NEW KNOWLEDGE PRODUCTS AS BRICOLAGE: METAPHORS AND SCRIPTS IN ORGANIZATIONAL THEORY

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We argue that three epistemic scripts of knowledge production—evolution, differentiation, and bricolage—underpin the production—that is, the conception and the presentation—of new organizational theories. Bricolage of concepts, empirical material, and metaphors enables the conception of new theories, whereas evolution and differentiation, carrying higher academic legitimacy, predominate in theory presentation. We develop an integrative model and provide an illustration from organizational institutionalism to delineate how metaphors and scripts influence organizational theory production.

How do new organizational theories come into existence? In light of the relatively few organizational theories that have been introduced in recent years (Davis, 2010), we examine how organizational scholars conceive and present new theories as part of their academic knowledge production. Most notably, we address the epistemic scripts of knowledge production that structure both the *conception* and *presentation* of new theories. Epistemic scripts refer to the implicit, cognitive templates that underpin our collective understandings of how new academic knowledge is produced. As such, epistemic scripts represent an institutionalized dimension of academic knowledge production guiding how scholars develop new theories and how academic audiences recognize a knowledge claim as a new theory. Within organizational theory, we identify three epistemic scripts of knowledge production that organizational scholars use in the conception and presentation of new organizational theories: evolution, differentiation, and bricolage. We describe the characteristics of each script, analyze their role in theory production, and examine the possibility of decoupling between the scripts that guide the conception of a new organizational theory and the scripts that structure its presentation in academic writing.

Previous inquiries into the emergence of new organizational theories have developed along two parallel axes, one examining the conception of new theories, including their components and processes of theory development (e.g., Lewis & Grimes, 1999; McKinley, 2010; Sonpar & Golden-Biddle, 2008; Weick, 1989), and the other looking at the use of rhetoric in the written presentation of new knowledge (Bonet & Sauquet, 2010; Felin & Foss, 2009; Locke & Golden-Biddle, 1997; Reeves, 2005). Within the former literature, which is significantly more extensive than the latter, we focus on the stream of research that examines the different components that constitute theories. Organizational scholars have identified empirical material (Alvesson & Kärreman, 2007), theoretical concepts (Whetten, Felin, & King, 2009), and metaphors (Cornelissen, 2006; Cornelissen, Kafouros, & Lock, 2005), to which we add epistemic scripts. Since the first two of these building blocks are widely recognized elements of theory building, we devote our analytical attention to metaphors and scripts.

Metaphors represent a controversial component of organizational theories (Grant, 2001; Morgan, 1983; Oswick, Keenoy, & Jones, 2003). They were traditionally held to be a source of

pollution in scientific thinking and writing (Pinder & Bourgeois, 1982), but recent work on the topic suggests that metaphors constitute a core component in cognitive processing (Cornelissen, 2005; Cornelissen & Karoufos, 2008a). Not only are they inevitable but they also provide a valuable source of imagination, one that inspires theorists to generate novel propositions about their object of study (Bacharach, 1989: 497). They shape the knowledge product as well. As recent work on metaphors in organizational theory suggests, metaphors are not simply discarded after use but remain integrated with theoretical concepts (McKinley, 2010) and empirical material (Alvesson, 2003). Metaphors thus permeate academic knowledge production and the resulting knowledge products. Extending this line of inquiry, we propose that organizational scholars form new theories by evoking a wide range of metaphors, which they tacitly assemble and integrate with theoretical concepts and empirical material, using epistemic scripts.

Epistemic scripts guide not only the conception of theories but also their written presentation. Academic knowledge about organizations circulates in the form of texts. When academics write papers, they translate organizational reality into theoretical terms that are adapted for different audiences (Czarniawska, 1999; Gabriel, 2002). In so doing, they employ a variety of textual devices to convey their knowledge claims to readers and to frame these claims as novel contributions to the literature. Empirical findings show that notions of "new," "innovative," "unique," and "novel" are frequently used to present research findings as a substantial contribution to academic knowledge (Beyer, Chanove, & Fox, 1995; Locke & Golden-Biddle, 1997; Mone & McKinley, 1993). Locke and Golden-Biddle (1997) demonstrated in a detailed analysis of organizational journal articles that scholars draw on two sets of rhetorical templates to frame new knowledge, one describing the existing body of literature and the other positioning research findings as a novel contribution to this literature. Scholars combine these templates to craft a novel contribution to the literature. Although this stream of research has added valuable insight into the textual construction of organizational knowledge, the institutional foundation of such knowledge production has yet to be exposed. We illuminate the epistemic scripts that scholars draw on, more or less im-

plicitly, in order to frame a knowledge product as a legitimate new organizational theory. Used in academic writing, epistemic scripts serve a normative function that is akin to institutional pressure. They represent shared understandings of knowledge production within academia—that is, the taken-for-granted assumptions about the nature and emergence of new theories.

We emphasize this normative dimension of academic knowledge production, which coexists with the technical realm of theory production, including construct definition, hypothesis testing, explanatory power, and prediction. The coexistence of a normative realm and a technical realm of knowledge production is made possible by decoupling (Meyer & Rowan, 1977). We propose that the epistemic scripts used to generate a new theory are often decoupled from those employed to present this theory in academic writing. More precisely, we propose that scholars frequently use the script of bricolage to assemble various building blocks into new organizational theories. This assembly, we argue, is subsequently made invisible in academic writing when scholars—more or less consciously—adopt other scripts to enhance the academic legitimacy of their new knowledge product.

We illustrate this decoupling in relation to organizational institutionalism, an organizational theory whose foundational texts were written some thirty years ago and which has since gained dominance within the field of organizational theory (Davis, 2010). The authors of these texts clearly draw on the scripts of evolution and differentiation to present the theory in academic writing, yet the theory itself contains an assembly of metaphors suggesting the extensive use of bricolage during its conception. We attribute this apparent decoupling to different levels of legitimacy attributed to the three epistemic scripts of knowledge production within the field of organizational theory. We visually depict our argument in the form of an integrative model of organizational knowledge production, which emphasizes epistemic scripts as an implicit structure that governs how new organizational theories are produced.

Our argument carries some potential implications for the emergence of new organizational theories. Notably, we think that greater insight into how metaphors and scripts enable scholars to generate new knowledge may stimulate the

conception of new organizational theories. Similarly, a better understanding of how epistemic scripts operate in academic writing may enable scholars to reinforce their proposal for a new organizational theory. Finally, a greater comprehension of the apparent decoupling between the epistemic scripts used for conceiving new organizational theories and the epistemic scripts used for presenting them to an academic audience may renew and stimulate organizational knowledge production. It may open new perspectives for organizational theory builders, just as it may encourage editors and reviewers of prestigious international journals to reflect on their role in perpetuating certain institutionalized scripts of knowledge production while blocking the diffusion of others. Perhaps implicit preferences for certain epistemic scripts of knowledge production contribute to the low ratio of new organizational theories that have emerged since the 1970s (Davis 2010).

In this article we first examine how metaphors and scripts shape organizational knowledge production, and we subsequently illustrate our argument using foundational texts from organizational institutionalism as an example. The different components of our argument are then assembled into an integrative model of organizational knowledge production, which we place in relation to previous literature on the topic. The article concludes with a discussion of implications for the field of organizational theory.

BUILDING BLOCKS OF ORGANIZATIONAL THEORIES

Organizational theory refers to the subset of social science theories addressing organizational phenomena. Theory has been defined as "an ordered set of assertions about a generic behavior or structure assumed to hold throughout a significantly broad range of specific instances" (Sutherland, 1975: 9). To qualify as a theory, assertions must form a coherent and parsimonious framework that is sufficiently general to capture a broad range of empirical situations (Bacharach, 1989) but precise enough to allow scholars to test propositions and hypotheses (Homans, 1958; McKinley, 2010). The purpose of organizational theory is not only to offer validated knowledge that can explain and predict (McKinley, 2010) but also to suggest "relation-

ships and connections that had previously not been suspected, relationships that change actions and perspectives" (Weick, 1989: 524). Organizational theories should provide new ways of approaching the inherent complexity and ambiguity of organizations, supplying managers with "what Ohmann (1955) called 'skyhooks'— the psychological anchors that confer order on the subjective apprehension of experience" (Astley & Zammuto, 1992: 457). They should explain, predict, and delight (Weick, 1979), striking a fine balance between logical coherence and creative conceptualization (Bacharach, 1989: 513).

Organizational theories are composed of various building blocks, the most important being empirical material, theoretical concepts, and metaphors. Empirical material and theoretical concepts have received significant attention in organizational theory, and their respective importance for theory building is beyond question (Colquitt & Zapata-Phelan, 2007). In contrast, metaphors represent a less recognized component of organizational theories. Their contribution to theory building lies in their "generative impact" (Cornelissen & Kafouros, 2008a: 367), meaning that they possess a creative potential to stimulate new perspectives on organizations (Cornelissen, 2005). The imagery conveyed by metaphors stimulates theorists to generate interesting new propositions about organizational life (Bacharach, 1989: 497) that can later be sharpened into theory formulations and testable hypotheses (Cornelissen, 2005; Morgan, 1983; Soyland, 1994; Weick, 1989). Before elaborating on the creative input of metaphors to theory building, let us briefly review the other two building blocks.

Empirical Material

Empirical material represents an essential building block of organizational theories (Alvesson & Kärreman, 2007), especially regarding inductive theory building. For instance, grounded theory stipulates a systematic recording of empirical observations and a rigorous analysis of them as the initial steps of theory building (Eisenhardt, 1989; Glaser & Strauss, 1967; Strauss & Corbin, 1994). Organizational researchers are also generally encouraged to simulate empirical validation at every step of the theory-building process (Weick, 1989: 516) in order to ensure that the emerging theory fits

closely with the empirical realm (Alvesson & Kärreman, 2007: 1265).

Even so, empirical material is not sufficient for theory building. Using a conceptual lens, theory builders approach empirical material with some preconceived notions about organizational life (Alvesson, 2003; Astley, 1985; Daft, 1983; Feyerabend, 1975; Weick, 1989). It has been proposed that "we can perceive nothing except through the knowledge structure in which perception is embedded" (Astley, 1985: 497–498) and that organizational phenomena are so abstract and complex that empirical material does not suffice to understand them; conceptual categories are required as well (Weick, 1989). As a consequence, theory builders manipulate empirical material conceptually in some way or other to make sense of it (Alvesson, 2003; Alvesson & Kärreman, 2007: 1269).

Theoretical Concepts

Theoretical concepts, the core component of organizational theories, are abstractions of empirical phenomena. Concepts, when further abstracted and specified, become the constructs that supply a theory with its conceptual clarity and inherent structure. Construct clarity is expressed through definitions, scope conditions, semantic relationships to other constructs, and coherence (Suddaby, 2010: 347). For that reason, it is important that scholars carefully craft and specify theoretical concepts when they engage in theory building (Suddaby, 2010). Scholars may generate entirely novel concepts, borrow or transform concepts from other organizational theories, or import them from other disciplines. It is, in fact, quite common for organizational scholars to borrow concepts and theories from neighboring disciplines, most notably from psychology and sociology (Whetten et al., 2009: 537–538). Theoretical concepts have also been borrowed from more distant disciplines, such as biology (e.g., organizational survival and organizational environment), literary studies (e.g., narratives and translation), and religious studies (e.g., myths and rituals). The practice of importing elements from other disciplines is apparently so prevalent in organizational theory that it has led to a virtual trade deficit with the basic disciplines (Ilgen & Klein, 1989).

In the process of theory building, scholars link theoretical concepts to one another to form new propositions about organizational life (Bacharach, 1989). Therefore, theoretical concepts need to be clearly specified and firmly grounded in empirical phenomena. Furthermore, the proposed relationships between them should be carefully aligned with empirical observations to ensure that the propositions convey not only new but also valid representations of organizational life. Although organizational theorists are primarily interested in theoretical concepts and empirical material in theory building, organizational theories are also built of metaphors.

Metaphors

Metaphors, a core component of cognitive processing, consist of the superimposition of a source domain onto a target domain. This transfer process may facilitate our understanding of the unfamiliar and sharpen our comprehension of an already known phenomenon (Inns, 2002; Lakoff & Johnson, 1980; Oswick, Keenoy, & Grant, 2002). The reason is that perception and knowing are linked "in an interpretive process that is metaphorically structured, allowing us to understand one domain of experience in terms of another" (Koch & Deetz, 1981). In fact, metaphor represents "a primal, generative process that is fundamental to the creation of human understanding and meaning in all aspects of life" (Morgan, 1996: 228). Used as a tool for understanding, metaphors are said to have an "explanatory impact" (Cornelissen & Kafouros, 2008a; Weick, 1989).

Metaphors serve another function that extends their applicability into the realm of creativity. They possess a "heuristic quality in opening up new and multiple ways of seeing, conceptualizing, and understanding organizational phenomena" (Cornelissen, 2005: 753). This effect is known as a "generative impact" (Cornelissen & Kafouros, 2008a; Weick, 1989). Creative processes draw extensively on metaphors as a heuristic device to stimulate imagination (Lakoff & Johnson, 1980) and to generate insights that previously were inconceivable (Cornelissen & Kafouros, 2008a; Inns, 2002; Schön, 1993). An important source of creativity lies in the juxtaposition of the source domain and the target domain (Cornelissen, 2005: 756). Juxtaposition operates as a catalyst for new insight since "metaphor involves the conjunction of whole semantic domains in which a correspondence be-

tween terms or concepts is *constructed,* rather than deciphered, and the resulting image and meaning is *creative,* with the features of importance being emergent" (Cornelissen, 2005: 751). In other words, the mapping of one domain onto another is an ambiguous act that requires imagination and stimulates the creation of new meaning (Van Maanen, 1995); it is herein that we find the source of creativity.

Cognitive transfer processes tend to operate implicitly. We do not need to be aware of our cognitive processes in order to understand the unfamiliar or to exercise creativity. We are, however, able to deliberately increase our awareness of cognitive transfer processes by means of introspection and research. It is further possible to deliberately stimulate cognitive transfer processes in order to speed up learning or to enhance creativity. Just as metaphors may be used proactively for pedagogical purposes, so, too, they may be consciously employed to generate new insights (Gioia & Poole, 1984; Goffman, 1959; Weick, 1989). Although we can increase our understanding of how metaphors operate and can exploit some of this insight in practice, it is evident that even extensive effort will necessarily fall short of any ambition to *control* cognitive transfer processes. Creativity, in particular, escapes full-fledged formalization.

The cognitive processes associated with metaphors apply directly to the conception of new organizational theories. As vehicles of sensemaking, metaphors operate as creative catalysts in organizational theory building. They embody images that stimulate the imagination and enable theorists to generate novel perspectives on organizational life. They can do so in at least two ways. First, scholars may activate metaphors subconsciously in the process of analyzing complex qualitative data, a process that necessarily involves an uncodifiable creative leap, however small (Langley, 1999). Second, scholars may use metaphors in their cognitive experiments with different perspectives on organizational life. Through "disciplined imagination" (Weick, 1989)—that is, systematic application of different metaphors—scholars may employ metaphors as a precursor to new theory formulations. In either case the metaphors used for theory building are integrated into the final knowledge product. Accordingly, the metaphors contained within organizational theories can only be inferred from the way organization is approached and from the underlying assumptions about the subject (Smircich, 1983: 341).

The generative impact of metaphors deepens our understanding of how new organizational theories are conceived. Although they are perhaps more common in organizational theory than in many other disciplines (Morgan, 1983), metaphors represent a controversial component of organizational theories (Cornelissen, 2006; Grant, 2001; Morgan, 1983; Oswick et al., 2002; Oswick et al., 2003; Pinder & Bourgeois, 1982). Some organizational theorists have argued that metaphors should be eliminated from organizational theories because scientific knowledge is fundamentally incompatible with figurative language (e.g., Pinder & Bourgeois, 1982). It is increasingly clear, however, that their elimination is not possible because metaphors are essential for generating new insights and formulating new organizational theories (e.g., Cornelissen, 2006; Morgan, 1983; Oswick et al., 2002). Instead, the quest has become one of understanding *how* metaphors enable the conception of new organizational theories (Bacharach, 1989; Cornelissen, 2005; Weick, 1989).

Early research on metaphors in theory building proposed that organizational theories are built around a root metaphor that renders each theory unique and coherent. Root metaphors have been defined as "the dominant or defining way of seeing" (Inns, 2002: 309) or as "a fundamental image of the world on which one is focusing" (Alvesson, 1993: 116). One of the first contributions to this line of inquiry consisted of a typology that grouped organizational theories according to their root metaphor (Burrell & Morgan, 1979), each root metaphor providing a slightly different understanding of organizations (Morgan, 1983; Smircich, 1983). For example, a root metaphor of evolution highlights that organizations must adapt to their environment in order to survive, whereas a computational root metaphor casts organizations as consisting of interdependent and interconnected parts (Cornelissen & Kafouros, 2008b: 969).

In subsequent research scholars have increased the complexity by proposing that organizational theories are composed of primary and secondary metaphors. Alvesson (1993) suggests that secondary metaphors alter the meaning of the primary metaphor. For instance, the organization-as-machine metaphor, introduced along with scientific management in the early part of

the twentieth century, took on a new meaning when it was combined in 1955 with the metaphors of systemic electrical engineering and computer science (Barley & Kunda, 1992; Cornelissen & Kafouros, 2008b). This increased metaphorical complexity has added nuance to this line of inquiry.

The most recent work on metaphors in theory building suggests an even higher level of complexity in the metaphorical composition of organizational theories. Empirical research has shown organizational theories to be composed of multiple metaphors that are combined into fairly complex metaphorical constructs (Andriessen & Gubbins, 2009). Scholars apparently recombine small metaphorical components that are familiar to organizational theorists (Cornelissen, 2005) into complex metaphorical constructs that are temporary and fluid in nature (Cornelissen & Kafouros, 2008b: 957). In this process theory builders select living metaphors that are embedded in a particular sociohistorical time and used by a historically developed language community (Tsoukas & Knudsen, 2003: 8). The metaphorical construction of a theoretical concept evolves over time, as Andriessen and Gubbins (2009) document in their empirical analysis of the notion of social capital. They identified seven conceptual metaphors in this theoretical concept, some of which were introduced in the original publications, while others were added later. These recent contributions add both complexity and contextual components to this line of inquiry.

Integration of Building Blocks

Organizational scholars have also begun to study the integration of theoretical concepts, empirical material, and metaphors into new organizational theories. Although the integration of theoretical concepts and empirical material is a widely recognized feature of theory building, many organizational scholars hesitate to integrate metaphors in the false belief that metaphors "contaminate" the scientific endeavor (Pinder & Bourgeois, 1982). As numerous scholars have nonetheless documented, theoretical concepts are often intertwined with metaphorical meaning (Andriessen & Gubbins, 2009; Cornelissen & Kafouros, 2008a; Weick, 1989). To exemplify, the theoretical term *organizational environment* draws its metaphorical meaning

from the field of biology, *organizational structure* from the domain of construction, *organizational narratives* from literary studies, *social capital* from the study of finance, and *organizational culture* from the discipline of anthropology. Such an integration of metaphors and theoretical concepts is also evident in the theoretical constructs of "strong and weak ties" (Granovetter, 1985), "organizational identity" (Albert & Whetten, 1985), "organizational learning" (Argyris & Schön, 1978), "loose coupling" (Weick, 1976), "structural holes" (Burt, 1992), and "the invisible hand of the market" (Smith, 1759). These theoretical concepts imply that organizational phenomena are like people (e.g., having an identity or hands) or like physical entities (e.g., having holes or ties).

A relationship also exists between empirical material and metaphors. Alvesson (2003) has shown, for instance, how the metaphors that guide researchers' implicit understanding of the interview affect the empirical data they collect. In light of this increasingly refined literature, it seems somewhat surprising that metaphors continue to be a relatively neglected component of organizational theories (Cornelissen, 2005: 753). We propose that this neglect is sustained by an inattention to epistemic scripts, notably to the decoupling that exists between the scripts used to conceive a new organizational theory and the scripts that scholars subsequently evoke in their presentation of the new theory to a scholarly audience. Before turning to an illustrative example, we examine how epistemic scripts are rhetorically used in knowledge production.

## EPISTEMIC SCRIPTS AND THEIR RHETORICAL USE

Organizational scholars develop new theories within a relatively fixed set of conventions and behavioral patterns that are known as scripts of knowledge production (Alpaslan, Babb, Green, & Mitroff, 2006; Donaldson, 2009; Partington & Jenkins, 2007). The notion of script contains metaphorical elements from the source domain of theater (Cornelissen, 2005; Goffman, 1959), notably the idea of a stage and of scripted dialogue and behavior. Scripts provide templates for both the conception and presentation of new academic knowledge, which collectively make up what we refer to in this article as knowledge

production. Epistemic scripts are relatively persistent cognitive structures that prescribe how theories should be formulated within the academic tradition (DiMaggio, 1997; Schank & Abelson, 1977). Anchored in an epistemological tradition that embodies assumed representations of how new knowledge emerges, epistemic scripts capture shared assumptions about the production of new knowledge. They implicitly inform the conception of new theories and, perhaps more explicitly so, the presentation of new theories to the scholarly community.

When presenting a new theory formulation in writing, organizational scholars use scripts to relate new knowledge to existing knowledge (Beyer et al., 1995; Locke & Golden-Biddle, 1997; Mone & McKinley, 1993). Epistemic scripts help organizational scholars assemble a set of ideas that either directly or indirectly conveys to academic peers that they are in the presence of a new knowledge product (Donaldson, 2009). Essential to knowledge production, epistemic scripts embody the frame of reference that qualifies a knowledge product as new. In contemporary organizational theory, we find three epistemic scripts that academics employ to conceive and represent new organizational knowledge. They are evolution, differentiation, and bricolage, visually depicted in Figure 1. Each label corresponds to a key feature that sets one epis-

FIGURE 1
Epistemic Scripts of Organizational Knowledge Production
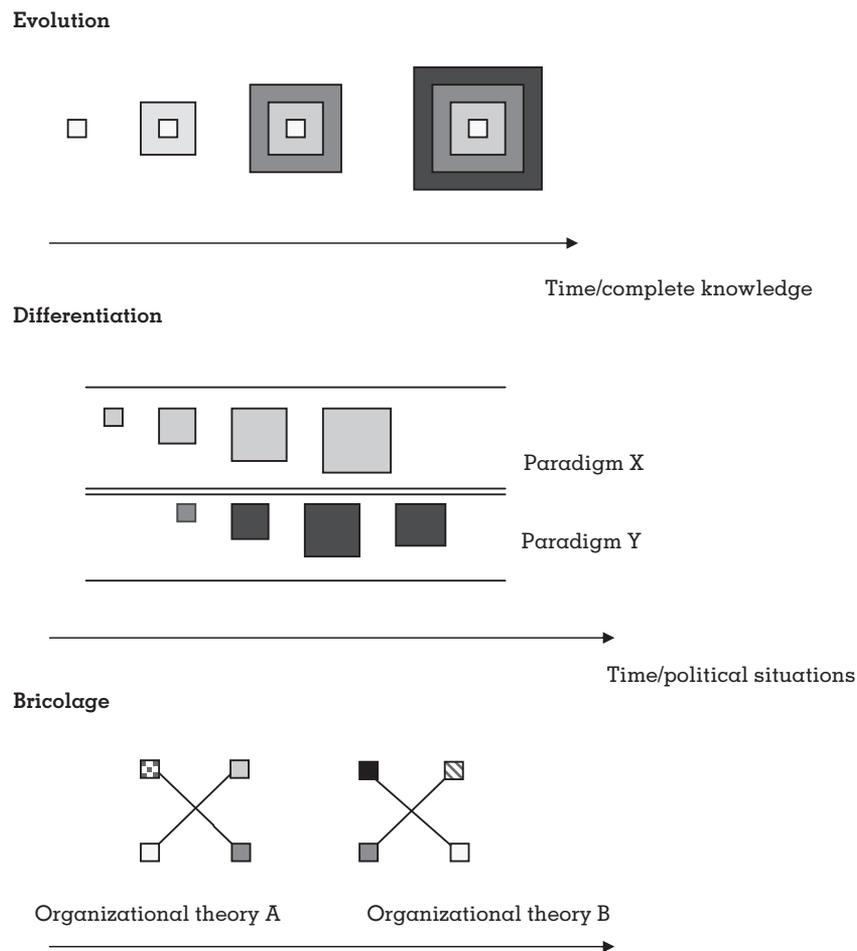
Note: The size of the squares in the differentiation scripts refers to the political influence of that academic community. Different shades in the bricolage script represent different knowledge components.

temic script apart from the others. They represent ideal types that scholars may draw on simultaneously during the act of knowledge production.

Evolution

Organizational theorists who adhere to the epistemic script of evolution generally position themselves as partaking in the collective pursuit of advancing the frontier of objective knowledge about organizations and organizational life (Donaldson, 1995, 2005; Pfeffer, 1993). This script of evolution refers to the most widely accepted template in science—namely, that knowledge evolves through trial and error toward an increasingly accurate representation of the world. According to the script of evolution, the academic pursuit par excellence is to bring collective knowledge one step closer to objective reality.

This epistemological position tends to align with the philosophy of science as developed by Karl Popper (1959). Knowledge becomes more complete and accurate as new insights are added to prior understandings or when false statements are rejected on the basis of logical deduction or systematic empirical inquiry. Popper advanced the notion of falsification as a key principle of scientific inquiry, by which he meant that new knowledge claims can advance collective knowledge only if they are formulated in falsifiable terms and are subjected to empirical testing. After rigorous efforts have been made to that effect, only propositions and hypotheses that are not falsified can qualify as objective new knowledge. Many organizational scholars endorse theory testing as a particularly valid way to ensure the objective advancement of knowledge (Colquitt & Zapata-Phelan, 2007), or at least to reach a consensus on a set of relationships describing and explaining the objective world (Bacharach, 1989; McKinley, 2010). The principle of falsification is closely associated with the epistemic script of evolution, although the latter is often used in theory development without an attempt to falsify the proposed theory, a trend that McKinley (2010) deplores as increasingly common in organizational theory.

When used to generate new knowledge, the evolution script guides researchers to explore possible improvements to an existing theory.

Such improvements could take the form of a more precise or parsimonious theory formulation, the identification of conditions under which the theory does not apply, or the discovery of a new intervening variable. In the pursuit of such incremental improvements to an established theory, researchers may inadvertently generate knowledge that could be developed into a new theory.

The epistemic script of evolution serves not only to generate new knowledge but also to present new knowledge claims as being continuous with previous knowledge. The rhetorical use of this script refers to the ways that authors structure the coherence between their proposed new knowledge product and existing knowledge. For instance, in a detailed analysis of how theoretical contributions are textually constructed, Locke and Golden-Biddle (1997) identified three rhetorical strategies that organizational scholars use to position their new knowledge product in continuity with existing knowledge—namely, synthesizing coherence, progressive coherence, and merging conflicting coherence. These rhetorical strategies can be seen as different manifestations of the script of evolution, which scholars apply more or less consciously to represent their knowledge product as new and unique along an existing line of inquiry. The evolution script also positions the proposed new knowledge product as superior to previous knowledge—that is, as one step of advancement toward a more accurate or better adapted understanding of organizations. Assuming that the substance of the theory formulation is sound, the script of evolution, applied appropriately, helps to convince readers, including editors and reviewers of scholarly journals, that the proposed knowledge product advances the frontier of knowledge. In fact, this script seems to be useful to the conception of new organizational knowledge as well as to the scholarly presentation of such knowledge.

Differentiation

The second epistemic script, differentiation, is founded on the premise that there is no shared frame of reference that can encompass all academic knowledge with regard to organizations. Instead, there are differentiated perspectives that coexist within organizational theory and that cannot be ordered hierarchi-

cally (Burrell & Morgan, 1979; Scherer & Stein-mann, 1999). A radical shift in perspective on organizational life qualifies as a manifestation of the differentiation script. Organizational knowledge is seen as inescapably embedded in academic knowledge communities whose relative size, complexity, and political influence change over time (Davies & Fitchett, 2005; Hassard & Kelemen, 2002).

The epistemic script of differentiation reflects the philosophy of science associated with Thomas Kuhn (1962). A core tenet of Kuhn's work is that the practice of knowledge production unfolds within an academic community that shares a set of epistemological principles and ontological assumptions about the world, which collectively form what is known as a paradigm. A paradigm refers to a knowledge base that is mutually incommensurate with that of another paradigm, meaning that their core assumptions about the world and their modes of knowledge production cannot be integrated with one another (Scherer & Steinmann, 1999). Since there is no metaposition from which to compare paradigms and to assess the knowledge generated within them, academic knowledge is inescapably tied to the paradigm within which it emerged and, by extension, is relatively immune to external contestation (De Cock & Jeanes, 2006; Reed, 1996).

New paradigms supposedly arise in the wake of a scientific revolution—that is, when the set of principles and assumptions underpinning an existing paradigm becomes subject to internal scrutiny (Kuhn, 1962). According to Kuhn, this situation occurs when the results present an abnormality that cannot be resolved within the parameters of the existing paradigm. This abnormality can then trigger new discoveries that provoke the emergence of a new theory and, eventually, the formation of a new paradigm. As such, novelty occurs inadvertently as part of a game that is governed by a certain set of rules but whose acceptance requires the elaboration of a new set of rules (Kuhn, 1962: 52–53). Time is needed for such divergent insights to be recognized and for a corresponding new paradigm to take form, a lengthy process that unfolds outside of the periods known as "normal science."

Applied to knowledge conception, the differentiation script suggests that researchers actively seek to generate knowledge that is dis-continuous with existing knowledge. For instance, the inductive model of theory building known as grounded theory seems to take its inspiration from this script. It encourages theorists to set aside their assumptions to facilitate the emergence of new knowledge, a request that is equivalent to asking researchers to simulate the conditions that prevail during a scientific revolution. However, the ability of researchers to actually do so remains somewhat doubtful (Suddaby, 2006). The differentiation script may well inform the ambition of theory builders, but it does not offer much guidance in terms of how to conceive new theory, aside from encouraging researchers to approach empirical reality with as little previous knowledge and as few assumptions as possible.

When used in knowledge presentation, the differentiation script is particularly evocative as a way of casting a new knowledge product as a distinct new organizational theory. When organizational scholars present their knowledge claims as being counterintuitive to trigger the interest of readers, they implicitly draw on the script of differentiation. This is also the case when they claim to fill a gap in the literature without extending an existing line of inquiry. According to Locke and Golden-Biddle (1997), organizational scholars draw on three rhetorical strategies—incompleteness, inadequacy, and incommensurability—to call into question the existing literature and to allude to mistakes in predominant understandings within their field of study. In presenting results that prevailing theories cannot explain, authors set the stage for introducing their knowledge claim as the formation of a new theory. In other words, organizational scholars draw rhetorically on the differentiation script to convince readers that their new knowledge product cannot be contained within the current stock of organizational knowledge and that it therefore qualifies as a new theory.

Bricolage

The third epistemic script of knowledge production, bricolage, refers to an assembly of readily available elements. Borrowed from Lévi-Strauss' (1966) seminal work, *The Savage Mind*, the term *bricolage* has become increasingly prevalent in organizational theory (Duymedjian

& Rüling, 2010).[1] Lévi-Strauss introduced bricolage as a way of distinguishing mythical knowledge from scientific knowledge without necessarily ranking them. In his work the notion of bricolage refers to the way indigenous populations create mythical knowledge from a close and intimate understanding of the world surrounding them. They combine readily available elements into new representations of the world, a form of knowledge creation that differs from the generation of scientific knowledge as practiced in the Western world. In organizational theory bricolage therefore refers to the assembly of different knowledge elements that are readily available to the researcher. They may have their origin in various academic disciplines, organizational practices, and/or a wider social context. Notably, organizational researchers have combined diverse strands of literature, methodological components, various pieces of theory, and metaphors to generate new knowledge (Barker, Nancarrow, & Spackman, 2001; Gabriel, 2002; Glynn, Barr, & Dacin, 2000; Marble, 2000; Reed, 1996).

Applied to conception, the script of bricolage invites scholars to produce new knowledge through improvisation rather than through adherence to a specific theory, method, or paradigm (Bryant & Lasky, 2007). The script of bricolage casts the researcher as a "bricoleur"—a "flexible and responsive" agent willing "to deploy whatever research strategies, methods or empirical materials are at hand, to get the job done" (Denzin & Lincoln, 1994: 2). The researcher acts as a handyperson who, rather than inventing a new theory or new paradigm, repairs or remodels existing theories by combining various theoretical concepts, ideas, and observations at his or her immediate disposal. Components are selected based on contextual factors, such as local constraints on knowledge production, practical value, and their potential for generating novel insights.[2] Using common sense,

the researcher identifies similarities and complementarities among the selected elements and integrates them creatively to provide coherent, robust, and actionable insight into an organizational dilemma. This reinterpretation of existing knowledge, mediated by the script of bricolage, constitutes the source of new knowledge.

The epistemic script of bricolage frames organizational theories as fluid constructs that undergo transformation in response to contextual factors. Theories are generated for a specific purpose, often in response to a particular organizational dilemma, and are later transformed in response to new purposes and contexts. Consequently, the frame of reference for assessing knowledge claims is rather more contextual than fixed (Lowe, Moore, & Carr, 2007). Knowledge products are valuable if they, in addition to being coherent and robust, respond to the situation in a given place at a particular moment in time.

Used in theory presentation, this script casts a new knowledge product as the assembly of relevant elements from the surrounding environment. Such a presentation represents a controversial script of knowledge production in organizational theory. Some organizational theorists advocate the bricolage script (e.g., Baker & Nelson, 2005; Barker et al., 2001; Duymedjian & Rüling, 2010; Freeman, 2007; Gabriel, 2002), arguing, for instance, that it is particularly appropriate for organizational realities that have been insufficiently studied and for the definition or redefinition of a research object (Barker et al., 2001). Other organizational scholars object to the loose and fluid combination of heterogeneous elements, refusing to acknowledge this postmodern template as an academic mode of knowledge production (Avital & Germonprez, 2004; Pfeffer, 1993; Scherer, 1998; Tadajewski, 2009). Since this script is controversial in organizational theory, it is rarely used for the academic presentation of new theories. Yet, as we argue below, it may be rather common in the conception of new organizational theories.

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[1] Fifty-two articles made reference to bricolage in the scholarly, peer-reviewed journals listed in the database ABI/INFORM between 1992 and 2009, 87 percent of which were published after the year 2000.

[2] De Certeau (1992), concerned with the invention of daily life and its tactical features, describes bricolage as a scientific activity that resembles a collage of tricks and tactics found in laboratories and scientific practice. The aim is to juxtapose theoretical ambitions rather than to articulate

their foundations. Nevertheless, reflection seeks first and foremost to describe multiple expressions of daily life rather than to reflect on the production of knowledge.

Comparison of the Epistemic Scripts

The three epistemic scripts embody different epistemological positions, but they also differ in other ways. Most important, they are not equally applicable to the conception and presentation of new organizational theories. For example, the scripts of evolution and bricolage lend themselves more easily to the conception of new knowledge than does the script of differentiation. The former scripts reemploy categories and concepts that are readily available to the researcher, whereas the latter script requires juxtaposition with existing knowledge. As a result, it is difficult for organizational scholars to use the differentiation script to purposefully generate new organizational theories.

The three scripts partially overlap with one another in theory production. While vague in his description of the formation of theories and paradigms, Kuhn (1962) described the generation of new knowledge during scientific revolutions in a way that seems to be identical to the script of bricolage. In the pursuit of new rules or new theories, and without a fixed point of reference, researchers resort to what they already know and can observe. Using familiar elements, they formulate speculative and imprecise theories that gradually bring them onto the path to new discoveries and the generation of new knowledge. This account of knowledge production provokes the question of whether it is possible to distinguish between the script of bricolage and the script of differentiation when it comes to knowledge conception. We maintain that it is. The script of bricolage prescribes the combination of *heterogeneous* elements into *fluid* knowledge products that acquire value from their *usage*. In contrast, the script of differentiation leads to the formation of a new *coherent* and relatively *stable* system of thought whose value is determined by *rules and assumptions*. Rather than an overlap between the two scripts of knowledge production, we propose that decoupling takes place—that is, that different scripts may inform the conception and presentation of new knowledge. A plausible explanation for this decoupling, we argue, is that the three scripts carry different levels of legitimacy within the academic community.

An important point we wish to make here is that the epistemic script of bricolage is not sufficiently legitimate to be used rhetorically in the academic presentation of new organizational theories. However, this script appears to be used more frequently in the generation of new organizational knowledge than what the academic literature would lead us to believe. Our contention is that bricolage is a common way to generate new organizational theories, regardless of which script is subsequently evoked to present a new theory to an academic audience. In the illustrative example below, we demonstrate the apparent use of bricolage in theory conception, notably of the often neglected element of metaphors, and examine its decoupling from the scripts that serve to present the theory.

AN ILLUSTRATIVE EXAMPLE: ORGANIZATIONAL INSTITUTIONALISM

Organizational institutionalism refers to a branch of institutional theory that has proliferated within organizational theory for the past thirty years (Greenwood, Oliver, Sahlin, & Suddaby, 2008). Firmly established as a distinct organizational theory, organizational institutionalism was developed entirely within the world of academia and is now the most prevalent theory in the field of organizational theory (Davis, 2010). In fact, institutional theory emerged as the most frequently used key word in paper submissions to the Division of Organization and Management Theory (OMT) prior to the Academy of Management's annual meeting in 2005: in more than 25 percent of the papers submitted, authors included it as one of three key words (Davis, 2010: 693; Greenwood et al., 2008: 2). As we show in the analysis below, the scrutiny of the metaphorical composition of this theory suggests that the script of bricolage may have been used in its conception, although its presentation is cast in the epistemic scripts of evolution and differentiation.

Analytical Procedures

The data consisted of a small number of texts representing the early formulations of organizational institutionalism (also known as neoinstitutional theory). We took inspiration from the list of early works cited in the introduction to the *The Sage Handbook of Organizational Institutionalism* (Greenwood et al., 2008) and used citation scores to identify the most influential publications during the first decade of the theo-

ry's existence (1977–1987). The *Social Sciences Citation Index*® helped identify journal articles and books, while *Google Scholar* pointed to the most cited book chapters in a given book. Five foundational texts emerged as the most influential works from the first decade:

1. DiMaggio, P. J., & Powell, W. W. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review,* 48: 147–160. SSCI citations: 3,220.
2. Meyer, J. W., & Rowan, B. 1977. Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology,* 83: 340–363. SSCI citations: 2,569.
3. Scott, W. R., & Meyer, J. W. 1983. The organization of societal sectors. In J. W. Meyer & W. R. Scott (Eds.), *Organizational environments: Ritual and rationality:* 129–153. Beverly Hills, CA: Sage. SSCI citations for book: 562 (and most cited chapter according to *Google Scholar).*
4. Scott, W. R. 1987. The adolescence of institutional theory. *Administrative Science Quarterly,* 32: 493–511. SSCI citations: 442.
5. Tolbert, P. S., & Zucker, L. G. 1983. Institutional sources of change in the formal structure of organizations: The diffusion of civil service reform, 1880–1935. *Administrative Science Quarterly,* 28: 22–39. SSCI citations: 430.

We conducted two textual analyses: one of the metaphorical elements and another of the epistemic scripts used in the presentation of the theory. Space did not permit for a fine-grained analysis of empirical material and theoretical constructs, which have already been extensively investigated in the production of new knowledge. In the first analysis, which was inspired by Andriessen and Gubbins (2009), we selected all words whose literal meaning belongs to a domain other than organizations. We then grouped them into source domains (see Table 1), eliminating words that did not appear at least ten times in one foundational text. In the second analysis, which took its inspiration from Locke and Golden-Biddle (1997), we identified all passages explicitly positioning the new knowledge product in relation to previous knowledge. We grouped the passages according to the three epistemic scripts portrayed in Figure 1, and we present selected illustrative examples from the exhaustive list of script-related passages.

Metaphorical Building Blocks

Organizational institutionalism, as reflected in the foundational texts, contains a wide range of metaphors that span the metaphorical domains of culture, construction, biology, religion, theater, systems, market, power, and hard sciences. Table 1 shows the metaphorical words that appear at least ten times in one foundational text, indicating also how many times each word appears in each text. As the table reveals, some metaphors are widely used in all the texts (e.g., structure and environment), whereas others appear frequently in one or two texts and rarely or never in others (e.g., myths, ceremony, beliefs, and isomorphism).

Despite the variety of metaphorical domains evoked in the conception of organizational institutionalism, none of them were new to organizational theory. It appears that the reuse of metaphors from other organizational theories created a bridge that facilitated the adoption of theoretical concepts from these theories. For instance, the metaphorical domain of biology connected the new theory to the work of Selznick from the 1950s. Decades before organizational institutionalism referred to environment, survival, and variation/selection, Selznick had portrayed organizations as living, organic forms that adapt to their environment in order to survive:

> Selznick's institutional approach also emphasized the importance of history—the "*natural* history" of the *evolution* of a *living form* that is *adaptively* changing over time, and he stressed a holistic and contextual approach. As Perrow (1986, 157–158) noted: For institutional analysis, the injunction is to analyze the whole organization. To see it as whole is to do justice to its "*organic*" character. Specific processes are, of course, analyzed in detail, but it is the nesting of these processes into the whole that gives them meaning (Scott, 1987: 494; emphasis added).

A second example of bridging relates to the notion of structure from the metaphorical domain of construction. The concept of organizational structure took its inspiration from the later work of Max Weber (1949). References to buildings also existed in organizational theory decades before the birth of organizational institutionalism. For instance, the metaphor of architecture had been used previously to explain the integration of multiple organizational elements, such as economic markets, coordination, infor-

TABLE 1
Metaphors Appearing at Least Ten Times in a Foundational Text

Metaphor Domain	DiMaggio & Powell (1983)	Meyer & Rowan (1977)	Scott & Meyer (1983)	Scott (1987)	Tolbert & Zucker (1983)
Culture					
Myths/mythlike	1	52	1	4	0
Ceremony/ceremonial(ly)/ceremonialize(d)	6	38	0	1	0
Societal/society	6	46	11	22	4
Community	2	0	15	1	2
Biology					
Environment(s)/environmental(ly)	18	66	18	34	4
Survival/survive	2	21	3	4	2
Field	65	1	5	5	0
Selection	13	3	7	1	3
Population/populace/populate	11	0	2	2	5
Construction					
Building/build/built	2	12	1	2	0
Stabilization/stable/stabilize/stability	3	15	0	6	0
Structure/structuration/infrastructure	54	112	51	70	35
Fragmentation/fragmented	1	0	15	1	0
Religion					
Beliefs	0	0	1	26	
Faith	0	13	1	0	1
Theater					
Actor(s)	10	1		23	1
Perform/performance	7	9	10	10	8
System					
(De)coupled/(de)coupling	4	18	31	1	0
(Sub)system(s)	9	10	39	36	10
Network	7	20	6	2	1
(De)centralization/(de)central(ize)	11	8	45	5	8
Market					
Competition/compete/competitive	23	6	2	5	2
Product(ion)/produce(rs)/producing	7	34	3	15	1
Power					
Power(ful)	16	6	1	18	6
Dominance/dominant/dominating	10	2	0	1	4
Enforce(ment)/force(s)	11	9	0	9	2
Coercion/coerce/coercive	10	0	0	6	0
Hard sciences					
Isomorphism/isomorphic	52	17	0	2	1
Homogeneity/homogeneous/homogenization	27	0	0	0	0

mation systems, and bureaucratic function (Ménard, 1990: 14). The metaphorical domain of culture was not new either, as Smircich (1983) showed in her review of the culture metaphor within organizational theory. Culture also appeared in other organizational theories prior to the formulation of organizational institutionalism. In reusing a metaphor, the authors of the foundational texts enabled the transfer of theoretical concepts from other organizational theories.

A similar metaphorical transfer process applied to the borrowing of theoretical concepts from adjacent disciplines, such as anthropology, sociology, and history. By adopting metaphorical domains that were also used in other fields of study, the authors of the foundational texts enabled a transfer of theoretical concepts and propositions from those fields into organizational theory. This mechanism is illustrated in the following passage from Scott:

> With the shift in focus on symbolic aspects of environments and their sources, this version of institutional theory has both contributed to and benefited from the resurgence of interest in culture. Thus, this institutional theory provides a bridge for students of organizations to link to the insightful work of Berger, Bourdieu, Douglas,

Foucault, Geertz, and Wuthnow, to name only some of the leading contributors to the "new" cultural approaches (1987: 499).

As these examples illustrate, metaphors made up an important building block of organizational institutionalism. They facilitated the borrowing of ideas and theoretical concepts from previous organizational theories, as well as from other fields of study. The source of novelty lay not in the introduction of a new metaphor but in the unique combination of metaphorical domains into a novel theory formulation.

Our analysis further suggests that the metaphors employed in the conception of organizational institutionalism were selected and assembled using the script of bricolage. Notably, authors of the foundational texts combined metaphors from very different domains in the same sentence without justifying their pertinence or mutual compatibility. The simplest ones combine two metaphorical domains:

- Hard sciences and religion: "The concept of institutional *isomorphism* is a useful tool for understanding the politics and *ceremony* that pervade much modern organizational life" (DiMaggio & Powell, 1983: 150; emphasis added).
- Hard sciences and biology: "Institutional *isomorphism* promotes the success and *survival* of organizations" (Meyer & Rowan, 1977: 349; emphasis added).
- Culture and construction: "Organizations fail when they deviate from the prescriptions of institutionalizing *myths*: quite apart from technical efficiency, organizations which innovate in important *structural* ways bear considerable costs in legitimacy" (Meyer & Rowan, 1977: 352–353; emphasis added).

More complex forms of bricolage are also evident in the five texts. Numerous passages contain metaphors drawn from three or four metaphorical domains that are combined through bricolage:

- Construction, biology, culture, and systems: "The *building blocks* for organizations come to be littered around the *societal landscape*; it takes only a little entrepreneurial energy to *assemble* them into a *structure*. And because these *building blocks* are considered proper, adequate, rational, and necessary, organizations must incorporate them to avoid illegitimacy. Thus, the *myths built into* rationalized institutional elements create the necessity, the opportunity, and the impulse to organize rationally, over and

above pressures in this direction created by the need to manage proximate relational *networks*" (Meyer & Rowan, 1977: 345; emphasis added).
- Biology, culture, and construction: "Institutional *environments* are often pluralistic (Udy 1970), and *societies* promulgate sharply inconsistent *myths*. As a result, organizations in search of external support and *stability* incorporate all sorts of incompatible *structural elements*" (Meyer & Rowan, 1977: 356; emphasis added).
- Power, biology, culture, and religion: "A focus on institutional isomorphism can also add a much needed perspective on the political *struggle for* organizational *power* and *survival* that is missing from much of *population ecology*. The institutionalization approach associated with John Meyer and his students posits the importance of *myths and ceremony* but does not ask how these models arise and whose interests they initially serve. Explicit attention to the genesis of legitimated models and to the definition and elaboration of organizational *fields* should answer this question" (DiMaggio & Powell, 1983: 157; emphasis added).

Through this complex and imaginary bricolage, the foundational texts succeed in merging multiple metaphorical domains into a seemingly coherent knowledge construct. The composition of the theory appears to be a recombination of metaphors that were readily available in organizational theory at the time. None of the metaphors were novel to organizational theory, yet their specific combination was unique to this theory.

Interestingly, the complex assembly of metaphors into a new knowledge product apparently does not disturb readers. In fact, readers hardly seem to notice the extensive use of metaphors and apparent use of bricolage in the conception of this theory. As we demonstrate in the following section, this implicit acceptance can be attributed to the use of the other two epistemic scripts—evolution and differentiation—in the presentation of the new theory.

Scripted Knowledge Production

When organizational scholars introduced organizational institutionalism (or neoinstitutional theory) some thirty years ago, they used two epistemic scripts—differentiation and evolution—to position it in relation to other organizational theories. The differentiation script served to distinguish the new knowledge product from other or-

ganizational theories, while the script of evolution demonstrated its incremental improvement relative to previous organizational theories. Both scripts appear in all five texts, although in different proportions. The early texts are dominated by a differentiation script (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Scott & Meyer, 1983), whereas the later texts favor the script of evolution. All of them present existing theories as inadequate in some way or another.

The evolution script is employed in the foundational texts to show continuity with a previous stream of research within organizational theory. The two foundational texts that favor the evolution script presented the new theory as an extension of the institutional approach to the diffusion of innovations within formal structure, thus representing a departure from the contingency perspective on this topic. Tolbert and Zucker (1983) used the same script to propose an institutional explanation of the civil service reform that municipal governments adopted between 1880 and 1935. They constructed coherence by integrating existing theories with case study findings to formulate new theory. The evolution script is also evident in Scott's (1987) tracing of different versions of institutional theory, which he compared with empirical studies to reinforce the evolutionary development of organizational institutionalism. He simultaneously revealed the existence of a great variety of concepts and arguments in organizational institutionalism that indicated a significant internal differentiation in need of resolution to ensure the theory's further development.

The differentiation script is used primarily in the foundational texts to present the new knowledge product as being divergent from previous organizational theories. The authors claimed that this new knowledge product departed from other organizational theories that were prevalent at the time, such as contingency and open system theories (Meyer & Rowan, 1977), population ecology (DiMaggio & Powell, 1983; Scott & Meyer, 1983), the organizational network approach (DiMaggio & Powell, 1983), and resource dependence theory (see Scott, 1987). They maintained that extant theories were incomplete and needed specification. Meyer and Rowan affirmed that prevailing theories had "neglected an alternative Weberian source of formal structure" (1977: 343), while DiMaggio and Powell found that prevailing organizational theories

did "not present a fully adequate picture of the modern world of organizations" (1983: 150). Likewise, Scott and Meyer opened the section entitled "Inadequacies of Dominant Models" by writing that

> most existing organizational paradigms deal inadequately with the pattern of connectedness and disconnectedness among organizations. While there has been great progress during the past decades in moving outside the formally defined boundaries of organizations to take account of environmental stimulants and constraints and interorganizational exchanges and ties, present models *remain inadequate* in important respects (1983: 130; emphasis added).

This identification of inadequacies in existing theoretical approaches paved the way for the authors of the foundational texts to introduce an alternative perspective, one that renewed the then predominant view of a formal structure and of the organization-environment relationship.

The authors of these texts also drew on other streams of work to justify the need for the new theory and to make it coherent. For example, Meyer and Rowan (1977: 343) emphasized the importance of studying rationalized formal structures by referring to a previous generation of researchers who had demonstrated that informal structure is required for maintaining formal structure (e.g., sociologists of bureaucracy, such as Dalton and Downs-Homans) and that nonrational elements contribute to the implementation of decisions (e.g., decision-making theorists like March and Olsen). Scott and Meyer (1983) also anchored their work on societal sectors in previous literature, writing that "building on the insights derived from three bodies of work—on community structure, policy implementation, and agency coordination—we argue the utility of isolating societal sectors for analysis" (1983: 129). Scott and Meyer combined these three streams of research, imported from other fields, to generate the new organizational theory. To progressively build coherence into their argument, the authors of the foundational texts also integrated previous empirical research on institutional phenomena. DiMaggio and Powell (1983) integrated numerous empirical research findings to support their propositions and their analytical typology of isomorphic processes. Empirical studies by DiMaggio, Powell, Meyer, Zucker, and Tolbert are abundantly quoted in this foundational text. Scott and Meyer (1983)

similarly proceeded to elaborate their theoretical concepts and propositions regarding the organization of societal sectors.

It is noteworthy that none of the texts explicitly cast the new knowledge product in the epistemic script of bricolage. The absence of this script in the presentation of the new theory becomes all the more remarkable when we scrutinize the metaphorical content of the new knowledge product: bricolage seems to have been used extensively in the conception of the new theory. As we discuss in a subsequent section, the preference for using the scripts of evolution and differentiation in the five foundational texts seems to reflect their higher academic legitimacy within the community of organizational scholars.

TOWARD AN INTEGRATIVE MODEL OF ORGANIZATIONAL THEORY PRODUCTION

While theories certainly possess a substantial technical component, epistemic scripts seem to also contribute in important ways to the production of new organizational theories, as we illustrated in the example of organizational institutionalism. They implicitly guide the conception of new organizational knowledge and shape how such new knowledge is communicated to an academic audience. They also help establish coherence between existing and new knowledge, which is required to generate new organizational theories, as well as to understand and assess new knowledge claims. Our general argument is summarized in an integrative model of organizational theory production (Figure 2). This model emphasizes that epistemic scripts operate somewhat independently in the two phases of knowledge production. As shown in the example of organizational institutionalism, the epistemic scripts that scholars use in the conception of new theories need not be identical to the ones they use for presenting them in writing. In fact, we propose that they frequently differ—that is, that decoupling is prevalent in academic knowledge production.

Theory Production Process

According to the integrative model in Figure 2, which should be viewed as a fairly simplified template of complex and intertwined processes, theory builders have at their disposal theory

components from the three building blocks of empirical material, theoretical constructs, and metaphors. These components, we argue, are rarely selected explicitly, although researchers may add some elements deliberately for a variety of pragmatic reasons. Our emphasis on metaphors in this article does not reflect their importance relative to empirical material and theoretical constructs during the conception of new organizational theories; all three building blocks are needed to build an original theory.

Theory builders creatively integrate selected theory components into a new theory using one or more epistemic scripts of knowledge production. Within organizational theory, we identified three epistemic scripts—evolution, differentiation, and bricolage—which embody different assumptions about academic knowledge production. They represent ideal types and are not mutually exclusively in practice. The process of integrating building blocks into theories using epistemic scripts may unfold subconsciously or with partial awareness, but it cannot be fully codified. The output must integrate the selected components into a relatively cohesive theory formulation that allows for empirical testing. We propose that the script of differentiation is ill adapted for deliberate theory conception, as indicated by its shading in Figure 2. As we argued previously, the differentiation script is unlikely to facilitate theory building because of the inherent difficulty associated with voluntarily distancing oneself from existing knowledge. While both the scripts of evolution and bricolage are easier to employ deliberately, we propose that many new organizational theories may be conceived by means of the bricolage script. Theory builders select and combine elements that are readily available in their surroundings, much like the building blocks for organizations that litter the societal landscape and that entrepreneurs easily assemble into a structure (Meyer & Rowan, 1977: 345).

The new theory formulation is subsequently presented in writing. This process consists of effectively communicating the contents of the new theory to an academic audience and convincing this audience that it is viewing a new organizational theory. Scholars draw from the pool of available epistemic scripts for this purpose, selecting scripts they are familiar with and that they deem capable of conferring academic legitimacy on their new knowledge prod-

FIGURE 2
Production of New Organizational Theories
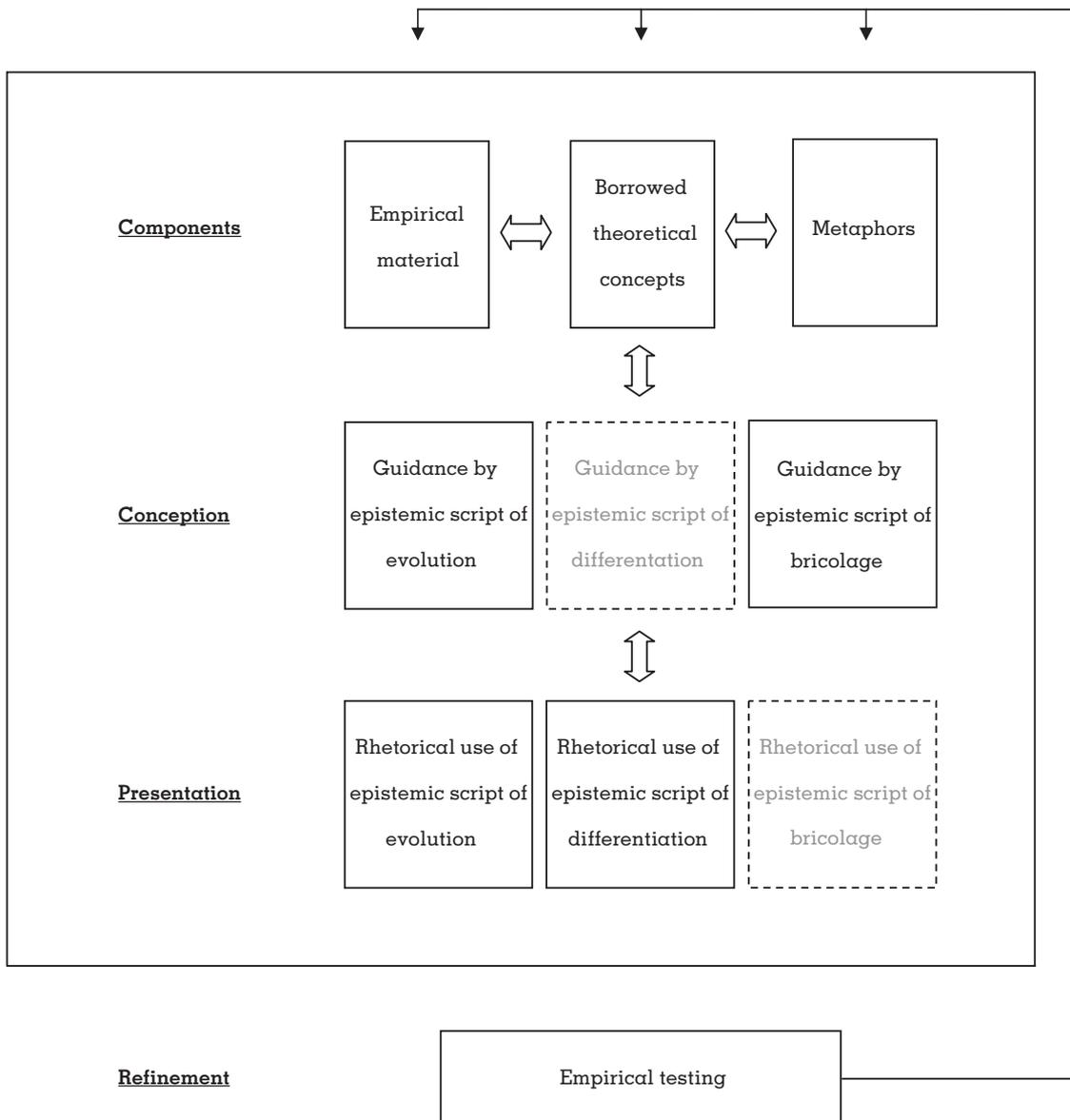
uct. Since the scripts of evolution and differentiation carry a higher academic legitimacy in organizational theory than does the script of bricolage, scholars are likely to spontaneously choose one of the two former scripts. This choice is rarely explicit, we argue, because the scripts of evolution and differentiation have become so institutionalized in organizational theory that they are now widely regarded as objective representations of the relationship between new knowledge and existing knowledge. In contrast,

the script of bricolage is rarely employed as a rhetorical device to enhance the legitimacy of a new knowledge product, as indicated by the shading in Figure 2. We contend that this script is not (yet) a legitimate mode of academic knowledge production and, hence, is deselected in writing.

While a new theory formulation may be inspiring and rhetorically legitimate, it will only gain recognition as an organizational theory if it also reflects the empirical realm. Empirical val-

idation serves to confirm or adjust the original theory formulation, a process that is generally pursued by means of subsequent empirical studies. Propositions can also be rejected at this stage. McKinley (2010) maintains that since this stage represents the very purpose of theory production, new theories should be formulated so they enable empirical testing. The results of empirical testing rarely lead to the outright rejection of a theory (Davis, 2010) but serve instead to refine the theory formulation. This circularity is indicated in our model with an arrow linking empirical testing to the three building blocks of organizational theories. New concepts, new empirical material, and/or new metaphors may be added to the initial theory formulation in response to empirical testing.

Scope Conditions

The notion of metaphor has been treated in some depth elsewhere (e.g., see Cornelissen 2005, 2006; Lakoff & Johnson, 1980; Morgan, 1983; Weick, 1989). Suffice it to say, therefore, that the metaphors built into organizational theories are likely to vary over time and space. Just as cultural variation exists in the metaphors that shape our implicit understandings of teamwork (Gibson & Zellmer-Bruhn, 2001), so, too, we may anticipate that organizational scholars from different cultures or with different disciplinary backgrounds will spontaneously select somewhat different metaphors when building new organizational theories.

The construct of epistemic scripts is subject to some scope conditions as well (see Suddaby, 2010). We contend that the bricolage script reflects our very ability to be creative and that it therefore represents a universal feature of theory conception. It can be inhibited, however, by its academic illegitimacy—for instance, when researchers try to discipline their cognitive processes to reflect the script of evolution or of differentiation. Since disciplined behavior is learned, full socialization into academia may well be a counterindication for the conception of new organizational theories. In contrast, when it comes to the presentation of new theories, the frequency and rhetorical effectiveness of different epistemic scripts probably reflect predominant values in specific communities of practice.

First, we anticipate that time affects which epistemic scripts are selected for the presentation of a new organizational theory in academic writing. The script of evolution can undoubtedly be traced to the importation of evolutionary theory from biology into the social sciences, while differentiation probably gained momentum as a legitimate script of knowledge production in the wake of Thomas Kuhn's work on paradigms and scientific revolutions. Similarly, the script of bricolage may currently be gaining legitimacy in response to calls for organizational theory to become more relevant for organizational practice (Barker et al., 2001; Gibbons et al., 1994; Huff, 2000; Schultz & Hatch, 2005).

Second, space impacts the use of epistemic scripts. Just as the predominance of different organizational theories varies from one country to another (Guillén, 1994) so, too, may the frequency of epistemic scripts used to present new organizational theories. For instance, the differentiation script may be most prevalent in countries where organizational theorists define their mission as one of developing countermainstream perspectives, while the evolution script may flourish most where organizational theory is equated with hard sciences.

Third, reflecting the above considerations, the relative use of the three scripts in the presentation of an organizational theory should fluctuate with the institutions that prevail in different scholarly communities. The script of bricolage has only recently begun to diffuse and is not yet sufficiently legitimate to convince readers that a new organizational knowledge product has academic merit. In contrast, organizational scholars frequently draw on either the script of evolution or the script of differentiation, or on both for that matter, to rhetorically justify the merits of their proposed new knowledge product. The latter two scripts have apparently become so legitimate that they now constitute rational myths of academic knowledge production in organizational theory. We reiterate that this normative component of knowledge production never stands alone. Just as rational myths coexist with the technical realm of organizations (Meyer & Rowan, 1977), so, too, do scripts and metaphors operate in parallel with more substantial components of organizational theories, such as construct validity, hypothesis formulation, and explanatory power.

METAPHORS AND SCRIPTS REVISITED

Our work contributes to several streams of research within the field of organizational theory, notably the literature on metaphors in theory building and the literature on scripts in organizational knowledge production. Below we outline our proposed contribution to these bodies of literature and offer suggestions for future research.

Metaphors in Theory Building

While still controversial in organizational theory, metaphors are increasingly recognized for their creative potential in organizational theory building. As outlined previously, metaphors stimulate the imagination by juxtaposing a source domain and a target domain and by introducing frameworks that are external to organizational theory yet familiar to organizational scholars (Cornelissen, 2005; Schön, 1993). Applied to organizational theory building, metaphors offer new perspectives on organizations through "disciplined imagination" (Weick, 1989) and related systematic processes of imagination (Cornelissen, 2006). In principle, such shifts in perspective can also be accomplished by changing methodological or analytical mindsets (Zyphur, 2009), by engaging in paradigm interplay (Schultz & Hatch, 1996), or by taking advantage of contradictory theoretical explanations of the same phenomenon (Poole & Van de Ven, 1989). But metaphors reach wider. They make it possible to creatively combine multiple perspectives and to envision entirely new conceptual landscapes.

As revealed by the illustration from organizational institutionalism, the range of metaphorical domains from which organizational scholars draw creatively to build new organizational theories can be very extensive indeed. Creative theory formulations, we argue, draw extensively on metaphors from various domains and integrate them skillfully with theoretical constructs and empirical material to form imaginative new perspectives on organizational life. These perspectives are subsequently sharpened and modified by means of systematic empirical inquiry. This proposition resonates with a recent empirical study of metaphors in the theoretical construct of "social capital" (Andriessen & Gubbins, 2009) and with other studies of metaphors in

organizational theory building (e.g., Cornelissen, 2005, 2006; Cornelissen & Kafouros, 2008a,b; Weick, 1989, 1995). This previous work suggests that the assembly of metaphors is inherent to theory conception.

Our contribution does not lie in metaphorical assembly per se but, rather, in an explanation of why its existence is not yet widely recognized. Essentially, the assembly of metaphors is hidden, we argue, behind more legitimate scripts of knowledge production, which scholars apply to increase the recognition of their knowledge product as a new organizational theory. In other words, institutional forces of academic knowledge production, which are reflected in the epistemic scripts that scholars use to present a new theory, prevent a wide-scale recognition of the metaphorical assembly that goes into the conception of a new theory.

Future research on metaphors in theory building could investigate whether the assembly of metaphors that we identified in the formulation of organizational institutionalism is indeed as widespread in organizational theory as we suggest. It would be interesting to conduct a similar analysis of both earlier and later organizational theories, such as Herbert Simon's work on organizational behavior (e.g., Simon, 1957) and Bruno Latour's formulation of actor-network theory (e.g., Latour, 1987). Such a diachronic analysis may sharpen the scope conditions of our argument, illuminating the extent to which the selection and the assembly of metaphors are context dependent. We propose that the particular choice of metaphors is contextual, while the assembly of heterogeneous metaphors in theory building reflects universal mechanisms of cognitive processing associated with our very ability to be creative.

Epistemic Scripts

Our work on the epistemic scripts of knowledge production extends the work of Locke and Golden-Biddle (1997) on the construction of novelty in academic writing. They showed how organizational scholars employ narrative templates as rhetorical devices to craft a novel contribution to the literature, constructing both the knowledge product and the gap that it fills. While they examined novel contributions to existing lines of inquiry, we focused on entirely new organizational theories. We also added the

dimension of knowledge conception, whereas they exclusively focused on the rhetorical presentation of new knowledge claims. Finally, while they addressed the textual expression of new knowledge claims, we exposed the epistemic scripts of knowledge production that underpin these textual expressions. The notion of epistemic scripts can explain, for instance, why Locke and Golden-Biddle (1997) found certain rhetorical templates and not others in their empirical analysis of academic writing. Our work suggests that the explanation lies in the academic legitimacy that epistemic scripts confer on new knowledge claims. Operating as institutional forces of academic knowledge production, epistemic scripts place new knowledge claims in a socially constructed relationship with existing knowledge and influence the extent to which academic readers will recognize such knowledge claims as a theoretical contribution or an entirely new theory.

We illuminated the epistemic principles that underpin each of the three scripts and presented an integrative model of how they affect organizational knowledge production. We further suggest that it is not only feasible, as we saw in the illustrative example, but also rhetorically advantageous for scholars to employ several epistemic scripts simultaneously when presenting a new theory to a potentially heterogeneous audience. This rhetorical multiplicity may increase the likelihood that a wide community of organizational scholars will understand and endorse the new theory.

Further research is certainly needed on epistemic scripts. Scholars may examine in more depth how the different scripts guide theory conception. Following previous efforts to study coherence (Lockwood, 1976; Okhuysen & Bonardi, 2011), scholars may also formulate criteria for assessing whether a specific knowledge product succeeds or fails in achieving coherence according to the principles that we outlined for each script. It would be valuable to specify how rigor and coherence of a new theory formulation are achieved depending on the script(s) used. This work is particularly important for the underspecified script of bricolage, which otherwise may not diffuse and gain academic legitimacy. Okhuysen and Bonardi (2011) take some interesting steps in the right direction, proposing conceptual proximity and compatible as-

sumptions as relevant criteria for bricolage. Another interesting path for future research would be to conduct a synchronic analysis of epistemic scripts in other academic disciplines. Do scholars from other academic fields use the same epistemic scripts to conceive and present new theories? If not, does the explanation lie in the type of inquiry within a given field of study, the timing of an academic field's formation, or current institutional forces within the field? This line of inquiry may stimulate interesting cross-disciplinary debates.

CONCLUSION

The slow emergence of new organizational theories in recent years has sparked an acute interest in understanding how new organizational theories are produced. Organizational scholars have made significant advances in terms of illuminating either the conception or presentation of new theories, but they have left aside the relationship between these two dimensions of theory production. Although many scholars may experience them as being intertwined, these two dimensions represent somewhat distinct elements of organizational knowledge production that merit analytical separation. Our work sheds light on the epistemological assumptions that underpin each of these two dimensions of organizational knowledge production. These assumptions, we argue, are reflected in epistemic scripts of knowledge production that scholars employ implicitly to conceive new organizational theories and to present them effectively in academic writing.

During theory conception, epistemic scripts provide us with cognitive templates for how to assemble concepts, empirical material, and metaphors into new theory formulations. Such formulations must be sufficiently robust to explain and partially predict empirical phenomena, but they must also change how we perceive organizational life. Metaphors serve as a catalyst for bringing about this latter quality of a new theory. Their partial and ambiguous applicability to the object of study stimulates theory builders to be creative in their interpretations and to generate new insights. In this article we stressed the assembly of multiple metaphors as an expression of theoretical creativity. This creative component must be carefully integrated with theoretical concepts and empirical mate-

rial to form a valuable new theory. Epistemic scripts facilitate this integration.

When used to present a new theory formulation in writing, epistemic scripts relate the new knowledge product to the existing body of academic knowledge in such a way as to reinforce the perception among readers, including editors and reviewers, that they are looking at a legitimate new theory. New theory formulations thus gain legitimacy not only from their explanatory power but also from the epistemic scripts that are stitched into their scholarly presentation. The three epistemic scripts of evolution, differentiation, and bricolage confer variable levels of academic legitimacy on new knowledge products, encouraging scholars to adopt the most legitimate scripts for presenting their theory proposal in academic writing. Instrumental in sustaining the effects of coherence, novelty, and relevance associated with new knowledge claims, epistemic scripts enhance the perceived academic value of new theory formulations.

An important point we want to stress is that the epistemic scripts that inform the conception of a new theory need not correspond to the epistemic scripts selected for its scholarly presentation. A new theory may be conceived using the script of evolution but may be cast in the differentiation script when presented to other scholars. Notably, we propose that the script of bricolage is particularly prevalent in the *conception* of new organizational theories yet is almost absent from the *presentation* of them. We illustrated this potentially common pattern using organizational institutionalism as an example. The foundational texts of this theory contain a complex bricolage of metaphors drawn from multiple metaphorical domains, including culture, biology, construction, religion, theater, market, system, power, and the hard sciences. The theory is nevertheless cast in the epistemic scripts of evolution and differentiation, which both enjoy higher academic legitimacy than does the script of bricolage. This decoupling can be attributed in part to the institutional dimension of academic knowledge production. Assuming that organizational institutionalism is no exception among organizational theories, bricolage may represent a rather common mode of theory building that will remain controversial until organizational scholars recognize the institutional forces that govern the academic presentation of new organizational knowledge.

Although we emphasize that academic knowledge producers make extensive use of epistemic scripts in their work, we do not suggest that they necessarily engage in a conscious process or an act of manipulation. Academic knowledge producers are also knowledge consumers who tacitly reemploy scripts and metaphors that they believe to be valuable and relevant for the generation of new knowledge. Such tacitness does not exclude the possibility that organizational scholars could become more conscious of their own knowledge production and deliberately embrace metaphors and scripts when generating and presenting new knowledge. Notably, organizational theory may benefit if scholars distinguish more clearly between the conception of a new theory and the written presentation of it. A distinction may enable the adoption of the most appropriate script(s) for each dimension of knowledge production, which could stimulate the production of new organizational theories. A clearer distinction may also help readers, including reviewers and editors, recognize the rhetorical use of epistemic scripts and examine more closely the actual composition of new organizational theories. Our integrative model of organizational theory production may thus encourage organizational scholars to become better able to craft and assess new organizational theories.

We also hope that our work encourages scholars to become more reflexive about their own practices of knowledge production (see Alvesson, Hardy, & Harley, 2008). This need for greater reflexivity also applies to us, the authors of this article. Our text is written for publication in an academic journal and, hence, is itself a vehicle of academic traditions and conventions. We have applied different scripts and templates to substantiate our argument and convince readers of our novel contribution. Moreover, our integrative model of theory production and our article as a whole contain a significant number of metaphors, such as building blocks, knowledge products, scripts, rational myths, evolution, and bricolage. These metaphors are not new to organizational theory, although our combination of them is novel. The choice of metaphors reveals our constructivist position in relation to knowledge production. Our choice of illustrative example is not neutral either. It reflects the institutional foundation of our argument about epistemic scripts of knowledge pro-

duction as taken-for-granted elements of academic knowledge production. Our general portrayal of academic knowledge production as an institutionalized activity alludes to our institutionalist inclinations, while our position regarding bricolage in the production of new knowledge reflects our practice-oriented view of knowledge production.

Why have so few organizational theories been introduced in academic journals over the past decade? It is plausible that the review process implicitly encourages authors to present new knowledge claims as incremental contributions to an existing line of inquiry rather than as radical breaks with established bodies of knowledge. For instance, authors who present a knowledge product as discontinuous with existing theories and paradigms—who employ the differentiation script alone—may be gently reoriented by reviewers to position their work relative to a more compatible line of inquiry—that is, to use the evolution script (see Davis, 2010, for a discussion of theory survival in organizational theory). When editors and reviewers in this way reinforce the evolution script relative to the differentiation script, they inadvertently discourage the formulation and publication of new organizational theories. If the aim is to renew the stock of theories in the field of organizational theory, we should reinforce the legitimacy of the differentiation script and/or the bricolage script among organizational scholars at the center of the field, since they are the gatekeepers of the most prestigious academic journals.

A different explanation for the few new theories may lie in the maturity of the field of organizational theory. Most current organizational theories were born in the 1970s (Davis, 2010), when the field was still young and undergoing structuration. Perhaps the field of organizational theory has become so structured that it is no longer feasible to introduce new theories into it, provoking instead the formation of new fields of study to host new theory formulations. In this light the question shifts from the absence of new theories to the curious persistence of multiple theories within the field. In biology, for instance, Darwin's theory of evolution has pushed aside Lamarck's evolutionary theory and become almost synonymous with the field itself. Rather than deplore the catch-all features of institu-

tional theory, we should perhaps cherish its increasing dominance of organizational theory (Davis, 2010) as a sign of field maturity.

In this article we only examined the production of new organizational theories, not their subsequent diffusion. Future research may investigate the impact of different scripts and metaphors on the diffusion of new organizational theories. Perhaps organizational institutionalism has diffused widely because its metaphorical content and epistemic scripts were particularly well chosen for the sociohistorical context in which it emerged. Or perhaps it is the current sociohistorical context that "selects" organizational institutionalism as a particularly meaningful organizational theory. In any case, the choice of metaphors and epistemic scripts of knowledge production may determine not only the birth of an organizational theory but also its very life cycle.

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