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# Getting Past Conflict Resolution: A Complexity View of Conflict

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**The traditional view of conflict, as a problematic condition always requiring reduction or elimination and whose conditions or outcomes can be predicted, is incompatible with a complex adaptive systems view of organizations. Thus, conventional approaches to reducing conflict are often futile because the fundamental properties of complex adaptive systems are the source of much organizational ‘conflict.’ In this paper we offer an alternative view of conflict as pattern fluctuations in complex adaptive systems. Rather than needing reduction or elimination, conflict is the fuel that drives system growth and enables learning and adaptive behaviors, making innovation possible. Instead of focusing on conflict reduction, managers are advised to encourage mindfulness, improvisation, and reconfiguration as responses to conflict that enable learning and effective adaptation.**

## Introduction

*Difficulties are meant to rouse, not discourage.  
The human spirit is to grow strong by conflict.*

William Ellery Channing

Conventional approaches to organizational conflict often do not recognize its potential power for strengthening the human spirit, much less the organizational spirit. Rather, conflict is frequently viewed as a problematic condition—usually between two people or groups—that needs to be reduced, eliminated, or overcome (Rahim, 2002) so that organizational stability is not threatened (Pondy, 1967). Early organizational conflict scholars largely viewed conflict as detrimental to performance and satisfaction (March & Simon, 1958, Pondy, 1967; Deutsch, 1969; Blake & Mouton, 1964), although some scholars have stressed its value for problem solving or task

accomplishment (e.g., Churchman, 1979; Mason & Mitroff, 1981; Jehn, 1995, Amason, 1996; Jehn, 1997). However, the literature continues to characterize conflict as dysfunctional and “today’s managers and employees still overwhelmingly view conflict as negative and something to be avoided or immediately resolved” (Jehn, 1997: 530). A complexity view of organizations suggests that another approach to understanding conflict may be more fruitful.

Conventional views of conflict are based on traditional assumptions of organizations as rational, linear systems in which cause and effect are tightly linked, systems are predictable, and organizational stability is achieved through planning and control. From this perspective conflict is a “breakdown” (March & Simon, 1958), an organizational dysfunction caused by management’s failure to adequately plan or control (Weber, 1968), or leadership’s failure to resolve disagreements (Barnard, 1968). Conflict is often viewed as “pathological” (Barley & Kunda, 1992), an obstacle to achieving “cooperation,” and maintaining equilibrium. From the human relations perspective, elimination of conflict is usually the goal (Perrow, 1986). The small groups/teams literature argues that while *cognitive* conflict should be encouraged because it can enhance performance, *affective* conflict should be restrained because it is destructive (Amason, 1996: 143). Insights from complexity science, however, allow a different way of viewing the nature and utility of conflict. Rather than considering conflict as a breakdown, requiring a “fix,” it can be an energy source, offering opportunity and growth. A complexity lens suggests that not only is conflict inevitable, but also it can be a mechanism for adaptation. Moreover, attempts to predict its effects will be for the most part futile because of the complex, nonlinear interactions that characterize organizational behavior.

Over the last decade, ideas from complexity science have challenged the traditional “Newtonian” view of the controllability of organizations (Wheatley, 1999) and argue that systems are fundamentally nonlinear and inherently *unpredictable*, that *disequilibrium* is necessary for growth and innovation, and that “creativity lies at the edge of *disintegration*” (Stacey, 1996: 13). Unpredictability, disequilibrium, disintegration—these are the very conditions that produce disparate views and responses among organizational members, which give rise to conflict. These are the conditions that traditional approaches to management try to avoid or eliminate. According to a linear view of organizations, conflict is the ‘noise’ that results from human error or imprecise calculations (Wheeler & Morris, 2002) and which must be either “reduced” (Wall & Callister, 1995) or, at best, “managed” (Rahim, 2002). From a complexity view, however, *conflict can be seen not as noise or error, but rather the fuel that drives system growth and enables learning and adaptive behaviors, which make innovation possible. From a complexity view, the reduction or elimination of conflict is a fool’s errand because it requires diminishing the life force of the system itself.*

A complexity view of organizations differs from conventional views of conflict in two ways. First, it challenges the notion that conflict is a condition that can, or always, should be eliminated, and second, it challenges the notion that we can precisely predict the consequences or effects of conflict. If systems only change when they experience disequilibrium (Prigogine & Stengers, 1984; Nicolis & Prigogine, 1989), then it follows that eliminating conflict also reduces the potential for system change. If people and situations in organizations are linked by numerous nonlinear feedback loops that create ambiguity and turbulence (Morgan, 2006), then seeking to eliminate conflict is likely futile. If chaos is a necessary condition for growth and innovation (Stacy, 1995), then, efforts at eliminating conflict may be efforts at eliminating opportunities for growth and innovation. Further, a complexity frame also challenges the notion that scholars or managers can success-

fully predict when conflict will occur or what its consequences will be. Because systems are sensitive to initial conditions and because the interactions of numerous agents inside any organization are unpredictable, the findings from studies examining the effect of certain types of conflict on performance measured in isolated and highly controlled settings may be of questionable value. Thus, a complexity lens allows us to re-think the nature of organizational conflict as well as managerial responses to conflict.

In this paper, we illustrate how the fundamental properties of complex adaptive systems are the source of continual organizational conflict, therefore making conflict inevitable and a pervasive part of organizational life. Sensitivity to initial conditions, far-from equilibrium states, non-linear interactions, emergent self-organization, and coevolutionary capabilities are system properties that allow a theoretical re-conceptualization of organizational conflict. Further, we suggest that conflict is inherent in complex adaptive systems and can be exploited to enhance learning, adaptation, and growth. From a complexity view, conflict is a consequence of the ongoing, nonlinear interactions that occur in groups and organizations. From these interactions emerge patterns that change and modulate future interactions among people in organizations, some of which will inevitably produce even more conflict. Rather than focusing on conflict “reduction” or “management” (Rahim, 2002) strategies, or on predicting the occurrence or consequences of conflict, we suggest three organizational responses that can acknowledge the pervasive nature of conflict and at the same time harness the productive potential of conflict: *improvisation, mindfulness, and reconfiguration.*

We draw on two literatures to develop the arguments in this paper. First, we review the literature on conflict and draw on three streams of research: macro level research on organizational conflict, micro level research on conflict as a condition that affects group behavior and performance, and the conflict resolution–decision making literature. Second, a brief overview of the complexity science literature orients this discussion to the characteristics

of organizations as complex adaptive systems, each of which is itself a source of conflict and so challenges conventional understandings of conflict. From this literature, we offer an alternate view of conflict—as the fuel for growth and innovation.

## The dysfunction and functions of conflict

### Conflict as organizational dysfunction

Understanding the nature and role of conflict—which is often seen as an organizational dysfunction (Rahim, 2002)—has not been an easy task for organizational scholars. Pondy (1967) was one of the early voices who tried to clarify the multiple definitions of conflict, and suggested that conflict is an episodic state of disorder that includes five stages—latent, perceived, felt, manifest, and aftermath. *Latent* conflict refers to the conditions or sources of conflict, such as scarce resources, need for autonomy and goal differences. *Perceived* conflict, that is, the awareness of conflict, can be present even when there is no latent conflict and vice versa. *Felt* conflict is the internalization of conflict. *Manifest* conflict is the resulting behavior, such as aggression, apathy, or rigid adherence to rules. *Aftermath* refers to the (new) conditions created as a result of the conflict, that is, more cooperation due to successful resolution or dissolved relationships due to lack of resolution. Pondy's (1967) conclusion was that conflict upsets organizational equilibrium, and it is the organization's reaction to disequilibrium, rather than the conflict itself, that affects organizational performance. He also noted that conflict is “frequently, but not always, negatively valued by organizational members” (Pondy, 1967: 312).

While Pondy (1967) identified the stages of conflict and different models for dealing with conflict, Schmidt and Kochan (1972) argued there was much ambiguity in the multiple definitions of conflict. They asserted that the ambiguity was created by excessive use among scholars of value-laden terminology such as “antagonistic struggles” (Coser, 1956: 135), breaches in normally expected behavior” (Beals & Siegel, 1966: 21) or “threat to cooperation” (Marek, 1966: 4). More recently, Barki & Hartwick (2004) suggest that three negative

themes underlie most descriptions of conflict—disagreement, negative emotion, and interference. Table 1 presents examples of the types of definitions that abound in the literature on organizational conflict. Note the use of words such a hindering, injuring, breakdown, antagonistic, incompatible, interference, or struggle. While Table 1 is not exhaustive, it does capture the extent to which the notion of conflict is invested with pejorative implications.

More recently Rahim (2002) argued there are inherent problems in the literature on organizational conflict because of the continued focus on reducing, resolving, or minimizing it. Little attention is given to *when* or *how* conflict *can* or *should* be reduced, ignored, or even enhanced. Further, the majority of recommendations about how to deal with organizational conflict are aimed at dealing with conflict at the dyadic or group level and “are not appropriate for macro-level changes in an organization” (Rahim, 2002: 206). For example, the definition of organizational conflict offered by Hatch (2006: 279) reflects this notion: [Conflict is] “an overt struggle between two or more groups or individuals within an organization.” Although Hatch's definition is largely void of the value-laden labels of many definitions found in Table 1, it still connotes a condition that is negative (i.e., a “struggle”) and therefore undesirable or unwanted. Further, she describes it as occurring *at the group level*.

### Conflict as group impediment

The organizational conflict literature has drawn heavily from the group level research on conflict, a literature that has focused largely on *interpersonal* conflict—conflict between two or more individuals or *intragroup* conflict—conflict among members of a group (Rahim, 2002). A significant focus in this literature has been between the attempt to distinguish between types of conflict. Scholars have applied a number of labels to distinguish between two types of conflict, such as substantive and affect conflicts (Guetzkow & Gyr, 1954), task and relationship conflicts (Pinkley, 1990; Jehn, 1995, 1997) or cognitive and affective conflicts (Amason, 1996). The aim of any set of labels

Coser (1956: 135)	<i>Antagonistic struggles</i>
March & Simon (1958)	<i>Breakdown</i> in the standard mechanisms of decision making
Katz & Kahn (1966:615)	Particular kind of interaction, marked by efforts at <i>hindering</i> , compelling, or <i>injuring</i> and by <i>resistance</i> or <i>retaliation</i> against those efforts.
Beals & Siegel (1966: 21)	<i>Breaches</i> in normally expected behavior
Marek (1966: 64)	A <i>threat</i> to cooperation
Walton (1966)	<i>Opposition</i> processes in any of several forms—competition, status rivalry, bargaining, sabotage, verbal abuse, etc.
Pondy (1967:299)	A conflict episode can be thought of as a gradual escalation to a state of <i>disorder</i>
Schmidt & Kochan (1972: 363)	Overt behavior arising out of a process in which one unit seeks the <i>advancement of its own interests</i> in its relationship with the others.
Roloff (1987: 496)	When members engage in activities that are incompatible with those of colleagues within their network, members of other collectivities, or unaffiliated individuals who utilize the services or products of the organization.
Rahim (2002: 207)	Interactive process manifested in <i>incompatibility</i> , disagreement, or dissonance within or between social entities.
Barki & Hartwick (2004:216)	Dynamic process that occurs between interdependent parties as they experience <i>negative emotional reactions</i> to perceived <i>disagreements</i> and <i>interference</i> with the attainment of their goals,
Hatch (2006: 279)	Struggle between two or more groups in an organization...centered on some state or condition that favors one group over others and occurs when the activities of one group are perceived as interfering with the outcomes or efforts of others.

**Table 1** *Definitions of Conflict*

has been the same: to distinguish differences that are due to task issues from differences due to emotional or relationship issues. Jehn (1995), for example, argues that task conflict can be beneficial as it is effective in stimulating creativity and enhancing team effectiveness. Jehn's argument has been echoed at the strategic group level where evidence has suggested that conflict in strategic decision making teams can lead to enhanced decision making quality (Eisenhardt & Bourgeois, 1988; Schweiger, Sandberg & Rechner, 1989). However, the presumed benefits of conflict do not always appear. Even Jehn (1997) found that although task conflict can enhance group performance, it, too, can be dysfunctional when it is accompanied by strong negative emotions and appears to be irresolvable. Jehn's hesitation is reinforced by De Dreu & Weingart's (2003) meta-analysis when they conclude that conflict—of any type—is detrimental to information processing, as it inhibits task performance, and that task and relationship conflict each negatively affect team performance.

#### **Conflict as a decision making/problem solving tool in systems**

In addition to the group level research, the organizational conflict literature has also drawn from decision making research (Schweiger, Sandberg & Ragan, 1986; Schweiger, Sandberg & Rechner, 1989; Schweiger & Sandberg, 1989; Schweiger & Sandberg, 1991), much of which is rooted in the earlier work of systems theorists such as Churchman (1979), Beer (1985), Ulrich (1977) and Mason and Mitroff (1981). This literature has promoted the use of conflict surfacing, dialectical inquiry, and devil's advocacy approaches to decision making because of the belief that when conflict is surfaced the decision outcomes will be better and groupthink (Janis, 1972) will be minimized. Empirical studies, such as the line of research by Schweiger and his colleagues, provide some evidence that dialectical inquiry surfaces higher quality assumptions (Schweiger *et al.*, 1986) and results in higher quality decisions (Schweiger *et al.*, 1989). Similarly, work in cybernetics, such as that by Yolles (1999), has pointed to the generative role of conflict in organizational learning, and in psychology, ac-

tivity theorists (Engestrom, 2005) emphasize the mediating role of community and social structures in human activity. Some research in the engineering literature has also suggested the role conflict can play in value management in construction projects (Leung *et al.*, 2002).

In summary, there is some recognition in the conflict literature of the benefits of certain kinds of conflict, but despite this earlier work, the negative interpretation of conflict still abounds, suggesting the need for a more fundamental reworking of the concept of 'conflict' than attempted previously. The definitions shown in Table 1 demonstrate the extent to which organizational scholars and managers struggle, mostly without success, to get past the dysfunctional image of conflict. The growing literature on complexity theory, however, offers a sharply different approach to conflict because it is able to side-step conflict's pejorative connotations. In a complex systems view, conflict is not only inherent to the system, but also necessary for system's growth. A brief review of the characteristics of complex adaptive systems makes clear why management scholars would benefit from re-thinking the concept of organizational conflict.

### **"Conflict"—Fluctuations that fuel growth and innovation**

**R**ather than conflict being viewed as a breakdown in the system, or as a negative interpersonal dynamic that needs elimination, from a complexity perspective "conflict" is normal, necessary, and continuous. From a complexity perspective, "conflict" can be viewed as a fluctuation in the ongoing interactions of system agents. A fluctuation is a naturally occurring deviation from existing patterns, and is neither good nor bad in itself, but it does require accommodation or re-adjustment. In contrast, a pattern fluctuation might be interpreted in the conventional view of conflict as hindering (Katz & Kahn, 1966), as a breakdown (March & Simon, 1958), as activities incompatible with those of colleagues (Roloff, 1987), or as a struggle between groups that favors one group (Hatch, 2006). Such language, however, is value-laden suggesting an impediment, something unnatural to the system that needs to be removed.

From a complexity view, systems are composed of local agents (individuals and groups) who function both independently and interdependently. These agents simultaneously operate, following local rules or principles that are consistent with the operating rules of the larger system. Over time, the agents, paying attention to feedback, learn to adapt their actions, and these adaptations (fluctuations) often occur without explicit coordination or central communication (Anderson, 1999; Marion & Uhl-Bien, 2001; Chiles *et al.*, 2004; Meyer *et al.*, 2005). Learning and adaptation, however, are both asynchronous and idiosyncratic. Local adaptations introduce new or "unanticipated" fluctuations in conditions that other agents need to learn from and respond to because of the system's interdependencies. Thus, the interference/breakdown/disruption that traditional management would call "conflict" is, instead, in the view of complex systems the natural occurrence of fluctuations that result as interdependent agents encounter information, make interpretations, and adapt to other agents' behaviors.

A central feature of a complex adaptive system is its agents' abilities to *learn* from the numerous interactions that are occurring and *adapt* to the fluctuations inherent in the organization's patterns (Holland, 1995). Thus, as they learn, complex adaptive systems constantly shift, adapt, and re-formulate their complex temporal patterns. This on-going re-adjusting is the substance of which "conflict" is made and that cannot be eliminated. A brief review of the fundamental properties of complex adaptive systems reveals why fluctuations (seen traditionally as disturbances or imbalances) are not necessarily detrimental to the organization's functioning. Rather, such fluctuations can be a primary source of creativity (Wheatley, 1999) and energy for the system. As a complex system, an organization is autopoietic, (Maturana & Varela, 1992), that is, it is capable of continually creating and renewing itself. When fluctuations (conflict) happen, agents can interact, destroy old understandings and through language develop new actions, which contribute to the system's reproducing itself. Thus, fluctuations can ultimately be a

source of self-renewal and re-order in organizations because they create new, meaningful information (Nonaka, 1988) that can lead to novel reorganizing.

**Sensitivity to Initial Conditions:** Complex systems are sensitive to initial conditions, meaning that a small fluctuation in one part of the system (an initial condition) can bring unanticipated and substantive changes to other parts of the system. This, in part, contributes to the diversity and complexity of the universe which makes it impossible to predict the outcomes of most actions (Kauffman, 1993; Holland, 1995). Thus, small changes can produce disequilibrium. Lorenz's (1963) famous story of the flap of a butterfly's wings in one part of the world creating a storm somewhere else made popular the notion that small fluctuations in some variables can produce monumental, and unpredictable consequences.

Small changes can easily amplify when organizations are under stress because organizations are made up of individuals and groups who are connected to each other in multi-faceted, nonlinear relationships. When a change in pattern occurs in organizations, connections among individuals and groups tighten and shift. These shifting connections make it easier for information to jump normal channels, amplify and move through the system quickly, enhancing the possibility that small changes can escalate and become radical in ways that were never predicted. This phenomenon was observed by Plowman *et al.* (2007) in their study of radical change. Yet, shifting connections, seemingly unbounded information, and escalating change inevitably bring conflict.

**Conflict Implication:** *Not only is conflict (pattern fluctuations) unpredictable, but it is inherent in complex systems.* Efforts to eliminate fluctuations in patterns that are otherwise often known as conflict are efforts at simplifying a universe that is not amenable to simplification (Kauffman, 1993; Holland, 1995). Further, not only is a pattern fluctuation unpredictable, but its impact on the system is unpredictable. For example, finding a solution to conflict (that is, successfully adapting to a fluctuation shift) in

one area of the system may disturb the system (cause a pattern shift) in another area, or even change the patterns of the system all together.

**Far-From-Equilibrium State:** Traditional views of organizations consider disequilibrium to be detrimental for organizations, yet disequilibrium (pattern shifts) is a necessary precursor to change (adaptation). Prigogine and colleagues (Prigogine & Stengers, 1984; Nicolis & Prigogine, 1989) introduced the idea that chemical systems change only when they are far from equilibrium. When systems experience pattern fluctuations, energy and information are infused into the system, and it begins to behave in ways that are at the same time both orderly and disorderly (Kauffman, 1995), and these co-occurring countervailing forces pull the organization in different directions (Stacey, 1992). Away from equilibrium, systems experience adaptive stresses and increased levels of complexity (Maguire & McKelvey, 1999) yet it is also in this region that ideas emerge about new adaptations (Anderson, 1999; McKelvey, 1999). Nonaka (1988) argues that in order for an organization to renew itself, it must keep itself in a non-equilibrium state at all times. Similarly, Wheatley (1999) argues that growth is found in disequilibrium and that the search for organizational equilibrium is a sure path to institutional death. Disequilibrium is exactly the condition that traditional conflict scholars warn against as reflected in Pondy's early observation, "conflict disturbs the 'equilibrium' of the organization, and the reaction of the organization to disequilibrium is the mechanism by which conflict affects productivity, stability, and adaptability" (Pondy, 1967: 308).

**Conflict Implication:** *Conflict (pattern fluctuations) is a necessary condition for organizational growth and renewal.* Organizations cannot learn, grow, and innovate in conditions of tranquility, that is, in the absence of conflict (Pascale *et al.*, 2000). Efforts to reduce or manage conflict, so as to return dynamic systems to a state of equilibrium, dampen spontaneity, creativity and innovation. In their study of emergent leadership Plowman *et al.* (2007) found that leaders who disrupted existing pat-

terns by creating and surfacing conflict enabled self-organization which ultimately led to organizational renewal. Thus, disequilibrium and its associated conflict is a force that, while difficult, can be channeled and exploited for positive organizational outcomes.

**Non-Linear Interactions:** The nonlinear nature of complex adaptive systems, in which their components are constantly interacting with each other through a web of feedback loops (Stacey, 1995), is another source of organizational conflict. Whereas traditional organization science has treated the disparate parts of a system as the critical variables that can be modeled through linear equations, complexity science emphasizes the interactions within the whole system as the critical variables (Wheeler & Morris, 2002). The behaviors of each actor in the system influence the behaviors of other actors as the actors learn from their encounters and alter their behaviors. In nonlinear systems, there is no direct relation between the strength of a cause, and the strength of the effect. As complex adaptive systems, the disequilibrium-learning-feedback cycle in organizations at the local level creates an ongoing novelty where surprise is likely and pattern fluctuations continuous. From a traditional view of organizations that values prediction, planning, and control, surprise and fluctuation are not necessarily welcomed conditions.

**Conflict Implication:** *Conflict (pattern fluctuations) naturally occurs as a result of the perpetual novelty and surprise generated by the on-going nonlinear interactions in organizations.* Traditional approaches to understanding conflict emphasize predicting and avoiding conflict by knowing the conditions that foster it (Pondy, 1967; Walton & Dutton, 1969; Rahim, 2002). Most of these approaches imply a linear set of relationships such that if one variable, such as status inconsistencies (Walton & Dutton, 1969), is altered, the amount of conflict will be altered. Because of the large number of relationships in organizations, there is an infinite number of future situations and opportunities in complex systems that can be neither predicted nor avoided. Rather than

try to predict and manage the variables that “lead to conflict,” organizations may be better served to find ways of managing the relationships among agents so as to encourage positive adaptive behaviors that maximize organizational gains from conflict.

**Emergent Self-Organization:** The characteristic of emergent self-organization is considered by some to be complexity theory’s “anchor point phenomenon” (Chiles *et al.*, 2004: 502). The ongoing interactions and pattern fluctuations among entities at a lower level in the system can result in emergent order at a larger system level (Anderson, 1999). This is because systems are nested (Bertalanffy, 1950, 1958; Boulding, 1956; Miller, 1978; Ashmos & Huber, 1987) and in constant interplay. This constant interplay facilitates the complex interaction of multiple levels of agents within the organization, with interactions occurring in multiple directions. Agents in one part of the system exchange information, take actions, and continuously adapt to feedback about others’ actions. Another level or part of the system spontaneously reacts and adapts to pattern shifts within the level or part of the system where the initial exchange occurred, without the imposition of an overall plan by a central authority (Chiles *et al.*, 2004). Self-organization is organization in the absence of centralized control, the natural consequence of interactions among agents (Anderson, 1999). When systems self-organize without the direction of a central coordinator, fluctuations in patterns become the “normal” state. Self-organization occurs when new information and energy are imported and dissipated throughout the system, causing old relationships and patterns in a sense to “fall apart” (Stacey, 1996: 63), and new irregular patterns form. Pattern fluctuations and spontaneous self-reorganization change the system, bringing with it what many would call conflict and confusion. Numerous traditional prescriptions for managers stress avoiding the potential for self-organization through emphasis on principles such as chain of command, span of control and unity of command because without them confusion and conflict abound.



**Conflict Implication:** *Conflict (pattern fluctuations) arises from the natural adaptive behavior of people and groups in organizations.* In complex adaptive systems, agents learn to respond and adapt to some pattern fluctuations, which, in turn generate more fluctuations and adaptations. In self-organizing systems where agents operate both independently and interdependently, new patterns are constantly emerging, and while these pattern fluctuations can be difficult to recognize and understand, the agents are continuously trying to establish new patterns that both work locally and fit the larger system. Self-organizing is a continuous activity, and a naturally occurring part of a system. The conventional view of conflict, however, cannot see such continuous disequilibrium as either normal or desirable.

**Coevolution Across Fitness Landscapes:**

Complex adaptive systems coevolve with their environment (Holland, 1995; Capra, 1996), meaning that each time a system responds to an environmental stimulus the system alters the environment. Coevolution occurs because agents adapt to change and, in order to stay “fit” (i.e., viable as agents), adapt to other agents’ adaptations (Kauffman, 1995). Because agents are unable to predict the system-wide consequences of their actions, they act to optimize their own fitness (Anderson, 1999), thereby creating disturbance and conflict (pattern fluctuations) for other agents. Due to the interactions and interdependencies among agents, as agents act to optimize their own fitness, they change the “fitness landscape” (i.e., opportunities for viability) of other agents (Kauffman, 1995). The agents have embarked on a process of coevolution, and each seeks viability within the larger system. A fitness landscape can be thought of as a map of the opportunities for viability for a system’s agents; a map of the evolutionary journey of the system. “In coevolving systems, each partner clammers up its fitness landscape toward fitness peaks, even as that landscape is constantly deformed by the adaptive moves of its coevolutionary partners” (Kauffman, 1995: 27). Thus, agents and systems coevolve with each other. Coevolutionary choices are made at bifurcation points, but

each choice is freighted with uncertainty and potential conflict (McDaniel *et al.*, 2003). The fact that organizations, as well as their members, coevolve through continual adaptation on a constantly changing landscape, means that conflict (pattern fluctuations) is inevitable.

**Conflict Implication:** *Coevolution, the process of adapting to change is a source of conflict (pattern fluctuation) that cannot be avoided if organizations are to grow and change.* As agents and systems coevolve, they face bifurcation points that require choices about which of the multiple paths the system should take. Agents try to choose a path that will optimize their own fitness landscape, but the outcomes of such choices are not only uncertain, but also will impact the choices of other agents. Neither the pattern fluctuations nor the anxiety implicit in coevolution can be avoided. But organizations can develop strategies to enable coevolution and reduce anxiety.

Complex adaptive systems are characterized by properties such as these described here—sensitivity to initial conditions, far-from-equilibrium states, non linear interactions, emergent self-organization, and coevolution across fitness landscapes. Each of these properties can be seen as a cause for fluctuations in behavioral patterns (source of conflict) for organizations, and require organizational scientists and managers to re-think how organizations should respond. In fact, the conventional view of conflict as a dysfunction that can be reduced or eliminated is *incompatible* with the view of organizations as complex adaptive systems. Rather, conflict (pattern fluctuations) is pervasive; it is naturally occurring; it is unpredictable; it can be observed but is not easily understood or explained; and it can impact the system in unpredictable ways. Misguided attempts by management to control, eliminate, or manage conflict will be disappointing and often counterproductive because of the inherent nature of complex adaptive systems. Thus, we view conflict (pattern fluctuations) as part of the natural order of complex adaptive systems and which provides the necessary fuel for growth, learning and innovation. Rather than focus on how to reduce or manage conflict, we

suggest organizational scientists and managers focus on how to respond to conflict (pattern fluctuations) as it arises so as to maximize its benefit to the organization. In particular we explore the utility of *improvisation*, *mindfulness*, and *re-configuration*, as organizational responses to fluctuations in behavioral patterns (conflict).

### Organizational responses to pattern fluctuations

Conventional approaches to conflict focus on how managers can develop strategies for reducing, resolving, or minimizing specific conflicts after they occur. Moreover, as Rahim (2002) points out most of conflict literature focuses on recommendations at the dyadic or group levels in organizations, with little that is useful at the organizational level. The conventional recommendations in the conflict literature often focus on *styles* of handling conflict (e.g., Ruble & Thomas, 1976; Rahim & Bonoma, 1979; Van de Vliert & Kabanoff, 1990). For example Blake and Mouton (1964) suggest five styles (forcing, withdrawing, smoothing, compromising and problem solving), Pruitt (1983) suggests four styles (yield, problem solving, inaction, contending), and Rahim & Bonoma's (1979) suggest five styles (integrating, obliging, compromising, dominating, avoiding). An inherent assumption in each of these similar approaches is that managers can fix something that is "wrong" and, depending on the situation, one style is more useful than another in creating a fix. Rather than focus on managerial "fixes" in specific conflict situations, complexity science suggests that pattern fluctuations (conflict) are characteristics of systems that can never truly be eliminated, managed, or ultimately fixed. There are however, at least three organizational design features that, if built into organizational systems, enable them to respond to pattern fluctuations in effective ways—*improvisation*, *mindfulness*, and *re-configuration*. Each of these features can enable conflict to, as Pascale *et al.* (2000: 237) suggest, be "reframed as 'fuel for organizational learning,' [and] contribute to an organization's long-term vitality and viability" (Pascale *et al.*, 2000: 237).

### Improvisation

Pattern fluctuations (conflict) present an opportunity for a system to improvise, to try something new, something unanticipated that might improve the system's fitness landscape. It is an opportunity for the system to improve itself, to use its past experiences and local conditions to create novelty (Weick, 1998). Such an opportunity, and permission to take advantage of such an opportunity, can neither be recognized nor exploited if management's goal is to reduce or eliminate pattern fluctuations. Berliner (1994: 241) defines improvisation as the process of reworking pre-composed material and designs in relation to unanticipated ideas conceived, shaped, and transformed under the special conditions of performance, thereby adding unique features to every creation. Improvisation is not an either/or proposition as it lies on a continuum that ranges from interpretation, embellishment, variation to improvisation (Berliner, 1994). Small improvisations can create large changes, but the key is recognizing the potential value of improvisation, and improvising effectively.

Improvisation is a process that requires experience, expertise, and practice (Weick, 1998), but it does not arise magically out of thin air. Improvisation is possible, jazz musician Ken Peplowski (1998) states, because "we have a common vocabulary, we play the same scales, we know the same chords, and we've listened to similar harmonies for years" (1997: 560). As Weick (1998) points out, improvisation always occurs in the context of a melody and "some melodies set up a greater number of interesting possibilities than do other melodies" (1997: 546). Thus, the lesson it seems, is that organizations can create melodies, such as mission statements, and vocabularies, such as shared values, that invite improvisation. Organizations can establish a vocabulary that encourages listening, learning, and re-thinking in the face of ideas that seem at odds with each other.

Improvisation in organizations can be the practical solution to a real problem, albeit a solution that was neither planned nor anticipated. Improvisation requires a novel application of a process or skill and thus is a pattern

change. However, the agents' knowledge and experience will suggest that such a pattern change might have utility. Thus, retrospect or memory is important in improvisation (Weick, 1998), not planning. But the improvising agents need to pay attention to feedback in order to learn from their actions; they need to be open to adjustment. Listening and responding to feedback are so important to jazz musicians that they signal each other with eye contact, which is why, jazz musician Peplowski (1998) explains "we spend so much time facing each other instead of the audience" (1998: 561). Skilled musicians and actors listen to each other, react and are able to improvise to great effect. Why not skilled managers in the face of conflict? Developing the skill of improvisation enables organizations to use "conflicts" to develop novel new themes from old ideas. Mirvis (1998) encourages managers to learn to improvise: ... "follow the advice of tennis or dance coaches and systematically 'break down' your performance to its constituent elements and then rebuild it...creating old way/new way contradictions" (Mirvis, 1998: 587). Conflict is the opportunity to use the old way/new way contradiction to surface a new way doing things.

Because complex systems are inherently unpredictable, the ability to improvise is important. Weick notes "improvisation shares an important property with phenomena encompassed by chaos theory (e.g., Stacey, 1992; McDaniel, 1997) namely, origins are crucial small forms that can have large consequences" (1998: 546). When organizations develop improvisational skills, the ability to deal effectively with unanticipated situations, problems, or pattern fluctuations (conflict) increases, and the chances for innovation also increase. In organizations improvisation might include establishing cross-functional teams, experimenting with alternative operating procedures, creating new review or approval procedures. Thus, improvisation is an opportunity to use a pattern fluctuation (conflict) to generate new energy for the organization.

Consider that the New Coke fiasco triggered unprecedented conflict inside the world's leading soft drink manufacturer (Oli-

ver, 1986), yet the company's capacity to improvise actually improved its fitness landscape. Coca Cola possessed experience and expertise in the soft drink industry, and its culture contained "melodies," vocabularies, and shared values that enabled the improvisation. The universal rejection of New Coke was unexpected, but the company's executives paid attention to the feedback from the marketplace (Morganthau, 1985), and, by quickly (re)introducing "Classic Coke," effectively dealt with the pattern fluctuations caused by the New Coke storm. In fact, the controversy with all of its attendant free publicity so successfully helped Coke reassert its market dominance that some critics then accused the company of intentionally planning the entire episode (Oliver, 1986). The point here is that a large, successful company was able to improvise successfully in the face of an unexpected pattern fluctuation.

### **Mindfulness**

Pattern fluctuations (conflict) present a system with an opportunity to act mindfully, and acting mindfully enhances the system's chances for success. Mindfulness requires system agents to pay attention more effectively by being active information processors who are aware of many details in their context (Langer, 1989). Weick & Sutcliffe (2001: 42) draw on the work of Langer to define mindfulness as "the combination of ongoing scrutiny of existing expectations, continuous refinement and differentiation of expectations based on newer experiences, willingness and capability to invent new expectations that make sense of unprecedented events." Their definition is full of words that normally might evoke what we think of as conflict—scrutiny, refinement, new expectations, newer experiences. Mindful organizations do not try to smooth over or simplify what their scrutiny of existing operations teaches them. They are, as Weick & Sutcliffe (2001) argue, reluctant to simplify. That is, the system avoids simplistic labels and tries to "see more," thereby avoiding complacency. Mindful organizations are aware of and sensitive to their own operations and processes, continuously looking at the context of operations for signals that require attention. Such sensitivity

is a responsibility for all the agents in the system, not just the managers.

Mindful systems possess resilience. That means the system is committed to detecting and correcting problems and errors. The system is open to correcting itself. A mindful system is not a slave to its own hierarchy. Rather, the agents defer to expertise wherever it resides in the system. Mindful organizations use fluctuations in patterns, even small fluctuations, as learning opportunities. Weick and Sutcliffe (2001) refer to this as a preoccupation with failure, although what they mean is a preoccupation with avoiding failure. Mindful systems do not “smooth things over” in order to minimize pattern fluctuations (conflict). Rather, they engage in dialogue that emphasizes the use of conditional language (e.g., “this is one way to...” rather than “this is the way to...”) in order to highlight potential differences or different approaches to problems. Highlighting potential differences expands the awareness of the systems’ agents (Burgoon *et al.*, 2000) which in turn expands the range of potential problem solutions. The mindful system uses dialogue to keep potential pattern fluctuation active.

While traditional approaches to conflict emphasize cooperation through the alignment or elimination of differences, mindfulness—both mindful dialogue as well as mindful organizational characteristics—highlights and makes use of differences. Paying attention to differences rather than similarities, and using the rich information that is generated by differences, is useful when responding to pattern fluctuations (conflict) (Langer & Moldoveanu, 2000), and ultimately can lead to more creative, comprehensive and effective solutions to problems. Emphasizing differences will stress the system, but such stresses are important for the system’s long term strength and viability. A muscle stressed by exercise grows stronger. A mind stressed by learning becomes more nimble and more powerful. A mindful system stressed by pattern fluctuations (conflict) develops a broader repertoire of capabilities: it becomes better at adapting.

Heifetz and Laurie (2001) illustrate how pattern fluctuations can create an op-

portunity to develop mindfulness when they describe the way Jan Carlzon emphasized the merits of “disciplined attention” at Scandinavian Airlines System. Carlzon believed that a company couldn’t be successful unless each person carries both the recognition and solution to problems within himself. That is, each person must take responsibility for the company by paying attention to what is going on, particularly paying attention to issues that might be disturbing. Carlzon did not want to smooth things over. He believed strongly in the value of differences because innovation and learning are the product of differences. “Held in debate,” Carlzon said, “people can learn their way to collective solutions when they understand one another’s assumptions. The work of the leader is to get conflict out in the open and use it as a source of creativity” (Heifetz & Laurie, 2001: 9).

#### **Patching and reconfiguration**

Pattern fluctuations (conflict) present a system an opportunity to improve performance, but the system must be open to emergent reconfiguration for this to work. Most traditional approaches to conflict tend to take a universalistic approach, developing universally applicable rules or procedures to solve what may be a localized or trivial conflict, making the entire system subject to the new rules. The new rules most likely will certainly not benefit every part of the system, and may even harm some parts of the system. Instead of believing that a universal solution is required for all conflict, managers might be better served by rethinking not just the nature of “conflict,” but also the value of a universalistic approach, and let the system reconfigure itself as directed by local units.

For example, it might be better for managers to think of their organization as a set of units that are both independent and interdependent much like a nation comprised of states affiliated within a federated system. Kauffman’s (1995) concept of “patching” is the model here where the entire system can be visualized as a quilt of non-overlapping quilt patches. Each part of the system belongs to a single patch and the parts near the boundaries of a patch are linked to parts in the adjacent

patches. Each unit (or “patch”) in the system is free to try to optimize its own viability, but does so in a context of coevolution, which means its every action will be re-acted to by neighboring or affiliated units (“patches”), which in turn requires an adjustment by the focal unit. Kauffman argues that the system as a whole will achieve better performance from the collective efforts of the “patches” than from a universalistic, top-down approach. Conflict (pattern fluctuation) becomes the rule, not an exception, and therefore does not require the continual intervention of the system (i.e., top management). More importantly, some of the units will devise “best practices” which, because of the system’s interconnectedness, can be imitated by other units.

According to Kauffman, pattern fluctuations (conflict) will never be eliminated entirely, nor should they be. The system stays healthy because of, not in spite of, variations in the ways the units operate. Patching can be done with existing units in the system, although the greater benefit of cross-fertilization might be achieved with some re-configuring or re-organizing. There are two caveats attached to patching. First, patching is a kind of decentralization, and the units (patches) need to be invested with sufficient autonomy to allow a kind of self-determination that is often not achievable in bureaucratic systems. Patching will not work with centralized control systems. Second, the number of patches required to achieve the best outcome cannot be known a priori. Kauffman points out that viewing the system as a single patch (he refers to this as the Stalinist system) results in inertia. Too many small patches, on the other hand, will produce chaos. The point here is that patching is an attempt to harness the potential power of pattern fluctuations although it would require an organization to commit itself to a radical strategy that might produce higher levels of performance, but also might produce system collapse.

In 1994, Ruud Koedijk was the chairman of the successful firm KPMG Netherlands. The auditing, consulting, and tax-preparation segments of the firm were the industry leaders in the Netherlands, but competition was

beginning to limit growth opportunities. He knew the company needed to move into more profitable growth areas, but he also knew the partners were content with the way things were. They would resist change. Instead of trying to mandate change, which would likely be futile, Koedijk sought to create the conditions for people to discover for themselves how they needed to change (Heifetz & Lauri, 2001). He did this by creating “patches.” Koedijk assigned 12 senior partners and 100 professionals from different levels and disciplines to 14 task forces. The task forces were asked to adopt a strategic mind-set and identify industry trends, company competencies, and adaptive challenges. Engaging people below the rank of partner in such a major strategic initiative was unheard of. Moreover, the task forces were told they should consider themselves unfettered by traditional rules and operations.

Immediately the task forces (patches) had to confront the company’s traditional culture. Conflict ensued as they couldn’t do their new work under the old rules. Some of the task forces became dysfunctional and unable to do their strategy work. However, some of the task forces (patches) developed ways to approach the assignment. Soon the task forces learned mutual cooperation strategies, and achieved a collective recognition of what the entire firm would need to do. In effect the patches not only “saw” the future (they identified \$50-60 million of new business opportunities), but also they recognized that they had learned a mutually reinforcing process that was nontraditional in that curiosity had greater value than obedience and dialogue could be used to neutralize hierarchical power. The members of the patches also realized that they could become emissaries to the rest of the firm. They started showing others in the firm a new way. Many of the senior members were surprised that the approach the patches used unlocked creativity, passion, imagination, and a willingness to take risks among employees who they assumed did not possess such qualities (Heifetz & Laurie, 2001).

The example shows that a system can succeed at emergent reconfiguration by allowing units (patches) to try to optimize them-

selves in a context of coevolution. The patches were created in response to a conflict in the organization's culture and in the short-run spawned more conflict. However, the patches at KPMG Netherlands were set free from the bureaucracy and invested with sufficient autonomy that they were able to invent effective work processes which produced tangible, bottom-line results. These processes spread throughout the company as others imitated them. The cultural changed without top-down mandates.

## Conclusions

In this paper, we offer an alternative view of organizational conflict based on the characteristics of complex adaptive systems. Traditional approaches to conflict often portray conflict as something "bad" that must be eliminated, reduced or contained and requiring managerial intervention. Further, conflict is often viewed as a failure on the part of managers, when, in fact, it is a natural result of the interdependent and connectional nature of organizations. A complexity theory framework suggests that conflict is a fluctuation in customary patterns. These fluctuations are both normal and necessary in organized systems, occurring as part of the ongoing shifts in connections among people and groups in organizations. It is through these shifting fluctuations that people and organizations experience discomfort and it is in the discomfort that they are able to learn and grow. Rather than see conflict as a situation requiring intervention and handling so the discomfort will go away, we argue that jumping to quick resolutions can keep organizations from learning, from innovating, from growing.

When organizations improvise, they test competing interpretations, and experiment with alternative notions of what might work. When organizations develop the capacity for mindfulness, they highlight differences and let the differences inform organizational members and offer opportunities to learn. When organizations reconfigure themselves and function more like a federation of patches, each of which is trying to find success, the whole system is capable of learning from its

patches and find successful coevolutionary adaptations. Addressing competing interpretations, highlighting differences and reconfiguring are difficult undertakings, in part, because of the potential for conflict. However, it is also likely that through mindfulness, improvisation, and reconfiguration, it is possible for not only the human spirit, but also the organization, "to grow strong by conflict."

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