism and mechanism), common perspectives (which focus on discovery, effectuation, and enactment), and pervading methods (which rely on quantitative analysis and variance research) current in organizational entrepreneurship research.

Pepper’s Typology

Pepper (1942) identifies four worldviews around which various schools of philosophical thought cohere: formism, mechanism, organism, and contextualism. Each worldview derives from a “root metaphor” around which commonsense evidence congeals, and is, as Tsoukas (1994: 763) observes, “characterized by a different set of assumptions concerning the logical structure of the social world.” Each worldview, according to Pepper, is autonomous and represents a distinct type of knowledge. Thus, Pepper argues that it is unreasonable to compare one worldview to another in order to determine the “best” worldview and to discredit other worldviews. In fact, Pepper suggests all four perspectives are necessary to illuminate entrepreneurial processes.

Theoretical Binaries

While each worldview shines a unique light on a particular phenomenon, they collectively “arrange themselves in two groups of two each” (Pepper, 1942: 142). Pepper called the first set of theoretical binaries “analytic” and “synthetic” and the second “integrative” and “dispersive.” *Analytic theories* approach problems from “the top down,” noting first the overarching concern, then reducing this general concern to specific elements (Chiles et al., 2010a: 147). Formism and mechanism represent worldviews that profess a whole can be reduced to its parts. In contrast, *synthetic theories* “work from the bottom up,” discerning first specific data, then focusing on how the data form broader patterns (Chiles et al., 2010a: 147). Accordingly, the whole is the primary object of study, rather than the parts. Organicism and contextualism are synthetic theories in that they both examine a problem in its entirety, rather than studying isolated details of the problem.

While analytic and synthetic theories understand how problems can be addressed as wholes or parts, integrative and dispersive theories concern the ways in which the parts work – or fail to work – together. *Integrative theories* assume parts coexist in a realm of systematic order and predictable outcomes (Chiles et al., 2010a). As such, integrative theories are fundamentally inconsistent with “cosmic chance” (i.e., uncertainty) and enthusiastically embrace determinate order (Pepper, 1942: 143), such as one finds in or near equilibrium. Mechanism and organicism are integrative theories that assume harmony among parts. These theories oppose *dispersive theories*, which suggest disparate parts of a whole do not exist harmoniously, but rather continually clash as each attempts to express its own uniqueness (Chiles et al., 2010a). Thus, dispersive theories embrace an unpredictable, uncertain, largely indeterminate world (Pepper, 1942), such as one finds far from equilibrium. Formism and contextualism exemplify dispersive theory and examine ways in which parts function in chaotic ways.

Root Metaphors

Formism is analytic and dispersive; its root metaphor is similarity. This worldview highlights our ability as human beings to categorize, catalog, or classify phenomena in order to “capture similarities and differences between discrete objects of study without being necessarily concerned to offer an account of the underlying mechanisms that are responsible for any similarities and differences identified” (Tsoukas, 1994: 763). Formism comes in two versions. In its “soft” version, formistic thinking enables scholars to make sense of things based on their own unique conceptual categorization schemes (typologies) and other scholars’ acceptance of them, such as Burrell and Morgan’s (1979) four paradigms, and, as we employ in this paper, Pepper’s (1942) four worldviews (Tsoukas, 1994). In its “hard” version, formistic thinking allows researchers to reflect an independent reality by empirically generating objective classification systems (taxonomies), such as the periodic

chart of the elements in chemistry and the clustering of industries into strategic groups in strategy (Tsoukas, 1994).

Mechanism's root metaphor is, not surprisingly, the machine. Scholars adopting this worldview conceptualize phenomena as simplified systems situated in equilibrium and comprising discrete parts and their interrelationships. As an analytic, integrative theory, mechanism understands problems as "a small set of well-developed variables, embedded in a nomological net" (Chiles, 2003: 288). The primary and secondary variables comprising such abstract models can be quantitatively operationalized and the relationships between them tested with statistical techniques. Utilizing data and outcomes from the past, mechanistic models and their associated quantitative and statistical methods provide researchers the power to accurately predict specific outcomes in the future. True to the scientific method, mechanistic scholars pursue positivistic research. Such research (often pursued in a hypothetico-deductive fashion) seeks to make accurate observations about an objective reality that exists "out there" in the world, describe quantitatively established regularities of which such a world consists, offer predictions about future outcomes and recommendations for future courses of action based on such prior regularities, and produce knowledge that is not only valid and reliable, but also generalizable to other populations, contexts, and times (Tsoukas, 1994).

Organicism's root metaphor is the integrated whole (Tsoukas, 1994) or, more specifically, the historic process in which fragments of events – connected in contradictory, conflicting, and competing ways – are progressively integrated into a coherent whole (Pepper, 1942). Informed by synthetic, integrative theories, organic processes, as Tsoukas (1994: 769) explains, involve "the unfolding of a logic that is immanent into the object of study." For example, a human fetus develops into an infant, a toddler, a child, an adolescent, an adult, and eventually dies, and a business venture evolves through life-cycle stages from start-up, to growth, to maturity, and ultimately to either revitalization or decline. Such processes unfold in an orderly fashion from stage to stage and tend toward equilibrium and hence greater determinateness (Chiles et al., 2010a; Tsoukas, 1994). Other examples of organic processes include Hegelian dialectics, variation-selection-retention evolution, punctuated equilibrium, Kirznerian discovery, and Schumpeterian creative destruction (Chiles et al., 2010a; Tsoukas, 1994). Given organicism's interest in historical processes, it is indeed ironic that this worldview "consistently explains time away" (Pepper, 1942: 280).

Whereas "[o]rganism takes time lightly or disparagingly," Pepper (1942: 281) argues, "contextualism takes it seriously." For this reason, contextualism's root metaphor is the historic event – not a completed event that is effectively "dead" and must be "exhumed" from the past, but rather the historic event that is "alive" in the present, the event "going on *now*, the dynamic dramatic active event" (Pepper, 1942: 232). Contextualists are not interested in an isolated event or action, but rather action in context, the contextualized act, continually changing over time. In contrast with

mechanistic and organistic scholars who evacuate or downplay time, and hence change, in their work, contextualists view change as an inherent and omnipresent feature of the world, the source of not only instability, but also novelty and difference. In contrast with formistic scholars who highlight the similarity of events, contextualists spotlight events' uniqueness: "Every moment is qualitatively different and should be treated as such" (Tsoukas, 1994: 767). As a result, contextualists emphasize the emergence of qualitative novelty, the continual mutation of existing patterns into new ones, and the creation and continual re-creation of novelty that naturally occurs as individuals act and interact over time (Chiles et al., 2010a; Tsoukas, 1994). Additionally, unlike their mechanistic colleagues, who emphasize "quantities," contextualists stress "qualities." Finally, in sharp contrast with mechanistic and organistic scholars, contextualists readily embrace the subjectivity, uncertainty, unknowability, and unpredictability associated with indeterminate processes, such as those found far from equilibrium (Chiles et al., 2010a). While contextualists accept the disorder and messiness inherent in such processes (Steyaert, 2004), they also acknowledge the concurrent existence of order (Pepper, 1942) and the synthetic, dispersive qualities of a contextual worldview.

Literature Review

Given our focus on Pepper's typology, we intended to organize our review using his four worldviews; however, a large majority of the selected articles employed multiple worldviews (see Figure 1). Accordingly, we chose to structure our paper by two broad types of articles: "*philosophically pure*" articles (single-worldview articles), which Pepper recommended, and "*philosophically eclectic*" articles (multiple-worldview articles), which Pepper generally discouraged. We then focus on one key process that emerged in both types of articles as a central feature of the entrepreneurial process and appeared, either implicitly or explicitly, in slightly over half of our articles: *the process of imagination*. Summaries of the 10 theoretical and 27 empirical articles comprising our review can be found in Tables 1 and 2, respectively.

***** Insert Figure 1 and Tables 1–2 *****

"Philosophically Pure" Articles

Pepper argues that, in theory, each worldview is autonomous and mutually exclusive. Thus, he advocates philosophical purity as a cognitively superior approach vis-à-vis philosophical eclecticism. Consistent with this recommendation, nearly one quarter of the articles we reviewed were situated in a single worldview. All such "philosophically pure" articles, except one (Baker et al., 2003), clustered in two worldviews: mechanism (Baron & Tang, 2011; Hill et al., 2014; Hmieleski et al., 2013) and contextualism (Goss et al., 2011; Hjorth, 2013; Johannisson, 2011, Steyaert, 2004, Valliere & Gegenhuber, 2014). This may well be the only point of convergence for two worldviews that share no common ground: mechanism is analytic/integrative, while contextualism is

synthetic/dispersive (see Figure 1). What might explain this convergence? We believe many mechanistic scholars take it for granted that the only legitimate way to conduct research is to do so from a mechanistic worldview, making them more likely to base their research on this and only this worldview. In contrast, many contextualistic scholars are keenly aware of their (and others') philosophical assumptions and assiduously avoid potential confusion that may result from indiscriminately mixing several worldviews.

“Philosophically Eclectic” Articles

By mixing worldviews, Pepper argues, authors create internal inconsistencies, which lead to theoretical confusion and “cognitive loss” (1942: 112). Simply put, multiple worldviews “get in each other’s way” (Pepper, 1942: 332). With roughly three quarters of the articles we reviewed situated in multiple worldviews, we encountered a number of such instances. Although sometimes frustrating, such mixing is not uncommon in entrepreneurial process scholarship, with criticisms of ontological vacillation and confusion dotting the extant literature (e.g., Moroz & Hindle, 2012). Worse yet and likely a result of philosophical eclecticism, according to Pepper (1942: 113), is scholars’ use of “empty abstractions” in which concepts have lost touch with their root metaphors. In our review, for example, we observed many authors (including ourselves) using the term “mechanism” in organic, formistic, or contextualistic arguments.

On the other hand, Pepper allows “reasonable eclecticism in practice” (1942: 330), acknowledging the value of each worldview in shedding different light on a phenomenon and the wisdom of using all four worldviews to illuminate it. This approach parallels Langley’s (1999) “alternative templates” strategy for making sense of process phenomena. In our review, three particularly effective eclectic approaches stood out.

First, some authors used formism to separate one worldview from another. Such an approach is especially important when pairing the radically different worldviews of mechanism and contextualism – a combination that, if not addressed mindfully, “reveals all the evils of eclecticism” (Pepper, 1942: 148). Sarasvathy (2001) and Berends et al. (2014), for example, use formistic decision-making logic to separate mechanistic causation from contextualistic effectuation processes. Such an approach is, of course, not limited to mechanism and contextualism. Formistic knowledge could also separate, for example, mechanistic recognition, organic discovery, and contextualistic creation processes (Chiles et al., 2010a).

Second, others used formism – in which each and every category of a formistic typology was itself deeply rooted in another non-formistic worldview – to structure arguments that were in turn solidly based on the very same non-formistic worldview. For example, Jack et al. (2008) used a typology of process theories, each and every theory of which was organic, to structure their organic explanation of how entrepreneurial networks change and develop over time.

Third, still others working in a contextualistic vein effectively integrated other worldviews in service of contextualism. Chiles et al. (2004: 506), for example, did just this by assigning the mechanistic aspects of their research a “supporting role” in service of contextualism. This general argument follows from contextualism’s truth criterion of “successful working” (Pepper, 1942: 270):

A powerful implication of this truth criterion is that on contextualistic grounds one can adopt the analytic strategy of an alternative worldview in a given situation if doing so is useful toward some end. For example, a philosophical contextualist might adopt a mechanistic theory because it is useful in identifying ways of ‘controlling’ behavior. Strategic integration of this sort does not violate Pepper’s warning against the destructive effects of eclecticism, because no integration of the underlying root metaphors is implied. (Hayes et al., 1988: 101)

The Process of Imagination

Imagination, while largely neglected in the extant entrepreneurship literature, is an important thread running through many of the articles we reviewed. Most articles, regardless of the extent to which they address imagination, point to one key notion: imagination is fundamental to the entrepreneurial process. However, with the exception of one conceptual (Hjorth, 2013) and two empirical (Chiles et al., 2013; Dolmans et al., 2014) articles, very few address imagination in great depth. This finding might be because many of these studies invoke imagination as part of a broader process, such as decision making via effectuation (Sarasvathy, 2001; Wiltbank et al., 2006; Berends et al., 2014), sensemaking in processes of venture creation (Cornelissen & Clarke, 2010), sensegiving in entrepreneurial contexts (Cornelissen et al., 2012), and generating novel business ideas (Gielnik et al., 2012). Other studies do not mention imagination *per se*, but they address processes that can be viewed as synonymous with imaginative ones. For instance, Bingham and Kahl (2014) emphasize the importance of future expectations and of forward-looking processes for anticipatory learning, Jack et al. (2008: 151) address the co-creation of “broad visions of the future,” and Baker et al. (2003) stress the importance of imagined futures and expectations for the entrepreneurial process.

Regardless of the terminology, more light still needs to be shed not only on imagination, but also on the process of imagination. Moreover, we know little about other processes that inform – and are informed by – imaginative processes. For example, with the exception of Hjorth (2013) and Cornelissen et al. (2012), no articles explore the interplay of imaginative and embodied processes; nor do any articles, save Dolmans et al. (2014) and Chiles et al. (2004, 2013), address the connection between individual-level imaginative processes and higher-level disequilibrium processes occurring within firms and markets.

Importantly, the vast majority of articles invoking imagination did so from a contextualistic perspective (but see Baker et al., 2003; Gielnik et al., 2012; Jack et al., 2008; Jones & Massa, 2013). Imagination is inherently a relational process that unfolds as a response to context (Hjorth, 2013), allowing entrepreneurs to continually create novelty in their ongoing interactions with others (Chiles et al., 2013; Dolmans et al., 2014; Jack et al., 2008; Johannisson, 2011). Moreover, Chiles et al. (2013) argue that such imaginative processes play an important role in the partially *ex nihilo* creation of novelty – an argument that emphasizes prospective agency without denying retrospective agency. Such creative imagination processes are consistent with not only contextualism’s unique “horizontal cosmology,” which spotlights the infinite analyzability of phenomena (Pepper, 1942: 251) and their causes (Hayes et al., 1988), but also contextualism’s notion of “spread,” which draws attention to the quality of a present event being suffused with the past and the future (Pepper, 1942: 239).

Methodologically, contextualist scholarship can be achieved by taking a qualitative approach to research (Tsoukas, 1994; Chiles et al., 2010a). Perhaps not surprisingly, the majority of the selected articles invoking imagination, either substantively or moderately, do take such an approach. In fact, the only fully quantitative study (Gielnik et al., 2012) and the two mixed-methods studies (Chiles et al., 2004; Berends et al., 2014) in our selection only invoke imagination in passing. Moreover, most of the fully qualitative articles, with the exception of Baker et al.’s (2003) inductive theory-building study and Cornelissen et al.’s (2012) micro-ethnographic study, apply case study methods (e.g., Bingham & Kahl, 2014; Chiles et al., 2013; Dolmans et al., 2014; Greenwood & Suddaby, 2006; Jack et al., 2008).

Future Directions

Our review suggests a number of directions for future research. Here, we focus on two. First, our review suggests the value of exploring imagination – an important, but largely neglected “wellspring of the entrepreneurial process” (Chiles et al., 2013: 278). While others have suggested entrepreneurs’ imaginations drive higher-level disequilibrium processes (Chiles et al., 2010a,b; Dolmans et al., 2014), we emphasize the importance of understanding the *process* of entrepreneurial imagination and the interplay of such imaginative processes with lower-level processes. Doing so spotlights the entrepreneur, placing at center stage the individual level of analysis – a focal level often neglected in multilevel process research (Langley et al., 2013).

Notwithstanding our efforts to include articles addressing imagination in our review, almost no articles address in any depth the process of imagination itself (but see Hjorth, 2013). For example, we know little about how entrepreneurs’ backward-looking knowledge or retrospective sensemaking affect their forward-looking imaginations, i.e., their prospective sensemaking – much less how such backward- and forward-looking processes intertwine over time. Moreover, while Cornelissen et al. (2012) and Hjorth (2013) address the interplay of entrepreneurs’ imaginative activities and embodied

experience, they do not – despite the deeply interwoven nature of imaginative, embodied, and unconscious processes (Modell, 2003) – broach unconscious processes. Johannisson (2011) acknowledges the existence of imaginative and embodied processes in entrepreneurship and Cornelissen and Clarke (2010) recognize the importance of all three processes in entrepreneurship, but neither explores the interplay of these processes. So, exciting work remains to be done in order to better understand how imagination unfolds over time and in interchange with embodied and unconscious processes.

Philosophically, we advise researchers to resist the urge to pursue this line of inquiry using the dominant approach in entrepreneurship studies because of the difficulty conceptualizing and operationalizing imagination and the processes by which it unfolds using mechanistic models and techniques. In fact, a mechanistic worldview, we believe, may have prejudiced some scholars against the very concept of imagination in entrepreneurship research – a belief consistent with philosopher Mark Johnson’s (1987: 140) statement that there is “a deep prejudice against [the concept of imagination] in Western thinking.” Instead, we recommend researchers adopt non-mechanistic worldviews, especially contextualism (Pepper, 1942). As we have argued, contextualism not only takes time more seriously than the other worldviews, but also is sensitive to bottomless causation, the reach of the past and future into the present, and the continual emergence of novelty (Hayes et al., 1988; Pepper, 1942). These qualities, along with the fact that other worldviews can be integrated if used in service of contextualism (Hayes et al., 1988), makes it a particularly attractive worldview with which to study the process of entrepreneurial imagination.

Methodologically, researchers engaging in contextualist scholarship to study the interplay of imaginative, embodied, and unconscious processes may choose from a number of qualitative techniques. The vast majority of the articles we reviewed applied case study methods, which are certainly useful for exploring imaginative processes; however, other techniques may prove better suited to a more nuanced, processual understanding of entrepreneurial imagination. For instance, scholars may opt for in-depth interviews in order to ground current theoretical understandings in the lived experiences of entrepreneurs while further exploring the embodied and unconscious processes by which entrepreneurs engage their imaginations. Specifically, they may consider taking an intersubjective approach to interviewing that would allow them to engage in a conversation and, as a result, in a negotiation of meaning with their informants regarding the interplay of imaginative, embodied, and unconscious processes (Kvale & Brinkmann, 2009). Alternatively, researchers may pursue one-on-one ethnography with a focus on participant observation and “spect-acting” (Gill, 2011) – a technique in which researchers actively engage in, rather than passively observe, field action. Such ethnographic techniques would address a pressing need for entrepreneurship researchers to engage in more extended, direct, real-time interaction with process phenomena.

Second, we offer directions for future research that rest solidly on our reflexive approach. Our particular approach followed Alvesson and Sandberg (2011: 251–252) in “identifying” and “articulating” the “assumptions underlying existing literature.” Moreover, consistent with Alvesson and Sandberg (2011: 252), we used Pepper’s typology as an important resource “to open up and scrutinize” such assumptions. On the basis of our review of the literature using this philosophically informed, reflexive approach, we conclude with three recommendations for studying entrepreneurship as process:

(1) *Render Your Assumptions Explicit.* While several articles rendered their philosophical assumptions explicit and a few others did so at least partially, the vast majority of articles we reviewed did not. This often resulted in confusion, to one degree or another, in the form of an indiscriminate commingling of concepts from several worldviews. In order to clarify our thinking and clean up our languaging, we propose authors render their ontological and epistemological assumptions explicit – not only for single-worldview articles but also, and especially, for multiple-worldview articles.

(2) *Take Process Seriously.* A prominent theme among mechanistic articles was what we termed “a process sandwich,” which invokes a classic ad where Wendy’s calls McDonald’s out for offering undersized burgers on oversized buns, leaving customers asking: “Where’s the beef?” We often found articles’ front and back ends framed in processual terms, but their core, i.e., their methods and results, not taking process very seriously. For example, time was condensed in Likert-scale questions, reduced to lagged effects, collapsed into variables of a cross-sectional analysis, or ignored completely. We encourage our mechanistic colleagues to consider process-oriented techniques such as time-series regression, event history, and gamma analysis, and research designs that temporally sequence the administration of measures such as mobile-phone experience sampling.

(3) *Avoid Getting Trapped in a Validation Frame.* A common occurrence in non-mechanistic articles we reviewed was that authors (ourselves included) got trapped in what Locke (2011: 614) calls a “validation epistemology.” That is, authors often undermined their non-mechanistic worldviews by unwittingly elevating one or more parts of the mechanistic trinity: validity (e.g., by focusing on minimizing retrospective bias), reliability (e.g., by stressing the calculation of inter-coder reliability), and generalizability (e.g., by framing the inability to generalize to a broader population as a limitation). Following Pepper (1942), we urge our organic, formistic, and contextualistic colleagues to resist judging their research by the standards of mechanism and be mindful of the philosophical assumptions underlying their chosen worldview.

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Table 1: Selected Theoretical Entrepreneurship Research

Authors	Primary theories	Research questions	Primary processes	Process meaning ^a	Contribution to understanding entrepreneurial processes
Alvarez & Barney, 2007	Enactment within the context of Weick's Enactment-Selection-Retention (ESR) framework; Austrian economics (Kirzner, Schumpeter)	Do entrepreneurial opportunities exist as objective phenomena waiting for entrepreneurs to discover and exploit them? Or, are these opportunities created through entrepreneurs' actions?	Creation processes with an emphasis on enactment processes; Discovery processes that comprise exogenous change and search processes	Entity	Articulates coherent theory of entrepreneurial creation processes and contrasts it with the dominant discovery process view; Explicates assumptions of both theories and argues they have different implications for entrepreneurial action; Encourages fuller development of creation process view.
Cornelissen & Clarke, 2010	Sensemaking	How are opportunities for a novel venture identified or created and how does the institutionalization of a novel venture occur over time?	Sensemaking, cognitive, and imaginative processes within the new venture creation process	Sequence	Develops process model of entrepreneurial sensemaking during early stages of venture creation, which, by bridging cognitive and institutional literatures, provides a more integrative understanding of entrepreneurs embedded in social context; Connects process theory to linguistic and discourse analysis to understand how entrepreneurs' inductive reasoning about novel ventures changes over time.
Gartner & Brush, 2007	Weick's ESR framework	How does the process of entrepreneurship as organizing unfold? How might the proposed framework help clarify current and influence future entrepreneurship research?	Organizing processes	Sequence	Elaborates ESR theory, focusing on three organizing processes fundamental to entrepreneurship: emergence, newness, and transformation; Uses elaborated theory to structure a review of the entrepreneurship literature.
Hjorth, 2013	Foucault's subjectification; Deleuze's fabulation	How does the desire and passion to create drive people into a social field? How is the field's context electrified and potentialized by entrepreneurs' narrative performances of imagination/fabulation?	Narrative, relational, imaginative, and embodied processes; Processes of creation/becoming	Sequence	Investigates narration's role in processes of becoming-entrepreneur; Explores Foucaultian subjectification, through the Deleuzian perspective of fabulation, to spotlight entrepreneurship as a creation process; Highlights Bergsonian time, imagination, context, and importance of relational ontology and future-oriented approaches to understand entrepreneurial processes.
Johannisson, 2011	Practice theory; Aristotle's phronesis;	How does a practice theory of entrepreneuring matter? How does	Entrepreneuring processes emphasizing practice	Sequence	Uses phronesis to understand entrepreneurship as

	Organizing context	entrepreneurship contribute to a metaphorized vocabulary? How might entrepreneurship scholars research entrepreneurship-as-practice?	of creative and collective organizing; Venturing processes		ongoing practice of creatively organizing resources and people in relation to opportunity; Provides metaphorizing insights into entrepreneurship; Introduces “enactive research” methodology for investigating entrepreneurship.
Sarasvathy, 2001	Pragmatism; Carnegie school; Decision making; Weickian ESR; Strategy formation; Knightian and creative process economics; Policy making; Network brokerage	How do entrepreneurs create artifacts such as firms, markets, and economies and thus bring them into existence? How do entrepreneurs make decisions in the absence of preexistent goals?	Decision-making processes of effectuation and causation	Sequence	Argues that explanation of the process by which entrepreneurs endogenously create economic artifacts requires the logic of effectuation, rather than causation.
Shane & Venkataraman, 2000	Organizational entrepreneurship, especially Venkataraman’s “distinctive domain” work; Austrian economics (Kirzner, Hayek, Schumpeter)	How, by whom, and with what effects are opportunities discovered, evaluated, and exploited?	Opportunity discovery, evaluation, and exploitation processes	N/A	Places processes, occurring at the individual attribute-environmental opportunity nexus, at center stage in the entrepreneurship field; Moves field away from neoclassical economics’ static equilibrium framework toward traditional Austrian economics’ disequilibrium process perspectives.
Steyaert, 2004	Bakhtinian prosaics	How do language-based approaches and conversational research practices allow researchers to study mundane entrepreneurial processes such as narrative, dramaturgical, metaphorical, and discursive processes?	Entrepreneurship as a social process; Conversational, innovation/novelty, and aesthetic processes; Process of creation/becoming	Sequence	Advocates language-based approach to entrepreneurship research that seeks to understand everyday entrepreneurial processes in reflexive and critical ways; Emphasizes entrepreneurship as a process of becoming – one that resists reductionist approaches.
Valliere & Gegenhuber, 2014	Bricolage; Postmodernism	How do postmodern entrepreneurs create value, through bricolage, by reconceptualizing resources, remixing their fragments and anchoring them into new contexts?	Bricolage and value creation processes	Sequence	Proposes process model of postmodern entrepreneurship, inspired by “hip-hop DJ” metaphor, that explains how entrepreneurs create value by reconceptualizing resources, remixing resource fragments, and anchoring their novel creations in new contexts. Propositions and “how” questions offered to guide future research.
Wiltbank et al., 2006	Rational vs. adaptive strategy; Prediction-control relationship; Knightian uncertainty;	How can a firm know what to do next?	Strategic decision-making processes with a focus on effectuation processes	Sequence	Provides new possibilities for theory and practice by separating control from prediction; Stresses importance of creativity in transformative

	Effectuation				approaches such as effectuation; Suggests that entrepreneurs can use their imaginations to create the future.
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^aProcess viewed as “a fixed *entity* measured by relevant (fixed) attributes that are then related to a particular outcome of interest” or “a *sequence* of events or activities that describe how particular things change over time” (McMullen & Dimov, 2013: 1482, italics added).

Table 2: Selected Empirical Entrepreneurship Research

Authors	Research questions	Research methods	Primary processes	Process meaning^a	Contribution to understanding entrepreneurial processes
Baker & Nelson, 2005	How do entrepreneurs create something out of nothing in resource-constrained environments?	Inductive field study of 25 small businesses in an economically depressed U.S. region and case study of 4 young knowledge-intensive firms, involving interviews and observations	Bricolage and enactment processes	Sequence	Process model of bricolage shows how entrepreneurs in resource-constrained environments are able to create unique products and services by recombining previously worthless resources they have on hand and repurposing them in ways that challenge institutional norms.
Baker et al., 2003	How does the improvisation process unfold, if at all, in knowledge-based start-ups? Does the process involve strategic actions? What resources does improvisation draw upon? How does improvisation affect firms' competencies and routines?	Inductive theory-building study of 25 training and consulting firms, 21 software firms, and 22 faculty start-ups, involving interviews, direct and participant observation, and archival data	Improvisation and bricolage processes within the start-up process	Sequence	Improvisational processes are common in knowledge-intensive start-up processes, and can occur alongside conventional design-precedes-execution (DPE) processes in start-ups. Improvisational start-up processes are more likely than DPE start-up processes to involve network bricolage. Process by which founders interpret their firm's past and present in light of an envisioned future can shape the firm's emerging strategy.
Baron & Tang, 2011	How does an entrepreneur's positive affect and creativity influence innovation in their firm?	Hypothetico-deductive quantitative study of 99 entrepreneurs engaged in start-up process; Survey included 1 question regarding number of innovations in the last 5 years	Affective, creativity, and innovation processes within the founding process	Entity	New venture creation processes can be understood in terms of how a founding entrepreneur's positive affect promotes creativity, and how creativity, in turn, increases the number and radicalness of a firm's innovations. Relationship between these individual-level mechanisms and between creativity and firm-level innovation is stronger in highly dynamic environments than in more stable ones.
Berends et al., 2014	How does new product development (NPD) unfold over time in small firms?	Multimethod longitudinal study of 5 small Dutch manufacturing firms, combining 352 event counts (analyzed using Gamma analysis) and qualitative data from interviews, e-mails, and documents	Effectuation and causation processes within NPD processes	Sequence	Small firms employed both effectuation and causation processes throughout the NPD process, with effectuation dominating the early stages and causation the later stages. Effectuation-based NPD processes are resource-driven, stepwise, and open-ended. Provides much-needed test of effectuation theory in a real-life context, one that effectuation scholars have not previously explored.
Bingham & Kahl, 2014	How do organizations learn from the anticipation of negative outcomes?	Inductive multiple case study of 6 firms in the global software industry, involving interviews, documents, and on-site meetings	Cognitive processes of anticipatory learning within search processes	Sequence	Anticipatory learning is a process of backward- and forward-looking search, emphasizing both changes in cognition and behavior. Process involves learning from potential negative outcomes that are less severe, more frequent, and more heterogeneous.
Chiles et al., 2013	What theoretical concepts does the radical Austrian school's kaleidic metaphor	Inductive analysis of excerpts from 10 books and 1 article and deductive case study of 12	Forward-looking imaginative processes; Opportunity creation and exploitation	Sequence	Kaleidic metaphor developed and grounded to better understand entrepreneurs' creative imaginations as a wellspring of disequilibrium creation processes. Assumptions about opportunity discovery,

	embody? Do those concepts have any counterpart in entrepreneurs' perceptions of their own lived experiences?	entrepreneurs' life stories based on interviews, documents, and on-site observations	processes		creation, and exploitation processes challenged. Entrepreneurs invited to play with a kaleidoscope to facilitate discussion and understanding.
Chiles et al., 2004	How do organizational collectives emerge?	100-year longitudinal case study of Branson, Missouri's musical theaters, combining primary data from interviews, documents, questionnaires, and on-site observations with archival data analyzed using Poisson regression	Processes of organizational emergence comprised of creation and re-creation processes	Sequence	Complexity theory used to understand how organizational collectives emerge as a result of fluctuation, positive feedback, stabilization, and recombination processes. Entrepreneur-driven disequilibrium market processes engender ongoing novelty creation, exhibit "punctuated disequilibrium" change, and generate a unique processual order. Provides much-needed test of theory at the collective level.
Cornelissen et al., 2012	How do nascent entrepreneurs use metaphors in speech and gesture to convince others of a new venture's feasibility and, thus, to gain and sustain their support?	Micro-ethnographic studies of 2 nascent entrepreneurs in the U.K. aerospace manufacturing and technology industries, involving audio and video analysis of interviews and interactions	Sensegiving, sensemaking, embodiment, and metaphorically imaginative processes within the new venture creation process	Sequence	Sensegiving used by entrepreneurs to gain and sustain support for novel ventures. Metaphor in speech and gesture allows entrepreneurs to give sense to new ventures while addressing the high uncertainty and low legitimacy characteristic of commercialization's early stages. Sensegiving helps emphasize agency, control, predictability, and taken-for-grantedness.
Dolmans et al., 2014	How do perceived, anticipated, and relative resource positions influence entrepreneurial decision making and creativity?	In-depth case studies of 3 Dutch high-tech start-ups in the telecom and solar energy industries, involving interviews and archival data	Decision-making, creativity, sensemaking, and imaginative resource (re)combination processes	Sequence	Resource positions – viewed as perceived, dynamic, multidimensional, relative, and transient – explored to understand entrepreneurs' subjective processes of creativity and decision making. Anticipated resource positions, which might change over time, emerge from entrepreneurs' subjective forward-looking imaginative acts.
Garud & Karnøe, 2003	How does a bricolage approach that begins with a low-tech design but ramps up progressively prevail over a high-tech breakthrough approach?	Comparative study of the Danish and American wind turbine industry over 50–80 years	Emergence and transformation processes of technological paths characterized by distributed and embedded agency; Bricolage and breakthrough processes	Sequence	Technology entrepreneurship is a complex, emergent process constituted and transformed by numerous micro-processes. Bricolage processes, which provide a low-tech path marked by modest resources, offer the potential to overcome advantages conferred by breakthrough processes, which provide a high-tech path backed by large-scale resources.
Gielnik et al., 2012	How does the interplay of divergent thinking and diversity of information affect entrepreneurs' creativity in the opportunity identification process?	Hypothetico-deductive study using 2 designs – a correlational field study and an experiment – of 98 Ugandan small business owners/managers in the manufacturing and service industries, involving face-to-	Opportunity identification and creative processes	Entity	Business growth achieved through opportunity identification processes, which are facilitated by entrepreneurial creativity. In the early stages of the creative process, information diversity moderates the impact of divergent thinking on generating novel venture ideas.

		face interviews			
Goss et al., 2011	How does emancipatory entrepreneurship unfold over time through the fluctuating balance between agency and organized processes of constraint?	Case study of a social entrepreneur, Jasvinder Sanghera, attempting to alter conventional practices and amend U.K. law on forced marriage, drawing on autobiographical narrative	Processes of entrepreneuring-as-emancipation, micro-level interactions, and power-as-practice	Sequence	Entrepreneuring-as-emancipation viewed as emerging from social interactions and power rituals comprising both agency and constraint. The dynamic interplay of agency and constraint in the entrepreneurial process described as "power-as-practice." Key to this process are emotional dynamics that unfold in response to micro-level interactions within a particular social context.
Greenwood & Suddaby, 2006	How can actors envision and enact changes to the institutional contexts in which they are embedded? Why and under what circumstances are elites enabled and motivated to act as institutional entrepreneurs in highly institutionalized contexts?	Case study of Big Five accounting firms, 1977–2002, drawing on interviews and archival data	Institutional change processes	Sequence	Process model of institutional entrepreneurship shows how elite actors deliberately introduce new organizational forms from the center of mature and highly institutionalized fields based on adverse performance, boundary bridging, boundary misalignment, and resource asymmetry processes. Central to the model is that fields do not necessarily gravitate toward equilibrium.
Grégoire et al., 2010	What cognitive process(es) support(s) individual efforts to recognize opportunities? What is the role of prior knowledge in this process(es)?	Hypothetico-deductive mixed-methods study of 9 executives in the marketing services and life sciences industries, involving 18 think-aloud verbal protocols analyzed using logistic regression	Cognitive processes in recognizing opportunities	Entity	Model developed and tested to identify cognitive processes of structural alignment in the opportunity recognition process. Prior knowledge plays a key role, allowing individuals to make different cognitive connections, and, in turn, either assisting or constraining the opportunity recognition process.
Hill et al., 2014	How does a climate for innovation relate to new venture effectiveness?	Hypothetico-deductive quantitative lab study of 101 undergraduate student dyads training, planning, and practicing for a new venture start-up computer simulation. Measures from surveys and simulations taken at 3 points in time	Co-founding team processes	Entity	Process model shows how a co-founding team's innovation climate is related to co-founding team process variables (team member exchanges, team learning, collective efficacy) that are, in turn, related to the co-founded venture's performance.
Hmieleski et al., 2013	What variables moderate the relationship between entrepreneurs' improvisational behavior and firm performance?	Hypothetico-deductive quantitative study of 201 new ventures in 114 different U.S. industries, involving mailed surveys	Processes of entrepreneurs' improvisational behavior and firm performance, moderated by dispositional and environmental factors	Entity	As a form of entrepreneurial action, improvisational behavior, and its effect on firm performance, is explored in the context of new venture development processes to show that, within dynamic environments, improvisational behavior is an effective tool when entrepreneurs are moderately optimistic. Provides new insight into firm performance, learning, and self-regulation.

Jack et al., 2008	How and why do entrepreneurial networks change and develop over time?	Longitudinal case study of 3 founding entrepreneurs in the Scottish oil industry, involving ethnographic fieldwork, participant observation, and semi-structured interviews at 3 points in time, 1998–2004	Networking processes as the enacting of socially constructed entrepreneurial environments	Sequence	Framework illustrates the complementarity of different process theories to a broader, hybrid theory of change and development of entrepreneurial networks over time. Relational dynamics and social construction emphasized to depict the entrepreneurial networking process as one of enacting environments.
Jones & Massa, 2013	How do novel practices that challenge cultural assumptions gain recognition and legitimacy and ultimately become agents of institutional change?	Comparative case study of one focal extreme case (Wright's Unity Temple) and 3 other cases (Larkin Building, Madison Square Presbyterian Church, St. Thomas Church), involving archival research methods	Processes of legitimation, adaptive emulation, and institutional change and evangelizing	Sequence	Interplay of ideational, material, and identity processes explored to understand the institutionalization of novel ideas. Two specific legitimation processes – institutional evangelism and adaptive emulation – are at the root of the collective process by which novel practices are both created and maintained.
Khaira, 2014	How is the worth that underlies the legitimacy of a new industry constructed?	Longitudinal case study of India's high-fashion industry, mid-1980s to 2006, drawing on interviews, articles, surveys, documents, on-site observations, and quantitative data	Socio-cognitive processes of the construction of worth of new industries	Sequence	Process model shows how entrepreneurs and multiple field constituents construct the worth of new industries in consumers' minds by engaging in one or more socio-cognitive processes: cognitive framing, curation, certification, commentary, critique, co-presentation, comparison, and commensuration. These processes help broader audiences make sense of the new industry and understand its worth.
Lichtenstein & Kurjanowicz, 2010	How do nascent entrepreneurs' organizing moves, especially tangible ones (decisions and actions), lead to the emergence of new ventures?	Longitudinal case study of 375 unique decisions and actions taken by co-founders of "The Republic of Tea" during the 38-week start-up process, based on their real-time correspondence in 138 faxes/letters	Organizational emergence and organizing processes	Sequence	Complexity theory and Gartner's "tangibility" of entrepreneurial actions used to explain how nascent entrepreneurs' day-to-day organizing moves, especially tangible ones, build momentum and lead to organizational emergence. A disequilibrium process story blending narrative accounts and visual time-series maps of organizing moves grounds both theories.
Lichtenstein et al., 2007	How and why are new firms established, and why are some founders more successful than others?	Hypothetico-deductive quantitative study of 109 entrepreneurs engaged in the start-up process, using mixed-gender PSED dataset (two waves of closed-question phone interviews 12 months apart)	Organizational emergence and organizing processes	Entity	Complexity-theoretic approach shows organizations more likely to emerge when nascent entrepreneurs pursue organizing activities at high rates, spread out over time, and occurring later in the start-up process. Confirms efficacy of this approach to disequilibrium processes of organizational emergence.
Meyer et al., 1990	How can diverse theories of organizational change be classified? How	Historical case study of San Francisco Bay area hospitals, 1960s to 1980s,	Change processes of firm-level adaptation and metamorphosis and industry-level	Sequence	Framework sensitive to assumptions about the nature and level of change resolves inconsistencies in the literature to distinguish four basic types of change processes. All four

	do organizations respond entrepreneurially to discontinuous industry-level changes?	based on dataset assembled over 16 years from interviews, observations, surveys, documents, and secondary data; longitudinal field study with 4 waves of interviews conducted at 6-month intervals, 1987–1989, at 30 hospitals	evolution and revolution		animate the history of industries: evolution→adaptation→revolution → adaptation and metamorphosis. Discontinuous industry-level change frustrates and disorients managers, but allows them to assume the role of entrepreneurs, enacting novel strategies and structures to seize new opportunities in redefined markets.
Navis & Glynn, 2010	How do the temporal dynamics of legitimacy, identity, and entrepreneurship unfold in the emergence of a new market category?	Longitudinal mixed-methods study of the U.S. satellite radio market, mid-1990s through 2005, involving a historical narrative developed from secondary data; Hypotheses tested using content analysis	New market category emergence, legitimacy, and identity processes	Sequence	Integrative model illustrates identity and legitimation processes in the emergence of new market categories, and highlights the interplay of interpretations, attention, and actions of both entrepreneurial ventures and their audiences. Explains how new market categories are institutionalized through sensegiving and sensemaking processes.
Santos & Eisenhardt, 2009	How do entrepreneurs addressing nascent markets shape their organizational boundaries over time?	Longitudinal, inductive multiple-case study of 5 new U.S. firms at confluence of the computing, electronics, and telecom industries, involving in-depth interviews and archival data	Processes of shaping organizational boundaries and constructing new markets	Sequence	Framework spotlights three processes by which entrepreneurs shape organizational boundaries and construct new markets: claiming, demarcating, and controlling a market. Underlying power logic illuminates how soft-power strategies (e.g., timing) allow entrepreneurs to dominate nascent markets through subtle persuasion.
Svejenova et al., 2007	How do institutional entrepreneurs initiate change?	Longitudinal, inductive case study of Spanish haute-cuisine chef, Ferran Adrià, involving interviews, observations, and secondary data	Institutional change processes	Sequence	Process model shows how entrepreneurs initiate change through creativity, theorization, reputation, and dissemination processes. Entrepreneurs' novel ideas challenge conventional practices, which, in turn, generate paradoxes of logics and identity, ultimately creating the potential for institutional change.
Verduyn, 2010	How do the rhythms and of the organization itself interact to affect the emergence and creation of new organizations?	Longitudinal case study of the rhythms of 2 co-founders of "The Republic of Tea" and of the organization itself during the 38-week start-up process, based on co-founders' real-time correspondence in 138 faxes/letters	Emergence/creation processes; Temporal dynamics (rhythms) of processes	Sequence	Lefebvre's work time and Ivanchikova's natural time used to understand how multiple rhythms associated with co-founders' everyday actions and with the organization itself interact in the process of organizational emergence and creation. Provides novel way of looking at entrepreneurial processes that goes beyond the process meaning of sequential temporality.
Walsh & Bartunek, 2011	How does organizational death give rise to a distinctive process of	Inductive multiple-case study of 6 defunct organizations in the equipment,	Emergent processes of organizational founding; Postdeath organizing processes	Sequence	Process model of postdeath organizing shows four periods – disintegration, demise, gestation, and rebirth – through which organizational founding arises after

	organizational founding?	publishing, education, agriculture, and electronics industries, involving semi-structured interviews and archival data			organizational death. Process facilitated by the cognitive, behavioral, and affective dynamics experienced by individuals who, interested in saving a dying organization, end up founding and organizing a new one.
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^aSee footnote in Table 1.

Figure 1: Selected Entrepreneurship Research Organized by Pepper's Worldviews

	Analytic theories	Synthetic theories
Dispersive theories	<p><i>Formism</i></p> <p>“Hard” Formism: Baker & Nelson, 2005 Berends et al., 2014 Bingham & Kahl, 2014 Chiles et al., 2013 Dolmans et al., 2014 Greenwood & Suddaby, 2006 Khaire, 2014 Santos & Eisenhardt, 2009 Svejnova et al., 2007 Wiltbank et al., 2006</p> <p>“Soft” Formism: Alvarez & Barney, 2007 Berends et al., 2014 Chiles et al., 2004 Gartner & Brush, 2007 Garud & Karnøe, 2003 Gielnik et al., 2012 Grégoire et al., 2010 Jack et al., 2008 Jones & Massa, 2013 Khaire, 2014 Lichtenstein & Kurjanowicz, 2010 Meyer et al., 1990 Navis & Glynn, 2010 Sarasvathy, 2001 Verduyn, 2010 Walsh & Bartunek, 2011</p>	<p><i>Contextualism</i></p> <p>Alvarez & Barney, 2007 Baker & Nelson, 2005 Berends et al., 2014 Bingham & Kahl, 2014 Chiles et al., 2013 Chiles et al., 2004 Cornelissen & Clarke, 2010 Cornelissen et al., 2012 Dolmans et al., 2014 Garud & Karnøe, 2003 Goss et al., 2011 Greenwood & Suddaby, 2006 Hjorth, 2013 Johannisson, 2011 Khaire, 2014 Lichtenstein & Kurjanowicz, 2010 Lichtenstein et al., 2007 Navis & Glynn, 2010 Sarasvathy, 2001 Steyaert, 2004 Svejnova et al., 2007 Valliere & Gegenhuber, 2014 Verduyn, 2010 Walsh & Bartunek, 2011 Wiltbank et al., 2006^a</p>
	<p><i>Mechanism</i></p> <p>Alvarez & Barney, 2007 Baron & Tang, 2011 Berends et al., 2014 Gielnik et al., 2012 Grégoire et al., 2010 Hill et al., 2014 Hmieleski et al., 2013 Lichtenstein et al., 2007 Lichtenstein & Kurjanowicz, 2010 Navis & Glynn, 2010 Santos & Eisenhardt, 2009 Sarasvathy, 2001 Shane & Venkataraman, 2000 Walsh & Bartunek, 2011</p>	<p><i>Organicism</i></p> <p>Alvarez & Barney, 2007 Baker et al., 2003 Bingham & Kahl, 2014 Cornelissen & Clarke, 2010 Cornelissen et al., 2012 Dolmans et al., 2014 Gartner & Brush, 2007 Jack et al., 2008 Jones & Massa, 2013 Lichtenstein & Kurjanowicz, 2010 Lichtenstein et al., 2007 Meyer et al., 1990 Navis & Glynn, 2010 Santos & Eisenhardt, 2009 Shane & Venkataraman, 2000 Svejnova et al., 2007 Walsh & Bartunek, 2011</p>
Integrative theories		

^aCategorization reflects article's emphasis on effectuation, not other lightly covered approaches.

BIOGRAPHICAL DETAILS

Todd H. Chiles is an associate professor of management at the University of Missouri's Robert J. Trulaske Sr., College of Business. His research interests are in entrepreneurship, organization and process theory, and their intersection. His work in these areas explores processes such as novelty creation and commercialization, industry emergence and evolution, and market order and upheaval. His research has been funded by the Ewing Marion Kauffman Foundation and has appeared in *Academy of Management Review*, *Organization Studies*, *Journal of Management Studies*, and *Organization Science*, among others. He serves on the Research Committee of the Academy of Management's Entrepreneurship Division and the editorial advisory board of *Perspectives on Process Organization Studies*, and has served as a guest editor at *Organization Studies*.

Sara R. S. T. A. Elias is an assistant professor of entrepreneurship at the University of Victoria's Peter B. Gustavson School of Business. Her research interests include creative entrepreneurial processes, entrepreneurial imagination, arts entrepreneurship, aesthetics in organizations and entrepreneurship, and qualitative methodologies. Sara has published her work on several of these topics in *Qualitative Research in Organizations and Management* and *Organizational Research Methods*.

Qian Li is a doctoral student in management at the University of Missouri's Robert J. Trulaske Sr., College of Business. Building on her master's thesis at the University of Melbourne, she is currently exploring different assumptions researchers make when studying organizational culture. Inspired by Hayek's work on spontaneous and sensory order, she is also interested in complexity theory, institutional entrepreneurship, organic forms of organizing, and the role experience, perception and self-selection play in making decisions.