

STEALING FIRE: CREATIVE DEVIANCE IN THE EVOLUTION OF NEW IDEAS

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What happens when an employee generates a new idea and wants to further explore it but is instructed by a manager to stop working on it? Among the various possibilities, the employee could choose to violate the manager's order and pursue the new idea illegitimately. I describe this action as creative deviance and, drawing on the creativity literature and deviance literature, propose a theory about its organizational conditions and implications.

We must create antibodies even for responsibility
(Elytis, 2004: 338).

In recent decades organizational science has witnessed a proliferation of research on workplace creativity and workplace deviance. Although both phenomena have been well studied, to date their relationship has rarely been explored. Creativity has been theorized as a conforming behavior in a supportive work context (e.g., Amabile, 1988; Ford, 1996; Woodman, Sawyer, & Griffin, 1993), and deviance has been theorized as an act that produces antisocial (e.g., Bennett & Robinson, 2000; Lehman & Simpson, 1992) or prosocial (e.g., Brief, Buttram, & Dukerich, 2001; Near & Miceli, 1995) outcomes, but not creative outcomes. Some authors have noted, however, that creativity is likely to be lower in work contexts where sheer conformity is a cardinal value (Nemeth, 1986, 1997) and higher in work contexts that show some tolerance for deviance (March, 2007; Plucker & Runco, 1999; Staw, 1990, 1995). Although these perspectives suggest that it would be instructive to examine the relationship between the two phenomena, four recent integrative reviews of the literature on creativity (George, 2007; Shalley & Zhou, 2008; Shalley, Zhou, & Oldham, 2004) and the literature on deviance (Warren, 2003) highlight the fact that creativity and deviance researchers have rarely exchanged findings and insights to date.

The separate examination of creativity and deviance is understandable considering that

some of their manifestations, such as invention and sabotage, respectively, appear to have no common ground. Upon closer inspection, however, some manifestations of the two phenomena are closely and intriguingly interrelated. Consider five examples: Pontiac's Fiero, the first mid-engine commercial car in North America, was born after a vehicle designer violated three orders from management to stop building a prototype (Pinchot, 1985); the large electrostatic displays that were eventually integrated into more than half of Hewlett-Packard's instruments were developed by an engineer who violated David Packard's order to abort the project (Nemeth, 1997); *The Godfather*, which later became a Hollywood classic, introduced a new genre of films after a filmmaker violated Paramount's directives about the film's plot, cast, budget, and filming location (Lewis, 2000); the tape splitter, which was later heralded by 3M (2002) as one of the most important process innovations in its history, was invented by a 3M engineer who ignored his manager's order to stop the research or lose his job; and LED bright lighting technology, which ushered in a multibillion-dollar industry, was invented at Nichia by a scientist who continually violated the CEO's orders to stop his research immediately (Johnstone, 2007).

The evolution of new ideas often entails a dynamic transition: when first proposed, new ideas are often rejected because they are perceived as weird, inappropriate, unworkable, or too risky, but these same ideas may later result in an outcome that the social context accepts as useful and breakthrough (Staw, 1995). The five cases I list above suggest that deviance—specifically, the violation of a manage-

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rial order to stop working on a new idea—plays a role in that transition. In this article I refer to this individual-level nonconforming behavior as *creative deviance*, and I propose a theory about its general rate in organizational contexts.

In deviance research scholars have asserted that while personal and relational characteristics can explain interspersed and isolated incidents of deviance, its rate is primarily influenced by the overarching social structure (Beyer & Trice, 1984; Coleman & Ramos, 1998; Staw & Boettger, 1990). Consistent with this observation, my analysis focuses on the organizational conditions and implications of creative deviance. I particularly wish to build on Merton's (1968) strain theory, which posits that some configurations of social structures generate the circumstances in which the infringement of social norms is a normal (i.e., expectable) response:

Some social structures exert a definitive pressure upon certain persons in the society to engage in nonconforming rather than conforming conduct. If we can locate groups peculiarly subject to such pressures, we should expect to find fairly high rates of deviant behavior in these groups, not because the human beings comprising them are compounded of distinctive biological tendencies but because they are responding normally to the social situation in which they find themselves (Merton, 1968: 186).

What Merton saw as normal about deviance is the way people adapt to the disjunction between two fundamental elements of a social structure. The first element consists of culturally defined goals that the social context holds out as legitimate objectives. These are goals a culture promotes as "worth striving for." A second element defines, regulates, and controls acceptable modes for achieving these goals. These are the *norms* that define legitimate and illegitimate means for attaining those cultural goals. Insofar as individuals accept (i.e., internalize, become emotionally attached to) a cultural goal, and insofar as they have access to legitimate means to achieve it, they can engage in conformity by striving for legitimate goals in legitimate ways. When people accept a cultural goal but lack access to legitimate means to achieve it, they may engage in nonconformity by striving for legitimate goals in illegitimate ways.

Merton (1968) observed that a social system may lack the capacity to provide all individuals

(or the same individual at different times) with access to the legitimate means they need to pursue its culturally defined goals, a condition he termed *structural strain*. Furthermore, he suggested that a social system may place a *relatively greater emphasis on the attainment of its culturally prescribed goals than on the enforcement of its socially structured means (norms)*, a fact that likely weakens its normative enforcement. Merton (1968) argued that the rate of deviance will be higher when a structural strain is present and when the social context also places a relatively greater emphasis on the attainment of its goals than on the enforcement of its norms.

While Merton focused on the general level of deviance in society at large, he insisted that his theory could shed light on specific deviant behaviors in specific social contexts. In order to develop a theory about creative deviance, I furnish the basic concepts of Merton's theory with specific theoretical content. I treat creativity as the focal organizational goal, I treat conformity to managerial orders as the focal organizational norm, and I define structural strain as the condition where the resources the organization provides for the elaboration of new ideas do not suffice to support the elaboration of all proposed new ideas in the work context. Furthermore, although Merton argued that the imbalance between goals and norms influences normative enforcement, he did not articulate what the latter entails (Cohen, 1999). To address this issue, I draw on other strands of deviance research—namely, theories on the deterrent effects of normative enforcement (e.g., Klepper & Nagin, 1989; Ward, Stafford, & Gray, 2006) and perspectives on the role of selectivity in normative enforcement (e.g., Heckert & Heckert, 2002; Lehman & Ramanujam, 2009). The theory I propose also draws on the creativity literature, especially research on the organizational conditions of creativity (e.g., Amabile, 1988; Woodman et al., 1993) and evolutionary models of the creative process (e.g., Campbell, 1960; Staw, 1990).

Synthesizing insights from these research streams, I observe that conformity, as defined by Merton, reflects the findings of creativity research to date: creativity flourishes when the organization encourages it, when employees are motivated to think and pursue new ideas, and when the organization provides employees with the resources they need to play with these ideas

in generative ways (Amabile, 1988; Ford, 1996; Mainemelis & Ronson, 2006; Woodman et al., 1993). I also observe that the organization's encouragement of creativity may exceed its capacity to support with resources the elaboration of all new ideas proposed by its employees. I argue that the organizational conditions that creativity research has long portrayed as stimulants of creativity induce structural strain, which, in turn, increases the rate of creative deviance. In addition, I argue that when the organization places a relatively higher emphasis on creativity than on conformity to orders, it is likely to employ selective, inconsistent, and dissociative normative enforcement, which regulates (maintains up to a desirable degree) the rate of creative deviance. I suggest that creative deviance mitigates some of the tensions of the social structure in which it occurs, fosters the evolution of radical new ideas, and allows the organization to respond in a flexible manner to the inherent uncertainty that both creativity and deviance entail.

In the next section I define creative deviance in greater detail. Following this, I examine the organizational conditions that influence the rate of creative deviance. I then discuss its implications for organizational creativity. I conclude with this study's contributions to the creativity literature and deviance literature, its limitations, and directions for future research.

DEFINING CREATIVE DEVIANCE

Creative deviance refers to the violation of a managerial order to stop working on a new idea. Below I clarify the creative and deviant components of the construct.

The Creative Component

Creativity is the process that results in a novel product (e.g., product, service, technology) that the social context accepts as useful or otherwise appropriate at some point in time (Stein, 1953). Creative process refers to the steps involved in the creation of a novel work, whereas creative product refers to a final work that the social context accepts as novel and useful (Amabile, 1996). I designate creative deviance as "creative" not because it always results in a creative product but because it encompasses the pursuit of the means that enable an employee's creative

process to further evolve through the elaboration of a new idea. I use the terms *elaborate*, *work on*, *explore*, *pursue*, and *experiment with an idea* interchangeably to refer to the exploration of the idea undertaken by the employee who violates the order.

The creative process entails five steps: (1) *preparation*—an individual becomes immersed, consciously or not, in a set of problematic issues that arouse his or her interest and curiosity; (2) *incubation*—the individual processes information, often below the threshold of consciousness; (3) *insight*—new ideas and insights emerge; (4) *evaluation*—the person decides whether a new idea is valuable and worth pursuing; and (5) *elaboration*—the individual practically pursues the new idea by transforming, developing, and refining it (Csikszentmihalyi, 1997). The creative process is less linear and more recursive; that is, individuals usually move back and forth between various steps, often in a nonorderly way (Gardner, 1993; Gruber & Davis, 1995; Russ, 1993).

Elaboration follows the generation of a new idea but precedes its implementation in the work context. Idea generation and idea implementation are the traditional foci of, respectively, creativity and innovation research (Shalley & Zhou, 2008). Idea elaboration has received less attention in organizational science to date. A notable exception is Staw's (1990) evolutionary theory of creativity, which posits that creativity is a function of not only generating new ideas and then carefully selecting which ones to implement but also elaborating on some of those ideas. This view is consistent with the interdisciplinary literature, which has long argued that creativity involves a great deal of elaboration on nascent ideas (e.g., Campbell, 1960; Csikszentmihalyi, 1997; Gruber & Davis, 1995; Mainemelis, 2002; Russ, 1993; Wallas, 1926).

Elaboration involves the transfer of a new idea from an individual's mind to its medium (Csikszentmihalyi, 1997) and validation checks, where the individual examines whether the developing work is indeed proceeding as intended (Amabile, 1988). The individual also notices new problems or insights that arise out of its interaction with the medium (Staw, 1990; Wallas, 1926) and then further develops and refines the new idea (Csikszentmihalyi, 1997; Russ, 1993).

Employees do not need permission to observe problems in their work, to incubate information,

to generate new ideas, or to privately evaluate whether some of those ideas are worth pursuing (Frese, Ting, & Wijnen, 1999; George, 2007). Sooner or later, however, they need managerial permission to elaborate on new ideas because elaboration usually requires much more than cognitive resources. It requires materials, budgets, work time, or other scarce resources that organizations provide their employees to limited degrees and usually under permission (Staw, 1990). Creative deviance presupposes that an employee has already generated a new idea and has evaluated it as worth pursuing but has been instructed by a manager to stop working on it. The definition also assumes that the employee uses some work time, materials, and/or other organizational resources to pursue the idea illegitimately (i.e., in direct violation of an order). Consistent with the recursive model of the creative process, I assume that this elaboration may help the violator generate fresh insights, reframe the problem, refine the new idea, and so forth. Furthermore, creative deviance may entail a single or multiple violations, whether successive or not, of managerial orders; the creative deviant may violate the order of a direct manager and/or a higher-ranked manager; and the illegitimate pursuit of an idea may be either covert or overt. Creative deviance may entail any of these situational possibilities.

The creative process is uncertain and risky and offers no guarantee that a new product will result or that it will be accepted by the work context (Drazin, Glynn, & Kazanjian, 1999; Ford, 1996). As a result, an act of creative deviance may fail to produce a product, may result in an outcome that the organization accepts or rejects, and/or may result in a product that either benefits or harms the organization. Regardless of its results, however, creative deviance encompasses the pursuit of the means that allow an individual to elaborate on a new idea, even for a short period of time, when a manager has instructed him or her to stop. An employee who pursues a new idea with managerial permission and one who pursues another idea by violating managerial orders are engaged in the same step of the creative process—idea elaboration. The key difference is that the former engages in a conforming and the latter in a nonconforming act.

The Deviant Component

Deviance refers to the violation of the normative expectations of the social context¹ (Cohen, 1999; Merton, 1968). Norms consist of basic behavioral standards, such as those prescribed by formal or informal rules, policies, or other codes of conduct² (Bennett & Robinson, 2000; Traub & Little, 1999). Conformity to managerial orders is a basic normative expectation of most work organizations (Staw & Boettger, 1990; Warren, 2003).

Two separate streams of organizational research have studied deviance (Warren, 2003). The first stream examines deviance as harmful nonconformity or underconformity, while the second stream examines deviance as constructive "higher" conformity whereby an employee violates an organizational norm to conform to a hypernorm (a norm of the larger society). Despite their differences, these two research streams use a similar analytical approach: they first identify specific effects of deviance, identify deviant behaviors that cause those effects, and then develop insights that apply to those selected deviant behaviors (cf. Warren, 2003). This analytical approach has led both research streams to ascribe an inherent value to the selected deviant behaviors *a priori*. For example, stealing organizational property, sabotaging work, and using illegal drugs at work have been described as inherently "destructive" deviant acts because they result in negative outcomes for the organization (Bennett & Robinson, 2000; Lehman & Simpson, 1992). Conversely, whistleblowing and disobeying a manager's order to commit an illegal or unethical corporate activity have been described as "constructive" deviant acts because, although they violate organizational-level norms, they are acts of "higher" con-

¹ This is the "normative" definition of deviance that originated in the functionalist school of sociology. This definition posits that deviance requires an act of violation, regardless of how the social context evaluates it. An alternative approach, not followed here, is the "reactivist" definition of deviance, which posits that deviance is a matter of social construction (e.g., labeling) and, as such, does not require a behavioral component (cf. Heckert & Heckert, 2002).

² This definition of norms is widely used in sociological and organizational behavior research (Traub & Little, 1999; Warren, 2003). An alternative definition, not employed here, refers to norms not as expectations but as frequent patterns of behavior (cf. Bettenhausen & Murnighan, 1985; Cialdini & Goldstein, 2004; Pillutla & Chen, 1999).

formity to the overarching norms of the larger society (Brief et al., 2001; Darley, 1995; Near & Miceli, 1995).

A limitation of this analytical approach is that it excludes a class of deviant behaviors that cannot be identified a priori as inherently positive or negative. Creative deviance has not been explored by these two research streams to date, probably because it falls in this class of deviant behaviors. Creative deviance is not inherently destructive, for it can lead to positive results (e.g., a breakthrough invention), nor is it inherently constructive, for it may lead to negative results (e.g., wasting valuable resources). It is not an act of higher conformity either, for it does not involve hypernorms (the larger society's norms). Creative deviance is neither destructive nonconformity nor constructive higher conformity but, rather, a potentially positive or negative nonconformity to an organizational-level norm—namely, conformity to managerial orders.

In a seminal exception in the literature, Staw and Boettger (1990) suggested that the violation of orders can be either positive or negative, depending on whether the orders are correct. They argued that while the violation of correct instructions can be needless deviance, the violation of incorrect instructions can be immensely valuable and may result in a product that the organization later recognizes as a creative breakthrough. Staw and Boettger found, in a laboratory setting, that people tended to conform to orders that are obviously flawed, and they called for research on the contextual conditions that foster deviant behavior. My article answers that call specifically in the context of creativity. However, my analysis diverges from Staw and Boettger's work on a key assumption. They assumed that managerial orders are a priori and inherently correct or incorrect. This may be true for various managerial orders, but not for an order to stop pursuing a new idea. As Staw (1990) noted, no one can tell for sure whether a new idea will turn out to be successful or not, and, as a result, no one can know for sure whether a managerial order to stop pursuing an idea is correct or incorrect at the time it is given. I assume, therefore, that creative deviance is not inherently positive or negative but inherently uncertain.

ORGANIZATIONAL CONDITIONS OF CREATIVE DEVIANCE

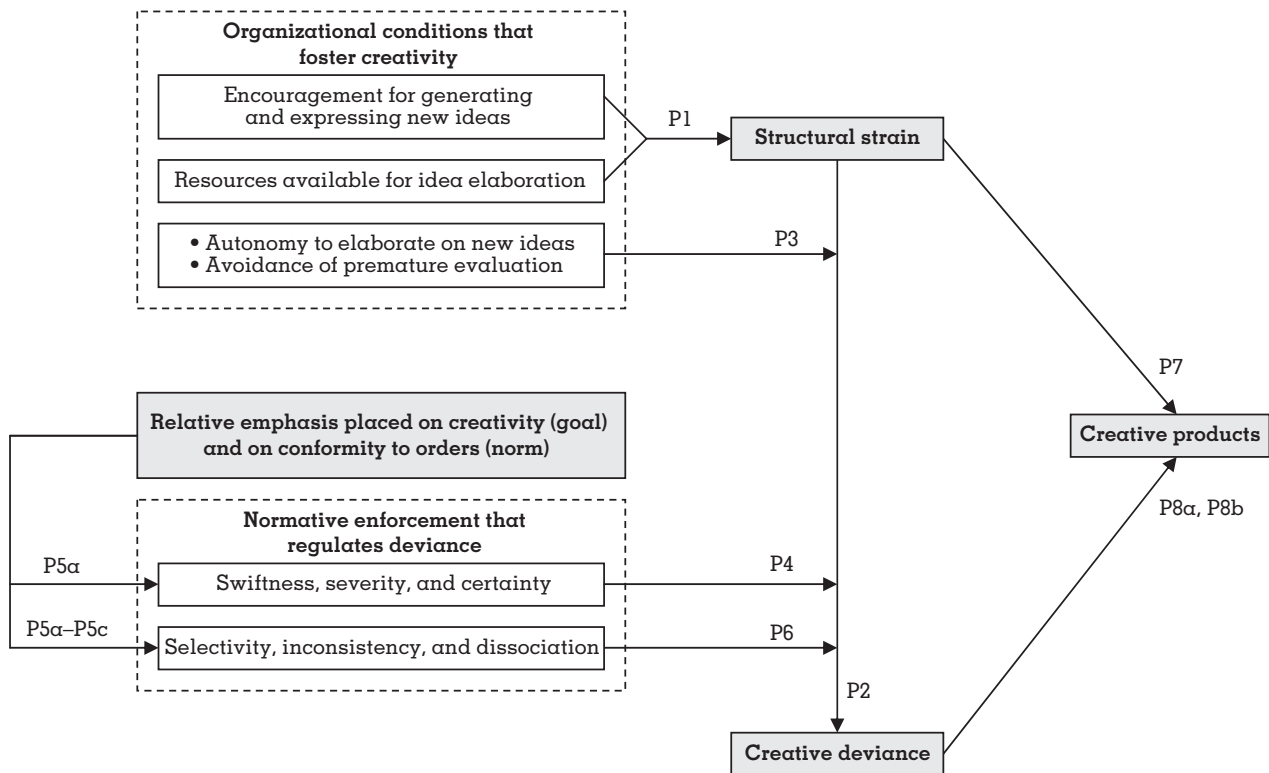
In this section I discuss the organizational conditions of creative deviance. I first focus on structural strain: I discuss the organization's encouragement of creativity as an antecedent of structural strain, I then discuss structural strain as the main condition of creative deviance, and I follow this with a discussion of two other factors that foster creativity—autonomy and avoidance of premature evaluation—as moderators of the relationship between structural strain and creative deviance. In the second part of the section I argue that the relative emphasis placed by the organization on creativity and on conformity to orders influences its normative enforcement, which, in turn, moderates the relationship between structural strain and creative deviance, as shown in Figure 1.

Structural Strain

Encouragement of creativity as an antecedent of structural strain. Structural strain refers to the condition where the resources the organization makes available for the elaboration of new ideas do not suffice to support the elaboration of all proposed new ideas in the work context. The number of proposed new ideas is a function of employees' both having new ideas and expressing them (Frese et al., 1999). Merton (1968) argued that social contexts are more likely to attain their goals if they effectively encourage their members to strive for these goals. Merton's view is in agreement with the extant creativity literature, in which the organization's encouragement for generating and expressing new ideas is by far the broadest and most frequently mentioned organizational condition that facilitates creativity (Amabile, Conti, Coon, Lazenby, & Herron, 1996).

Researchers have identified several ways that organizations encourage new-idea generation and expression, including formal communications, such as speeches by CEOs and senior managers, and mission statements that explicitly encourage creativity (Cummings, 1965; Lee, Edmonson, Thomke, & Worline, 2004). Less formal ways of communicating an appreciation for new ideas are found in organizational cultures that promote creativity through collective stories (Schein, 1992), creative role models (Shalley

FIGURE 1
Organizational Conditions and Implications of Creative Deviance



& Perry-Smith, 2001; Zhou, 2003), and other socialization practices (Gist, 1989). Organizations also encourage creativity by making it an internal job requirement (Unsworth, Wall, & Carter, 2005), by asking employees to achieve creativity goals (Shalley 1991, 1995), or by otherwise encouraging them to approach their work in creative ways (George, 2007). In addition, although the literature offers mixed findings about the impact of intrinsic and extrinsic rewards on creativity (Shalley et al., 2004), scholars generally agree that appropriate rewards and recognition for creativity foster the generation and expression of new ideas (Amabile, 1996; Eisenberger & Rhoades, 2001; Ford, 1996; Woodman et al., 1993).

A related factor is the organization's climate of psychological safety. The number of proposed new ideas in the work context is likely to be higher when employees perceive that they will not suffer negative personal consequences for proposing new ideas and/or if errors occur in the pursuit of the creative ideas (Baer & Frese, 2003; Edmondson, 1999; Shalley, 1995; Thomke, 1998). The lack of psychological safety does not neces-

sarily hinder idea generation, but it does hinder the free expression of new ideas (Frese et al., 1999; Lee et al., 2004). Idea generation is also fostered by sufficient resources, which include creativity training programs (Wheatley, Anthony, & Maddox, 1991); idea generation tools (Sutton & Hargadon, 1996); idea suggestion systems (Frese et al., 1999); free time to focus on creative tasks (Baer & Oldham, 2006; Halbesleben, Novicevic, Harvey, & Buckley, 2003; Mainemelis, 2001); and funds, materials, or equipment that may assist idea generation (Staw, 1990). Amabile (1988) argued that creativity requires sufficient but not limitless resources, because an abundance of resources decreases the positive challenge on which creativity thrives and extreme resource limitations constrain the creative process (see also Scott & Bruce, 1994).

The aforementioned methods that organizations use to encourage creativity are not alternative but additive factors that interact to influence the number of proposed new ideas. For example, even if the organization formally encourages creativity, organizational conditions

such as an inappropriate reward system or a lack of psychological safety can negatively affect the number of proposed new ideas. A greater number of proposed new ideas are generated when these contextual factors are present and appropriately aligned (Amabile, 1988; Staw, 1990).

Once generated and presented, however, new ideas require additional resources that enable employees to develop them (Staw, 1990). These are not the resources the organization commits to foster idea generation, such as training programs or idea suggestion schemes, but, rather, the resources it makes available to employees to explore their ideas and bring them to fruition, such as work time, materials, budgets, the use of equipment or other property, and so forth. The degree of resources committed to idea elaboration reflects both the value that an organization places on creativity and its overall state of adaptation. Organizations that do not value creativity are unlikely to commit resources to the elaboration of new ideas, whereas those that do are more likely to deliberately commit such resources. Because resources are scarce, however, their general availability, which is linked to the organization's overall state of adaptation, places an "upper limit" on the degree of resources it can make available for idea elaboration.

A structural strain is formed when the organization's resources for idea elaboration are insufficient to support the elaboration of all new ideas. With any level of resources available for idea elaboration, the likelihood of a structural strain is influenced by organizational factors that encourage the generation and expression of new ideas. The boundary condition is that other contextual factors that may influence creativity, such as the structure (Hlavacek & Thompson, 1973; Kanter, 1988; Paolillo & Brown, 1978) and the aesthetics (Alencar & Bruno-Faria, 1997; Vithayathawornwong, Danco, & Torbert, 2008) of the organization, are equal.

Proposition 1: For any given degree of resources the organization makes available for the elaboration of new ideas, the higher the organization's encouragement for generating and expressing new ideas, the higher the structural strain will be.

Structural strain as the main condition of creative deviance. Deviance is generally more likely when the social structure both *systematically opens up* and *systematically closes off* access to the legitimate means that people need to pursue its culturally prescribed goals (Cohen, 1999; Merton, 1968). Employees are more likely to use illegitimate means to attain legitimate goals when they internalize the value of those goals, which is influenced by the social context's promotion of the goals. Employees are also more likely to use illegitimate means to attain legitimate goals when they lack access to legitimate means for attaining them. This implies that creative deviance is less likely to occur in organizations that do not prescribe creativity as a legitimate goal. Such organizations are less likely to select and retain employees who are interested in creativity and more likely to suppress the number of proposed new ideas. Recall that before creative deviance occurs, employees generate and propose new ideas. This is less likely to occur in organizations that discourage creativity (Ford, 1996; Woodman et al., 1993); as a result, the base rate of creative deviance in such organizations is likely to be lower as well.

Creative deviance is also less likely to occur when the organization formally encourages creativity but actually stifles it with an inappropriate reward system, lack of psychological safety, and so forth (Staw, 1995). In this case the organization formally encourages creativity and makes resources available for idea elaboration, but its members are less likely to respond by proposing a large number of ideas (Frese et al., 1999). Creative deviance is less likely to occur as well in organizations that effectively encourage creativity and provide unlimited resources for idea elaboration. The organization, in this case, responds to an increasing number of proposed new ideas by committing more resources to idea elaboration. This is a mere theoretical possibility, however, because organizational resources are scarce, because they are needed to support organizational goals other than creativity, and because an unlimited investment in creativity may result in excessive exploration (Ahuja & Lampert, 2001; March, 1991).

Given that resources for elaboration are limited for the reasons discussed so far, the more effective the organization is at maximizing the number of proposed new ideas, the more likely it is to entail structural strain. This structural

strain is not to be confused with organizations' inability to implement all new ideas. To heighten creativity, organizations must support variation (the generation of numerous and diverse ideas) and then select, and later implement, only a few (Benner & Tushman, 2003; Ford, 1996). Higher variation allows for higher selectivity, but maximizing the effects of variation and selection is not only a question of increasing their absolute levels: the timing and sequencing of variation and selection may determine whether a creative product will be generated or not (Staw, 1990). Premature selection may extinguish ideas before their merits can be realized. To heighten creativity, organizations should delay idea selection and allow employees to elaborate on new ideas prior to deciding which ideas will be implemented. This requires organizational resources that are scarce. As a result, organizations can select and sponsor the elaboration of only a subset of new ideas.

In some social domains people can elaborate on new ideas until they transform them into final products that are only then evaluated by the social context (Campbell, 1960). Sculptures, songs, poems, and scientific theories are some examples. Work organizations, however, must make an early selection as to which ideas to support with resources so as to further develop them. New movies, cars, or manufacturing technologies are rarely presented by employees as final products; rather, they are presented as nascent, unrefined, and hazy new ideas (Ford, 1996), and managers must decide which of these nascent ideas to reject and which to sponsor with resources for further development (Benner & Tushman, 2003; Hargadon, 2008).

Creative deviance is more likely when the organization systematically opens up legitimate means for generating and expressing new ideas but, because of resource limitations, also systematically instructs some employees to stop working on their ideas. The rate of instructions to stop working on new ideas is likely to be greater when a structural strain is present. The rate of employees' motivation to pursue ideas as well is likely to be higher in that case owing to the organization's encouragement of creativity, as noted earlier. The rate of creative deviance, thus, is likely to be higher in work contexts that foster the generation and expression of new ideas but fall short of providing the legitimate

means employees need to elaborate on all new ideas. Such organizations exert a definite pressure on their members to engage in nonconforming conduct (cf. Merton, 1968): they first strengthen employees' motivation for generating and proposing new ideas, only to often tell them later that now they must halt further exploration.

Proposition 2: For any given degree of resources the organization makes available for the elaboration of new ideas, the higher the structural strain, the more likely creative deviance will be.

Autonomy and avoidance of premature evaluation as moderators. Organizations also differ in the degree to which they provide conditions that foster idea elaboration, especially autonomy and avoidance of premature evaluation. Autonomy refers to the degree of freedom that organizations provide to employees to elaborate on their new ideas (Amabile, 1988; Oldham & Cummings, 1996; Shalley, 1991); avoidance of premature evaluation refers to the degree to which organizations delay making a final decision about an idea until the idea has been given a chance to develop and show its merits (Cummings, 1965; March, 1976; Staw, 1990). The absence of these conditions does not necessarily hinder the generation and expression of new ideas (George, 2007; Unsworth et al., 2005). For example, Frese et al. (1999) studied a steel company's idea suggestion scheme, which over a ninety-year period was effective in stimulating a large number of proposed new ideas. The company, however, did not provide employees with autonomy to elaborate on new ideas prior to suggesting them. Rather, a management committee evaluated the suggested new ideas and decided which ones to further pursue and how.

Other organizations, however, delay the evaluation of new ideas and allow employees to elaborate on them before presenting them. For example, some organizations institute "15 percent free time," a legitimate work time during which employees can select and explore new ideas temporarily freed from structural obligations, functional pressures, and managerial control (Mainemelis & Ronson, 2006), or they otherwise provide employees with generous degrees of autonomy to explore new ideas before presenting them (Amabile, 1988; Oldham & Cummings, 1996). These conditions facilitate creativ-

ity by fostering idea elaboration and also by improving the organization's evaluation and selection of new ideas (March, 1976; Staw, 1990). When a structural strain is present, however, these conditions also provide employees with practical and psychological opportunities for engaging in creative deviance (cf. Cloward, 1959).

Autonomy has the potential to render individuals both more creative (Amabile et al., 1966; Oldham & Cummings, 1996) and more deviant (Coleman & Ramos, 1998; Robinson & Bennett, 1993). Employees who work under close monitoring are likely to find it more difficult to violate orders and to illegitimately elaborate on new ideas. Employees with higher degrees of autonomy, however, have more practical opportunities to engage in creative deviance, in part because they have greater personal discretion (George, 2007), but also because they usually have easier access to organizational resources (Keltner, Gruenfeld, & Anderson, 2003).

Autonomy and time to elaborate on new ideas also open up legitimate means that channel employees' creative motivation into voluntary pursuits of ideas. These voluntary pursuits entail high degrees of emotional attachment to the new idea (Mainemelis, 2001), and that emotional attachment increases as a function of the time and effort one invests in working on an idea (Staw, 1990). At some point, however, this legitimate "play time" has to end since managers must evaluate the new ideas (Mainemelis & Ronson, 2006). When managers reject ideas, employees experience frustration, sadness, and/or anger (Amabile, Barsade, Mueller, & Staw, 2005)—emotions that are related to the suspension of legitimate organizational channels for further elaborating on new ideas. The experience of these emotions may be personal and idiosyncratic, but their causes are social and systematic. These emotions are phenomenal manifestations of the pressure the work context exerts on its members, first by opening up and later by closing off legitimate access to idea elaboration. This strengthens the likelihood of creative deviance, because the more autonomy and time employees are given to elaborate on their ideas, the more likely they will become emotionally attached to them and the more likely they will experience difficulty in letting go of them when they are later instructed to stop. This is one of the reasons that new ideas, "if

they do die, they generally go kicking and screaming to their graves" (Staw, 1990: 303).

Moreover, faced with uncertainty and risk, employees with low degrees of autonomy tend to be more aware of potential punishments and, thus, more risk averse, whereas those with higher degrees of autonomy tend to be more aware of potential rewards and, thus, more willing to take risks (Carver & White, 1994; Keltner et al., 2003; Lee et al., 2004). Those with higher degrees of autonomy are more likely to perceive themselves as having control over their social contexts (Fiske, Morling, & Stevens, 1996) and as being capable of influencing their social contexts to see things their way (Lee & Ofshe, 1981). As a result, they are more likely to engage in nonconforming behavior (Staw & Boettger, 1990). Given that creative deviance involves uncertainty (in terms of what the illegitimate elaboration of a new idea will produce) and personal risk (associated with the potential sanction of the violation of the managerial order), its rate is likely to be higher in work contexts that provide employees with higher degrees of autonomy to elaborate on new ideas. The boundary condition in that case is that organizations place an upper limit on how much autonomy and time they provide to employees for elaborating on new ideas.

Proposition 3: Autonomy and avoidance of premature evaluation moderate the relationship between structural strain and creative deviance so that for any given degree of structural strain, the higher the autonomy and the higher the avoidance of premature evaluation, the more likely creative deviance will be.

Relative Emphasis Placed on Creativity and on Conformity to Orders

While the structural characteristics discussed so far induce creative deviance, its rate also depends on how the organization responds to it. The work context's historical reactions to any given deviant act influence its future rate (Cloward, 1959; Tenbrunsel & Messick, 1999; Treviño, 1992). A norm is enforced when sanctions are imposed on those who violate it (Feldman, 1984). Merton (1968) argued that normative enforcement is influenced by the relative emphasis the social context places on its goals and norms. At one

polar extreme are social contexts in which norms, originally conceived as instrumental, become self-contained and lack further objectives. Norms are enforced in a rigid way, sheer conformity becomes a central value, and a climate of neophobia ensues, ensuring social stability in the short term but jeopardizing adaptive flexibility in the long term (Nemeth, 1986; Staw & Boettger, 1990). At the other polar extreme Merton placed extreme anomie: social contexts that develop a virtually exclusive stress on the attainment of their goals, with comparatively little concern about their socially structured means for striving for these goals. Heightened flexibility in the short term is often followed in that case by lack of social stability and disintegration in the long term (Durkheim, 1938). Between these two extremes, Merton placed the relatively stable and integrated social systems that maintain a rough balance between goals and norms while at the same time changing and evolving. He argued that while deviance generally disturbs that equilibrium, some (unknown) degree of deviance plays a positive role in the maintenance and evolution of the social system.

Merton's theory does not explain what normative enforcement consists of and how it may help social contexts achieve a rough balance between goals and norms. More recent perspectives portray normative enforcement as a function of the swiftness, severity, and certainty of sanctions and suggest that the extent to which deviance is desirable is not only a question of degree but also of kind. Drawing on these views, I discuss two types of normative enforcement that moderate the relationship between structural strain and creative deviance. The first consists of swift, severe, and certain sanctioning, while the second consists of selective, inconsistent, and dissociative sanctioning. I argue that the former reduces the rate of creative deviance, and the latter regulates it up to some desirable degree. I also argue that the latter is more likely to occur than the former when the organization places a relatively higher emphasis on creativity than on conformity.

Swiftness, severity, and certainty as moderators. Social contexts can deter any given deviant behavior by sanctioning its incidents in a swift, severe, and certain way (Becarria, 1986; Klepper & Nagin, 1989; Ward et al., 2006). Swiftness refers to the prompt action taken to stop and sanction

the deviant act, severity refers to the negative consequences imposed on deviants, and certainty refers to the historically invariant sanctioning of deviant acts. Taken together, swiftness, severity, and certainty ensure prompt and consistent normative enforcement; signal contextual intolerance toward creative deviance; and influence the "mental calculus" (Klepper & Nagin, 1989; Ward et al., 2006) people employ in determining whether or not to engage in creative deviance, decreasing in that way its future likelihood in the work context.

Proposition 4: Normative enforcement moderates the relationship between structural strain and creative deviance so that for any given degree of structural strain, the swifter, the more severe, and the more historically invariant (certain) the sanctioning of creative deviance, the less likely creative deviance will be in the future.

Selectivity, inconsistency, and dissociation as moderators. Merton's (1968) theory implies that the only social contexts that respond in an invariable way to all deviance, regardless of its content and results, are those at the two polar extremes. Less extreme social contexts maintain hierarchies of various goals and norms and discriminate among different forms of deviance (Plucker & Runco, 1999). Placing a relatively greater emphasis on a specific goal over a specific norm does not mean that all goals are valued more than all norms or that norms are not enforced. Rather, the social system is characterized by a selective, flexible, and variable attitude: sometimes it enforces its norms, sometimes it tolerates their violation, and sometimes it suspends or transforms them to enhance its prospects of survival and prosperity (Feldman, 1984).

Organizations that place relatively greater emphasis on conformity than on creativity are more likely to sanction creative deviance in a swift, severe, and certain way. Organizations that place a relatively higher value on creativity than on conformity, however, are faced with a tough challenge. On the one hand, they are not likely to abstain from sanctioning creative deviance because it entails potentially negative consequences: it may fail to produce a creative product, it may waste scarce resources, and/or it may harm the organization. Abstaining from

sanctioning creative deviance would also render the norm of complying with orders functionally irrelevant, thus undermining accountability, responsibility, and control (Staw, 1990). Even organizations that are considered supportive of creativity provide generous *but not complete* autonomy and freedom from managerial control for some (e.g., 15 percent) *but not most* (e.g., 85 percent) of the work time (Mainemelis & Ronson, 2006). The same organizations are unlikely to consistently abstain from sanctioning creative deviance.

On the other hand, sanctioning creative deviance in a swift, severe, and certain way may be perceived by employees as a punishment imposed on the pursuit of creativity itself, which is likely to decrease the number of proposed new ideas in the work context (Baer & Frese, 2003). In addition, creative deviance may produce a creative product, and with a lower expenditure of resources; it allows the organization to make a better evaluation of the new idea, given that the idea evolves, and it also displaces the risk of the potential failure of the new idea to the creative deviant. In order to extract these potential benefits, organizations placing a relative higher emphasis on creativity than on conformity to orders are less likely to sanction creative deviance in a swift, severe, and certain way.

This implies that the organization must find a way to formally preserve its norm while at the same time informally tolerating its transgression, but only up to a point that does not lead to a state of anarchy and does not compromise its attempt to heighten creativity either. I suggest that organizations tackle this challenge by making their normative enforcement *selective* (tolerating some creative deviance but not other forms of deviance), *inconsistent* (some times punishing creative deviance and other times ignoring, forgiving, or rewarding it), and *dissociative* (punishing creative deviance for its deviant component while ignoring, forgiving, or rewarding it for its creative component).

Relatively stable organizations tend to selectively impose swifter and more severe sanctions on deviant acts that seek to harm them and/or to benefit the deviant without benefiting the organization (Vardi & Wiener, 1996). High-severity sanctions are more likely when an organization identifies specific deviant acts that pose a significant threat to it and develops explicit policies that promptly sanction those acts (Beyer &

Trice, 1984). Organizations also tend to selectively tolerate violations that entail potential benefits for them (Lehman & Ramanujam, 2009). When an organization places a relatively higher emphasis on creativity than on conformity, it is more likely to impose more swift and severe sanctions on such deviant acts as sabotaging work, leaking information to competitors, and so forth and less severe sanctions on creative deviance, because the latter seeks to attain a legitimate organizational goal.

Furthermore, swiftness implies that the illegitimate pursuit of the new idea is terminated early on, without producing a result that could benefit the organization. Although illegitimate, the development of the idea resulting from creative deviance has the potential to produce a creative product. Even though the creative deviant illegitimately uses some resources, these are likely to be fewer than the resources the organization would have had to commit by formally sponsoring the idea. In addition, while it is relatively easy to reject an idea when an employee first proposes it (cf. Amabile et al., 2005), it becomes increasingly difficult to halt the evolution of an idea that has become a formal project because of the organization's escalating commitment to it (Staw, 1990). The risk of failure of the idea is diffused in this case as it becomes shared by the employee who proposes the new idea, his or her manager, and the larger organization.

By tolerating the illegitimate pursuit of the new idea, organizations can extract a potential benefit with comparatively fewer resources and by displacing the risk to the creative deviant. Temporarily tolerating an employee's illegitimate pursuit of a new idea enables organizations to intervene at some later point and stop its pursuit—for example, when it becomes evident that the idea is unlikely to work. Alternatively, management can intervene at some point and legitimize the idea by turning it into a formal project when it becomes evident that the new idea is likely to evolve into a beneficial product. In both cases the organization makes a more informed decision using the evidence that the illegitimate elaboration has produced, with a lower investment of resources and with no ex ante formal commitment to the idea. Because this set of versatile and flexible organizational responses cannot occur when acts of creative deviance are halted and sanctioned swiftly, or

ganizations placing a relatively higher emphasis on creativity than on conformity to orders are more likely to abstain from enforcing the norm in a swift manner.

Furthermore, certainty requires the invariable sanctioning of creative deviance, which implies that conformity is considered relatively more important than creativity. The organization has a norm and it enforces it consistently *regardless* of the nature, content, and results of the deviant behavior. When the emphasis on creativity is higher than the emphasis on conformity, however, organizations are more likely to occasionally ignore, forgive, or reward acts of creative deviance, especially those that result in a creative product. In other words, they are more likely to make some "exceptions" to their normative enforcement in order to extract the benefits associated with the deviant behavior (cf. Feldman, 1984). Such organizations are likely to punish some acts of creative deviance, especially those that cause damage, but their historical record is likely to also involve a number of non-sanctioned creative deviance acts.

This set of inconsistent responses to creative deviance (punishing, ignoring, forgiving, and rewarding), in conjunction with the selective tolerance the organization shows for it (but not for other forms of deviance), allows the organization to maintain a desirable degree of creative deviance while also maintaining the norm of conforming to orders. A third factor that contributes to such an outcome is the dissociation of the two components of creative deviance.

Organizations are more likely to punish creative deviance not as an attempt to produce a creative product but as a violation of an order. This formal justification preserves the norm and signals to employees that creative deviance may be sanctioned without also signaling that the organization sanctions the pursuit of creativity itself. Conversely, organizations can ignore, forgive, or reward creative deviance not because an employee has violated an order but because he or she has produced a creative product or has tried to do so. When forgiving creative deviance, organizations are likely to justify it for its well-intentioned motives (cf. Vardi & Wiener, 1996). They are likely to deflate the role of the violation and inflate the violator's superb commitment to striving for a legitimate organizational goal—creativity. While this signals tolerance for creative deviance, forgiving something im-

plies that something bad has happened—a violation of a managerial order. This serves as a reminder to employees that the norm is active and in place and that while its transgression might be forgiven insofar as it constitutes an attempt to produce a creative product, the organization offers no formal guarantees that future acts of creative deviance will be forgiven. Similarly, ignoring (intentionally overlooking) creative deviance offers no formal guarantees that future acts of creative deviance will be ignored, as long as at least some acts of creative deviance are punished.

Rewarding creative deviance is most likely to be associated with a creative deviance act that produces a positive outcome. The organization must then find a formal justification for rewarding an act that transgressed its norms but ultimately served its interests. One possible strategy is to celebrate the success and reward the employee but formally understate the role that creative deviance played in producing the successful outcome. Consider how Hewlett-Packard retrospectively honored the engineer who developed large screen electrostatic displays:

MEDAL OF DEFIANCE

In total defiance of adverse market studies and surveys concluding the existence of a worldwide market of no more than 50 total large screen electrostatic displays, Charles H. House, using all means available—principally pen, tongue, and airplane to extol an unrecognized technical contribution, planted the seeds for a new market resulting in the shipment of 17,769 large screen displays to date (Hewlett-Packard, appearing in Pinchot, 1985: 30).

While this formal account underscores the value the company placed on creativity, it does not mention that the engineer violated an order to stop pursuing the project (after a market study showed negative results) and that he later again violated the company founder's order to abort the project (Nemeth, 1997; Pinchot, 1985).

The fact that an organization formally underplays the role of creative deviance does not mean that its members are not aware of it. They may observe or learn about such an act from the violator or his or her managers. Hence, by formally underplaying creative deviance while informally tolerating it, organizations cast uncertainty over when and if they will enforce penalties for creative deviance. Consider also how 3M formally dignified the invention of a tape slitter by an en-

gineer who continually violated his manager's orders:

Despite being told by his boss to turn his energies to other, more promising assignments or "lose my job," he persevered in classic 3M style. . . . [A] retired vice president [said that] Vytlačil had admirable staying power. "The development of that tape splitter didn't go like clockwork," he said. "It was a very difficult project." Ultimately, Vytlačil's manufacturing innovation was heralded as one of the most significant in the company's manufacturing history (3M, 2002: 37).

This account retrospectively dignifies an act of creative deviance as exemplifying a core 3M value—the staying power of new ideas. This account is from a 3M corporate report entitled "A Century of Innovation." In no part of the report does 3M suggest that managers should sponsor all ideas, that employees should violate their managers' orders to pursue a new idea, or that employees will not be punished if they do so. These issues are not clearly explained, which creates ambiguity, which in turn makes creative deviance a generally expected rather than rare behavior, but also a risky behavior that could bring negative repercussions.

Formally maintaining the normative obligation to conform to managerial orders while informally tolerating its transgression does not exile creative deviance from the organization, but it also does not allow it to be taken out of proportion and trigger anarchy and irresponsibility in the work context. Rather, it regulates creative deviance in a way that places *ex ante* responsibility and risk on the nonconforming individual, while at the same time giving the organization some flexibility in responding *ex post* to the nonconforming behavior.

Proposition 5: Organizations that place a relatively greater emphasis on creativity than on conformity to orders are (a) less likely to punish creative deviance (but not other forms of deviance) in a swift, severe, and historically invariant way; (b) more likely to ignore, forgive, or reward some (but not all) acts of creative deviance; and (c) more likely to punish, ignore, forgive, or reward creative deviance by dissociating its creative and deviant components.

Proposition 6: Selective, inconsistent, and dissociative normative enforcement moderates the relationship between structural strain and creative deviance so that for any given degree of structural strain, selective, inconsistent, and dissociative normative enforcement will allow the organization to regulate the rate of creative deviance up to a desirable degree.

Propositions 5 and 6 do not refer to the responses that can produce the highest rate of creative deviance but, rather, to the responses that I consider most likely in a work context that is not extremely anomic, places a *relatively* higher emphasis on creativity, but also values and preserves to some degree its norm (conformity to orders) so as not to become extremely anomic.

IMPLICATIONS FOR ORGANIZATIONAL CREATIVITY

Creativity researchers have argued that the greater the number of new ideas, the higher the likelihood creative products will be generated (Campbell, 1960; Simonton, 1999; Staw, 1990). Creative products depend on the quality of ideas, which is a direct function of the quantity of ideas. Diehl and Stroebe (1987) reported a correlation of .82 between quantity and quality of ideas, and Frese et al. (1999) concluded that a company that wants to have good ideas should do everything to promote an increase in the number of proposed new ideas. Therefore, the higher the structural strain (i.e., the higher the number of proposed new ideas for any given amount of resources available for elaboration), the more likely creative products will be produced. This does not overlook the fact that the transformation of new ideas into creative products is influenced by other factors, such as conditions that foster idea elaboration or the accuracy of the organizations' evaluation and selection process (Ford, 1996; Staw, 1990). Rather, all other factors being equal, more creative products are likely to be generated when a structural strain is present.

Proposition 7: For any given degree of resources the organization makes available for the elaboration of new ideas, the higher the structural strain, the higher the number of creative products will be.

Creative deviance partially mediates that relationship. When a new idea has been formally rejected by a manager, creative deviance can only increase the likelihood that the idea will later result in a product the organization accepts as novel and useful. Without further increasing the organization's structural strain, creative deviance allows it to informally pursue a greater number of new ideas than the number passing through its formal evaluation and selection process. By fostering the elaboration of new ideas, creative deviance allows at least some additional creative products to be generated through a secondary, illegitimate channel. This does not imply that creative deviance is likely to result in a creative product but, rather, that with several acts of creative deviance, at least a few may result in creative products.

Proposition 8a: Creative deviance partially mediates the relationship between structural strain and creative products so that for any given level of structural strain, creative deviance will further increase the number of creative products.

Compared to ideas that employees pursue with managerial permission, creative deviance is less likely to result in creative products but more likely to result in radical ones. Research has shown that the more radical an idea is, the more risky it is likely to be and the more likely it is managers will reject it (Ahuja & Lampert, 2001; Baer, 2007; Dewett, 2006; March, 1991). This implies that, in terms of its base rate, creative deviance is more likely to entail radical and risky ideas and, thus, is less likely to result in creative products but also more likely to result in radical creative products (Benner & Tushman, 1993; Smith & Tushman, 2005).

Furthermore, while the creative deviant illegitimately uses some organizational resources, these are likely to be fewer than the resources the organization would commit by formally sponsoring the new idea. Research on the effects of resources on creativity has shown that resource limitations place practical constraints on idea elaboration, thus decreasing the likelihood that a creative product will be generated (Amabile et al., 1996; Staw, 1990). In the same stream of research, however, scholars have argued that resource limitations motivate people to turn constraints into positive challenges (Am-

abile, 1996) and to search for solutions in less than obvious directions (Campbell, 1960), thus increasing the likelihood of producing a radical creative product.

Moreover, when creative deviance is covert and the employee works secretly on a new idea, he or she is unlikely to receive much feedback on it; when creative deviance is overt, it is likely to generate less and more limited feedback than ideas that evolve legitimately in the work context. Research on the effects of feedback on creativity has shown that a creative product is more likely to be generated when employees receive constructive feedback from a broad range of people during idea elaboration (Csikszentmihalyi, 1997; Zhou, 1998, 2003). However, because even constructive feedback can lead individuals to think along more conventional paths (Smith, 2003), radical creative products are more likely to be generated with little or no feedback (George, 2007). Taken together, these research findings on the effects of risk, resources, and feedback on creativity suggest that creative deviance is less likely to result in a creative product but more likely to result in a radical creative product.

It may also be argued that insofar as organizations tolerate creative deviance, creative deviance actually functions as an informal idea selection mechanism. The extant literature consists of fragmented and dispersed views suggesting that an organization's formal selection process may filter ideas in terms of their degree of risk (Ahuja & Lampert, 2001), clarity (Ford, 1996), framing and fit with organizational habits of thought and action (Dougherty & Heller, 1994), the political support they generate (Staw, 1990), and/or their effective use of impression management techniques (Elsbach & Kramer, 2003). Summarizing these factors, Dutton, Ashford, O'Neil, and Lawrence (2001) portrayed the organization as a "pluralistic marketplace of ideas" that are "sold" and "bought" depending on individuals' ability to frame, package, bundle, present, and politically support them. I suggest that what distinguishes creative deviance as an alternative, informal selection mechanism is that it filters new ideas for none of the above factors but for the faith that employees practically demonstrate in them, particularly by taking personal risks to pursue them.

Creative deviance offers a second chance—an illegitimate path of evolution—for ideas that the

formal selection process kills for political and communication reasons or because of the idea's lack of fit with the status quo. In addition, the personal risk that managers take by sponsoring a new idea that may later fail plays a major role in their tendency to reject radical ideas (Ahuja & Lampert, 2001; March, 1991). Creative deviance is less subject to the bias against radical ideas because it enables a manager (who initially rejects the idea) to displace the risk to the employee who pursues the idea illegitimately. The irony is that employees may feel let down by their manager's rejection (Amabile et al., 2005) without realizing that, intentionally or not, that rejection puts them (for a while) in charge of the selection process, albeit in an informal way. The fate of new ideas at that moment is not determined by persuasive "trading" in the "marketplace of ideas" but by bold acts of rule breaking and by more subtle and understated organizational conditions that induce and tolerate such nonconforming acts. From this point of view, creative deviance may actually filter what the history of creativity often rewards—individuals who demonstrate their faith in an uncertain new idea by taking a risk to keep it alive and evolving (Csikszentmihalyi, 1997; Gardner, 1993; Gruber & Davis, 1995).

Clearly, an employee's faith in an idea is not a reliable indicator of its value. Note, however, that the clever way in which a new idea is framed, the attractiveness and clarity with which it is presented, and the political or social connections or/and the impression management skills of the person who proposes it are not cleaner or more reliable indicators of the value of a new idea either. Creative deviance is not a better selection mechanism, but it is less subject to the bias against radical new ideas, and it also protects new ideas to some extent from conventional feedback and from other social pressures for conformity and consistency. This increases the likelihood that a radical creative product will be generated, albeit less frequently.

Proposition 8b: Creative deviance is less likely to result in a creative product, but when it results in one, the product is more likely to be radical.

Let me illustrate these arguments with an example. When a scientist at Nichia asked his boss if he could conduct research on producing bright white light from LEDs, he was asking,

essentially, to purchase expensive equipment and an expensive raw material, silicon, which LED research required at the time. These resources had to be committed to a highly risky pursuit: an invention the industry had tried but failed to produce in thirty years. When his boss ordered him to stop, the scientist spent much of his time learning how to build the equipment; he built it with his hands and then he experimented using the only material that was available at Nichia—phosphor. For several months he continued to violate his boss's written orders to stop; his experiments also caused several explosions in his lab. Eventually, his hands-on mastery of the equipment and the use of phosphor (a material no LED researcher had ever used before) led to a breakthrough invention, the LED bright lighting technology (Johnstone, 2007).

This case illustrates the unpredictable nature of creativity (Staw, 1990); the role "blind-alley entrances" and idea elaboration play in the creative process (Campbell, 1960); the managerial bias against risky, radical new ideas (March, 1991); and how motivation can turn constraints into positive challenges (Amabile, 1996). My analysis adds that such cases also illustrate that creative deviance is born out of the organization's structural strain and fosters the evolution of new ideas, especially radical ones, without further increasing structural strain.

DISCUSSION

I have examined creative deviance as the violation of managerial orders to stop pursuing a new idea. I have argued that creative deviance is more likely to occur when structural strain is present and when an organization places a relatively greater emphasis on creativity than on conformity. By inviting creativity, organizations also invite a great deal of uncertainty. The creative process is uncertain because no one can predict whether the pursuit of a new idea will result in a positive outcome. A manager's order to an employee to stop pursuing a new idea is uncertain, for no one can judge whether the order is the best decision at the time. The violation of that order is structurally similar. By tolerating creative deviance, organizations may actually be structurally matching the inherent uncertainty that both creativity and deviance entail.

To heighten creativity, organizations heighten employees' motivation for it (Amabile, 1988), but

because of structural strain, they cannot open up legitimate means to all employees who are motivated to pursue new ideas. Reducing the motivation for creativity in an organization is likely to compromise its attempt to heighten creativity. Rigidly enforcing its norms can lead to a climate of neophobia (Nemeth, 1986; Staw, 1990) and ritualism (Merton, 1968)—that is, employees learn to strictly abide by norms but gradually lower their aspirations for creativity. Tolerating creative deviance up to a certain degree (one that does not trigger extreme anomie) allows the organization to maintain motivation for creativity at high levels and to channel a portion of it into illegitimate pursuits of new ideas that do not increase its structural strain.

Deviant behavior can generally transform the social context's normative boundaries by overthrowing the norm that it violates (Erickson, 1966). Creative deviance, however, is unlikely to overthrow the norm that it violates because it does not offer a better alternative—abolishing the norm of conforming to managerial orders cannot increase the scarce resources at the organization's disposal for idea elaboration. Creative deviance cannot resolve that structural strain, but it mitigates some of its inherent tensions: it allows motivated employees who lack legitimate means to pursue new ideas illegitimately, and it allows the organization to experiment informally with a larger number of new ideas, some of which can result in creative products, while at the same time maintaining considerable flexibility in terms of how it can respond *ex post* to these illegitimate pursuits of new ideas.

Contributions

This article contributes a novel theory of the contextual conditions and implications of creative deviance. It also offers a rare cross-pollination of insights from the creativity literature and deviance literature and has implications for both. The study of deviance has been dominated, to date, by two research streams that have focused on describing deviant acts that are either inherently positive or negative (Warren, 2003). This article contributes a theory of a nonconforming behavior that is not inherently positive or negative, that cannot be predicted *a priori* to produce positive or negative results, and, as a result, can best be described as inherently uncertain. The

article also suggests that while creative deviance is usually socially ascribed only to the violator, its rate depends primarily on the organization's overarching social structure.

The theory I have proposed links Merton's (1968) theory to creativity in work organizations, but it also extends or departs from it in many ways. While Merton argued that tolerating an (unknown) degree of deviance is positive for social systems, I drew on more recent perspectives suggesting that equally if not more important is the kind of deviance social systems selectively tolerate. Moreover, because Merton did not address what normative enforcement consists of, I integrated insights from deviance deterrence theories on the role of swift, severe, and certain sanctioning, as well as insights from research on the role of selectivity, inconsistency, and dissociation in normative enforcement. Furthermore, Merton argued that society can suppress deviance by prescribing cultural goals that do not lead to structural strain. He suggested that this can be achieved by supplanting society's emphasis on material success with an emphasis on artistic and creative activity. His assumption was that creative activity does not lead to structural strain. I argued that, at least in work organizations, prescribing creativity as a legitimate goal is associated with structural strain and with deviance as well.

To date, creativity has been theorized as an act of conformity whereby a motivated employee pursues creativity using the legitimate means of a supportive work context (Amabile, 1988; Ford, 1996; Woodman et al., 1993). This article offers a rare perspective of workplace creativity as an act of nonconformity. It also suggests that new ideas may not be as fragile and sensitive to rejection as the extant literature portrays them (e.g., Amabile et al., 2005), and it urges creativity researchers to pay more attention to the role that elaboration plays in the evolution of new ideas in work contexts. Furthermore, in the last twenty years creativity research has theorized elements like encouragement, autonomy, and time to play with ideas as unlimitedly positive qualities required to optimize the organization's pursuit of creativity (e.g., Amabile, 1988; Ford, 1996; Mainemelis & Ronson, 2006; Woodman et al., 1993). This article suggests that encouragement, autonomy, and time to play with ideas are only half of the story. The

other half includes scarce resources, new ideas that get rejected, and nonconforming behaviors.

Limitations and a Research Agenda

While the contextual factors I have discussed increase the *rate* of creative deviance, individual differences can explain why some people are more likely than others to engage in creative deviance under the same contextual conditions. Personality traits such as risk seeking, independence, nonconformity, and courage are known to play a role in both deviant (Staw & Boettger, 1990) and creative behaviors (Feist, 1999a,b). Research has also shown that intrinsic motivation is positively related to creativity (Amabile, 1996) and that this may help explain why some people will sacrifice customary rewards and face the risk of punishment or loss in order to pursue their ideas (Barron, Montuori, & Barron, 1997; Brower, 1999). Moreover, employees may violate workplace norms in order to conform to the norms of external social domains (Meyerson & Scully, 1995). Prior to joining an organization, engineers, physicians, artists, and scientists are professionally socialized to build great things, to improve life, to seek the truth, to challenge social conventions, and so forth. Insofar as such professionals perceive that an order to stop pursuing an idea prevents them from performing their work according to such norms, and insofar as their identities are invested more in their professional domains than in their organization, they may be more likely to violate managerial orders. Future studies can explore when and how personality traits, motivational orientations, and identification with professional norms influence creative deviance in work contexts.

Future studies can also explore the role of managers. Beyer and Trice (1984) found that employee, manager, and interaction characteristics are less important in predicting whether managers will sanction deviance and to what severity; these factors were primarily influenced by contextual and situational characteristics. Managers cannot single-handedly alter the contextual conditions that induce creative deviance, and in contexts that value creativity, managers are less likely to find comfort in imposing severe punishments on employees who exhibit high creative motivation by illegitimately pursuing new ideas (cf. Horne, 2004; Kendal, Feldman, & Aoki, 2006).

Moreover, because managers take a personal risk by sponsoring a new idea, they tend to select less risky ideas that usually lead to incremental creative products (Ahuja & Lampert, 2001; March, 1991; Smith & Tushman, 2005). In organizations that expect their managers to develop radically creative products, however, managers also must minimize the opportunity costs associated with rejecting riskier ideas (Benner & Tushman, 2003; Brown & Eisenhardt, 1997; Ford, 1996; Hedberg, Nystrom, & Starbuck, 1976), which, in their initial expression, tend to be hazy and lack evidence. As a result, these ideas are difficult to evaluate. To optimize their evaluation, managers need to delay selection and allow individuals to elaborate on ideas so as to produce more evidence about their value (Staw, 1990). This requires resources that organizations provide to managers to a limited degree. As a result, managers are left to base their evaluations on intimations of value while they are held responsible at the same time for what they select.

Tolerating creative deviance allows managers to displace the risk of the idea's failure to the employee, given that they reject the idea; at the same time it also allows them to minimize the opportunity costs associated with rejecting the idea, given that the idea evolves after all, albeit illegitimately. This does not mean that managers necessarily strategically manipulate creative deviance but that when the latter occurs, they may find it more attractive to tolerate it than stop it. Future studies can explore this possibility and identify characteristics of managers and of the dyadic interaction between managers and employees that affect creative deviance.

Another limitation of the article is that it does not account for how other employees react to creative deviance—for example, by offering psychological or/and practical support to the creative deviant (Coleman & Ramos, 1998) or by exerting informal social control over the creative deviant (Brauer & Chekroun, 2005; Hollinger & Clark, 1982). These issues are complex and require a separate path of investigation. The possibility that I submit here is that organizational members are more likely to react negatively to the creative deviant and to exert control over him or her when the work context places a relatively higher emphasis on conformity (Nemeth, 1997); similarly, workers may be

more likely to tolerate, support, or even show admiration for creative deviants (Heckert & Heckert, 2002; see also Rindova, Pollock, & Hayward, 2006) when the work context places a relatively higher emphasis on creativity.

While I focused on the rate of creative deviance, future studies can examine the factors that affect an organization's reactions to single acts of creative deviance. An obvious factor is the value and magnitude of the outcome (Heckert & Heckert, 2002). A creative deviance act that produces a positive result is less likely to be punished than an act of creative deviance that results in a negative outcome. Other peripheral factors may play a role in how organizations react to creative deviance acts. Organizations meeting their objectives are more likely to forgive a creative deviance act that has failed to produce a positive result than those organizations struggling to survive (Feldman, 1984). Employees who have contributed to the organization's success in the past are, on balance, more likely to be forgiven for creative deviance than those who have consistently failed to help the organization meet its goals (Hollander, 1958). Future research can examine these and other factors that shape the social context's reactions to creative deviance acts.

While I have focused on the violation of managerial orders, employees may not even ask for managerial permission in a situation where permission is required to work on a new idea. Sooner or later, however, organizations will have to deal with such violations, and their potential reactions are likely to be informed by the factors discussed in this article. That said, it would be useful to explore how other forms of deviance may influence creativity in the workplace.

The question this article ultimately posits for creativity research is "What exactly is 'optimal' in optimal creativity?" In most aspects of organizational theory, the term *balance* is associated with desirable qualities, and the term *strain* is associated with undesirable ones. If we take optimal creativity to mean that the organization pursues a degree of creativity that does not trigger nonconformity, then we should consider structural strain as an undesirable condition and creative deviance as a destructive behavior. Alternatively, if we take optimal creativity to mean pursuing the highest degree of creativity possible, then we should consider structural

strain as a desirable condition and creative deviance as a normal, expected human response.

But if we take optimal to mean a rough balance between pursuing creativity and maintaining the stability of the social system, then we should consider structural strain as a largely inevitable condition and creative deviance as a systemic by-product that mitigates some of the tensions of the social structure that produces it. "Stealing fire" is ultimately the act of a bold individual who wants to keep on playing with a new idea. Behind such individual nonconforming acts, however, we are likely to discover more subtle and more powerful social conditions that induce, regulate, and occasionally celebrate Promethean behaviors.

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