Reconceptualizing Organizational Routines as a Source of Flexibility and Change

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In this paper, we challenge the traditional understanding of organizational routines as creating inertia in organizations. We adapt Latour's distinction between ostensive and performative to build a theory that explains why routines are a source of change as well as stability. The ostensive aspect of a routine embodies what we typically think of as the structure. The performative aspect embodies the specific actions, by specific people, at specific times and places, that bring the routine to life. We argue that the ostensive aspect enables people to guide, account for, and refer to specific performances of a routine, and the performative aspect creates, maintains, and modifies the ostensive aspect of the routine. We argue that the relationship between ostensive and performative aspects of routines creates an on-going opportunity for variation, selection, and retention of new practices and patterns of action within routines and allows routines to generate a wide range of outcomes, from apparent stability to considerable change. This revised ontology of organizational routines provides a better explanation of empirical findings than existing theories of routines and has implications for a wide range of organizational theories.●

Organizational routines are a central feature of human organizations and an explanatory mechanism in many of our most widely accepted theories. Since the concept was introduced by Stene (1940), organizational routines have been regarded as the primary means by which organizations accomplish much of what they do (March and Simon, 1958; Cyert and March, 1963; Thompson, 1967; Nelson and Winter, 1982). While recognized as an essential aspect of organized work, organizational routines are also a well-known source of inertia (Hannan and Freeman, 1983), inflexibility (Weiss and Ilgen, 1985; Gersick and Hackman, 1990), and even mindlessness (Ashforth and Fried, 1988). This understanding of organizational routines has deep roots in social theory, as reflected in writings on bureaucracy (Merton, 1940; Weber, 1947; Selznick, 1949; Gouldner, 1954; Blau, 1955). Stability, or "regularity and continuity," is a defining feature of bureaucracies (Stinchcombe, 1959: 184). Organizational rules and routines have been seen as an important source of accountability and political protection as well as a source of stagnation (Weber, 1947; Crozier, 1964; Kaufman, 1977; Hummel, 1987). For better or worse, routines enable bureaucracies to organize expertise and exercise power efficiently.

While routines can be a source of inertia and inflexibility, they can also be an important source of flexibility and change. We are not simply referring to meta-routines, routines for changing routines (Adler, Goldoftas, and Levine, 1999). Many organizations employ meta-routines, such as continuous improvement and total quality management (Hackman and Wageman, 1995), as a means to generate change. Meta-routines have been theorized as a mechanism for generating "dynamic capabilities" (Teece and Pisano, 1994; Tranfield and Smith, 1998). We refer here to something more basic: the inherent capability of every organizational routine to generate change, merely by its ongoing performance.

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The idea that routines can change is not entirely new. Cyert and March (1963) referred to this as adaptation; Nelson and Winter (1982) called it mutation. Change in organizational routines is especially evident when there is a crisis (Gersick and Hackman, 1990), in the early stages of establishing an organization (Naduzzo, Rocco, and Warglien, 2000), or in areas of ambiguity (Miner, 1990). But routines also change in old, established organizations in stable environments (Feldman, 2000). This has led some authors to suggest that, contrary to the received wisdom, routines can be sources of both organizational flexibility (Pentland and Rueter, 1994) and organizational change (Miner, 1990; Feldman, 2000). To explain these observations, a new understanding of organizational routines is needed. The problem is not that existing definitions are erroneous or inadequate. There is considerable agreement in the literature that organizational routines can be defined as repetitive, recognizable patterns of interdependent actions, carried out by multiple actors. We accept this definition, but if we analyze it seriously, in light of recent empirical studies and current social theory, it leads us to a new ontology of the underlying phenomenon.

This ontology builds on the idea that routines, like other social phenomena, embody a duality of structure and agency (Giddens, 1984; Bourdieu, 1977, 1990). An organizational routine consists of two related parts. One part embodies the abstract idea of the routine (structure), while the other part consists of the actual performances of the routine by specific people, at specific times, in specific places (agency). Each part is necessary, but neither part alone is sufficient to explain (or even describe) the properties of the phenomenon we refer to as "organizational routines." Understanding the interactions between these two aspects is necessary for us to appreciate the potential of organizational routines as a source of change.

In contrast to traditional views of routines, which emphasize structure, our framework brings agency, and therefore, subjectivity and power back into the picture. Agency involves the ability to remember the past, imagine the future, and respond to present circumstances (Emirbayers and Mische, 1998). While organizational routines are commonly perceived as reenacting the past, the performance of routines can also involve adapting to contexts that require either idiosyncratic or ongoing changes and reflecting on the meaning of actions for future realities. While organizational routines are commonly portrayed as promoting cognitive efficiency, they also entail self-reflective and other-reflective behavior. We argue that organizational routines consist of the resulting performances and the understandings of these performances. As a result of the movement among these aspects, organizational routines are inherently capable of endogenous change. They can still be defined as repetitive, recognizable patterns of interdependent actions, but they cannot be understood as static, unchanging objects. To clarify our discussion of the complex phenomenon represented by organizational routines, we refer throughout to one example of such a routine that is familiar to most of us, the academic "hiring" routine.

ORGANIZATIONAL ROUTINES: A COMPLEX PHENOMENON

It is tempting to think that organizational routines are clearly understood because the term is so widely used. This is not the case. While organizational routines are everywhere around us, they have been remarkably difficult to conceptualize in a rigorous way (Cohen et al., 1996; Cohen and Bacdayan, 1994; Reynaud, 1998). Typical dictionary definitions emphasize specific, fixed sequences: "A prescribed, detailed course of action to be followed regularly; a standard procedure" (*The American Heritage® Dictionary of the English Language*, 4th ed., 2000). To capture the distinctively organizational dimension of the phenomenon, organizational scholars have emphasized the involvement of multiple individuals and the interdependence of their actions (e.g., March and Simon, 1958; Cyert and March, 1963; Cohen and Bacdayan, 1994; Cohen et al., 1996; Feldman and Rafaeli, 2002). Based on our reading of this literature, we have distilled what we call a core definition: an organizational routine is a repetitive, recognizable pattern of interdependent actions, involving multiple actors. This definition provides a surface-level description of the characteristics that must be present for something to be called an organizational routine. Routines may also be documented with a set of formal procedures or rules, but that is not an essential part of the core definition.

To help clarify the nature of organizational routines and provide a common point of reference for our argument, we use the example of the academic hiring routine. Hiring is one of the examples commonly used by authors who discuss organizational routines (March and Simon, 1958; Cyert and March, 1963; Nelson and Winter, 1982). It is a classic organizational routine, meeting all aspects of the core definition. It is repetitive. It involves an easily recognized pattern of actions that includes attracting candidates to apply, screening applicants, choosing applicants, and, if a positive decision is made, extending an offer. These actions are interdependent, in the sense that the output of one action (e.g., screening) is the input to another (e.g., choosing) (Thompson, 1967). And in most organizations, hiring is carried out by multiple actors; it is an organizational routine, not an individual routine. We focus on the hiring routine in academic institutions because of its familiarity to our readers and because the basic issues are similar in any work organization.

Theorizing Organizational Routines: The Traditional Story

The nature of organizational routines. The definition of organizational routines provides a set of criteria for identifying when something is or is not an organizational routine, but it does not provide a theory or explanation of why these recognizable patterns of action are so prevalent or what effects they have (Sutton and Staw, 1995). Given their importance, many scholars before us have theorized about the nature of organizational routines. Three dominant metaphors of organizational routines can be drawn from this extensive and diverse literature. Together, they create a relatively coherent story about the nature of organizational routines, their causes, and their consequences (Abbott, 1992). These metaphors

form the basis for theorizing about why we have routines and what the effects of routines are. Each of these metaphors, however, tends to reinforce our understanding of routines as unitary and unchanging.

First, organizational routines have been compared to individual habits (Stene, 1940; Simon, 1945: 88–89; Nelson and Winter, 1982: 73). From this perspective, the organization is likened to an individual, and the people in the organization become its arms and legs. Habits require no thought; they are automatic. Second, organizational routines have been likened to programs, performance programs, heuristics, or scripts (March and Simon, 1958; Cyert and March, 1963; Allison, 1971; Gioia and Poole, 1984; Carley, 1996; Carley and Lin, 1997; Levitt et al., 1999). Standard operating procedures are the archetypal example of a performance program. Programs may require more processing than habits because they may involve choices, branches, or decision points. As conceptualized by March and Simon (1958: 142), however, they do not require any deliberate search, as all of the major decisions are made in advance. The third metaphor of organizational routines originates in the work of Nelson and Winter (1982), who likened organizational routines to genetic material. In evolutionary theory, these routines play the role that genes play in biological evolutionary theory: "They are a persistent feature of the organism and determine its possible behavior (though *actual* behavior is determined also by the environment) . . ." (Nelson and Winter, 1982: 14). In ecological theory, routines store genealogical information that is passed unchanged from organization to organization (Baum and Singh, 1994: 3–4).

In all three metaphors (programs, habits, and genes), we have an image of routines as relatively fixed, unchanging objects. These metaphors treat organizational routines as mechanisms or abstractions, rather than as collective human activities. As with any abstraction, the focus is on the central tendencies rather than variation. As a result, these metaphors highlight the inertial qualities of routines and tend to minimize the possibility of flexibility and change.

The origin of organizational routines. The organizational literature explains the prevalence of organizational routines by the need for cognitive efficiency and the reduction of complexity (March and Simon, 1958; Simon, 1981; Cohen and Bacdayan, 1994; Cohen et al., 1996). Organizational routines may also reflect a response to some managerial goal or environmental pressure (Cohen et al., 1996) and can be seen as one product of organizational learning (Argote, 1999). Organizational learning promotes reduced variability, standardization, and the avoidance of failure (March, 1991: 83). Some have also argued that routines foster the perceived legitimacy of organizations as institutions (Meyer and Rowan, 1977; Feldman and March, 1981) because their behavior conforms to established norms. These explanations suggest that routines arise because they are functional; they minimize cost and increase managerial control, while maximizing the legitimacy of the organization. This provides a theoretical explanation for why organizations do not want to reinvent and renegotiate the hiring procedure each time, for example. Not only would

it take too much time and effort (the efficiency antecedent), applicants and administrators would tend to be suspicious of the process (the legitimacy antecedent).

Routines have also been analyzed from the perspective of conflict and power. For example, Nelson and Winter's (1982) analogy of "routines as truce" suggested that routines are a means to avoid procedural warfare. Organizational participants may agree to disagree and move on in order to get the work done. The routine, as an agreement about how to do the work, reduces conflict. Routinization can also be seen as a means to impose managerial control over the labor force (Braverman, 1974). In this view, conflict is not necessarily reduced but is suppressed.

Organizational routines are also theorized to be a natural product of action that occurs in the context of the enabling and constraining structures that are typical of modern organizations (Barley, 1986; Feldman, 1989; Pentland and Rueter, 1994; Orlikowski, 2000). The organizational context makes some actions easier, and therefore more likely, and other actions harder, and therefore less likely. Repetitive patterns of action will tend to emerge as organizational members choose to take the easier actions and avoid the harder ones. On a psychological level, Giddens (1984) has suggested that the routinization of daily life helps to foster a sense of ontological security. Novelty can lead to anxiety and loss of security. Unlike the functionalist explanations of cognitive efficiency and legitimation, these structuration explanations do not imply that the patterns of action we observe are necessarily efficient or legitimate. They are just patterns. The structuration perspective also suggests that by performing these patterns of action, members tend to reinforce and reproduce the underlying structures.

The effects of organizational routines. Generally speaking, routines are conceptualized as sources of stability. With some exceptions (Adler, Goldoftas, and Levine, 1999; Feldman, 2000), prevailing theories suggest that routines lead to inertia (Hannan and Freeman, 1983), mindlessness (Ashforth and Fried, 1988), deskilling (Leidner, 1993), demotivation (Ilgen and Hollenbeck, 1991), and competency traps (March, 1991). By analogy to individual habit, routines are seen as the antithesis of flexibility and change, locking organizations into inflexible, unchanging patterns of action. At the same time, functionalist theories emphasize their potential for efficiency and legitimacy.

Because routines encode organizational capabilities and knowledge, they are seen as a key component of organizational learning (Levitt and March, 1988; March, 1991; Argote, 1999). In this theoretical tradition, routines play the role of memory (Huber, 1991). They are conceptualized as a way to store knowledge and capabilities. In this view, changes in routines are often the result of external pressures (e.g., often from management) to improve performance. Thus, while routines are implicated as an important part of organizational learning, it is their structural and, therefore, more stable aspect that is emphasized.

The emphasis on the stability or rigidity of organizational routines has provided evolutionary theorists with an ideal mechanism for the retention of genealogical information (Baum and Singh, 1994; Aldrich, 1999). For example, Baum and Singh (1994: 3–4) proposed that routines are genealogical entities and that "[g]enealogical entities pass on their information largely intact in successive replications." For Baum and Singh (1994: 11), routines are the foundation of their genealogical hierarchy: "Each level in the genealogical hierarchy is maintained by the production of lower level entities: routines must reproduce themselves for organizations to persist. . . ." The logic of evolutionary theory depends on the existence of some genealogical mechanism, and the supposed stability of organizational routines seems to fill this need.

Some Problems with Prevailing Theory

The existing literature on routines is quite diverse, yet it embodies a fairly consistent way of theorizing about routines. To maximize efficiency and legitimacy and minimize or suppress conflict, organizations use routines to achieve their work processes. The resulting organizational routines are like habits or programs that are executed without conscious thought. Like DNA, routines are the genetic material from which organizations are reproduced. Because of their nature as fixed structures, the story goes, routines also result in inertia, inflexibility, and mindlessness. This way of understanding organizational routines provides a convincing explanation of stability in organizations. It leaves some things out, however, and in so doing it seriously hampers our ability to understand the dynamics of organizational routines and how they relate to organizational stability and change. What has been omitted are considerations of agency—people perform the routines—and observational data that evidence flexibility and change, rather than stability and inertia.

Lack of agency. Conceptualizing organizational routines as habits, programs, or genes severely limits the role of human agency. Emirbayers and Mische (1998: 975) used the term "iteration" to describe phenomena, including organizational routines, noting that such phenomena are "difficult to conceive of in properly agentic terms." They went on to argue that "the agentic dimension lies in how actors selectively recognize, locate and implement such schemas [habits, routines] in their ongoing and situated transactions" (p. 976). This would suggest that organizational routines do involve agency, but that possibility is minimized or excluded from our traditional theories.

The omission of agency may be unavoidable because, ironically, there are no people in these traditional metaphors. For example, the metaphor of individual habit amalgamates all participants in a routine into a single anthropomorphized organization. The differences in information, perception, preferences, and interpretation among people who perform these routines fade into the background and become peripheral to the understanding of organizational routines. The emphasis in the performance program analogy is on cognitive efficiency and the reduction of search and choice. Performance pro-

grams explicitly minimize agency, because all significant decisions have been made in the past. Agency is associated with the person who writes the program but not with those who execute it. Similarly, in the genetic metaphor, the effectiveness of routines as carriers of genealogical information depends on their stability. This metaphor excludes the possibility of agency or choice.

The traditional explanation of organizational routines as a source of cognitive efficiency tends to reinforce the absence of agency within the routine itself. To the extent that decisions are necessary for the creation of organizational routines, those decisions are portrayed as outside the routine. Thus, routines are sometimes characterized as decisions that were made in the past that do not have to be reconsidered unless circumstances change (Weiss and Ilgen, 1985; Ashforth and Fried, 1988; Egidi, in Cohen et al., 1996: 695). Routines have sometimes been characterized as decisions that have been made in the past that are not reconsidered even when circumstances do change (e.g., Morison, 1966: 10–11; Wilensky, 1967: 24–32).

Contradictory data. Another problem is that the premise of the traditional story is contradicted by observational data. Organizational routines are certainly repetitive, but they are not necessarily fixed or unchanging. Many scholars have provided empirical evidence of both change and variability in organizational routines (e.g., Suchman, 1983; Miner, 1990; Pentland and Rueter, 1994; Feldman, 2000; Naduzzo, Rocco, and Warglien, 2000; Edmondson, Bohmer, and Pisano, 2001; Pentland, 2003). Existing theories do not entirely rule out the possibility of variability or change, but neither do they help explain it. At the very least, we need a way of conceptualizing organizational routines that enables us to accommodate these observations.

A NEW THEORY OF ORGANIZATIONAL ROUTINES

Our goal here is to create a new theory of organizational routines that retains the valuable insights of prior work while enabling us to account for the empirical observations that expose the limitations of this work. Beyond that, we strive for a conceptualization that enables us to see how stability and change in organizational routines are related. We offer a new ontology of organizational routines that adopts a perspective based on new understandings of the relation between structure and action (Bourdieu, 1977, 1990; Giddens, 1984; Ortner, 1989) and accounts for empirical findings about routines. We adopt language proposed by Latour (1986) in his analysis of power, in which he pointed out that power exists both in principle and in practice. He referred to the former as the ostensive aspect of power and the latter as the performative aspect. We propose that organizational routines also consist of ostensive and performative aspects, which are closely related to the concepts of structure and agency, as found in structuration theory (Giddens, 1984). We adopt specialized terminology because, in the domain of organizational routines, structure and agency are mediated by the repetitive collective, interdependent nature of the phenomenon.

Organizational Routines as Dualities

Organizational routines consist of two aspects: the ostensive and the performative. The ostensive aspect is the ideal or schematic form of a routine. It is the abstract, generalized idea of the routine, or the routine in principle. The performative aspect of the routine consists of specific actions, by specific people, in specific places and times. It is the routine in practice. Both of these aspects are necessary for an organizational routine to exist.

The ostensive aspect. The ostensive aspect of a routine shapes our perception of what the routine is. A common version of the ostensive aspect of the hiring routine involves attracting, screening, and choosing applicants. If applicants are chosen, the routine would also include some form of extending an offer and joining up. This ostensive aspect may be codified as a standard operating procedure, or it may exist as a taken-for-granted norm. The ostensive aspect may have a significant tacit component embedded in procedural knowledge (Cohen and Bacdayan, 1994). Artifacts of this aspect may exist in various forms. In the case of hiring routines, for instance, there may be written hiring procedures, application forms, or copies of past employment ads.

It is tempting to conceptualize the ostensive aspect of the routine as a single, unified object, like a standard operating procedure. This would be a mistake, because the ostensive incorporates the subjective understandings of diverse participants. Like any socially distributed stock of knowledge, the ostensive aspect of a routine is usually not monolithic; it is likely to be distributed unevenly (Berger and Luckmann, 1966; Schutz, 1967). Each participant's understanding of a routine depends on his or her role and point of view. The dean's perspective on the academic hiring routine is likely to be quite different from a graduate student's perspective. The ostensive aspect of the routine gains in apparent objectivity and concreteness as the views of different participants come into alignment. But it is still only a partial picture because it does not include the performances.

The ostensive aspect of the routine cannot encompass specific performances because it is impossible to specify any routine in sufficient detail that it could actually be carried out. As Blau (1955: 23) noted, the rules of what he called a bureaucratic procedure "must be abstract in order to guide the different courses of action necessary for the accomplishment of an objective in diverse situations." There are always contextual details that remain open—and that must remain open—for the routine to be carried out. Rules are resources for action, but they do not fully determine action (Zimmerman, 1970; Giddens, 1984; Taylor, 1993). As Wittgenstein (1958) argued, no amount of rules is sufficient to specify a pattern of behavior fully, because the interpretation of any rule, or any part of a rule, requires more rules. At some point, one must simply know how to go on. In this sense, the significance of a rule, or of the ostensive aspect of a routine, becomes apparent only in its performance.

The performative aspect. Performances are the specific actions taken by specific people at specific times when they

are engaged in an organizational routine. Pentland and Rueter (1994) used the phrase "effortful accomplishments" to describe the way in which participants construct routines from a repertoire of possibilities. In his theory of practice, Bourdieu (1977, 1990) argued that practice is inherently improvisational. Practices are carried out against a background of rules and expectations, but the particular courses of action we choose are always, to some extent, novel. Unreflective, habitual action is certainly possible, but even in highly constrained situations, participants engage in reflective self-monitoring in order to see what they are doing (Giddens, 1984). In work settings with detailed descriptions of the expected sequence of steps in a procedure, for instance, participants introduce variations (Roy, 1959; Victor, Boynton, and Stephens-Jahng, 2000; Narduzzo, Rocco, and Warglien, 2000). They interpret their actions in order to make sense of what they are doing and, though their choices of how to proceed appear automatic or mindless at times, there is always the possibility of resisting expectations and doing otherwise (Giddens, 1984; Orlikowski, 2000).

For these reasons, the performative aspect of routines can best be understood as inherently improvisational. Even routines that have been engaged in by the same people many times need to be adjusted to changing contexts. The work of Hutchins (1991), Orlikowski (2000), Suchman (1983), and Weick and Roberts (1993) illustrates the improvisatory nature of performing organizational routines. As with musical improvisation, the degree of divergence from the score may vary considerably, from minor adjustments to cadence and dynamics to near total re-invention (Weick, 1998). And just as musical improvisation involves listening to what others are playing, improvisation in organizational routines involves attending to the actions taken by relevant others and the details of the situation (Moorman and Miner, 1998a, 1998b; Feldman and Rafaeli, 2002).

The performance of an academic hiring routine, for instance, is situated in a complex context and must be sensitive to features of this context. To begin with, specific arrangements have to be made to accommodate particular positions, particular search committees, and particular candidates. For example, an academic hiring routine might need to be adapted for a joint appointment between two departments. The specific arrangements made have implications for the future, as they set precedents and establish expectations for what actions can be taken in future hiring situations. For all the reasons discussed earlier, performances of the hiring routine generate a constant stream of variations and exceptions as the performers accommodate and innovate.

Routines as a Combination of Ostensive and Performative Aspects

The ostensive aspect of the routine is the idea; the performative aspect, the enactment. Both aspects are necessary to constitute what we understand to be the routine. The concepts of ostensive and performative have many analogies. In terms of music, the ostensive part is like the musical score, while the performative part is the actual performance of the

music. Or in Ryle's (1949) terms, the ostensive part is like "know that" and the performative part entails "know how." Our point is not that these categories are entirely novel but that they are both necessary to the concept of organizational routines. Without making this distinction, the parts—either the ostensive or the performative—can be mistaken for the whole. The most common mistake is to take the ostensive for the performative, or to mistake the summary of the way tasks are performed for the ways tasks are actually performed. Changing one does not necessarily lead to a change in the other. Overestimating the importance of the ostensive leads managers to underestimate the importance of the adjustments and improvisations that people undertake to make the routine work. Moreover, unless we distinguish between these aspects of routines, we cannot explore the relationship between them. Understanding this relationship is important, as it can help us understand the role of variation in organizational routines and the interplay between variability and stability. Ultimately, this helps us understand more about change in organizations.

Same Definition, New Understanding

Since our goal is to build on existing insights from the literature, it is important to note that the ostensive/performative ontology is consistent with the definition of organizational routines articulated earlier: repetition, a recognizable pattern of action, multiple participants, and interdependent actions. Indeed, the consensus definition strongly suggests the need for the new ontology, irrespective of any other considerations. We illustrate this by analyzing the academic hiring routine in terms of the definition.

Repetition. In every organization with employees, hiring occurs more than once. It is repeated over time. Of course, hiring occurs differently for different kinds of positions: hiring a new dean is different from hiring an assistant professor, which is different from hiring an adjunct professor. And within each kind of position, each search is a little different. Thus, even within a single organization, we must conceptualize hiring as a category with many instances. In terms of our framework, we refer to these instances as performances.

Recognizable pattern of action. While the instances of hiring may differ, they bear a sufficient family resemblance to cohere as a recognizable category (Wittgenstein, 1958). In fact, the hiring routine has a core pattern of actions that is repeated in virtually all instances of hiring. This pattern involves determining one's needs, writing a position description, advertising the position, receiving and reviewing applications, interviewing applicants, ranking applicants, offering the position to an applicant, and negotiating terms. Each activity may not be included in every instance (a fast food restaurant may not negotiate terms), and the specific activities will be customized for particular work places (interviewing applicants in a university setting includes the applicant giving a job talk). In spite of these variations, one can easily recognize the basic pattern as the hiring routine, as opposed to budgeting or some other routine. In terms of our framework, this would be the ostensive aspect of the hiring routine.

Multiple participants. As originally conceived by Stene (1940), organizational routines involve the coordination of multiple organizational participants. Thus, organizational routines are not just individual routines that are performed in the context of an organization. The involvement of multiple participants ensures that the ostensive aspect of a routine—its structural aspect—cannot be monolithic or undifferentiated, except perhaps in trivial cases. The social stock of knowledge required to perform the routine will be unevenly distributed (Berger and Luckmann, 1966; Schutz, 1967). Everyone cannot know everything. Thus, it is very unlikely that there is a single ostensive understanding or a single goal of any significant organizational routine. The involvement of multiple individuals inevitably introduces diversity in the information, interpretive schemes, and goals of the participants. The individuals performing the routine do not all have access to the same information, and even if they did, they might not interpret the information in the same way. Everyone who engages in a pattern of activity is not necessarily seeking the same result (Feldman, 1989). As a result of these factors, their subjective interpretations of the appropriate course of action will differ. This is what Sewell (1992) referred to as the multiplicity of structure. There is no single, objective routine, but a variety of different perspectives on what is involved.

That people perform organizational routines across time and space adds to the opportunities for different understandings of the actions people have taken as well as the appropriate next action. People may be unaware of others' actions because they see only the artifacts of these actions. They do not see the process of creating an ad for a position; they see only the ad (Rafaeli and Oliver, 1998). They do not know the consideration, or lack of it, that went into creating the ad (Rafaeli, 2000). They may not know why some words were included in the ad while others were not. This opaqueness of the performance of the routine provides opportunities for different interpretations of what the routine "actually" is. While some people, for instance, will understand the affirmative action statement included in the ad as a call to alter the way recruiting, screening, and choosing are conducted, others will not.

Interdependent actions. Individuals act, but they do so in a context created by the actions of the other participants. Because their actions are interdependent, each performance of a routine is a collective performance. Like dancers, participants in an organizational routine must adjust to each other's actions (Feldman and Rafaeli, 2002). Interdependence is not limited to the immediate actions of the participants. The parts of any routine are enmeshed in far-reaching, complex, tangled webs of interdependence. Nothing happens in a vacuum. As Blau (1955: 35) noted, "the focus on specific procedures with single objectives grossly oversimplifies the complexities of organizational life." For example, hiring almost always connects to budgeting and planning: a position should not be advertised before the slot has been allocated to the hiring unit and the budget has been approved. In an academic setting it also connects to enrollments, teaching loads, promotion, and tenure, as well as any other process

that could result in loss of staff, either long term or short term, such as maternity or sabbatical leaves, teaching buyouts, administrative assignments, career moves, retirement, or termination. Hiring for tenure system positions is also affected by policies concerning the use of adjunct or temporary faculty. And, as open systems theory reminds us, the webs of interdependence do not stop at the formal boundary of the organization (Kast and Rosensweig, 1972). A key step in the hiring process may be getting a spousal appointment or a green card or changes in a child custody agreement. When a search fails, as many searches do, external factors are frequently the cause.

Because the actions within a routine are interdependent, individual agency is moderated or attenuated to some extent. Participants cannot just act as they please, because the actions of others can create or close off alternatives. For example, if nobody applies for a job, no hiring can take place. These kinds of constraints operate within the context of specific performances. The next time the routine is performed, each participant may face a different set of possibilities, based on the actions of others. While interdependence between actions can be viewed as part of structure (Pentland, 1995), it can also generate variety within specific performances.

The phenomenon we refer to as "hiring" clearly meets the basic definition of an organizational routine: it is a repetitive, recognizable pattern of interdependent actions carried out by multiple actors. The involvement of multiple actors introduces the diversity of goals, information, and interpretations, while the interdependence of actions blurs and opens the boundaries of the routine to outside influence. While organizational routines are clearly repetitive, these defining features ensure that they cannot simply be repeated. Thus, the definition leads us to something of a paradox. On one hand, the "hiring routine" has endless variation: every performance is different. On the other hand, "the hiring routine" has a clear and simple gloss: it is easily recognized and summarized. The approach that we propose recognizes that this duality is an essential part of every organizational routine.

Relation of Ostensive and Performative Aspects

New social theories, such as structuration and practice theories, have emphasized the relationship rather than the differences between dualistic qualities. Structuration theory, for example, proposes that structure is produced and reproduced through the actions taken by agents, and the actions taken are constrained and enabled by structure (Giddens, 1984). Adopting a structuration or practice theory perspective leads us to view the ostensive and performative aspects of organizational routines as recursively related, with the performances creating and recreating the ostensive aspect and the ostensive aspect constraining and enabling the performances.

Ostensive to Performative

People can use the ostensive aspect of routines prospectively, as a guide to what actions ought to be taken, or retrospec-

tively, as a guide to accounting for actions already taken. People can also use the ostensive aspect of routines to signify or refer to what is similar about a set of performances and thereby create routines. We refer to the ways people can use the ostensive aspect in relation to the performative aspect of routines as guiding, accounting, and referring. Guiding, accounting, and referring enable us to exert power over our own and other people's performances through the ability both to signify that some performances are part of a recognizable routine and to legitimate some performances as appropriate to that routine.

Guiding. The ostensive aspect of a routine can serve as a template for behavior or a normative goal. This is what Nelson and Winter (1982) called the "routine as target" and why routines are sometimes likened to scripts. But it serves only as a guide; it cannot specify the details of the performance, which people must always choose. This irreducible element of agency requires reflexive self-monitoring (Giddens, 1984), in the sense that we may use the ostensive aspect of routines to check up on ourselves (or others) as we go about our activities.

The "hiring" routine has a powerful effect on behavior for both the people doing the hiring and the people wanting to be hired, as evidenced by the difference between the trips that academics make to universities for hiring purposes and for the purpose of presenting research. In many respects, they are similar. For both, someone from the university invites a scholar who comes to the university, usually for a day or two. During that time, the scholar presents research and meets with other scholars. In both cases, there are usually social events involving food. But there are also differences that are important to the execution of the routine. Different questions may be asked and answered. More or less attention may be paid to making the visitor feel comfortable and welcome.

Accounting. The ostensive aspect of routines allows us to explain what we are doing and provides a sense of when it is appropriate to ask for an accounting (Lyman and Scott, 1968; Orbuch, 1997). Connecting one's behavior to a particular routine legitimates the behavior if it is understood to be part of the routine and de-legitimates it if it is not. This is basically a retrospective sensemaking function (Weick, 1995). It helps us decide what aspects of our performances we should report or conceal and, in doing so, what we should say about them. For example, when filling out working papers, financial auditors "routinize" their accounts to conform to various standards and increase their apparent legitimacy; the police do the same thing with arrest reports by selectively including and excluding appropriate details (Van Maanen and Pentland, 1994). The ostensive aspect of a routine is also useful in that it helps us describe what we are doing in ways that make sense of our activities. It enables us to ask others to account for actions that seem unusual and to provide reasonable accounts when we are called to explain. When someone challenges our actions, the ostensive aspect of the routine provides a ready-made justification.

Inquiring about a person's spouse's employment, for instance, might seem intrusive at best in many contexts. In the context of the hiring routine, however, it is a violation of anti-discrimination rules. Thus, knowing that one was engaged in a hiring routine would make all the difference in understanding such a question. Still, even though it is prohibited, this question is frequently asked. And because it is prohibited, it takes on additional significance: inquiring about a spouse's employment in the context of a job search is often a sign of taking a candidate very seriously. Otherwise, why risk breaking the rules? More generally, rules are not always followed: they can be strategically flaunted in order to convey a particular meaning (Garfinkel, 1967; Heritage, 1984). Nevertheless, the accounts must be appropriately constructed. In the same way that the police are careful about what they include in their arrest reports, savvy interviewers would not include forbidden topics in their interview notes.

Referring. People use the ostensive aspect of routines to refer to patterns of activity that would otherwise be incomprehensible. When we use the term "hiring," it stands for an unknowable and unpredictable set of actions. The ostensive aspect of the routine allows us to refer to and make sense of a sea of activities that could otherwise be overwhelming. In using it, we create a gloss that summarizes and omits, a story that privileges some activities over others. We must take action in the midst of the "booming, buzzing confusion" that surrounds us (James, 1890), and labeling the activity helps us pay attention to a comprehensible and manageable portion of it. Referring is essential to complex organizations (Arrow, 1974) because it allows organizational members to engage in activities that we do not fully understand. We can invoke the "hiring" routine without being aware of all the details of how it will be accomplished and what, exactly, engaging in it will entail for us.

Performative to Ostensive

The performative aspect of routines is essential for the creation, maintenance, and modification of the ostensive aspect in much the same way that speaking creates, maintains, and alters a language. Performances enact the ostensive aspect of the routine, although this is largely an unintended effect of action (Giddens, 1984). The intent and motivation of people performing a hiring routine is not to create, maintain, or modify the ostensive aspect of the routine but to try to hire someone. Nonetheless, an important outcome of engaging in actions is their effect on the structures that constrain and enable further action, and three closely related effects are the creation, maintenance, and modification of organizational routines.

Creation. Organizational routines are repetitive. A pattern of actions that occurs only once is not a routine. Furthermore, even if a pattern of actions repeats, it needs to become recognizable as a pattern. In other words, a disconnected collection of performances does not constitute a routine without a corresponding ostensive category that makes the patterns coherent and recognizable as a routine. Likewise, a written procedure and the idea it codifies must be performed repeat-

edly before it becomes an organizational routine. Through repetition and recognition, organizational routines are created. To return to our example, it is hard to imagine a hiring routine not existing. We can, however, imagine significant parts of hiring routines that come into being, for instance, the commitment to search for underrepresented minorities. While we are required by law to state the commitment, if the statement is not followed by action, then the commitment is not part of the hiring routine. When substantive actions are taken (e.g., seeking out underrepresented minority candidates), the words come to life and become meaningful. Otherwise, only the "lip service" itself could be considered part of the routine.

Maintenance. Performing an organizational routine maintains the ostensive aspect of the routine by exercising the capability to enact it. In this sense, the ostensive aspect is like the script of a play or like a musical score. Over time, if no one chooses to read the script or play the music, the capability to do so vanishes. It is as if the air goes out of the balloon and it just collapses. It may take many years for the idea of a routine to dissipate completely, however, even if it is never performed. This may be particularly true when it is committed to paper or encoded into some kind of artifact, such as a script or a formal procedure. One example is ancient music or ancient languages that are no longer played or pronounced. The artifact that contains the ostensive definition exists, but without on-going performance, it becomes meaningless. A more recent example of the same phenomenon is an old manual for DOS or Lotus 1-2-3. One would have some trouble, now, following the installation procedure. These documents, like recipes from a medieval kitchen, are artifacts of routines that are no longer performed.

Performing a hiring routine maintains, and in fact develops, many of the capabilities required to perform it. Interviewing, for instance, is a skill that people often become better at as they practice it and as they attend to how others practice it and that may dissipate with lack of use. In an academic context, hiring routines often involve the ability to make a convincing case to one's colleagues about the importance of a particular type of scholarly work and the advisability of interviewing and extending an offer to a particular scholar. The understandings required to make an argument convincing are maintained, in part, by engaging in hiring routines and other related routines (such as promotion routines) and trying out or being an audience to arguments that are either accepted or rejected.

Modification. When people enact routines, they can maintain the ostensive aspect of the routine, but they can also choose to deviate from it. When people do new things, whether in response to external changes or in response to reflexive self-monitoring, they alter the potential repertoire of activities that creates and recreates the ostensive aspect of the routine. Variations may be hidden or otherwise go unnoticed. They may be regarded as desirable, or not, by key individuals, such as managers or administrators. They may or may not get accepted as legitimate alternatives to existing practice. In the end, members of the organization may or

may not choose to incorporate variations into the ostensive part of the routine.

The hiring routine is filled with variations that may be recognized and incorporated into the ostensive aspect of the routine. For example, imagine that there is a big snowstorm, and a really promising job candidate is unable to complete a scheduled campus visit. Due to pressing deadlines, the visit cannot be delayed or rescheduled. In desperation, someone suggests conducting the visit via videoconference. Remarkably, everyone agrees, the arrangements are made, and the "visit" takes place as scheduled, but without the candidate appearing in person. Could "virtual visits" become a regular part of the hiring routine for the department? What factors might influence the likelihood of this modification? More generally, under what circumstances does an exception become the rule? And what does it become the rule of?

Subjectivity, Agency, and Power

In contrast to the traditional story, which suggests that organizational routines are simply followed or reproduced, our theory points to the central importance of subjectivity, agency, and power as influences on the flexibility of and change in routines.

Subjectivity. Our theory suggests that routines are both objective and subjective and that the two are integrally related. In spite of the endless variation in organizational routines that we have described, organizational members would generally have no trouble describing the hiring routine in their organization to an outsider. They also would have no trouble using this hiring routine to account for their own behavior or to ask for accounts from others. For practical purposes, everyone understands the routine. When members of an organization refer to "hiring" or "budgeting," these patterns acquire a sense of objectivity and concreteness. We signify this objective reality when we use it to name routines and to specify appropriate behaviors. As a collective performance, however, a routine is energized and guided by the subjective perceptions of the participants. The ostensive aspect of a routine enables us to create an apparently objective reality through the subjective acts of guiding, accounting, and referring. As practiced, objective and subjective dimensions are mutually constitutive (Bourdieu, 1990). Objective and subjective aspects are inseparable because the objectified summaries of routines (the artifacts) are constructed from our subjective perceptions of them. Thus, ironically, routines exist as objects because of our subjective understandings of them. In a sense, our subjective understanding and interpretation is the glue that binds the actions into the patterns we recognize as the routine.

Agency. Our framework is consistent with current perspectives on agency (Emirbayers and Mische, 1998), which emphasize the active engagement of individuals in on-going practices and the interpenetration of agency with various forms of structure. Agency is apparent in each participant's choice of actions and the reflexive self-monitoring of those actions. The performative aspect reflects individual agency. Agency is always enacted in the context of organizational and

institutional structures that define a set of possibilities for the participants (Pentland and Rueter, 1994). The collective and interdependent nature of performance in organizational routines makes it difficult to say exactly which possibilities will really be feasible when the time comes to act. This is because, by definition, individuals engaged in organizational routines do not act alone, or independently. The interdependence of actions can set practical constraints on individuals that are unique to particular performances. In situations in which there is sequential interdependence, the choices of "downstream" actors are constrained by the choices of the "upstream" actors. For example, if nobody applies for a particular job, then interviewing is not a realistic possibility for that particular performance of the hiring routine. Thus, the effects of individual agency, as conceptualized by Giddens (1984) or Emirbayers and Mische (1998), are mediated by the interdependence of actions, which is a defining characteristic of organizational routines. Nevertheless, these constraints are anything but absolute, and performances within organizational routines display a great deal of variety, as the empirical studies of routines show. In fact, the ability to use agency in the context of a performance that is otherwise highly scripted is a potent way of exerting power.

Power. Our theory draws attention to the inevitable importance of power in organizational routines. The creation and enforcement of organizational routines can be viewed as a primary mechanism for the domination of labor by management (Braverman, 1974; Burawoy, 1979). Braverman (1974: 107, emphasis in original) argued that modern management rests on "the control over work through the control over the *decisions that are made in the course of the work.*" Thus, variations can be viewed as evidence of resistance (Leidner, 1993). This analysis might suggest that the ostensive aspect of a routine is aligned with managerial interests (dominance), while the performative aspect is aligned with the interests of labor (resistance).

The movement from ostensive to performative (guiding, accounting, and referring) can certainly be interpreted in terms of managerial control. For example, managers are usually empowered to create rules and other artifacts that document a particular version of the ostensive aspect. Managers may also have power to monitor performances and enforce compliance. To the extent that individuals internalize the managerial version of the ostensive aspect of the routine, overt monitoring and enforcement may be unnecessary. But power permeates the interaction between the performative and ostensive aspects of organizational routines in other ways, as well. For instance, in the movement from the performative to the ostensive, whereby variations may or may not get incorporated into the recognized routine, what becomes (or does not become) a recognized part of the ostensive aspect of the routine depends on the power of particular individuals or groups to anoint performances as legitimate or appropriate. Individuals or groups with power to identify particular performances as "routine" have the power to turn exceptions into rules and, thus, to enact the organization in ways they think appropriate.

The performative aspect confers power in other ways that are not adequately expressed by the notion of resistance. Variations are often necessary to manage unexpected contingencies and exceptions (Perrow, 1967); the ability to improvise an effective variation is likely to be a valued skill. Also, to the extent that individuals or groups can generate novel performances, they can influence the future direction of the routine. Performances that are more visible, or more recognizable, may be more influential. Indeed, the performative aspect of routines has been seen as a primary source of power for non-managerial employees (Crozier, 1964).

IMPLICATIONS

The new understanding of organizational routines that we offer has implications for a variety of topics in organization theory. By providing a vocabulary for describing the parts of organizational routines and their relationship that is consistent with current concepts in social theory, it allows us to move beyond metaphors as a way of understanding organizational routines. This new understanding of routines has methodological implications relevant to anyone studying organizational routines and substantive implications particularly relevant to scholars interested in the role organizational routines play in organizational stability and change.

Organizational Routines as a Unit of Analysis

The first implication of this framework is methodological. In particular, when scholars study organizational routines, they need to be aware of whether they are studying the performative or ostensive aspects. It is easy to mistake the ostensive part of the routine for the whole routine, since that is where the dominant metaphors direct our attention. Failure to make a clear distinction can have direct consequences for empirical research. For example, in a study of customer service routines at a large bank, Pentland (2003) found that standard survey measures of task variety produced opposite results from measures based on observed sequences of behavior. The most routinized task units based on one measure were the least routinized based on the other measure (and vice versa). Pentland (2003) speculated that these findings may be because the survey measures tap into the idea of the routine—the ostensive aspect—while behavioral observations are indicators of the performative aspect. The difference between ostensive and performative aspects helps to explain these kinds of contradictory findings and adds a level of nuance to what we mean by task variety. Pentland (2003) argued that our traditional measures of task variety (Withey, Daft, and Cooper, 1983) are more indicative of variations in the content of work, not variations in the pattern of actions used to accomplish the work.

Similarly, Feldman (2000) found that the distinction between ostensive and performative helped to explain why etic and emic descriptions of routines differed. In response to questions about how tasks are accomplished in organizations, people who are looking from the outside of the routine, such as hierarchical superiors or researchers, at times will be more likely to describe the ostensive aspect of the routine, while

people who are actually engaged in the routine may be more likely to describe what they do, or the performative aspect. Knowing that there are two aspects to this behavior will help students of organizational routines sort out such contradictions when they occur.

Endogenous Change in Organizational Routines

This framework also opens the possibility for a deeper understanding of when and why stability and change take place. In particular, our theory enables us to see the potential for endogenous change in organizational routines. The potential for endogenous change has implications for fundamental debates about organizational change and the locus of change in organizations.

Endogenous change has been observed (e.g., Miner and Estler, 1985; Miner, 1991; Burgelman, 1994; Feldman, 2000), but it has been difficult to explain. Because routines have been treated as fixed, unified entities, change has been conceived of as driven by exogenous forces such as market changes or new technologies (Tushman and Romanelli, 1985; Barley, 1986, 1990; Gersick and Hackman, 1990; Orlikowski, 1992; Edmondson, Bohmer, and Pisano, 2001). In contrast, recognizing the dual nature of organizational routines provides us with a way of conceptualizing change that comes from within organizational routines: change that is a result of engagement in the routine itself.

The model of variation and selective retention articulated by Campbell (1965) is useful in explaining change within organizational routines. Variation and selective retention has been applied to understanding change over time in organizational forms (Hannan and Freeman, 1983; Aldrich, 1999) and also change within organizations (Baum and Singh, 1994; Miner and Haunschild, 1995; Aldrich, 1999). Understanding that organizational routines are not unitary entities enables us to use variation and selective retention as a framework to understand change within routines, as well. Specifically, performances are variations that are selectively retained in the ostensive aspect of the routine. Endogenous change can occur simply as a result of engaging in the routine. This possibility is consistent with Campbell (1994: 23), who noted that in addition to selection at the level of organizational form, "there are also selection processes at all other organizational levels." In drawing on the variation and selective retention framework, we are not suggesting that routines are necessarily functionally adaptive. To ensure functional adaptation, variation and selective retention requires an effective, consistent, selection mechanism, which may or may not be present in any given situation (Campbell, 1965, 1994). We use the variation and selective retention framework to make a much narrower claim: that a given routine, within a given organization, has the inherent, endogenous capacity to generate and retain novel patterns of action.

Endogenous change in routines is possible because of their agentic quality (Emirbayers and Mische, 1998). People combine elements of past repertoires of a particular routine or actions from other sources to deal with present situations, with a view to how this particular combination affects future

understandings of what the routine is. This movement between performative and ostensive provides many opportunities for people to produce variations on a routine, to select these variations, and to retain them as what it means to do this particular routine.

As we noted earlier, there are many reasons why there will be variation in the performance of any particular task associated with a routine in a specific time and place. The mechanisms of guiding, referring, and accounting enable participants in routines to create variations that other participants recognize as legitimate instances of the ostensive aspect of the routine. Some variations will be intentional, in the sense that the participants want to change the ostensive aspect of the routine in order to alter the way they do their jobs (Feldman, 2000). Variations on the hiring routine that produce more diverse pools of applicants, for instance, are often intentional variations. Other variations will be unintentional (Aldrich, 1999). There may be new interpretations of the ostensive aspect of the routine (e.g., job talks may become a way to screen candidates for suitability as teachers), or there may be accommodations to particular features of the given context (e.g., the videoconference interview).

Selection within organizational routines occurs in two ways. First, as discussed above, people will sometimes vary the performances that the ostensive aspect of the routine guides, refers to, and accounts for. We might refer to these intentional variations as "selective variations" (Miner, 1994; Aldrich, 1999). Then, from among the variations that are produced both intentionally and unintentionally, people interpret some as the ostensive aspect of the routine. Through this selection of variations, the ostensive aspect of the routine is created, maintained, and modified. We might refer to this as "selective retention."

Retention within organizational routines occurs when people turn a variation into part of the story about how they do hiring. Videoconferencing may never become the modal process for interviewing, but it may become an option that people choose under various circumstances. Once it is an option, then the various circumstances can increase to include not only inclement weather but also impending births or other short-term health concerns. One can imagine people using the option in a "pre-interviewing" process in which applicants who live far away might be screened prior to making a large commitment of time and money to have a face-to-face interview. In these ways, the videoconferencing variation can be retained in the story of what is entailed in the hiring routine. Thus, simply doing the routine in the various circumstances in which it must be performed can bring about change in the routine. And if consistent, effective selection criteria are in place, variation and selective retention can lead to functional adaptations. The whole idea of continuous improvement could be viewed as a direct application of this basic process.

Our theory suggests that many different actors can be sources of variation and selection. Our framework makes clear that enacting the performative and ostensive aspects of

routines is a collective endeavor. Because routines are enacted by many people, there are many actors who influence the process of variation and selection. The role of agency in producing and selecting variation has been noted by Miner (1994) and Miner and Haunschild (1995), who showed that managers exercise agency as they choose both to introduce variations and to select variations produced by others. Our attention to the role of performance in the creation, maintenance, and modification of routines leads us to expand this agency to all participants in organizational routines.

Implications of Endogenous Change

This discussion suggests that the reliance on organizational routines as a genealogical mechanism deserves reconsideration. If the gene is changing itself, then the information it carries is not stable and unchanging, as required in ecological theory. Whether this makes any difference to studies of organizational ecology is an empirical question, but it should not be taken for granted.

Understanding how change can occur within organizational routines enables us to shed new light on the debate about whether organizational change is episodic or continuous (Tushman and Romanelli, 1985; Gersick, 1991; Weick and Quinn, 1999). Theories of episodic change, or "punctuated equilibrium," use the static conceptualization of organizational routines as a basis for the argument that organizations have structural inertia. According to this perspective on change, routines create inertia and resist change as long as possible, until exogenous forces overwhelm the structure and revolutionary change occurs. Theories of continuous change, by contrast, appear to ignore the inertial qualities of organizational routines. In this view, organizations can adapt to environmental pressure by continually modifying their routines. Our theory encompasses both possibilities because it provides a way to begin explaining why routines sometimes display great inertia and sometimes do not. The tendency of a routine to change or remain the same depends on the processes of variation, selection, and retention that take place between the ostensive and performative aspects of the routine. Using these concepts, we can begin to hypothesize and test specific circumstances that promote these different kinds of change.

Our theory further suggests that the explanatory factors may be at the level of the routine rather than at the level of the organization. The conditions for stability and for change may exist in the same organization and may manifest themselves differently from one routine to another. In her research, Feldman (2000, 2003) found that some routines in the same organization changed readily, while others did not. The differences in the adoption of change appear to have more to do with the internal dynamics of the routine than with organizational variables such as whether the participants thought the routine was functional and contributed to organizational goals, whether the managers supported the change, or which organizational units and cross-functional teams were involved. Our perspective suggests that exploring the processes of moving from performative to ostensive (creat-

ing, maintaining, and modifying) and of moving from ostensive to performative (accounting, referring, and guiding) may help account for the differential rates of change in different routines.

CONCLUSION

The conventional wisdom about routines is valuable, but it is only part of the story. While it is true that routines facilitate cognitive efficiency, they also embody a selective retention of history, filtered by subjectivity and power. The capacity of organizational routines to retain history can lead to inertia, but routines also generate variety. By directing attention to the performative, improvisational aspect of routines, our theory emphasizes the contingent and potentially contested nature of routines as a source of their variability. Our theory draws attention to mundane features of organizational routines that may be missed when they are seen through other theoretical lenses. In particular, they are produced by many people with different information, preferences, and interpretation, they are enacted over time and space, and they interact with other streams of action in such a way that it is not always clear where one organizational routine ends and another begins. For these reasons, organizational routines always have the potential for change. A theory of organizational routines that includes agency, and, therefore, subjectivity and power, enables us to understand more about the dynamics of organizational routines and how these relate to stability, flexibility, and change in organizations.

In this paper, we have emphasized that the ostensive and performative aspects of routines are mutually necessary. Without the ostensive aspect, we cannot name or even see our patterns of activity, much less reproduce them. Without the performative, nothing ever happens. Unfortunately, it is easy to confuse the ostensive aspect of the routine for the whole routine in much the same way that one might confuse the script for the play or the dictionary for the language. In daily conversation, these errors go unnoticed. After all, when we talk about the hiring routine or the budget routine, we are talking about the ostensive aspect. We are summarizing and abstracting. This language, however, has systematically led us away from investigating the role of performances and innovation in creating and shaping routines and thus away from the importance of agency, subjectivity, and power. In organization theory, the emphasis on the ostensive aspects of organizational routines has led to too much emphasis on the stability of routines and insufficient ability to understand their potential for change. Our conceptualization of organizational routines is a tool scholars can use to explore this important feature of organizations.

Our theory of stability and change in organizational routines suggests many possibilities for future research. For example, what factors influence the relationship between the ostensive and performative aspects of a routine? When are routines more likely to be stable or more likely to change? What conditions tend to promote endogenous change? What can we understand about the direction of endogenous change? How does power, and what kinds of power, affect the

processes of selective variation and selective retention? And what methodological strategies can we devise for investigating these phenomena? Articulating the parts of organizational routines allows us to move forward and investigate these and other questions and to understand the potential for flexibility and change as well as stability in organizational routines.

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