

MIT Open Access Articles

Theorizing Practice and Practicing Theory

The MIT Faculty has made this article openly available. **Please share** how this access benefits you. Your story matters.

Citation: Feldman, M. S., and W. J. Orlikowski. "Theorizing Practice and Practicing Theory." *Organization Science* 22 (2011): 1240-1253.

As Published: <http://dx.doi.org/10.1287/orsc.1100.0612>

Publisher: Institute for Operations Research and the Management Sciences

Persistent URL: <http://hdl.handle.net/1721.1/66516>

Version: Author's final manuscript: final author's manuscript post peer review, without publisher's formatting or copy editing

Terms of use: Creative Commons Attribution-Noncommercial-Share Alike 3.0



THEORIZING PRACTICE AND PRACTICING THEORY

Martha S. Feldman¹
University of California, Irvine

Wanda J. Orlikowski
Massachusetts Institute of Technology

April 2010

ABSTRACT

This paper describes the emerging field of practice theory as it is practiced in relation to organizational phenomena. We identify three approaches — empirical, theoretical, and philosophical — that relate to the what, the how and the why of using a practice lens. We discuss three principles of the theoretical approach to practice, and offer examples of how practice theory has been used in the organizational literature and in our own research. We end the paper with a discussion of the challenges and opportunities provided by practice theory.

KEYWORDS: Practice, practice theory, organizational research

INTRODUCTION

In this paper we discuss the value of practice theory for issues of concern to organization theorists. We are motivated to write this by our own experiences, primarily our experiences as researchers and teachers but also our experiences as editors and reviewers of papers that investigate practices empirically and use practice ideas theoretically. Central to a practice lens is the notion that social life is an ongoing production and thus emerges through people's recurrent actions. We have become intrigued by the capacity that such a lens affords for analyzing social, technological, and organizational phenomena, and we write this piece with the intent of sharing our understanding and interest in that capacity.

We believe that a practice lens has much to offer scholars of organization. And we believe this is especially the case today. Contemporary organizing is increasingly understood to be complex, dynamic, distributed, mobile, transient, and unprecedented, and as such, we need approaches that will help us theorize these kinds of novel, indeterminant, and emergent phenomena (Barley and Kunda, 2001; Child and McGrath, 2001; Ciborra, 1996; Law and Urry, 2004; Stark, 2009). We believe practice theory, with

¹ The co-authors are equal collaborators in writing this article. We are grateful to Linda Argote, Beth Bechky, Rich Burton, Deborah Dougherty, Danielle Dunn, Samer Faraj, Sarah Kaplan, Ann Majchrzak, Willie Ocasio, Haridimos Tsoukas, and two reviewers for helpful comments.

its focus on dynamics, relations, and enactment, is particularly well positioned to offer powerful analytical tools to help us here.

We begin by positioning the practice lens as a specific approach to understanding the world. We discuss a number of key analytical principles of practice theory and offer a few illustrations of current organizational scholarship that is informed by these principles. We then describe some experiences of using practice theory in our own research practice, so as to ground its use in the details of specific projects and intellectual histories. We end with a brief discussion of some of the challenges faced by practice scholars, as well as the value that can be derived from engaging in practice scholarship.

Positioning a Practice Lens

In our consideration of practice theory, we situate it in relation to three ways of studying practice (Orlikowski, 2010): an empirical focus on how people act in organizational contexts; a theoretical focus on understanding relations between the actions people take and the structures of social life; and a philosophical focus on the constitutive role of practices in producing social reality. All three of these foci are salient for scholars using a practice lens, though in any particular piece of scholarship researchers may emphasize one focus over another.

The first *empirical* approach to practice recognizes the centrality of people's actions to organizational outcomes, and reflects an increasing recognition of the importance of practices in the ongoing operations of organizations. This approach answers the "what" of a practice lens — a focus on the everyday activity of organizing in both its routine and improvised forms. This approach is, to some extent, a reaction to an earlier emphasis in organizational theory that focused primarily on structural features while neglecting the agentic capacity of human action. Many scholars of contemporary organization theory recognize the importance of human agency in organizational life while making theoretical contributions to fields not necessarily associated with practice theory or practice philosophy. Dutton and Dukerich (1991), for example, develop and use identity theory in their study of the practices of employees of the New York Port Authority toward the homeless. Dougherty proposes an emergent image of differentiation and integration in innovation by focusing on "the actual work of sustained product innovation" (2001: 615). Weick and Roberts (1993) locate their study of distributed cognition within the practices of the crew of an aircraft carrier. These and many other studies emphasize the importance of human agency in producing organizational reality without taking on board either the theoretical or philosophical apparatus of a practice lens.

The second *theoretical* approach to practice explicitly takes on board the apparatus of practice theory. While it includes a focus on everyday activity, it is critically concerned with a specific explanation for that activity. This approach answers the "how" of a practice lens — the articulation of particular

theoretical relationships that explain the dynamics of everyday activity, how these are generated and how they operate within different contexts and over time. Key theorists who have advanced specific practice-based theoretical relationships include Bourdieu (1977, 1990; Bourdieu and Wacquant, 1992), De Certeau (1984), Giddens (1976, 1979, 1984), and Ortner (1984, 1989). Their work has been influenced by ideas from Heidegger (1962) and Wittgenstein (1967), as well as Schutz (1967, 1970) and Garfinkel (1967). More recent influences on contemporary practice theory include the works of Latour (1987, 1992, 2005), Lave (1988), Engeström (1999) and Schatzki (2001, 2002, 2005). As we discuss below, working with the specific theoretical ideas of practice theorists requires researchers to engage with the core logic of how practices are produced, reinforced, and changed, and with what intended and unintended consequences.

The third *philosophical* approach to practice entails the premise that social reality is fundamentally made up of practices. That is, rather than seeing the social world as external to human agents or as socially constructed by them, this approach sees the social world as brought into being through everyday activity. This approach answers the “why” of a practice lens — a focus on everyday activity is critical because practices are understood to be the primary building blocks of social reality. Such an ontology may be more or less explicit in researchers’ use of practice theory. For Schatzki, for example, practice theories represent a distinct social ontology: “the social is a field of embodied, materially interwoven practices centrally organized around shared practical understandings (2001: 3). Some researchers use a practice ontology to question the status of the phenomenon they are studying (e.g., Gherardi, 2006; Lave, 1988). They do so by making the ontological primacy of practice — that is, that practices are fundamental to the production of social reality — a focal aspect of their research agenda (e.g., on learning and knowledge) and then use it to reconsider and respecify the phenomenon of interest (e.g., in terms of collective doing and cognition in practice). Other uses of practice theory may be simply consistent with a practice ontology without making the fundamental status of the phenomenon under investigation core to their research question.

These three approaches represent three different foci that practice researchers may emphasize in their use of a practice lens. In the rest of this paper, we focus primarily on the middle approach — practice theory — while referring occasionally to the empirical and philosophical approaches. As a theoretical paradigm, practice theory is still a relatively unsettled intellectual landscape with multiple sources, influences, and instances. As such, there is no definitive canon of practice theory that is widely accepted by most scholars (Schatzki, 2001; Gherardi, 2006). What we hope to do here then is to outline some principles based on how practice theory is currently understood and applied within organizational research, so as to provide a point of reference for scholars reading this research and those choosing to engage with it in their own research practice.

PRACTICE THEORY OVERVIEW

While practice theory is a broad intellectual landscape, there are some recognizable features that have emerged and which are relatively common to the scholars working within the terrain. Here we sketch the outlines of some core principles of a practice theory. We then offer a few brief illustrations of how scholars have applied some of these core ideas within organizational studies, before turning to our own experiences.

Some Principles of Practice Theory

Critical to practice theory is the relationship between specific instances of situated action and the social world in which the action takes place. While various practice theorists emphasize different aspects of these relationships and elaborate distinct logics, all generally subscribe to a key set of theorizing moves: 1) that situated actions are consequential in the production of social life; 2) that dualisms are rejected as a way of theorizing; and 3) that relationships of mutual constitution are important. These principles cannot be taken singly, but implicate one another. In the following we try to make these very abstract principles more concrete.

Practice theory argues that *everyday actions are consequential* in producing the structural contours of social life. While this principle of consequentiality is worked out differently by different theorists, the general principle of consequentiality is found throughout practice theory. For Bourdieu, the habitus is a “generative principle of regulated improvisation ... which reactivates the sense objectified in institutions” (1991: 57ff). For Giddens, practices are those social actions that recursively produce and reproduce the structures that constrain and enable actions (1984). For Schatzki (2002), the bundles of human activity that constitute practices enact social orders. MacIntyre captures this consequential quality of practice when he describes the development of portrait painting as being driven not primarily by the external demand for portraits but by the standards of excellence created by practitioners through the practice of portrait painting (2007: 189ff). According to his view, what makes portrait painting or any other activity a practice is that the action of engaging in it is consequential for the development of the activity. What is produced and how varies: it may be social structures (Giddens, 1984), field and habitus (Bourdieu, 1991), bundled arrays of activity (Schatzki, 2001), and so forth, but the productivity or consequentiality of everyday practices is consistent.

That practice is consequential for social life is, for many practice theorists, associated with a strong humanist orientation and the foregrounding of human agency (Schatzki 2002). Recent work in a posthumanist vein, however, has been strongly influencing practice theory (Schatzki, 2001). Such work — largely conducted by science and technology scholars, for example, Callon (1986), Latour (1987, 2005), Knorr Cetina (1997), Pickering (1995), Pinch (2008), and Suchman (2007) — has articulated the

consequential role played by nonhumans such as natural objects and technological artifacts in producing social life. While these scholars differ as to how they theorize the status of nonhuman agency relative to human agency — for example, whether these agencies are posited to be symmetrical (Callon 1986; Latour 1987), intertwined (Pickering 1995), or entangled (Suchman 2007) — their work has been particularly influential in helping practice scholars acknowledge the importance of materiality in the production of social life.

A second principle of practice theory is the *rejection of dualisms* and recognition of the inherent relationship between elements that have often been treated dichotomously. These include such conceptual oppositions as mind and body, cognition and action, objective and subjective, structure and agency, individual and institutional, free-will and determinism (Reckwitz, 2002). Bourdieu's theory of practice, for instance, takes as a central focus the deconstruction of the longstanding notion that the subjective and objective are independent and antithetical concepts. In addition, he singles out several other "antinomies — which the concept of the habitus aims to transcend — of determinism and freedom, conditioning and creativity, consciousness and the unconscious and the individual and society" (1991: 55). In the case of Giddens, a primary purpose of his work on structuration theory is to transcend the dualism of agency and structure. As he writes, "The constitution of agents and structures are not two independently given sets of phenomena, a dualism, but represent a duality" (1984: 25). While analytical oppositions are sometimes useful, practice theory encourages skepticism towards these, and the conceptual means to redefine and reintegrate concepts that have been partitioned and polarized in other theories. In particular, practice theory enables scholars to theorize the dynamic constitution of dualities, and thus avoid the twin fallacies of — on the one hand, "objectivist reification" — and on the other, "subjectivist reduction" (Taylor, 1993).

A third principle of practice theory is the *relationality of mutual constitution*. Though sometimes the term relational is taken to mean interpersonal, the meaning intended here echoes that of Foucault (1978) and others in viewing relational as stipulating that no phenomenon can be taken to be independent of other phenomena (Bradbury and Lichtenstein, 2000; Østerlund and Carlile, 2005). Phenomena always exist in relation with each other, produced through a process of mutual constitution. The specific interactions of phenomena entailed by relationality vary among scholars. Giddens (1984) is well known for theorizing the recursive relationship between agency and structure. In this case, it is not just that recurrent actions constitute structures, but that the enacted structures also constitute the ongoing actions. Such practices are said to be recursive because they are "constantly recreated by the same means whereby they express themselves" (Gherardi, 2006: 31). Though not using the language of recursion, Bourdieu also proposes a relationality in which practice, habitus and field produce and reproduce one another (Bourdieu, 1990; Gherardi, 2006; Chia and Holt, 2006). The notion of mutual constitution implies that

social orders (structures, institutions, routines, etc.) cannot be conceived without understanding the role of agency in producing them, and similarly, agency cannot be understood “simply” as human action, but rather must be understood as always already configured by structural conditions. The ongoing nature of this constitutive relationship indicates that social regularities are always “in the making,” that is, they are ongoing accomplishments (re)produced and possibly transformed in every instance of action (Gherardi, 2006; Reckwitz, 2002).

Relations of mutual constitution are not to be confused with feedback relations, often referred to as feedback loops. Feedback involves the generation of information about system conditions that flow back to the system to control it. The notion of feedback recognizes the presence of distinct elements in a system that act on each other through information flows. While such interactions can regulate or modify the ongoing operations of a system, they are not seen to construct the system themselves. Relations of mutual constitution produce the very system of which they are a part. Escher’s 1948 lithograph “Drawing Hands” — where the left hand is depicted drawing the right hand, and vice versa (Orlikowski, 2002) — provides a visual depiction of this relational constitution.

It is important to note that relations of mutual constitution do not imply equal relations. Rather these are relations of power, laden with asymmetrical capacities for action, differential access to resources, and conflicting interests and norms. Practice theorists differ in how they theorize power. In Bourdieu’s work, for instance, power occurs through the objectification and institutionalization of subjective relations (1990). For Giddens, power is identified with the agentic capacity to “make a difference” in the world and is defined as the “the means of getting things done” (1984: 283). In his formulation of the structuration process, power relations enact structures of domination over time. Power is thus understood to have both constraining and enabling implications for everyday action. The asymmetry of relations is fundamental to practice theorizing, and as such, “the notion of power can often serve as a helpful tool for identifying the relational forces at play in a particular practice theory (Østerlund and Carlile, 2005).

Some Applications of Practice Theory

Applications of practice theory have been gaining ground within organization studies, and we offer three examples here. In the first two examples — the fields of strategy and knowledge — scholars are drawing substantively on practice theory to investigate the phenomena of strategy making and knowing in practice. In the third example — that of neo-institutionalism — scholars are drawing more lightly on practice theoretic ideas to inform their theorizing of institutional maintenance and change.

Strategy. A growing community of organizational scholars studying strategy has begun to use practice theory to understand the relational and enacted nature of strategizing (Whittington, 1992, 2006;

Johnson et al., 2003, 2007; Jarzabkowski, 2005, 2008; Golsorkhi et al., 2010). Strategy here is understood as something that actors do as opposed to something that organizations have. This is an understanding of “strategy in the making” — as a dynamic accomplishment rather than a static outcome. Building on Mintzberg’s (1978) important identification of emergent and deliberate strategy, the “strategy as practice” stream of scholarship focuses in particular on how strategy is constituted through the everyday actions of organizational participants. These scholars are also interested in understanding how what is produced (strategy) serves to constrain and enable the actions taken, and with what strategic consequences. “Strategy as practice shifts the analytic focus to how strategy is constructed rather than how firms change, in order to understand the myriad of interactions through which strategy unfolds over time, each of which contains the scope and potential for either stability or change (Tsoukas and Chia, 2002)” (Jarzabkowski, 2005: 5). For example, Mantere and Vaara (2008) examine the discursive practices that create more or less participatory strategizing processes, while Kaplan (2008) explores the framing practices that create and alter the meaning and legitimacy of strategic initiatives, highlighting the different consequences resulting from practices that reinforce existing collective frames and those that produce divergent frames.

Knowledge. A number of scholars within organization studies have turned to practice theory to help them reformulate notions of knowledge commonly used in the management literature. They have drawn particularly on Giddens’ (1984) and Bourdieu’s (1990) insights into human knowledgeability, as well as work by anthropologists such as Lave (1988) and Hutchins (1995) who have argued for seeing knowledge as a consequential activity grounded in everyday, situated practice. Giddens, for instance, defines knowledgeability as “inherent within the ability to ‘go on’ within the routines of social life” (1984: 4) and Bourdieu clearly identifies knowledge as constructed within practice rather than passively recorded (1990: 52). These insights have led to an understanding of knowing-in-practice as the knowledgeability that is continually enacted through ongoing action. Such an understanding rejects the traditional dualism set up between knowledge that exists “out there” (encoded in external objects, routines, or systems) and knowledge that exists “in here” (embedded in human brains, bodies, or communities). Rather, “knowing is an ongoing social accomplishment, constituted and reconstituted in everyday practice” (Orlikowski, 2002: 252). This enacted view of knowledge is strongly evident in research on knowledge production and sharing within organizations by such scholars as Bechky (2003a, 2003b; 2006), Brown and Duguid (1991, 1998), Boland and Tenkasi (1995), Carlile (2002, 2004), Cook and Brown (1999), Gherardi (2006), Gherardi and Nicolini (2002), Nicolini et al. (2003), Tsoukas (2005, 2009), and Wenger (1998). While the specific orientations of these scholars vary, their studies have in common the idea that knowledge is not a static entity or stable disposition, but rather an ongoing and dynamic production that is recurrently enacted as actors engage the world in practice.

Institutionalism. Institutional theory is a stream of research that has also drawn ideas from practice theorists, though in a more limited way that does not fully take up the potential of practice theory (Barley and Tolbert, 1997; Whittington, 1992). The focus of this stream is the creation of institutional fields and their effects on individual actions and cognitions (Powell and DiMaggio, 1991; Scott, 1995; Greenwood et al., 2002, 2008). This focus reflects a somewhat hierarchical and nonrecursive logic that views constraint as moving from organizational fields to institutions to individuals (Bechky, this volume). The mutually constitutive relationship between actions and institutions is rarely engaged or actively theorized. Human agency is thus portrayed as primarily shaped by macro-institutional forces, and it is largely in the presence of some exogenous shock to the system that actors are seen to shift (usually suddenly) “from unreflective participation in institutional reproduction to imaginative critique of existing arrangements to practical action for change” (Seo and Creed, 2002: 231). Such a dualistic view of agency is at odds with a practice understanding of agency as central to both the reproduction and transformation of institutions. Some recent institutional work has begun to shift this dominant view to take everyday practices more seriously as a constitutive component of institutions. This work focuses particularly on the micro-dynamics of institutional stability and change as performed by people’s actions, interpretations, relations, and strategies (Zilber, 2002; Munir and Phillips, 2005; Lawrence, 2004; Lounsbury and Crumley, 2007; Kellogg, 2009).

Having sketched out some key principles and organizational applications of practice theory, we turn now to our own experiences with practice theory to highlight how we have used its core ideas in practice and to draw attention to the value we have found in such use.

PRACTICE THEORY IN PRACTICE: OUR STORIES

Our two stories of using practice ideas in organizational research discuss the empirical and theoretical terrain that we have each navigated with practice theory as well as the disciplinary orientations we bring to our use of practice theory. Differences in our intellectual backgrounds and the diversity of empirical phenomena we study give different flavors to our approaches to practice theory. At least as important as the differences between us are the differences among the projects each of us have conducted. Both of us actively study practices empirically — focusing on the everyday activity of organizing in both its routine and improvised forms. In some of our research, we draw heavily on the core elements of practice theory, while backgrounding ontological issues. In other parts of our research, a practice philosophy becomes more central as when we problematize the ontological status of the phenomenon under investigation.

Martha's Story

I became interested in practice theory through my study of organizational routines. Routines were foundational to the research on decision-making I had done for my dissertation. They were, as March and Simon (1959), Cyert and March (1963) and Nelson and Winter (1982) had noted fundamental to the way work is accomplished in organizations. They were also predominantly seen as associated with stability and inertia. While change took place, it was considered an aberration. Nelson and Winter used a genetic metaphor and referred to change as mutation. Following on my dissertation research that showed the continuity of report writing practices even in circumstances where the participants did not articulate the reasons for the continuity (Feldman, 1989), I was intrigued by the mechanisms of this stability. Because I study phenomena ethnographically for the most part, I could contribute to our understanding of stability in organizational routines by exploring the micro-processes that produced this stability.

I chose a research site that the participants assured me had routines of mind-numbing stability that also provided me as much access as I wanted to the day-to-day operations of the organization. I embarked on my ethnographic research and followed five routines of the organization for four years. The organization provided housing for undergraduates at a large state university. The routines were budgeting for the entire organization, hiring student staff, training student staff, opening the residence halls at the beginning of the year and after breaks and closing the buildings at the end of the year. While each of these routines has an annual cycle, they also take place through multiple actions throughout the year. During the course of the research I began to notice that I had a problem. The mechanisms of stability were not the only thing I would have to explain. Indeed, every one of the routines I was following was exhibiting some change and several of them exhibited considerable change over the period of observation.

Of course, others have noted that routines change and that routines are implicated in organizational change. One explanation for change in routines was the existence of “exogenous shocks.” These are things like budget crises and new technologies that considerably alter the context that routines operate in. The context the organization operated in during this period, however, was very stable. Moreover, change had been theorized as the opposite of stability. For example, one common explanation of the process of routine change is provided by punctuated equilibrium theory (Tushman and Romanelli, 1985; Gersick, 1991). This theory suggests that routines enable people to ignore small changes in the context until they accumulate into really big problems and the routines have to be abandoned or overhauled to reflect and respond to the new context. This punctuated change, however, did not describe what I was seeing.

I was not able to understand what I was seeing using the theories I had available to me at the time. Luckily, I had a sabbatical year and an opportunity to find new theoretical tools. Wanda Orlikowski suggested a look into practice theory. I spent a year reading Giddens (1976, 1979, 1984) and

Bourdieu (1977, 1990; Bourdieu and Passeron, 1990; Bourdieu and Wacquant, 1992), thinking about my data and writing memos. I found the framework of structuration theory most immediately applicable, and most related to a foundation I already understood based on Schutz's phenomenology (1967, 1970) and Garfinkel's ethnomethodology (1967; Heritage, 1984). Bourdieu's relational framework and the concept of habitus were also intriguing and important for thinking about the way people enact routines on a day-to-day basis. Later, I incorporated some of Latour's ideas (Latour, 1986, 2005; Sevon, 1996), or my interpretation of these ideas. This stew of theories provided a foundation for a new way of conceptualizing routines and a way of understanding the relationship between stability and change as a result of the internal (or endogenous) dynamics of the routine.

I have theorized routines as practices. The three principles we describe in the introduction can be used to explain what it means to theorize routines as practices. The consequentiality of action means not just that routines are created through action and do not exist without action, but also that *the development of the routine occurs through the enactment of it*. There are two primary dualities engaged in theorizing routines as practices: action/structure and stability/change. Both of these dualities are relational and mutually constitutive in the context of theorizing routines as practices. Actions — often referred to as performances or performative aspects — and structures — often referred to as patterns or ostensive aspects — are not oppositional but mutually constitutive. Stability and change are different outcomes of the same dynamic rather than different dynamics. Moreover, change, from this perspective, may be engaged in order to promote stability, and stability may be essential to bringing about change.

My initial discussion of routines as a source of continuous change (Feldman, 2000) argues that routines have an internal dynamic that cycles among the actions people take, the ideas or ideals they hold in relation to these actions, the plans people make to enact these ideas/ideals and the outcomes they observe based on their actions. The cycle provides the possibility for both effortful and emergent accomplishments as people take different actions and create and recreate connections (Feldman and Rafaeli, 2002) in the course of enacting multiple iterations of a routine. Pentland and Rueter (1994) articulate the notion of routines as effortful accomplishments and note the work that goes into reproducing a relatively stable routine. Conceptualizing routines as emergent as well as effortful involves noticing *how* the work of reproduction subtly or dramatically alters the routine (Feldman, 2000; Jarzabkowski, Mathieson and Feldman, 2010). People can *repair* the cycle so that it continues to produce outcomes that are similar to the ones that have been previously produced (effortful accomplishment). Alternatively, people can *strive* to enact new outcomes that more fully realize their ideas/ideals or people can *expand* (or contract) their notions of what actions and outcomes are possible (emergent accomplishments).

The concepts of ostensive and performative were introduced in the Feldman (2000) article to capture the difference between the routine in principle and the routine in practice. These constructs are

central to the work I have co-authored with Brian Pentland (Feldman and Pentland, 2003, 2005, 2008; Pentland and Feldman 2005, 2007, 2008) in which we conceptualize routines as generative systems created through the mutually constitutive and recursive interaction between the actions people take (performative aspect of routines) and the patterns these actions create and recreate (ostensive aspects of routines). The ostensive aspects (routine in principle) are multiple rather than unitary because they depend on point of view and, therefore, are poorly represented by written rules or formal standard operating procedures. Performances of routines (specific actions taken by specific people in specific times and places) create, maintain and modify the ostensive aspects of routines (the abstract patterns) while people rely on the ostensive aspects to guide, refer to and account for their performances. The interaction between these two aspects of routines produces a generative system that is more or less stable depending on the variation of the performances and the points of view from which people create patterns out of those performances.

This theory of routines provides a way of understanding the processes that produce *both* stability *and* change, which we refer to as routine dynamics. Routine dynamics conceptualizes routines as engaging agency and subjectivity on the one hand and structure and objectivity on the other hand. This relationship of mutual constitution between performative and ostensive aspects of routines raises questions about how power asymmetries play out in specific contexts. Do power asymmetries influence which innovative performances are selected and retained in the ostensive aspects of routines? How does retention affect power asymmetries? Who has the discretion to create new performances? What role does management play in the creation of new performances and the generation of new ostensive patterns?

Conceptualizing routines as generative systems fits squarely in the category of practice theorizing. The practice ontology, the notion that social life comes into being through practices, is implicit in this theorizing, but it is not the main point. My research on resources deals more directly with the ontological status of practice. The question motivating that research was whether we can call something a resource before it has been used in some way. We have tended to identify resources as static, as things, as qualities or as processes that are innately resources. Viewed through a practice lens, however, they are just potential resources until somebody uses them. Moreover, they are different kinds of resources depending on how they are used in a particular instance. These two observations suggest that practice is not just implicated in the use of resources but that practices are essential to the ontology of resources (Feldman and Worline, 2010). The process through which resources are enacted have been largely overlooked in the discussion of resources. The term resourcing has come to be used for that process (Feldman, 2004; Feldman and Quick, 2009; Goldsworthy, 2010; Howard-Grenville, 2007; Howard-Grenville, Golden-Biddle, Irwin and Mao, 2010; Jaquith, 2009; Quinn and Worline, 2008; Wang, 2009).

Resourcing puts the emphasis on the process rather than the entities. Indeed, from a resourcing perspective, things are only resources while they are being used. More important, however, it is the ways that they are used that makes things into particular resources. The term resources-in-use denotes that it is the combination of thing and use that makes a resource. This move is very similar to the move Orlikowski (2000) has made in theorizing technology-in-practice.

Theorizing routines as practices and potential resources as requiring practices to bring them into use as resources allows scholars and practitioners to make some important realizations that remain obscure when these concepts are conceptualized more conventionally. Theorizing routines as practices emphasizes the consequentiality of the actions that people take while they are enacting routines and both the potential for change and the work that goes into stability. Moreover, distinguishing the ostensive from the formal rules has brought attention to the multiplicity and flexibility of the patterns we create as we enact organizational routines. In recent work these concepts have been useful in bridging the gap between mindful and less mindful perspectives on organizational learning (Levinthal and Rerup, 2006), in understanding the persistence of flexible organizational routines (Howard-Grenville, 2005), and in exploring the difference between pricing theory and pricing practice (Zbaracki and Bergen, forthcoming), the emergence of a new coordinating mechanism after a mandated reorganization (Jarzabkowski, Matthiesen and Feldman, 2010) and the development of an enacted organizational schema through trial and error learning (Rerup and Feldman, forthcoming).

Theorizing resources as ontologically connected to the practices that create them through use also opens new ways of understanding the processes that underlie organizational outcomes. In Feldman (2004), this theorizing provided an explanation for the emergence of resistance to a change in organizational practices that had been developed by the same employees that were resisting it. This situation mystified the managers, but made sense when the resourcing analysis showed that the change in routines made it very difficult for the employees to enact the schema they thought appropriate to their work. The employees were professionals who worked in university residence halls. They thought of themselves as educators, but the new practices created resources-in-use that would be more appropriate if they were landlords. They engaged in new practices, including practices of resistance, which would create a different set of resources-in-use. Similarly Quinn and Worline (2008) were able to use the resourcing concept to unpack the narrative processes that took place as the passengers of Flight #93 reconceptualized their hijacking as a suicide mission and enacted the resources necessary to bring down the flight that otherwise was headed for the US Capitol building. In the case of Flight #93, resourcing theory was useful primarily to the scholars. In the case of the residence halls, resourcing theory could have provided an important tool to the managers and employees of the organization.

Wanda's Story

I became intrigued by practice theory through my interest in understanding technology in the workplace. When I first began studying this phenomenon, some 25 years ago, I was surprised by the representations of information technology evident in the organizational literature. As someone who had designed and programmed computer systems for a number of years, many of the assumptions underlying the dominant theories of information technologies in organization studies (which strongly mirrored theories of technology more generally) seemed quite distant from my own understandings and experiences of such technologies in practice.

On the one hand, the logic of technological determinism — which posits technology as an external, largely independent and irrevocable force for change — left little scope for human agency. Yet, my colleagues and I had designed and coded software that had altered (sometimes substantially) the performance of particular machines and thus the outcomes produced. On the other hand, the logic of strategic design — which posits technology to be a malleable resource that can be put to a variety of uses (with a range of effects) depending on some preferred strategy or ideology — placed undue weight on the rationality of managers and designers and their abilities to optimize the machine. These theories assumed that the technology that was planned and designed would be built, that the technology that was built would be used in particular ways, and that the technology that was used would produce specific anticipated and intended outcomes. But as my colleagues and I had discovered, not only could we not guarantee a perfect translation of requirement specifications to running code, we had no control over whether and how others would use the technology that we had built (both in the short term as well as over time), and we certainly had no way of knowing or anticipating the range of possible unintended consequences that might attend a technology's use in practice and over time.

Missing from these dominant models of technology was the recognition that technology is not valuable, meaningful, or consequential by itself; it only becomes so when people actually engage with it in practice. The scope for human agency — in particular, the potential for humans to adapt technology (whether as developers or users) in multiple and contingent ways — was thus significantly understated in many theories of technology, as was the notion of technological construction — that technologies are artifacts whose operation and outcomes are neither fixed nor given *a priori*, but always temporally emergent through interaction with humans in practice. The search for theories that had greater resonance with my lived experiences with technology began, and it led me on a journey through Berger and Luckman (1966) and the social construction of reality, then the social construction of technology (Bijker, Hughes and Pinch, 1987; Bijker and Law, 1992; Woolgar, 1991), and on to Giddens' structuration theory (1976, 1979, 1984). Interestingly, structuration theory has very little to say about technology, but its articulation of consequential, recursive, and mutually constitutive relations between humans and

structures was very compelling. As a meta-theory of how the social world is performed in practice, it struck a deep chord.

Structuration theory helped me see how it is that through our actions we create the structures that shape us. And in understanding that we (re)produce our structures, there is an understanding both how structures seem to get away from us (become reified) and how they can be changed (through collective action). Giddens' insights about the duality of structure seemed to explain my experiences with technology, and it led to my proposing a reconceptualization of the nature of technology in organization research (Orlikowski, 1992). Framed as "the duality of technology," I advocated a structurational view of technology in practice as, on the one hand created and changed in ongoing human action, and on the other hand as objectified and institutionalized by recurrent action.

Further fieldwork that focused on the structured and situated practices through which people engage with particular technologies (Orlikowski, 1996), as well as the constructive critiques of many colleagues led me subsequently to modify my structurational view of technology. In this later version, the notion of practices (which had been conceptually backgrounded in the earlier work) became front stage, and I sought to actively theorize the relationship between everyday practices and technologies in use (Orlikowski, 2000). This revised view of technology in organizations suggests that through their regularized engagement with a particular technology (and some of its inscribed features) in their ongoing practices, users recurrently enact technology structures — what I term *technologies-in-practice* — that are (re)constituted in people's ongoing interactions with the technologies at hand. It is thus not technologies *per se* nor how they may be used in general that matter, but the specific technologies-in-practice (enacted technology structures) that are recurrently produced in everyday action that are consequential for the shaping of organizational outcomes.

Recursivity is central to this notion of technology-in-practice. As humans interact with technological artifacts they constitute a technology-in-practice through their recurrent use of the technologies. However, their actions are at the same time shaped by the technologies-in-practice they have enacted in the past. Thus, in their ongoing and situated action, actors draw on structures that have been previously enacted (both technologies-in-practice and other structures) and in such action reconstitute those structures. By drawing more explicitly on a practice perspective, I was able to identify various conditions (institutional, interpretive, and technological) that shape the recursive enactment of different technologies-in-practice, and to articulate how those different enactments reinforce or modify (both incrementally and substantially) the institutional, interpretive, and technological conditions in turn.

The distinction between technological artifacts and technologies-in-practice offers some practical insights to how technology may be introduced and managed. In organizations, people often focus on the technological artifacts with their tangibility, relative stability, and apparent predictability of performance,

and downplay the technologies-in-practice that produce outcomes that are situated, dynamic, and emergent. For example, I studied a multinational consulting firm that had adopted a groupware technology to facilitate knowledge sharing among its global consultants. Focusing on the artifact, the managers concentrated their energies and resources on installing the technology within the firm's infrastructure and on every consultant's desktop. They viewed this deployment as very successful, as indicated by the measures they used (number of user accounts established, number of servers installed, number of databases created). Focusing their efforts and their metrics on the technological artifacts, these managers did not attend to or assess the technologies-in-practice — to what consultants were actually doing with the groupware technology in their everyday consulting practice. Such attention would have revealed that consultants were not using the technology much at all. In the context of this consulting firm, with its competitive “up or out” career path and individualistic work norms, to share knowledge was counter-cultural. Not surprisingly, there was only nominal adoption and use of the groupware technology in practice. As a technological artifact, the groupware technology could be seen to have the potential to facilitate knowledge sharing across the firm. However, what is consequential for organizational outcomes is not the artifact itself, but how it is used to get work done in specific contexts. And the consultants' use of the technology in practice was simply not achieving knowledge sharing across the firm. By managing the technological artifact rather than its use in practice, this firm (like many others) failed to achieve the benefits of the technology they had deployed. The insights afforded by a practice lens on technology adoption and use have been further elaborated and extended by examinations of other technologies in practice, including enterprise resource planning (ERP) systems (Boudreau and Robey 2005), intranets (Vaast and Walsham 2005), web-based, self-service applications (Schultze and Orlikowski 2004), nomadic computing (Cousins and Robey 2005), and mobile email devices (Mazmanian et al. 2006).

My understanding of the relationship between practices and technology was deepened and elaborated in my collaborative work with JoAnne Yates. We were both interested in exploring the implications of electronic media for communication practices and so we conducted a series of empirical studies into the uses of various electronic media, including electronic mail (Orlikowski and Yates, 1994), online discussion boards (Yates, Orlikowski, and Okamura, 1999), groupware (Yates and Orlikowski, 2002), and PowerPoint (Yates and Orlikowski, 2007). Along the way, we blended my structuralist interests with JoAnne's literary and historical interests to rethink conventional understandings and treatments of the notion of genre (Yates and Orlikowski, 1992).

In particular, we proposed the idea of *genres of organizational communication* that we argued are “socially recognized types of communicative actions — such as memos, meetings, expense forms, training seminars — that are habitually enacted by members of a community to realize particular social purposes” (Orlikowski and Yates, 1994: 542). This enacted understanding of genre draws attention to the

dynamic, yet recurrent and habitual nature of communicative practices, and provides a practice-based lens for studying the production, reproduction, and change of organizational communication. For example, in studying the electronic discourse of a group of computer scientists, we identified the repertoire of genres enacted by the participants over time and showed how their daily communicative actions reflected their collective purposes, the media at hand, as well as the shared norms and relations of their occupational community (Orlikowski and Yates, 1994). My more recent work in this area with Natalia Levina has addressed the question of power dynamics within and across organizations. Using critical genre analysis, we examine how conditions of novelty and ambiguity on consulting engagements produce discursive tensions that create liminal opportunities for marginalized agents to act. In particular, we find that such actors often choose to make discursive moves that deviate from established genre norms and communicative expectations in use within their organizations (Levina and Orlikowski, 2009). When such discursive moves succeed and are accepted by other actors, they may reconfigure established power dynamics and transform power relations within and across organizations.

Where my earlier work (Orlikowski, 1992, 1996) used practice theory to inform my understanding of phenomena (highlighting the recursive duality of technology in use), my later work (Orlikowski 2000, 2002; Schultze and Orlikowski 2004) used practice theory more explicitly to reconceptualize the nature of the phenomenon (articulating how technologies-in-practice are constituted in recurrent practices; proposing an enacted view of knowing in practice; and articulating a practice perspective on network relations). In my most recent work (Orlikowski 2007; Orlikowski and Scott 2008; Scott and Orlikowski 2009), I have been particularly influenced by Latour (1992, 2005), Schatzki (2002, 2005), and Suchman (2007) to use practice theory to revisit and reconfigure the ontological status of the phenomenon in question — in this case, technology at work (Orlikowski, 2007). This conceptual turn shifts away from studying the design and/or use of technology in the workplace (a framing that still posits a separate artifact situated in some social context, thus inscribing an ontological distinction between the social and the technical) towards studying sociomaterial practices that perform social and material relations together.

Such a reconfiguration entails, as Suchman (2007, p. 257) notes, a move beyond “an ontology of separate things that need to be joined together,” and towards a starting place that “comprises configurations of always already interrelated, reiterated sociomaterial practices.” How to do this is quite challenging empirically, as my co-author, Susan Scott, and I have come to appreciate in our recent research project on social media (Scott and Orlikowski, 2009). We have begun by examining the sociomaterial conditions of user-generated content in various travel reviewing websites, and how this dynamic materiality configures and reconfigures the practices and possibilities of different modes of engagement by multiple users. Emerging from our analysis are some insights into how social media are

far from being neutral channels or passive mediators of user content, and how the distributed and collective sociomaterial practices that constitute them are integrally and actively part of the knowledge produced, the relations enacted, and the accountabilities that are rendered consequential.

THE CHALLENGE AND VALUE OF PRACTICE THEORY

A number of challenges accompany the use of practice theory to conceptualize organizational phenomena. These have to do with the move intrinsic to practice theory of focusing attention on the consequentiality of everyday action and the relationality of phenomena. One such challenge is to problematize and then theorize the constitutive processes of enactment, rather than taking for granted the existence of discrete entities. Another is to find language and logic that adequately express the recurrent and relational nature of everyday practices.

While organization scholars have been increasingly examining action and process — ever since Karl Weick urged us to attend to *organizing* rather than *organization* (Weick 1969) — much of organization theory remains largely focused on entities (Chia and Holt 2006; Østerlund and Carlile 2005; Tsoukas and Chia, 2002). In the boxes and arrows figures so prevalent in organization theory, the boxes are always labeled while the arrows are often unadorned by any text, as if they speak for themselves. Moreover, entities are often reified, considered sufficiently meaningful independent of their use or performance. In practice theory, by contrast, the emphasis is on the arrows, on the relationships and performances that produce outcomes in the world. To put it another way, practice theory theorizes the arrows so as to understand how actions produce outcomes. Thus, when viewing routines or technology use through a practice lens, the specific outcomes of stability or change are seen as consequential only in the context of the dynamic relations and performances through which such (provisional) stability and change are achieved in practice in particular instances.

Readers and reviewers at times find this focus confusing. They want to know what knowledge has been acquired or what resources are being used rather than how knowing is achieved or action is resourced. Many expectations rest on the understanding that, for instance, a resource is a thing or quality that either is, by nature, a resource or has become a resource. Given such expectations, it is unsettling to take on the notion that a resource is defined not by what it *is* but by the practices through which it is enacted as a resource, and that such enactment as a resource is an ongoing and thus necessarily temporary accomplishment (Feldman, 2004; Feldman & Worline, 2010). Similarly, for many, technologies are objects in the world with definite and independent material features and functions. The premise that characteristics and capabilities of technologies are relational and enacted in practice is a challenging one to absorb when confronted with the manifest physicality of assembly lines, CT scanners, and computers. Consequently, the idea of sociomateriality, which signals that technologies do not stand alone with certain

inherent properties but that their material characteristics and capabilities become salient only in relation with specific social practices can be hard to grasp (Scott and Orlikowski, 2009).

Practice theorists often use entities analytically (e.g., performative and ostensive aspects of routines, or technological artifacts and genres of communication) and, thus contribute to the confusion. Practice scholars can feel caught between a rock and a hard place. The bracketing of entities is typically done for analytical convenience, but the move may be misunderstood by scholars not working in a practice tradition. As a result, attention can become riveted on the entities at the expense of attending to and understanding the dynamic and relational practices that constitute such entities.

We note that practice theorists have tended to deal with these challenges in multiple ways. One strategy is to create new words: *habitus* and *structuration* come immediately to mind. The other is to write sentences that seem to go in circles: “structured structures predisposed to function as structuring structures” (Bourdieu, 1990: 53) or “structure as the medium and outcome of the conduct it recursively organizes” (Giddens, 1984: 374). While neologisms and recursive logic may be challenging to parse, they serve the purpose of allowing the explicit theorizing of consequential, nondualistic and mutually constitutive relations that enact the world through everyday practice. These strategies thus afford access to the analytic power and distinctive value of practice theory.

Taking practice seriously in organizational research also requires a tolerance for complexity and ambiguity as it requires engaging with the everyday realities of organizational life that are rich with contingency, multiplicity, and emergence. A commitment to a practice lens requires deep engagement in the field, observing or working with practitioners as they go about their work. Collecting and analyzing such data is time-consuming and intellectually challenging, while the writing and publishing of practice theoretic accounts is complicated because practice accounts do not always conform to some readers’ and reviewers’ expectations of conventional management science.

Given these challenges, it is reasonable to ask why bother? What is the payoff for all of this effort and difficulty? Our experience with practice theory suggests at least two reasons why it is worth the trouble. First, practice theory provides the basis for powerful theoretical generalizations, and second, practice theory has the capacity to offer important practical implications for practitioners.

The theoretical generalizations produced through the use of practice theory are not predictions in the conventional sense, but may be better understood as principles that can explain and guide action. They articulate particular relationships or enactments (e.g., technologies-in-practice, performative and ostensive routines) that offer insights for understanding other situations while being historically and contextually grounded. Theoretical generalizations are different from statistical generalizations in that they explain situated dynamics not universal variation. While each context of study is different, the dynamics and

relations that have been identified and theorized can be useful in understanding other contexts. In this way, theoretical generalizations are powerful because they travel.

Lave's (1988) development of "cognition in practice" is a good example of how a theoretical generalization based on practice theory can travel. By studying people who are highly skilled in using mathematics in their daily practices, even though they may score poorly on standardized math tests, her scholarship allowed us to see the mutually constitutive nature of cognition and action. This deep theoretical insight has travelled considerably, promoting new insights into communities of practice (Orr, 1996; Brown and Duguid, 1998; Østerlund and Carlile, 2005), boundary objects (Bechky, 2003a, 2003b, Carlile, 2002, 2004) and knowing in practice (Orlikowski, 2002; Nicolini, forthcoming, Nicolini et al. 2003; Gherardi, 2006), while also providing scholars with ways of helping organizations address problems associated with knowledge production and sharing.

Consequently, practice theory is practical. The findings and insights of practice scholarship can identify organizational levers for enabling change in practices, while supporting and reinforcing those practices that are working. These levers identified by practice theory are neither exogenous to nor independent of the organization — but are grounded in the micro-dynamics of everyday interactions and highlight the importance of all participants' actions in producing organizational outcomes. Organizational interventions that are informed by such grounded micro-dynamics can be more directly relevant to the particular sites and particular practitioners involved.

CONCLUSION

The interest in a practice lens within organization studies is an important development in the range of ideas and approaches that scholars use to study organizational phenomena. In focusing on the empirics of practice, we understand organizational phenomena as dynamic and accomplished in ongoing, everyday actions. In focusing on practice theory, we understand the mutually constitutive ways in which agency is shaped by but also produces, reinforces, and changes its structural conditions. In focusing on practice ontology, we understand that it is practices that produce organizational reality, or to paraphrase William James, "it is practices all the way down" (1898/1956:104).

The entailments of taking on a practice lens within organization studies allow us to see that theorizing practice is itself a practice, one that produces particular kinds of consequences in the world, for which we as theoretical producers are responsible. Academia plays an important role in training scholars and practitioners to see and value the complexity and dynamics of the sociomaterial world. Theories that rely on linearity and independence of discrete entities are ill-equipped to deal with such contemporary realities as multiplicity, transience, and dispersion (Law and Urry, 2004). Practice theory with its

emphasis on explaining the emergent constitution of the sociomaterial world through the micro-dynamics of everyday life in organizations is an approach that can allow us to make this contribution.

REFERENCES

- Barley, S.R. and Kunda, G. 2001. "Bringing work back in." *Organization Science*, 12, 1: 76-95.
- Barley, S.R. and Tolbert, P.S. 1997. "Institutionalization and Structuration: Studying the Links between Action and Institution," *Organization Studies*, 18, 1: 93-117.
- Bechky, B.A. 2003a. "Object lessons: Workplace artifacts as representations of occupational jurisdiction." *American Journal of Sociology*, 109, 3: 720-752.
- Bechky, B.A. 2003b. "Sharing meaning across occupational communities: The transformation of understanding on a production floor." *Organization Science*, 14, 3: 312-330.
- Bechky, B. 2006. "Gaffers, Gofers, and Grips: Role-Based Coordination in Temporary Organizations," *Organization Science* 17, 1: 3-21.
- Bechky, this volume.
- Berger, P.L. and Luckmann, T. 1966. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. Garden City, NY: Anchor Books.
- Bijker, W.E., Hughes T.P. and Pinch, T. (eds.) 1987. *The Social Construction of Technological Systems*. Cambridge MA: MIT Press
- Bijker, W.E. and Law, J. (eds.) 1992. *Shaping Technology/Building Society: Studies in Sociotechnical Change*. Cambridge MA: MIT Press.
- Boland, R.J. and Tenkasi, R.V. 1995. "Perspective Making and Perspective Taking in Communities of Knowing." *Organization Science*, 6, 4: 350-372.
- Bradbury, H. and Lichtenstein, B.M.B. 2000. "Relationality in Organizational Research: Exploring The Space Between," *Organization Science*, 11, 5: 551-564.
- Boudreau, M.-C. and Robey, D. 2005. "Enacting Integrated Information Technology: A Human Agency Perspective." *Organization Science*, 16, 1: 3-18.
- Bourdieu, P. 1977. *Outline of a Theory of Practice*. Cambridge University Press, Cambridge, U.K.
- Bourdieu, P. 1990. *The Logic of Practice*. Stanford University Press, Stanford, CA.
- Bourdieu, P. and Passeron, J.C. 1990. *Reproduction in Education, Society, and Culture*. (Translated by Richard Nice) (2nd ed.). London: Sage.
- Bourdieu, P. and WacQuant, L. 1992. *An Invitation to Reflexive Sociology*. Chicago: University of Chicago Press.
- Brown, J.S. and Duguid, P. 1991. "Organizational Learning and Communities-of-Practice: Toward a Unified View of Working, Learning and Innovation," *Organization Science*, 2: 40-57.
- Brown, J.S. and Duguid, P. 1998. "Organizing Knowledge," *California Management Review*, 40, 3: 90-111.
- Callon, M. 1986. "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of Saint Brieuc Bay." In J. Law (ed.) *Power, Action and Belief: A New Sociology of Knowledge?* London: Routledge, 196-233.
- Carlile, P.R. 2002. "A pragmatic view of knowledge and boundaries: Boundary objects in new product development." *Organization Science*, 13, 4: 442-455.
- Carlile, P.R. 2004. "Transferring, translating, and transforming: An integrative framework for managing knowledge across boundaries." *Organization Science*, 15, 5: 555-568.
- Child, J. and McGrath, R.G. 2001. "Organizations Unfettered: Organizational Form in an Information-Intensive Economy," *Academy of Management Journal*, 44, 6: 1135-1148.
- Chia, R. and R. Holt. 2006. Strategy as practical coping: A Heideggerian perspective. *Organization Studies* 27:5:635-655.

- Ciborra, C.U. 1996. The Platform Organization: Recombining Strategies, Structures, and Surprises. *Organization Science*, 7, 2: 103-118.
- Cook, S.D.N. and Brown, J.S. 1999. "Bridging Epistemologies: The Generative Dance between Organizational Knowledge and Organizational Knowing," *Organization Science*, 10, 4: 381-400.
- Cousins, K.C. and Robey, D. 2005. "Human Agency in a Wireless World: Patterns of Technology Use in Nomadic Computing Environments." *Information and Organization*, 15, 2: 151-80.
- Cyert, R.M., and March, J.G. 1963. *A Behavioral Theory of the Firm*. Cambridge, MA: Basil Blackwell.
- Dutton, J. and J. Dukerich. 1991. "Keeping an Eye on the Mirror: The Role of Image and Identity in Organizational Adaptation." *Academy of Management Journal*, 34, 3: 517-554.
- De Certeau, M. 1984. *The Practice of Everyday Life*. Berkely, CA: University of California Press.
- Dougherty, D. 2001. Reimagining the differentiation and dntegration of work for sustained product innovation. *Organization Science* 12:5:612-631.
- Engeström, Y. 1999. "Activity theory and Individual and Social Transformation." In Y. Engeström, R. Miettinen and R. L. Punamäki (eds.) *Perspectives on Activity Theory*. Cambridge, UK: Cambridge University Press, 19–38.
- Feldman, M.S. 1989. *Order without design*. Stanford, CA: Stanford University Press.
- Feldman, M.S. 2000. "Organizational routines as a source of continuous change." *Organization Science*, 11: 611-629.
- Feldman, M.S. 2003. "A performative perspective on stability and change in organizational routines." *Industrial and Corporate Change*, 12, 4: 727-752.
- Feldman, M.S. 2004. "Resources in emerging structures and processes of change." *Organization Science* 15: 295-309.
- Feldman, M.S. and Pentland, B.T. 2003. "Re-theorizing organizational routines as a source of flexibility and change." *Administrative Science Quarterly*, 48: 94-118.
- Feldman, M.S. and Pentland, B.T. 2005. "Organizational routines and the macro-actor" In B. Czarniawska and T. Hernes (eds.) *Actor-Network Theory and Organizing*. Liber and CBS Press, Stockholm, Sweden: 91–111.
- Feldman, M.S. and Pentland, B.T. 2008. "Routine Dynamics." In David Barry and Hans Hansen (eds.), *The Handbook of New Approaches to Organization Studies*: pp. 302-315. Thousand Oaks, CA: Sage Publication.
- Feldman, M.S. and Quick, K.S. 2009. "Generating resources and energizing frameworks through inclusive public management." *International Public Management Journal*. 12 (2): 137-71.
- Feldman, M. S., and A. Rafaeli. 2002. "Organizational routines assources of connections and understandings." *Journal of Management Studies*, 39:309–332.
- Feldman, M.S. and Worline, M. 2010. "Resources, Resourcing, and Resourcefulness: Or, Making Meatballs Without Meat." Forthcoming in Cameron and Spreitzer (eds), *Handbook of Positive Organizational Scholarship*. Oxford: Oxford University Press.
- Foucault, Michel. 1978. *Discipline and Punish: The Birth of the Prison*. New York: Vintage Press.
- Garfinkel, H.1967. *Studies in Ethnomethodology*. Englewood Cliffs, NJ: Prentice-Hall.
- Gersick, C.J. 1991. "Revolutionary change theories: A multilevel exploration of the punctuated equilibrium paradigm." *Academy of Management Review*, 16: 10–36.
- Gherardi, S. 2006. *Organizational Knowledge: The Texture of Workplace Learning*. Oxford, UK: Blackwell Publishing.
- Gherardi, S. and Nicolini, D. 2000. "To Transfer is to Transform: The Circulation of Safety Knowledge." *Organization*, 7, 2: 329-348.
- Giddens, A. 1976. *New Rules of Sociological Method*. London: Hutchinson.
- Giddens, A. 1979. *Central Problems in Social Theory*. Basingstoke, UK: Macmillan.
- Giddens, A. 1984. *The Constitution of Society*. Cambridge, UK: Polity Press.
- Goldsworthy, Heather. 2010. *Compassionate Capitalism: Institutionalization and Legitimacy in Microfinance*. PhD dissertation, University of California, Irvine, School of Social Ecology.

- Golsorkhi, D., Rouleau, L., Seidl, D. and Vaara, E. (eds.) 2010. *The Cambridge Handbook on Strategy as Practice*. Cambridge, UK: Cambridge University Press.
- Greenwood, R., Hinings, C.R. and Suddaby R. 2002. "Theorizing Change: The Role of Professional Associations in the Transformation of Institutionalized Fields." *Academy of Management Journal*, 45, 1: 58–71.
- Greenwood, R., Oliver, C., Suddaby, R. and Sahlin-Andersson, K. (eds.) 2008. *Handbook of Organizational Institutionalism*. Thousand Oaks, CA: Sage Publications.
- Hallett, T. 2003. "Symbolic Power and Organizational Culture." *Sociological Theory*, 21, 2: 128–149.
- Heidegger, M. 1962. *Being and Time*. Oxford, UK: Blackwell.
- Heritage, J. 1984. *Garfinkel and Ethnomethodology*. Cambridge, UK: Polity Press.
- Howard-Grenville, J.A. 2007. "Developing issue-selling effectiveness over time: Issue selling as resourcing." *Organization Science* 18: 560-577.
- Howard-Grenville, J. 2005. The persistence of flexible organizational routines: The role of agency and organizational context. *Organization Science*, 16, 618–636.
- Howard-Grenville, J. A., Karen Golden-Biddle, Jennifer Irwin and Gina Mao. 2010. Liminality as cultural process for cultural change. *Organization Science*, under review.
- Hutchins, E. 1991. "Organizing Work by Adaptation," *Organization Science*, 2, 1: 14-39.
- Hutchins, E. 1995. *Cognition in the Wild*. Cambridge, MA: MIT Press.
- Jaquith, Ann C. 2009. The creation and use of instructional resources : the puzzle of professional development. PhD dissertation, Stanford University, School of Education.
- James, William. 1898/1956. *The Will to Believe*. Mineola, NY: Dover Publications.
- Jarzabkowski, P. 2005. *Strategy as Practice*. London: Sage.
- Jarzabkowski, P. 2008. "Shaping Strategy as a Structuration Process," *Academy of Management Journal*, 51, 4: 621-650.
- Jarzabkowski, P., J. Le and M. S. Feldman. 2010. Organizing to Reorganize: Doing End-to-End Management in Practice. Under review at *Organization Science*.
- Johnson, G., Melin, L. and R. Whittington, R. 2003. "Micro-strategy and Strategizing: Towards an Activity-based View," *Journal of Management Studies*, 40, 1: 3–22.
- Johnson, G., Langley, A., Melin, L. and Whittington, R. 2007. *Strategy as Practice: Research Directions and Resources*. Cambridge, UK: Cambridge University Press.
- Kaplan, S. 2008. "Framing Contests: Strategy Making Under Uncertainty," *Organization Science*, 19, 5: 729–752.
- Kellogg, K.C. 2009. "Operating Room: Relational Spaces and Microinstitutional Change in Surgery" *American Journal of Sociology*, 115, 3: 657–711.
- Knorr Cetina, K. 1997. "Sociality with Objects: Social Relations in Postsocial Knowledge Societies," *Theory, Culture & Society*, 14, 4: 1–30.
- Latour, B. 1986. The Powers of Association. In John Law (ed.), *Power, Action and Belief*. Routledge and Kegan Paul, London, U.K.
- Latour, B. 1987. *Science in Action*. Boston: Harvard University Press.
- Latour, B. 1992. "Where are the Missing Masses? Sociology of a Few Mundane Artefacts." In W. Bijker and J. Law (eds.) *Shaping Technology, Building Society: Studies in Sociotechnical Change*. Cambridge, MA: MIT Press: 225-258.
- Latour, B. 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.
- Lave, J. 1988. *Cognition in Practice: Mind, Mathematics and Culture in Everyday Life*. Cambridge, UK: Cambridge University Press.
- Law, J. and Urry, J. 2004. "Enacting the Social," *Economy and Society*, 33, 3: 390-410.
- Lawrence, T.B. 2004 "Rituals and Resistance: Membership Dynamics in Professional Fields," *Human Relations* 57, 2: 115-143.
- Levina, N. and Orlikowski, W.J. 2009. "Understanding Shifting Power Relations within and across Fields of Practice: A Critical Genre Analysis," *Academy of Management Journal*, 52, 4: 672–703.

- Levinthal, D. A. and Rerup, C. 2006. "Crossing an apparent chasm: Bridging mindful and less mindful perspectives on organizational learning," *Organization Science*, 17: 502-513
- Lounsbury, M. and Crumley, E.T. 2007. "New Practice Creation: An Institutional Perspective on Innovation," *Organization Studies*, 28, 7: 993–1012.
- MacIntyre, A. 2007. *After virtue: A Study in moral theory*. 3rd Edition. Notre Dame, Indiana: University of Notre Dame Press.
- March, J.G. and Simon, H.A. 1958. *Organizations*. John Wiley, New York.
- Mantere, S. and Vaara, E. 2008: On the Problem of Participation in Strategy: A Critical Discursive Perspective. *Organization Science* 19, 2: 341–358.
- Mazmanian, M., Yates, J. and Orlikowski, W.J. 2006. "Ubiquitous Email: Individual Experiences and Organizational Consequences of BlackBerry Use," *Best Paper Proceedings of the 65th Academy of Management Meeting*, Atlanta GA.
- Mintzberg, H. 1978. "Patterns in Strategy Formation," *Management Science*, 24, 9: 934-948.
- Munir, K.A. and Phillips, N. 2005. "The Birth of the 'Kodak Moment': Institutional Entrepreneurship and the Adoption of New Technologies," *Organization Studies*, 26, 11: 1665–1687.
- Nelson, R.R., and Winter, S.J. 1982. *An evolutionary theory of economic change*. Cambridge, MA: Harvard University Press.
- Nicolini, Davide. Forthcoming. Practice as the site of knowing. *Organization Science*.
- Nicolini, D., S. Gherardi, and D. Yanow (eds.) 2003. *Knowing in Organizations: A Practice-Based Approach*. Armonk, NY: M.E. Sharpe.
- Orlikowski, W.J. 1992. "The Duality of Technology: Rethinking the Concept of Technology in Organizations," *Organization Science*, 3, 3: 398-427.
- Orlikowski, W.J. 1996. "Improvising Organizational Transformation over Time: A Situated Change Perspective," *Information Systems Research*, 7, 1: 63-92.
- Orlikowski, W.J. 2000. "Using Technology and Constituting Structures." *Organization Science*. 11, 4: 404–428.
- Orlikowski, W.J. 2002. "Knowing in Practice: Enacting a Collective Capability in Distributed Organizing." *Organization Science*, 13, 4: 249-273.
- Orlikowski, W.J. 2007. "Sociomaterial Practices: Exploring Technology at Work," *Organization Studies*, 28: 1435-1448.
- Orlikowski, W.J. 2010. "Engaging Practice in Research: Phenomenon, Perspective, and Philosophy." in Damon Golsorkhi, Linda Rouleau, David Seidl, and Eero Vaara (eds.) *The Cambridge Handbook on Strategy as Practice*. Cambridge, UK: Cambridge University Press, 23-33.
- Orlikowski, W.J. and Yates, J. 1994. "Genre Repertoire: The Structuring of Communicative Practices in Organizations," *Administrative Science Quarterly*, 39, 4: 541-574.
- Orlikowski, W.J. and Scott, S.V. 2008. "Sociomateriality: Challenging the Separation of Technology, Work and Organization," *Annals of the Academy of Management*, 2, 1: 433-474.
- Ortner, S.B. 1984. Theory in anthropology since the sixties. *Comparative Study of Society and History*, 26, 1: 126–166.
- Ortner, S.B. 1989. *High Religion: A Cultural and Political History of Sherpa Buddhism*. Princeton University Press, Princeton, NJ.
- Østerlund, C. and Carlile, P. 2005. "Relations in Practice: Sorting Through Practice Theories on Knowledge Sharing in Complex Organizations," *The Information Society*, 21: 91-107.
- Pentland, B.T. and Feldman, M.S. 2005. "Organizational routines as a unit of analysis." *Industrial and Corporate Change*, 14: 793-815.
- Pentland, B.T. and Feldman, M.S. 2007. "Narrative Networks: Patterns of Technology and Organization," *Organization Science*, 18, 5: 781-795.
- Pentland, B.T. and Feldman, M.S. 2008. "Designing Routines: On the folly of designing artifacts, while hoping for patterns of action." *Information and Organization*, 18: 235–250.
- Pentland, B. T. and Rueter, H. H. (1994). Organizational routines as grammars of action. *Administrative Science Quarterly*, 39: 484–510.

- Pickering, A. 1995. *The Mangle of Practice: Time, Agency and Science*. Chicago, IL: The University of Chicago Press.
- Pinch, T. 2008. "Technology and Institutions: Living in a Material World," *Theory and Society*, 37, 461-483.
- Powell, W.W. and DiMaggio, P.J. (eds.). *The New Institutionalism in Organizational Analysis*. Chicago: University of Chicago Press.
- Quinn, R. and Worline, M. 2008. "Enabling Courageous Collective Action: Conversations from United Airlines Flight 93," *Organization Science* 19: 4: 497-516.
- Reckwitz, A. 2002. "Toward a Theory of Social Practices: A Development in Culturalist Theorizing," *European Journal of Social Theory*, 5:2:243-263.
- Rerup, Claus and Martha S. Feldman. Forthcoming. Routines as a source of change in organizational schemata: The role of trial-and-error learning *Academy of Management Journal*.
- Schatzki, T.R. 2001. "Practice Theory." In Schatzki T.R., Knorr Cetina, K. and von Savigny, E. (eds.) *The Practice Turn in Contemporary Theory*: London: Routledge: 1-14.
- Schatzki, T.R. 2002. *The Site of the Social: A Philosophical Account of the Constitution of Social Life and Change*. University Park, PA: Pennsylvania State University Press.
- Schatki, T.R. 2005. "The Sites of Organizations," *Organization Studies*, 26, 3:465-484.
- Schatzki, T.R., Knorr Cetina, K. and Savigny, E. (eds.) 2001. *The Practice Turn in Contemporary Theory*. London: Routledge.
- Schultze, U. and Orlikowski, W.J. 2004. "A Practice Perspective on Technology-Mediated Network Relations: The Use of Internet-based Self-Serve Technologies," *Information Systems Research*, 15, 1: 87-106.
- Schutz, A. 1970. *Reflections on the Problem of Relevance*. (Edited by Richard M. Zaner). New Haven: Yale University Press.
- Schutz, A. 1967. *The Phenomenology of the Social World*. (Translated by George Walsh and Frederick Lehnert.) Evanston, IL: Northwestern University Press.
- Scott, W.R. 1995. *Institutions and Organizations*, 2nd ed. Thousand Oaks, CA: Sage.
- Scott, S.V. and Orlikowski, W.J. 2009. "Getting the Truth": Exploring the Material Grounds of Institutional Dynamics in Social Media." Paper presented at the 25th European Group for Organizational Studies Conference, Barcelona, Spain.
- Seo, M., and Creed, W.E.D. 2002. "Institutional contradictions, praxis, and institutional change." *Academy of Management Review* 27, 2: 222-247.
- Sevon, G. 1996. "Organizational imitation in identity transformation." In Barbara Czarniawska & Guje Sevon (eds.), *Translating Organizational Change*: pp. 49-68. New York: Walter de Gruyter.
- Sewell, W.H. Jr. 1992. "A Theory of Structure: Duality, Agency, and Transformation," *American Journal of Sociology*, 98, 1, 1-29.
- Stark, D. 2009. *The Sense of Dissonance: Accounts of Worth in Economic Life*. Princeton, NJ: Princeton University Press.
- Suchman, L.A. 2007. *Human-Machine Reconfigurations: Plans and Situated Actions*. (2nd ed.) Cambridge, UK: Cambridge University Press.
- Taylor, C. 1993. "To Follow a Rule ..." in Calhoun, C., LiPuma, E. and Postone M. (eds.) *Bourdieu: Critical Perspectives*. Chicago, IL: University of Chicago Press: 45-60.
- Tsoukas, H. 2005. *Complex Knowledge: Studies in Organizational Epistemology*. Oxford, UK: Oxford University Press.
- Tsoukas, H. 2009. "A Dialogical Approach to the Creation of New Knowledge in Organizations," *Organization Science*, 20, 6: 941-957.
- Tsoukas, H., & Chia, R. 2002. On organizational becoming: Rethinking organizational change. *Organization Science*, 13: 567-582.
- Tushman, M., and E. Romanelli 1985. "Organizational evolution: A metamorphosis model of convergence and reorientation." In L. L. Cummings and B. M. Staw (eds.), *Research on Organizational Behavior*, 7: 171-222. Greenwich, CT: JAI Press.
- Vaast, E., and Walsham, G. 2005. "Representations and Actions: The Transformation of Work Practices

- with IT Use.” *Information and Organization*, 15, 1: 65-89.
- Wang, Dana. 2009. Constructing the life cycle of resources: resource artifacts and resources-in-use. Working paper. Center for Work, Technology and Organization. School of Engineering. Stanford University.
- Weick, K.E. 1969. *The Social Psychology of Organizing*. Reading, MA: Addison-Wesley.
- Weick, K. E. and K. Roberts. 1993. “Collective Mind in Organizations: Heedful Interrelating on Flight Decks.” *Administrative Science Quarterly*, 38: 357-381
- Wenger, E. 1998. *Communities of Practice: Learning, Meaning, and Identity*. Cambridge, UK: Cambridge University Press.
- Whittington, R. 1992. “Putting Giddens into Action: Social Systems and Managerial Agency.” *Journal of Management Studies*, 29,6:693-712.
- Whittington, R. 2006. “Completing the Practice Turn in Strategy Research,” *Organization Studies*, 27, 5: 613-634.
- Wittgenstein, L. 1967. *Philosophical Investigations*. Oxford, UK: Blackwell.
- Woolgar, S. 1991. “The Turn to Technology in Social Studies of Science,” *Science, Technology & Human Values*, 16, 1: 20-50.
- Yates, J. and Orlikowski, W.J. 1992. “Genres of Organizational Communication: A Structural Approach to Studying Communication and Media,” *Academy of Management Review*, 17, 2: 299-326.
- Yates, J. and Orlikowski, W.J. 2002. “Genre Systems: Structuring Interaction through Communicative Norms,” *Journal of Business Communication*, 39, 1: 13-35.
- Yates, J. and Orlikowski, W.J. 2007. “The PowerPoint Presentation and its Corollaries: How Genres Shape Communicative Action in Organizations.” In Mark Zachry and Charlotte Thralls (eds.) *The Cultural Turn: Communicative Practices in Workplaces and the Professions*. Amityville, NY: Baywood Publishing: 67-91.
- Yates, J., Orlikowski, W.J. and Okamura, K. 1999. “Explicit and Implicit Structuring of Genres: Electronic Communication in a Japanese R&D Organization,” *Organization Science*, 10, 1: 83-103.
- Zilber, T.B. 2002. “Institutionalization as an Interplay between Actions, Meanings, and Actors: The Case of a Rape Crisis Center in Israel.” *Academy of Management Journal*, 45, 1: 234–54.