SHOPPING FOR NEW GLASSES: LOOKING BEYOND JAZZ IN THE STUDY
OF ORGANIZATIONAL IMPROVISATION

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ABSTRACT

This article calls for research on organizational improvisation to go beyond the currently dominant jazz metaphor in theory development. We recognize the important contribution that jazz improvisation has made and will no doubt continue to make in understanding the nature and complexity of organizational improvisation. This article therefore presents some key lessons from the jazz metaphor and then proceeds to identify the possible dangers of building scientific inquiry upon a single metaphor. We then present three alternative metaphors – Indian music, therapy and role theory. We explore the nature of these metaphors and seek to identify ways in which they differ from the jazz metaphor. This analysis leads us to identify not merely how these 'alternative' metaphors fill the gaps left by the jazz metaphor but also how they complement the contribution from the jazz metaphor thus further strengthening theory-building in this genre. Ultimately, our understanding of organizational improvisation will be sharpened by more incisive theoretical analysis and empirical research.

Introduction

Management theory has continued to demonstrate a healthy concern for creativity in its approach to organizational problems. This is evident in its unrelenting search for new ideas and metaphors from the most varied fields imaginable. (Micklethwait & Wooldridge, 1996). In mainstream academic journals, the scope includes military imagery (Ries & Trout, 1986), orchestras (Voyer & Faulkner, 1989), political arenas (Pfeffer, 1992), complex adaptive systems (Stacey, 1996), chimeras (Sewell, 1998) and so forth. In the more practitioner-orientated publications, lessons for managers are drawn from Star Trek: Next Generation (Roberts & Ross, 1996), Attila the Hun (Roberts, 1991) and quantum physics (Peters, 1992). This creativity is perhaps attributable to an attempt to find the path for organizational success in a time marked by turbulent and increasingly complex environments (Bettis & Hitt, 1995).

One of the most fascinating concepts emerging from these efforts in recent years is improvisation. This concept appears to have substantial implications for a number of organizational phenomena, ranging from teamwork to product innovation and organizational adaptation and renewal. Current work focuses mainly on the quest for theoretical sophistication (eg Barrett, 1998; Hatch, 1999; Weick, 1998, 1999), with only a few empirical investigations into the incidence and nature of improvisation (eg Brown and Eisenhardt, 1997; Moorman and Miner, 1998). Improvisation draws on a plethora of sources, ranging from jazz to technology implementation (Johnson & Rice, 1984). Improvisation, which can be defined as the conception of action as it unfolds, drawing on available cognitive, affective, social and material resources, shows then that high levels of apparently contradicting phenomena can co-exist to the benefit of the organization. In this light, this phenomenon is a potentially powerful concept to guide a 'dialectical' theory building

effort. Improvisation, however, still has some way to go before becoming a full-fledged area of organizational inquiry.

Those that undertook the first efforts in this course drew on jazz improvisation to sketch a theory of this phenomenon in organizational settings (for a review see Cunha, Cunha & Kamoche, 1999). There were two reasons that persuaded them to do so. Firstly, jazz is the one social phenomenon in which improvisation is more salient (Weick, 1999) – certainly in western societies. In fact, whereas in sport and therapy improvisation comes second to planning (Bjurwill, 1993; Forniash, 1992), in jazz superiority is typified by improvisational ability. Secondly, many observers seem to be more familiar with jazz than for example, improvisational theatre, where improvisation is also a central and standard practice (Czarniawska-Joerges & Jacobsson, 1995). As Morgan (1997) argues, a metaphor develops and spreads better if its creators and audience have a high level of familiarity with it. However, in spite of the contribution of jazz to organizational improvisation, there is a potential danger of jazz becoming what Weick (1980) calls a 'blinding spot', by obfuscating contributions from other areas of human endeavor and, most importantly, from grounded and empirical research. There appears to be a need, therefore, to broaden the scope for theory-building by developing new insights from previously unexplored metaphors and to conduct more incisive research into the occurrence of improvisation in organizational settings.

This article aims to contribute toward this goal by showing that there are in fact alternative metaphors to study improvisation and that there are aspects unique to the unfolding of this phenomenon in organizations. To accomplish this purpose, we first present an integrative jazz-based model of organizational improvisation, and point out several dangers of relying on a single metaphor for theory development. We

then contrast this model with three other possible metaphors for improvisation, paying special attention to the insights these provide. We finally highlight what past research has shown to be the aspects of improvisation that are unique to organizations, and that are thus difficult to arrive at through metaphor. The key dimensions of these metaphors are depicted vis a vis the organizational context in Table 1. This leads to the conclusion that, although jazz and other metaphors are useful tools for theorizing, there is a need for more empirically-grounded research on this phenomenon.

Insert Table 1 here

A jazz-based theory of organizational improvisation

In addressing the robustness of the contribution of the jazz metaphor toward a theory of organizational improvisation, we characterize jazz under four headings: antecedents, influencing factors, outcomes and other findings.

Antecedents

Synthetically, the antecedents of jazz improvisation can be divided in two groups: the motivation to improvise and the potential to do so. The will to improvise comes from: a deliberate choice of improvisation as an action strategy, a bias for action and a culture that tolerates mistakes. The potential to improvise comes from: a task structure based on musical standards, a social structure based on implicit norms and a focus on the song as the driving performance task (see also Bastien and Hostager, 1991; Hatch, 1997, 1999). Thus, as far as antecedents go, jazz improvisation appears to be somewhat limited, compared with the plethora of triggers of this phenomenon in organizational settings (Sharron 1983; Weick 1993). It seems therefore, that jazz improvisation only happens because of a *deliberate* attempt to pull the musical performance away from what was planned, from the score of the song in

order to entertain and demonstrate artistic achievement (treating them as a learning opportunity, and the belief that action – and not planning or Berliner, 1994). Having a culture that tolerates, or better, promotes mistakes by conception – is the primary way to tackle challenges, are two additional aspects that will pose a major challenge for organizations.

However, the motivation to improvise is not enough; the potential to do so must also be present, which is assured by three conditions. Firstly, a minimal structure must be present (Eisenberg, 1990). This minimal structure refers to a shared knowledge among members of a community of practice that allows for members to depart from canonical practice, especially when acting together (Brown & Duguid, 1991). In jazz, we can identify three components of a minimal structure: the social structure (a shared, and limited, set of social norms that determine interactions during actual performances), the technical structure (the requisite skills and musical technology), and the 'jazz standards' (the shared repertoire of songs). The jazz standards furnish the "template of the song" (Kamoche and Pinha, 1999), which often serves as the only coordination mechanism for their actions (Weick, 1999).

Influencing factors

The influencing factors of the quality of the improvisational performance are: leadership style, individual characteristics, communication, memory and group size. Leadership factors can strongly influence the quality of a jazz band's performance (Gioia, 1997). A 'servant' leadership (Greenleaf, 1979) seems to be an important determinant of the quality and degree of an improvisation, helping to fight phenomena such as solipsism (Hatch, 1999). This in turn also favors a rotating leadership style, in which each band member takes turns at deciding the direction and form of

improvisation (Bastien & Hostager, 1991). Individual characteristics include high levels of virtuosity skill, mutual trust and creativity. Low creativity levels may limit the player's ability to imagine a rich set of variations, constraining his or her performance to a limited set of embellishments (Powers, 1981). A final individual trait is the improviser's ability to deal with affective stress. There are two major sources of such stress in jazz: the exposure that results from creating while performing in front of an audience and colleagues, and the transient nature of relationships that characterizes this community of practice, especially when individuals have predominant 'dependence' relational styles (Kets de Vries & Miller, 1984).

As for communication, real-time group composition requires that members are willing and able to listen cooperatively to each other, not talking, but performing (Berliner, 1994). The improviser is perceived as more competent the higher his/her declarative memory – ie commanding a broad repertoire. Procedural memory can, however, be a liability by forcing members to fall back on familiar territory, thus hampering innovativeness. Practice is also relevant to the quality of an improvisation (Crossan, White, Lane & Klus, 1996) because it fosters the building of a broader declarative memory (through the expansion of the repertoire of variations), a broader skill base (through increased familiarity with the instrument) and an opportunity to train deliberate departures from memory. A final condition affecting the quality and degree of improvisation is group size, with too large groups having lower levels of improvisation, explainable through loss and distortion of communication, among other factors (Voyer & Faulkner, 1989).

Outcomes

We identify four positive outcomes from jazz improvisation: flexibility, learning, a personal feeling of transcendence, and an increasing motivation to improvise. Flexibility refers to members' ability to adapt to each other and to the situation. Learning is about acquiring and expanding procedural (how to?) and declarative (what?) memory. Improvisers can also attain a sense of personal transcendence (Barrett, 1998). In Eisenberg's words "in these moments, participants experience something akin to the French *presque vu* – an unquestionable feeling of rightness. The relatedness problem is solved; through activity with others, people can transcend their separateness and live not only in themselves but also in community" (Eisenberg, 1990: 147). Flexibility, learning and transcendence, among other characteristics of improvisation, enhance the motivation to improvise. Thus, positive improvisational experiences may feed on themselves to foster 'routine improvisation'; improvisation can thus be assumed to be *the best way* to handle most challenges, including playing in front of a live audience (Eisenberg, 1990). Negative outcomes include an addictiveness to improvisation leading to a rejection of "playing by the score" thus hurting jazz's collective memory (Hatch, 1999), and "trainwreck", where improvisers feed on each other's improvisations, amplifying emergent creation, but failing to 'find themselves' on the music (Gioia, 1997).

Other findings

In this section we consider several more characteristics of jazz improvisation. Music theorists have offered several broad categories of improvisation. Kernfeld (1995: 131-158) discusses four: *paraphrase improvisation* (the "recognizable ornamentation of an existing theme"); *formulaic improvisation* ("the artful weaving of

formulas, through variation, into ever-changing, continuous lines"); *motivic improvisation* (where a motive forms the basis for a section of a piece) and *modal improvisation* (variation is achieved on the basis of pitch). Weick (1998) offers a continuum that ranges from *interpretation* to *full-fledged improvisation*. This continuum serves to rank musicians: those who come closer to the 'improvisation' end of this continuum are more highly regarded. Jazz improvisation is exploratory: musicians will not know what they will achieve until the performance is over. We note also that improvisation is emergent in nature and cannot merely be implemented. Thus, even the greatest virtuosos must proceed in small incremental steps that start with interpretation, and move through embellishment and variation, until full scale improvisation is reached (Bastien & Hostager, 1991). Finally, and borrowing from sociology, jazz is a *time biased* form of group interaction grounded in organic solidarity (Durkheim, 1933). A jazz band is coordinated by organic solidarity - it benefits from a highly complex division of labor because every member plays several roles in sequence (Bastien & Hostager, 1988). In a single performance, the same player plays leader and follower, melody and rhythm. Moreover, harmony, melody and rhythm are the responsibility of the entire group and not of any individual musician (Berliner, 1994). This is a kind of "all for one and one for all [music] and no instrument or section can be said to play exclusively one of these components" (Sharron, 1983: 228). This complexity is 'manageable' because of the minimal structure. Here we can isolate from the template of the song the specific role of rhythm.

These characteristics have important implications for organizations, especially in fast-changing environments. For instance, managers often take decisions with little indication as to possible outcomes, staking their reputation in extremely demanding

and anxiety-inducing tasks (Peters, 1994). Secondly, the professional culture of jazz musicians, when considered a community of practice, seems appropriate to tackle this set of challenges and seems somewhat more moderated than the 'all horizontal/no rules' organization that gurus prescribe (Micklethwait & Wooldridge, 1996). While the robustness of the jazz metaphor is not in question, early research on improvisation in fields other than music performance (including management) suggests there is more to improvisation than jazz improvisation allows for. This implies a need for further theoretical elaboration by determining what other metaphors have to offer.

The limits of a single metaphor

Metaphor can be defined as "*a way of thinking* and *a way of seeing* that pervade how we understand our world generally" (Morgan, 1997: 4, emphasis in the original). This 'way of seeing/thinking' allows us to draft major antecedents, processes and outcomes of a phenomenon by studying another that fulfils two conditions. Firstly, we must perceive it as being similar to the original object of our study. Secondly, it must be a topic with which we are much more familiar/knowledgeable than with the original. Few have stated this point as clearly as Weick when he asserted that "if you want to study organizations, study something else" (1999: 541). Thus, metaphor is useful because it allows us to study a phenomenon we do not understand by the means of another of which we have a deeper knowledge.

In spite of all these advantages, using a single metaphor to develop theory has several important shortcomings. Firstly, a metaphor distorts the object under investigation. This is because by using metaphor we are paying attention *only* to those factors that are similar between metaphor and object, blinding the observer to those

that are not shared. In fact, if we look closely upon one of the well known examples of the use of metaphor to build theory in organizational science, Burns and Stalker's (1961) categorization of organizations as organismic and mechanistic structures, we can argue that if managers use the mechanistic metaphor to understand organizations then they will see them as a closed system of interrelated parts. This will probably lead them to pursue efficiency and adherence to norms and standards as central goals. They may be literally blind to the fact that the organization is ultimately made up of people, and that efficiency can be improved dramatically if due attention is paid to them (Mayo, 1933, Deming, 1986). Moreover, machines have clear given ends and boundaries – can we say the same about organizations?

This limitation of metaphor has dangerous implications for practice. Espousing a certain metaphor of organization may pervade one's mental models of the organization and its environment (Senge, 1990), which can result in adverse consequences. Because their perception of reality is filtered through one metaphor, managers will tend to act on organizations as if they could be simplified to those elements shared with managers' metaphor-in-use (Argyris & Schön, 1992). In essence they will only be acting upon a caricature of the organization and its environment, and not upon the 'real' organization, which is in fact much more complex – thus leading to the emergence of a wide set of unintended (and, more often than not, hard to understand) consequences of seemingly 'predictable' action (Mintzberg & McHugh, 1985).

Secondly, over time, metaphors 'die' by loosing their generative properties (Derrida, 1978). In fact, although metaphors have a powerful generative property at the onset of the study of a new phenomenon, they gradually rigidify meaning and become more and more closed to empirical research (Letiche & Van Unden, 1998).

Concepts and constructs get sedimented, being givens to empirical research without ever having withstood the test of exploratory scrutiny. Variables and relationships among them are assumed without ever verifying if they are part of the intersection between metaphor and reality or if they do in fact belong to that area that only concerns metaphor and thus blinds researchers to the complexity of their object of study (Burrell & Morgan, 1979). It is important therefore to develop an ability to detect whether a given metaphor has already been explored sufficiently to allow theory to be built around the similarities between metaphor and object. The aim is to prevent the metaphor from rigidifying – loosing its generative power and preventing further theoretical development by closing other research avenues (McCourt, 1997).

Thirdly, over-reliance on a single metaphor is also potentially dangerous for practitioners because English (and most languages, for that matter) is not a *langue bien faite*, and thus the same word/metaphor can have very different meanings to different people. Most languages do not posses a biunivocal relationship between signification and signifier – the same word can have various meanings depending on its perceiver (Ricoeur, 1978). This potentially threatens theory diffusion, for example from academia to industry. *In extremis*, this could lead to the adoption of practices and behaviors not only different but even contrary to those intended by the designers or proposers of the metaphor (Letiche & Van Uden, 1997). These shortcomings suggest to us potential dangers in relying exclusively on the jazz metaphor for theory development in organizational improvisation.

Alternative metaphors

There are many alternative metaphors for studying improvisation. Below we present three metaphors of improvisation - Indian music, improvisational therapy and

role theory - highlighting their differences from the enactment of this phenomenon in jazz settings, as presented above. The first one retains our discussion within the field of music, thus offering some interesting contrasts with jazz. The second one goes even further to demonstrate the generative effects of simple rather than complex instruments/tools and the fact that virtuosity need not be an issue in improvisational ability as it is in jazz and Indian music. Finally, role theory brings the debate closer to organization theory.

Improvisation in Indian classical music

According to Bailey (1992), the *raga* is the (variable) framework within which improvisation takes place in Indian music – this musical form is, by definition, improvisational. Indian music is similar to jazz in the sense that improvisation is a deliberate choice of the players and the hallmark of virtuosity. However it differs from jazz in two respects. Firstly, what jazz musicians improvise upon, Indian players consider as 'given', ie, whereas jazz musicians do not have to improvise (when they play from the score), Indian classical musicians *always* improvise. Secondly, the entire social experience of improvisation in Indian music is essentially competitive and grounded on little functional specialization whereas in jazz it is essentially collaborative and grounded on functional specialization. Thus, the two genres differ in terms of the nature of their minimal structures.

As far as its social component goes, the minimal structure of Indian music, stresses competition (Sharron, 1983) instead of the cooperation usually associated with improvisation in jazz settings (e.g. Crossan et al., 1996; Weick, 1999). There is of course a certain amount of competition in jazz where musicians try to outdo each other. Intense competition means leadership, considered one of the cornerstones of

jazz improvisation, is almost absent in Indian music. Additionally, communication in Indian music aims to accentuate competition as opposed to achieving cooperation and coordination as in jazz music. As for task structure, in jazz, it is mainly grounded in declarative memory – knowledge of a repertoire of songs and its major/wider known variations. In Indian music it consists of the knowledge of *talas* and *ragas* - formulas for melody and rhythm. These elements relate more to procedural rather than declarative memory. This means that instead of knowing a set of scores *to improvise upon*, the Indian musician knows a set of musical 'procedures' *to improvise with* (Gosvami, 1957). This shifts the relative weights of procedural and declarative knowledge: the task structure in Indian improvisation is much more procedural than in jazz (Sharron, 1983).

An Indian music group is coordinated through mechanic solidarity (Durkheim, 1933). This means it has a crude division of labor (almost non-existent), something which is clearly visible in the 'musical duels' that characterize their performances (Gosvami, 1957). In fact, when improvising, Indian musicians play very similar roles that are maintained throughout the whole performance and, more often than not, over the musician's later career (Sharron, 1983). Integration in Indian musical groups relies on the prescribed harmony and melodic formulas, and rhythm thus becomes the key to improvisation (Holroyde, 1972). The absence of a notation system is common to most improvisational forms of music. However, while jazz composers can make use of notation, Indian classical musicians do not. Bailey (1992) contends that the acquisition of reading skills has a blunting effect on improvising skills. Thus, while jazz can be (and is often) rendered in a non-improvisational mode, Indian music is necessarily improvisational. It is as if improvised music represented some kind of tacit knowledge that can only be acted, but not translated to printed media (Sharron,

1983). This also renders inoperative the concept of 'degrees of improvisation' as in jazz music (Weick, 1998). As such, Indian music players can jump instantaneously to improvisation (Gosvami, 1957), without the need to follow the 'centering strategy' (Bastien and Hostager, 1988) favoured by jazz musicians.

Therapy as improvisation

Therapy based on musical improvisation is another area where improvisation is an important research topic and from where important insights have been emerging. This practice argues that the ability to improvise musically is present in every person and that that ability can be realized by relying on simple instruments such as drums and rattles. Drawing on this contention, therapy uses music improvisation to attain a moment of contact, defined in *gestalt* therapy as an experience that "occurs when two people relate in a way that is fresh and new" (Southworth, 1983: 196), with the potential to contribute towards the patient's healing process or, at least, towards the attainment of an improved patient-therapist relationship. Consequently, as far as antecedents are concerned, therapy differs from jazz in that it has no explicit ground upon which to improvise, so it cannot be considered a departure or a variation because it does not have anything to depart from or to vary upon (Zinker, 1977).

A minimal structure is also important here. In therapy, the task's minimal structure is composed of a 'theme' set by the therapist who then builds upon through performance, leading patients into improvisation by example (Southworth, 1983). The social structure is mainly imported from external (tacit) social rules that can be embellished by minimal agreements prior to performance – a demanding task with mental patients (Forinash, 1992). Musical improvisation in therapy thus seems to call for a dual leadership: one of the leaders provides the theme and exemplifies

improvisation, while the other encourages members to follow suit. An important deviation between the use of musical improvisation in therapy, and its 'stand-alone' versions (both jazz and Indian music) is the issue of improvisers' characteristics. In this type of therapy, musical improvisation requires no special skill at all. This is partly because this type of performance utilizes simple instruments, instead of the complex ones used in jazz and Indian music (Towse & Flower, 1993). Also, in therapy, there is no need for the affective skills so important in the musical arena (Eisenberg, 1990). Memory has also several atypical traits. Improvisers do not share any kind of memory (procedural and declarative) and no practice is required. As in jazz, fluid and open communication can greatly enhance the quality of the 'performance' and group size should also be small. Nonetheless, Southworth (1983) argues that these groups should not be so small as to hamper effective interaction.

As far as outcomes are concerned, therapy grounded on improvisational music can result in (and aims at) improving the patient's mental condition, either by unearthing the underlying mental dynamics or by building the doctor/patient relationship (Forinash, 1992). However, improvisation in these settings can have just the opposite effect by fostering isolation through solipsism. This practice also shares with Indian music the fact that it has no discrete degrees and that it can happen instantaneously, without the need for growing group improvisational competence (Bastien & Hostager, 1988). Additionally, in therapy there is no audience whatsoever, something that may account, in part, for its low levels of anxiety.

Improvisation in role theory

Sociologists have been debating whether role-related behavior is globally determined by an overarching social system or is locally improvised as relationships

between actors unfold (Merton, 1957). Clearly, this debate is outside the scope of this article, but the nature of role-improvisation is not. We will thus look into the interactionist argument of the pervasiveness of improvisation (Blumer, 1969) in order to understand how this phenomenon works in role theory drawing on the work of Powers (1981). The first distinction between role improvisation and that of the preceding metaphors is that it is not a conscientious and deliberate action; instead it results from an unintended deviation from a structure of prescribed roles (Banton, 1965). Thus, several fundamental conditions must be in place for role improvisation to occur.

Low exposure seems to be an important factor determining the incidence of improvisation in role theory. The rationale is that low exposure to outsiders relaxes the perception of 'panoptical surveillance' that tends to normalize behavior and submit it to prescribed roles (Sewell, 1998). Moreover, if the roles of those outsiders are tied to the roles of the improviser, a lower level of exposure means that a role improvisation will be less perceived by outsiders, lowering their perceived need to adjust their own roles, and thus lowering resistance to change (Bott, 1957). Building on the first condition, we argue that a higher degree of personal disclosure will foster role improvisation. This is justified by the high levels of similarity-based trust that personal disclosure seems to foster (Jarvenpaa & Shaw, 1998), which will encourage role-holders to adapt to the circumstances of their relationships with each other – a very difficult task in the absence of trust. It should be pointed out, however, that there are other forms of trust which might trigger improvisation.

Regarding the set of factors that impact upon the degree of role improvisation, stress appears as an important element. Trying relationships, ie those that entail a high level of affective stress, are also responsible for higher degrees of improvisation. This

is because, in the social milieu, people aim to develop their roles in a way that reduces concerns and augments benefits (Turner, 1980). Thus, when performing imposed roles leads to very trying relationships, people will tend to relax these in favor of improvised ones that reduce their emotional costs. Sharing an external threat can also lead group members to improvise upon prescribed roles, in order to maintain a problem-ridden state. This is allowed by the building of similarity-based trust, grounded on the perception of joint fate, and it is demanded by the need to secure a problem-free state. Hence, this role improvisation carries the danger of crystallizing around a group pathology, such as dependence, flight/fight and so forth (Bion, 1959).

Routine also has an impact on the degree of role improvisation. If a routine is performed effectively, the organization will pay little attention to its related role holders and thus their opportunity to improvise is higher as long as they do it outside the routinized activity (Powers, 1981). A final factor influencing the extent of improvisation is the distance between two actors in the broader social system. The wider that distance, the less knowledge each of the actors has about the role of the other, and thus the lower the probability that each will invoke the other imposed role in a relationship – a phenomenon especially frequent in large organizations (Crozier, 1964). Three additional characteristics of role improvisation are relevant. Firstly, theory on this phenomenon does not mention the existence of discrete degrees of improvisation. Furthermore, improvisation can take place immediately, without the need for a 'centering strategy' to build confidence upon each other. Finally, role improvisation happens without an audience.

Reality check

The foregoing aims to make the case to consider other metaphors in developing a more robust theory of organizational improvisation. As noted above, a metaphor is only useful as far as the similarities between phenomenon and metaphor are concerned. Thus, although the new metaphors we propose have the potential to bring new insights to the study of improvisation in organizations, these settings are sufficiently different from the organizational context (and from each other) as to require empirical research in order to better understand the dynamics of organizational improvisation.

The antecedents of *organizational* improvisation come out as one of the major divergence points between improvisation in organizational settings and that occurring in any of the metaphors presented above. In jazz and Indian music improvisation occurs because of a *deliberate* attempt to deviate from what is perceived as 'standard' practice or rhythmic formula respectively. In therapy, improvisation is also emergent and exploratory, without the need to depart from a 'standard'. In role theory, although there is no deliberate will to improvise, this happens because of social factors that can hardly be classified as 'problems' or 'opportunities' – they are simply conditions/states of the broader social environment. In organizations, improvisation is all but routine. It is mostly triggered by the perception of a problem that has to be tackled hastily. This implies an important deviation from the metaphors in question.

This reveals a critical issue for building a theory of organizational improvisation. Firstly, organizations tend to prefer planning and routinization to improvisational/emergent behavior (Mintzberg & McHugh, 1985; Stacey, 1996). (Weick, 1998:552 emphasis in original) contends that "the intention of the jazz

musician is to produce something that comes out *differently* than it did before, whereas organizations typically pride themselves on the opposite, namely, reliable performance that produces something that is standardized and that comes out the same way it did before. It is hard to imagine the typical manager feeling 'guilty' when he or she plays things worked out before [whereas the typical jazz musician would]". This means that they will only improvise when they do not have time to plan – thus, the problem to be tackled must demand fast action in order to trigger improvisational behavior. Improvisation amongst the metaphors in question is hardly a matter of choice, except perhaps to some jazz musicians.

An essential aspect of organizational improvisation is alignment (Orlikowski & Hoffman, 1997). Since improvisation is not a standard activity in these settings, if any element of the organization's system forfeits attempts to plan while acting, then the whole system is likely to fail (Johnson & Rice, 1987; Orlikowski, 1996). This requires some specific coordinating mechanisms which we have described here as a minimal structure. In the case of organizations, the 'minimal' means (1) general purpose and (2) general rules. To improvise, individuals must possess general purpose plans, plans that are more like a map, that one can use to choose a route from one point to the other, and less like a prescribed itinerary, where one will can get lost by missing a single turn. The tools that organizations use to produce their desired type of 'planning' are strategic intent (Hamel & Prahalad, 1994) and shared vision (Senge, 1990) – mechanisms that integrate individual actions by maintaining focus but that allow (and foster) diversity of action and thought. General purpose tools and technology are also necessary for real-time planning (Orlikowski, 1996). Thus, if one decides to change the nature of outputs instantaneously, then one's technology must be flexible enough to withstand that change.

This gives rise to the concept of 'radically tailorable tools' (Malone, Lai & Fry, 1992) that we find crucial for improvising organizations. Improvisational ability rests on having a multiple purpose structure (Ciborra, 1991), one that goes far in integrating but only partially constrains. This structure comprises an explicit and clear set of responsibilities and priorities (Hutchins, 1991); frequent milestones, to instill a sense of urgency (Eisenhardt & Tabrizi, 1995) and to provide the frequent feedback that fuels improvisers (Gardner & Rogoff, 1990); and choreographed transitions that purposefully introduce 'problems' (Brown & Eisenhardt, 1997). This 'generality' of organizational minimal structures shows the need to delineate explicitly, specific elements of the minimal structure whereas in our metaphors, these are largely tacit and implicit. This is one area in which metaphors may not serve as fully.

Both jazz and Indian music improvisers must possess a high level of knowledge and technical ability. Nonetheless, it can be argued that if music theory underlying composition and instrumentation were simpler, then knowledge and adroitness would be a *system* responsibility instead of an *individual* one. This appears to be the case in musical improvisation-based therapy: it provides simple instruments and simple task and social structures to allow even the mentally challenged to compose in real-time musical pieces of some quality (Southworth, 1983). Research shows that organizational improvisation may be, in this instance, closer to this type of therapy than it is to our two music forms. For research purposes, the requirement of technical ability in jazz and Indian music is thus complemented by the simplicity of therapy to take account of the diversity of skill and technological levels in organizations.

'Minimality' defines three further dimensions for successful improvisation. First comes minimal agreement, meaning that some dissent of worldviews among

members allows for a sharper scanning and thus to earlier and better detection of 'problems' that require fast action (Perry, 1991). The 'centrality' that cooperation and mutuality provide in jazz improvisation might be complemented by the more competitive ethos in Indian music. Organizations need a good blend of internal competition and cooperation. Second, organizations need to maintain a minimal level of critical resources, bearing in mind the degree of slack necessary for innovative activity (Dougherty, 1996; Hedberg, Nystrom, & Starbuck, 1976). Finally, minimal rationality helps keep action focused on ends, avoiding reification of means and concentrating on finding the questions the organization needs to ask. This avoids the trap of pride for giving good answers even in the face of the wrong questions (Hedberg et al., 1976; Cohen, March & Olsen, 1972). Minimal rationality also aims at keeping organizations from rationalizing all activity into procedures, thereby destroying adaptivity to both internal and external circumstances (Johnson & Rice, 1984).

A number of elements are needed to support a minimal structure. Firstly, and contrary to what happens in jazz and closer to improvisation-based therapy, strong leadership is needed to compensate for the lack of structure in integrating member's activities and to obtain the resources necessary for improvisational activity to take place (Brown & Eisenhardt, 1997). Secondly, this type of structure can only be transmitted tacitly (through action) instead of explicitly (through language) (Nonaka, 1991; Bastien & Hostager, 1995). The fact that this structure is mostly tacit also means that newcomers must be permitted legitimate peripheral participation in organizational activity in order to allow them to learn without risking organizational outcomes. In this sense, the organization should aim at teaching its members how to become practitioners instead of teaching them about practice (Brown & Duguid,

1991). The need for the spatial co-presence of the various members can be theorized within the Indian music metaphor with a space-biased culture (Sharron, 1983), whereas the contribution from jazz music becomes evident where the requisite degree of structure *can* be defined explicitly (as in musical notation).

We now consider those factors that influence improvisation qualitatively. The first category of such factors is leadership. Apart from a certain degree of directivity, leaders must be proficient (and perceived as such by those they lead) in performing the work of his subordinates (Johnson & Rice, 1987). Leadership based on expert power would thus seem to have some implications for improvisation by those occupying leadership roles. Both jazz and Indian music offer scope to examine these relationships further. Organizational members also tend to pursue wider departures from canonical practice if they are allowed to have an active voice in how several decisions are made (Brown & Duguid, 1991). In their research on word processing adoption in large organizations, Johnson and Rice (1984) discovered that reinvention (a process that shares some qualities with improvisation) is fostered by greater employee participation in issues related to unit productivity, work procedures and training programs. However, participating in meetings on resource/technology acquisition and performance criteria (two important elements of minimal structures [Perrow, 1986; Sewell, 1998]) had no effect on the degree and quality of reinvention. This highlights the need for an eclectic adoption of participation, focusing on areas in which it is more likely to have a visible effect on the organization's improvisational ability. The individual degree of innovativeness is also likely to affect the scope for organizational improvisation. Hypothetically, the higher it is, the greater the degree of improvisation (Perry, 1991; Ciborra, 1991). Innovativeness is an important element in the metaphors discussed here to varying degrees.

Turning now to communication, we can see that jazz prescribes a single type of information exchange among members: that of a frequent and informal nature (e.g. Bastien & Hostager, 1991; Berliner, 1994). Infrequent and *formal* communication, as the work of Sobek, Ward, and Liker (1999) on new product development shows, can serve as a powerful minimal structure building mechanism, in which successive 'scores' are created and embellished with every improvised or planned iteration. These 'scores' are then used as inputs for impersonal coordination of the development process, greatly enhancing improvisation (Hedberg et al., 1976). Highly formal communication in jazz is rendered unnecessary by the tacit understandings that exist amongst the members, and the extensive knowledge base (repertoire) with which they are bound. The same assumptions cannot normally be made about organizational settings. When interaction is frequent, communication can still be formal, pushing the quality and the degree of improvisation by building on previously acquired formal (and, more often than not, explicit) minimal coordination structures to enable individual freedom of action. The use of *talas* and *ragas* as coordination mechanisms in Indian music is an example of this in non-organizational settings (Sharron, 1983). The much closer audience-musician relationship in Indian music also appears to be consistent with the finding that improvisational quality is higher if, aside from peers, organizational members talk with both customers and supervisors (Johnson & Rice, 1987). By contrast, both therapy and role theory provide the scope to research improvisation in non-audience settings.

Regarding group size –another factor qualitatively influencing improvisation – empirical research has yet to converge on an agreed set of findings. Studies argue for both large (e.g. Brown & Eisenhardt, 1997; Ciborra, 1991) and small groups (Hutchins, 1991; Brown & Duguid, 1991), a decision that seems to depend on the

specific format of both the supporting minimal structure and the pattern of communication among members. Regarding group composition it is difficult, again, to find common ground. Some studies support the jazz metaphor saying that groups should be 'mono-functional' (e.g. Hutchins, 1991; Orlikowski, 1996), while others argue for 'multi-functional' teams to produce the requisite variety that enables the attainment of higher levels of improvisation (Hedberg et al., 1976; Johnson & Rice, 1984).

Cooperation has been emphasized in the empirical research on improvisation (e.g. Miner, Moorman & Bassoff, 1996; Perry, 1991), although some competitiveness may be possible when the organization, for example, bets on competitive designs (Eisenhardt & Tabrizi, 1995; Sobek et al., 1999). This suggests the complementary contributions from jazz and, at least, Indian music.

The flexibility ascribed to jazz musicians (Eisenberg, 1990; Gioia, 1997) is an important quality/outcome for organizational improvisation. Such flexibility is taken to a higher level in metaphors like improvisation-based therapy with an extremely low degree of formal structure. There clearly is a need to examine the suitability of such flexibility in activities such as teamwork in organizational settings. This would provide an interesting parallel with the organizational level, where flexibility has been shown to be particularly important in enabling organizations to respond to unexpected occurrences, either internally (Pearson et al., 1997) or externally (Ciborra, 1991; Moorman and Miner, 1995).

Conclusion

When we say that a person is like a lion, we are probably referring to his or her courage rather then to their choice of food or their facial hair. Metaphor is a powerful mechanism to bring insights into emergent scientific phenomena – it is

undoubtedly, a way of seeing but it is also a way of not seeing (Morgan, 1997). This paper has examined how a variety of metaphors help us to make sense of organizational improvisation. Jazz has so far provided the major source of insights in theorizing organizational improvisation. Given the robustness of jazz improvisation, as well as its accessibility to theorists, we expect this state of affairs to persist into the foreseeable future. However, organizations are no jazz combos, like people are no lions. Therefore, there are several important differences between the forms of improvisation that occur within these two settings (see table 1) – differences that are not immediately evident if our theorizing is guided by a "one-best-metaphor" approach.

Our purpose in this paper therefore is to broaden the spectrum in order to uncover what other suitable metaphors might offer, either in contrast with or in a complementary fashion to the jazz metaphor. The three additional metaphors presented here have given us new ways of "seeing" the phenomenon of organizational improvisation, thus complementing the insights generated by jazz, and in some ways, filling gaps left by the uni-dimensional application of the jazz metaphor. Our analysis has lessons to offer both those who are wedded to a 'strong constructivist' paradigm, ie those who treat metaphors are the only sound base for theory development, and a 'weak constructivist' paradigm, ie those who believe metaphors are useful but not the only tool (McCourt, 1997). Clearly, metaphors have value, but we suggest that our understanding of organizational phenomena will be sharpened if we as researchers keep an open mind about the opportunities and shortcomings of whatever analytical approaches we choose. While metaphors are not offered here merely as 'glasses' that can be changed or discarded at will, we believe that they provide a potentially useful

starting point for generating insights into an organizational phenomenon that is only now beginning to call for scholarly attention.

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Table 1 Metaphors for theory-building in organizational improvisation

	Organizational improvisation	Jazz improvisation	Improvisation in Indian music	Improvisation-based therapy	Role theory
Antecedents	Unexpected and unplanned-for occurrence demanding speedy action	Deliberate attempt to deviate from a musical score in order to entertain and to show musical virtuosity	Deliberate attempt to build new music from a set of prescribed musical routines in order to entertain and to show musical virtuosity	Deliberate attempt to 'create music without a score' in order to heal / help to heal mental patients	Unintended deviation from prescribed roles
Conditions	1. Minimal structure 1.1. General purpose plans/products/technology/organization structure 1.2. Minimal agreement / affluence / rationality 1.3. Directive leadership 1.4. Peripherial participation 2. Bias for action 2.1. Encouraging experimentation 2.2. Praise from superiors 3. Minimize error	1. Minimal structure 1.1. Song repertoire (declarative memory) 1.2. Social norms for cooperation 1.3. Current score 2. Bias for action 3. Culture of imperfection / 'mistakes are OK'	1. Minimal structure 1.1. Repertoire of musical formulas (procedural memory) 1.2. Social norms for competition 2. Bias for action 3. Culture of imperfection / 'mistakes are OK'	1. Minimal structure 1.1. 'Theme' set by a therapist 1.2. Tacit rules imported from the broader social context 2. Bias for action 3. Culture of imperfection / 'mistakes are OK'	1. Continuity of membership in the group / collectivity 2. Low exposure to outsiders 3. Considerable degree of personal exposure 4. Dependence on the group higher than that on the environment
Influencing factors	1. Leadership 1.1. Expert power 1.2. Allows (selective) participation 2.Individual characteristics 2.1.Perception of alignment between individual and organizational goals 2.2. Minimal contentment 2.3. Dealing with stress 3. Communication can be either frequent or infrequent and either formal or informal 4. Memory 4.1. High declarative memory 4.2. High 'search-related' procedural memory 4.3. Formal training 4.4. Organization encourages learning 5. Groups can be large or small 6. Degree of emergence of the minimal structure	1. Leadership 1.1. Servant leadership 1.2. Rotating leadership 2. Individual characteristics 2.1. High level of skill / knowledge 2.2. Creativity 2.3. Ability to deal with task stress 3. Informal and frequent communication 4. Memory 4.1. High declarative memory 4.2. Will to depart from memory 4.3. Building memory through practice 5. Small groups	1. Leadership is absent 2. Individual characteristics 2.1. High level of skill / knowledge 2.2. Creativity 2.3. Ability to deal with social stress 3. Informal and frequent communication 4. Memory 4.1. High procedural memory 4.3. Building memory through practice 5. Small groups	1. Leadership 1.1. Dual leadership 1.2. Directive leadership 2. Emotionally safe environment 3. Simple instruments 4. Informal and frequent communication 5. Small groups	1. Leadership 1.1. Balanced 1.2. Stable 2. 'Trying'/stressful relationships 3. perception of a shared external threat 4. Routine 5. Distance among actors
Outcomes	1. Flexibility 2. Learning 3. Speed 4. Motivation to improvise 5. Improvisation as the 'one best way' 6. Opportunity traps 7. Ineffective / inefficient learning 8. Organizational transformation	1. Flexibility 2. Learning 3. Feeling of transcendence 4. Motivation to improvise 5. Addictiveness 6. Competitive 'trainwreck'	1. Flexibility 2. Learning 3. Feeling of transcendence 4. Motivation to improvise 5. Addictiveness 6. Competitive 'trainwreck'	1. Healing patient 2. Improving therapist / patient relationship 3. Isolating the patient	1. Flexibility 2. Learning 3. Formalization of ineffective improvisations

Other characteristics	1.Not divided in degrees 2. Retrospective 3. Improvisational groups are grown, not implemented 4. Close relationship with stakeholders 5. Space-biased coordination 6. Improvisation can be rendered partially explicit 7. Competitive and cooperative	1. Divided in degrees 2. Retrospective 3. Improvisational groups are emergent 4. Players are distant from the audience 5. Time-biased coordination 6. Improvisation can be rendered explicit 7. Cooperative	1. Not divided in degrees 2. Retrospective 3. Improvisational groups are emergent 4. Players are very close to the audience 5. Space-biased coordination 6. Improvisation cannot be rendered explicit 7. Competitive	1. Not divided in degrees 2. Retrospective 3. Improvisational groups are implemented, not grown 4. No audience 5. Space-biased coordination 6. Improvisation can be rendered explicit 7. Cooperative	1. Not divided in degrees 2. Improvisational groups are implemented, not grown 3. No audience