Devin Vodicka
May 10, 2001

Jazz and Leadership

In the seminal text The Leadership Challenge, authors James M. Kouzes and Barry Z. Posner identify five key elements of leadership. One of the fundamentals is the creation and adoption of a shared vision, which includes envisioning the future and enlisting others to attract people to common purposes (1997). Peter Senge also includes shared vision as one of the cornerstones of his five disciplines, emphasizing the idea that a common vision creates "creative tension" which motivates action to move current reality closer to the ideal (1994, p. 299). In a review of prominent leadership theories, Northouse indicates that "vision is the focal point for transformational leadership" and that the vision provides a conceptual map for the direction of the organization and helps to create a common identity (2000, p. 144). Given the recurrent emphasis on the importance of vision from such a diverse array of leadership experts, it seems wise to utilize this opportunity to revisit my own vision and incorporate the tenets of theory into the structure and form of my ideal future. As is suggested by Kouzes and Posner, the vision statement will use a metaphor as a central theme in articulating the ideal and making a potentially complex conceptualization easier to internalize and accept. Jazz music will be the central analogy, focusing on the elements of swing, improvisation, and call and response. These elements will be connected to recent scientific advancements in chaos theory, quantum physics, the study of living systems, and complexity theory. Finally, I will connect the key concepts to a school environment, making the abstract more concrete for my target audience—a typical elementary school staff.

Vision

Kouzes and Posner describe several characteristics of compelling visions that will be integrated into my personal utopia. First, the use of images or "word pictures" must be prevalent, allowing an internal conceptualization of the vision: "Because visions exist in the future, leaders have to get others in the present to imagine what the future will look like, feel like, sound like, and even smell like … your vision—an intangible—must be made tangible" (1997, p. 145). Second, the visionary leader must use examples that people can relate to, such as Dr. Martin Luther King, Jr. used to personalize his vision in the "I Have a Dream" speech. Dr. King continued to identify locations that may be proximal to the listener, creating a context for locating his ideal in an identifiable locale: "… So let freedom ring from the prodigious hilltops of New Hampshire. Let freedom ring from the mighty mountains of New York. Let freedom ring from the heightening Alleghenies of Pennsylvania! Let freedom ring from the snowcapped Rockies of Colorado!" (Kouzes & Posner, 1997, p. 127). Penultimately, the repetitive use of a particular phrase or theme has also been demonstrated to be an effective element in enlisting others to the vision—this is also evident in Dr. King's speech with his frequent reiterations of "Let freedom ring." Finally, the leader must have personal conviction about the dream for the vision to be compelling for others. This is reminiscent of the idea the message will not be credible if they don't believe the messenger.

Although the integration of these elements into the jazz vision should be seamless for an average audience, it is important to clearly identify the strategies that will be utilized for each of the components of compelling visions. In a group presentation, use of music itself will be helpful in making the vision tangible. In limited media presentations such as this paper, use of drawings, paintings, and photographs will be incorporated to help create the feel of a jazz club. Although many people are not students of the discipline of jazz, the average person has at least a cursory

awareness of jazz music and may be familiar with some of the key personalities and songs that will be used to exemplify the vision. Repetition will focus on the three key elements of jazz music: swing, improvisation, and call and response. This triumverate of ideas will connect with all other strands of thought presented subsequent to the definition of jazz. Although it is difficult to demonstrate conviction through text (Kouzes and Posner focus on the power of nonverbal communication in their discussion of personal conviction), it is my fervent desire that the use of powerful language will facilitate the expression of deep conviction. I truly believe that there is great potential in reframing organizational paradigms to align with the principles of jazz music, which we shall see also connect with the emerging concepts of the new sciences.

Jazz

What is jazz? The obvious answer is that jazz is a form of music that is used as a form of expression or entertainment. However, jazz theorists have identified three elements that differentiate jazz music from classical music, rock and roll, and other well-known musical genres. These special features are: swing, improvisation, and call and response. After defining these attributes, a comparison with the tenets of new scientific discoveries will reinforce the dramatic potential of the apparently simple characteristics.

Swing refers to the harmonic convergence resulting from generally accepted rules about the structure of the music. Most musical compositions include rhythm and harmony, and jazz has unique definitions of each of these concepts. Rhythm in jazz always includes an emphasis on the second and fourth beat, creating a lively feel to the music. For this reason, some people have used the nonsensical language "be-bop be-bop" to describe the cadence of jazz rhythms. In contrast, classical music generally stresses the first and third beats, exemplified by the Maurice Sendak-like waltz tones "oomp-ah oomp-ah." In addition, the musicians mutually agree on the duration of the

measures, which are typically twelve-bar blues or 32-beat measures. Chord structures that create the harmony are also predefined, such that a pianist or guitarist can begin the movement with a sample of the chord progression and almost instantaneously communicate the general structure of the entire piece. Typical I-IV-V progressions are part of the "language" of jazz, creating a common context for the more creative and unpredictably aspects of the music (Gridley, 1999; Folley-Cooper, 1997).

Typically, a jazz composition will begin with a pre-arranged section to establish the swing feel and harmonic structure, then proceed with a succession of rotating "solos" which are improvised by various musicians. Improvisation, coming from the Latin *im+ provisos* for "not provided" or "not foreseen," is a definitive hallmark of jazz music. According to jazz theorist Robert O'Malley, "The jazz improvisor's solo statement not only tells the soloist's own story … but must complement the composer/arranger's overall conceptions" (Folley-Cooper, 1997, p. 43). The art of improvisation requires mastery of the instrument, as a soloist must be able to instantly respond to internal (his or her own emotions) or external (slight changes in the phrasing of other musicians, the responses from the audience) stimulus with a coherent composition. Once the performance has begun, "the ability to play is the thing. Technique, however painfully earned, is taken for granted and 'forgotten.' When the bandleader points to you, can you create a composition on the spot? With little or nothing formally provided, are you composed? Can you improvise? Can you play?" (Folley-Cooper, 1997, p. 43). This improvisational element allows room for experimentation with ideas in the musical structure, innovations in phrasing, ways to complement the contributions of other musicians, and room to "stretch and improve the performance of the group" (Smith, 2000, p. 6). While the swing element is rule-bounded and predefined by an identified composer, improvisation is decentralized, unpredictable, and creative.

The final definitive attribute of jazz music that is the prevalence of call and response. Easily identifiable examples of call and response include a preacher call and congregational repetition or

the blues singer's alternating lines of song and guitar fills. In jazz, the call and response can be subtle, such as the interplay between left hand chord structure and right hand improvisation on the piano, or overt in a public contest between two horn musicians exchanging increasingly complex improvisational phrasings. Interestingly, the phenomenon can also extend to the audience: "the call and response circle in jazz often widens to include dancers and listeners who are not dancing, but whose rapt attention and well-timed foot tapping become part of the total performance" (O'Malley in Folley-Cooper, 1997, p. 85). The call and response circle can be seen as a circuitous flow of information, within and across musicians and listeners. The information changes subtly in the rephrasing and repetition, leading to an iterative quality in which subsequent play builds on the unanticipated development of previous responses.

Sidney Bechet, commenting on jazz music, stated: "If you know in advance every note you're going to play and just the way you're going to play it … you can't even stay interested. Music like that, you could almost make a machine play it for you" (Folley-Cooper, 1997, p. 65). On the other hand, improvisation has a disruptive effect on routine behavior that is necessary for success (Brown, 2000). Using internal guiding mechanisms and feedback from peers and audiences, jazz music straddles the divide between harmony and disruption, maintaining balance on the edge of chaos with grace and a misleading facility of action. Takeo Fijisawa, the co-founder of Honda, described the sounds of an organization in jazz-like terminology, claiming that "you must orchestrate the discordant sounds into a kind of harmony. But you never want too much harmony" (Cooper & Sawaf, 1997, p. 109).

In the world of jazz, leaders must continually balance the apparently oppositional forces of swing and improvisation. To personalize this challenge, it is necessary to present brief narratives of several of the giants of jazz who found innovative ways to succeed and challenge the boundaries as bandleaders. The acknowledged master of jazz composition is Duke Ellington, whose technical

ability as a musician is often overshadowed by the innovations as an arranger that changed the face of jazz. Ellington is well-known for empowering and developing the talent of other bandmembers and for his creative integration of talents into a cohesive whole. Perhaps the most stunning of his inventions was "voicing across sections," in which he re=wrote the rules of big band music. Traditionally, sections consisted of all trumpet players, all saxophone musicians, all trombones, or any other instrument grouped together. Ellington was the first to experiment with sections consisting of multiple instruments playing in conjunction. For example, an Ellington section might have a trumpet, saxophone, and two trombones as a unit—instruments which previously were considered to be discrete units. This innovation allowed Ellington to create novel textures and sounds and exemplifies a systemic approach to leadership. Here, Duke perceived connections among seemingly separated fragments and unified them through reconceptualizing the role of instrumentation (Gridley, 1999).

Miles Davis developed a reputation as a bandleader through the development of protégés such as John Coltrane and Bill Evans, each of whom went on to become legends in their own right. In addition, Davis is credited with the invention of tonal or modal jazz, which simplified the improvisation structure to create more of a "cool" feel to the music. Davis went on to be a pioneer in the world of jazz rock, exemplifying a continual pursuit of innovation. John Coletrane, considered to be the greatest technical musician in the history of the jazz saxophone, stretched the boundaries of modal jazz by incorporating some of the tenets of free jazz, which has no rhythmic or harmonic structure. Free jazz was developed by Ornette Coleman, who felt that jazz was overly constrained by the rules of swing. Coleman instructed his drummer not to keep time, his bassist to play arrhythmic lines, his pianist not to play chords, and would not allow any band member to create predefined arrangements. The result was total chaos—free jazz abandoned one of the three fundamentals of jazz and met with resounding failure. It required the genius of a Coltrane to find an

equilibrium point between free jazz and modal jazz, creating a harmonic, yet less-restrictive sound that pleased audiences and critics (Gridley, 1999).

Bill Evans is included in this discussion due to his recognition and utilization of the talents of others to improve the dynamics of the whole. Evans, also a Miles Davis discovery, redefined the role of the rhythm section through his work with bass player Scott LaFaro. Jazz tradition calls for the bass player to match the timing and accenting of the drummer to create the swing feel from the rhythm section. Evans recognized that LaFaro possessed the requisite skills to play more of a lead role and share in the improvisational role. The result was a striking new sound for small combo jazz and a new perception of the role of rhythm musicians (Gridley, 1999). The innovations from Ellington, Miles, Coltrane, and Evans are evidence that there exists a great deal of freedom and possibility while adhering to the three fundamentals of jazz: swing, improvisation, and call and response.

The five disciplines

Peter Senge's work on learning organizations focuses attention on five disciplines: personal mastery, shared vision, mental models, team learning, and systems thinking (Senge, 1994).

Comparing the five disciplines with the three attributes of jazz is revealing of the powerful precepts of jazz music and its applications for organizational development. The concept of personal mastery, defined as an awareness of current reality contrasted against a personal vision, has an explicit connection with the improvisational aspect of jazz. Each musician, though practice and reflection, develops a unique voice that becomes manifest during improvisational moments. Without the clarity that arises through personal mastery, improvisation would be uninspired and would lack creativity.

Mental models refer to the tacit assumptions that shape our worldview (Senge, 2000). In the jazz realm, these mental models filter information exchanged through call and response, affecting the flow of information and the responses of the participants. Senge suggests two aspects that are fundamental to improving mental models: reflection and inquiry (2000). In jazz, reflection is made possible through rigorous practice in a non-performance environment. Inquiry is evident in the continuous study of other musicians and in the conversational aspects of jazz music.

Shared vision, or the commitment to a common purpose, is central to the development of swing in jazz music. Shared vision can be described as "the set of tools and techniques for bringing all of these disparate aspirations into alignment around the things people have in common" (Senge, 2000, p. 72). In jazz, musicians subscribe to the predefined rules and roles necessitated by the purposeful creation of harmonic swing. Talented individuals rotate roles as support providers (rhythmic or melodic) and soloists (improvisers) through measured and prescribed formats. That is, individuals sublimate their individual needs for the good of the group with an understanding that they will have a chance to showcase their unique gifts and creative aspects. Free jazz, the atonal madness resulting from a lack of swing, is a testament to the exigent necessity of a common purpose.

Team learning, best achieved through dialogue, has connections with the call and response exchanges in jazz and the concept of separating performance and practice. Jazz musicians practice in a safe environment at great length to prepare for short bursts of performance. Team learning requires a similar practice field where participants can experiment and refine their skills without being overly concerned with outcomes. Senge makes it clear that organizations have noted dramatic benefits from prototyping processes and the process of creating dialogue, reinforcing the importance of team learning (1994).

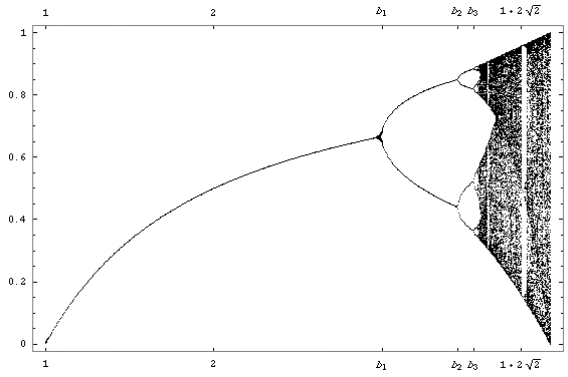
The fifth discipline, systems thinking, relates to developing an awareness of complexity, interdependencies, change, and leverage (Senge, 2000). This is reminiscent of the innovations that Ellington and other jazz legends implemented to restructure and reshape conventional definitions and arrangements. Instead of perceiving the big band as a collection of separate units, Ellington used voicing across sections to create a new understanding of interdependence and the complex possibilities of the group.

The five disciplines of learning organizations clearly have relationships with the central tenets of jazz music, indicating the timelessness and brilliance of precepts developed decades ago. Swing, improvisation, and call and response are concepts that connect with shared vision, personal mastery, and team learning. Given the dramatic success of learning organizational theory, it seems apparent that presenting some of the complicated ideas derived from the five disciplines in the context of jazz music helps to make the abstract tangible and makes use of images and sounds to develop a compelling vision.

New Sciences

Chaos Theory, exemplified through diagrams of pitchfork bifurcations and strange attractors, is also very much connected to the tenets of jazz music. Using computational analysis of

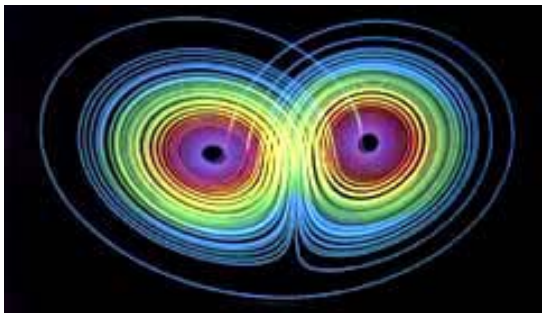
non-linear, iterative systems, graphic representations such as the following have been used to convey the dynamic complexity of chaos in mathematics and scientific understanding.



The graphic models the progression of an animal population, beginning with a stable system and becoming increasingly complex as the parameters rise. Each "split" represents a bifurcation, the emergence of multiple possibilities. As the bifurcations increase, the complexity of the system also becomes greater until the system becomes chaotic, at which point the relative complexity decreases (Gleick, 1987). Jazz music, in balancing swing and improvisation, resides on the edge of chaos, jumping between predefined order and harmony and unpredictably and indeterminate individualism. Using the algorithmic information content (AIG), mathematics clearly demonstrate that this border region possesses an extraordinary capacity for creativity and development (Gell-Mann, 1994). Music that is too stable and orderly lacks the dynamism and vibrancy of jazz. Free jazz, with no structure whatsoever, demonstrates that excessive individualism and a lack of structure is also unproductive. Despite the fact that chaos theory hadn't been discovered, the legend Miles Davis was aware of the tension that exists on the precipice of chaos: "I guess that experience took me someplace in my head I hadn't been before. To some frontier, the edge, maybe, of everything possible" (Folley=Cooper, 1997, p. 79).

Nonlinear systems feedback on themselves, a process which also contributes to unpredictability and novelty. This is reminiscent of call and response, where information is passed

between participants to guide future actions. Steve Lacy describes the phenomenon in musical terms: "Each thing you hear determines the direction that you go. You just follow the music, and if you follow the music you can go anywhere" (Folley-Cooper, 1997, p. 51). The study of chaos has shown that, just as the improvisation of the soloist is constrained by the harmonic structure within which the performer operates, nonlinear systems are similarly bounded. The unidimensional interval graphic of a nonlinear system indicates that, despite the lack of predictability on a small scale, patterns emerge that allow for prediction in general terms. Below is a picture of an oscillatory strange attractor (Gleick, 1987).



The study of subatomic phenomenon has led to the development of a body of theory known as quantum mechanics. Quantum physics contains three cornerstones: Heisenberg's Uncertainty Principle, wave/particle duality, and Bell's Theorem of Non-local Influence (Herbert, 1985; Greene, 1999). Without delving into the technical details, the Uncertainty Principle correlates with the improvisational element in jazz and corresponds to indeterminacy and unpredictability. The wave/particle duality is reminiscent of the swing/improvisation dynamic in which a soloist is both simultaneously following the prescribed guidelines on a global level yet is exercising local control and unpredictability as an individual. Non-local influence relates specifically to call and response, demonstrating the connectivity between participants and the audience (Greene, 1999).

Complexity theory, the study of the border region between chaos and order, is an emerging multidisciplinary science that attempts to generalize basic rules of self-organizing, adaptive systems

(Waldrop, 1992). Waldrop identifies three characteristics of such systems: local control, experimentation, and feedback. Again, these three attributes seem to correlate, respectively, with improvisation and call and response. According to complexity theory, the feedback guides the system to the edge of chaos—somewhat akin to a fictional Ornette Coleman free jazz beginning that evolves into a more structured composition as a result of poor audience reaction to the initial dissonance and reinforcing reactions when harmonic confluence exists. Economist Edgar E. Peters defines complexity in slightly different terms which also correspond to jazz: purpose (related to swing, harmony, shared vision), feedback and decentralization (call and response and improvisation), adaptation (call and response), chance (improvisation), and rules (swing) (1999).

Finally, jazz can be seen as a living system. Joel de Rosnay defines a living system as containing three attributes: self-preservation, self-reproduction, and self-monitoring (2000). Self-preservation can be linked with swing, as the musicians have mutually agreed to make sacrifices for the well-being of the group. Self-reproduction, often explained in terms of DNA, is akin to the individualism expressed through improvisation. Self-monitoring refers to the use of feedback as a guide, which correlates well with call and response.

Conclusions

From the study of chaos theory, quantum physics, complexity, and living systems, one can say that all of those systems are governed by three fundamentals: purpose, participation, and feedback. Not surprisingly, these three principles relate to swing, improvisation, and call and response. Schools need to reflect on these three concepts and ask themselves:

1) Does the school *swing*? Is there a set of mutually agreeable concepts that create the building blocks of a shared vision? Is there coherence within the organization?
2) How does the structure support *improvisation*, decentralization, and local control bounded by the harmonics of a shared vision?

3) How does the school use *call and response* to take advantage of the feedback generated within and across communities or learners, teachers, and parents?

According to the new sciences, reality exhibits a scalar or fractal quality in which each level of scale resembles each other. Applying the three definitive characteristics of jazz music, themselves parallel to the foundations of new sciences, to schools represents a fundamental shift from traditional orientations of education. This vision is not so much a graphic representation, but an auditory dynamic potential that exists within each of us. Like the vibrations of a string resonating around us, we must get in tune with the natural brilliance that mankind is just now discovering. The author James Baldwin best articulated this alignment of music, nature, and man: "The music. The music. Music is a moment. But life's a long time. In that moment, when it's good, when you really swinging—then you joined to everything, to everybody, to skies and stars and every living thing … You know, the music don't come out of the air, baby. It comes out of the man who's blowing it" (Folley-Cooper, 1997, p. 61).

John Coltrane