

# Silence, Patterns, Structures

## Music and Improvisation within the Context of Organisational Praxis

---

*Michael Spencer*

### INTRODUCTION

I have approached my contribution to this collection of papers as an empirically based practitioner. That is to say, my comments are based upon a wide range of opportunities to observe musical process both as a performer and as a facilitator of interactive, educational arts-based workshops. Although I studied formally as a classical violinist and had the opportunity to perform at the highest international level with the London Symphony Orchestra, these experiences have served more as a springboard into many other avenues of involvement distant from my musical training. My workshop practice has been similarly diverse and given me the chance to work across cultures, age ranges, sectors, levels of ability, and with groups both large and small.

Later in this paper I will discuss in greater detail the content of some of these workshops including observations arising from the experience of working with music in non-conventional circumstances. Improvisation plays an integral role in this, influencing both material outcomes and the social interactions and bonds that form during the course of a workshop programme. I will begin by addressing the origins and nature of the art form upon which the research for MICC<sup>1</sup> study has been based. The reasons for this are twofold; cultural and socio-physiological.

It is a fact that our musical opinions are heavily influenced by the culture within which we grew up, and research suggests that we start to develop our own unique musical identities and preferences from approximately the age of seven (Lamont, 2002). So, our perceptions of what may or may not be considered music will differ considerably depending upon the nature and degree of immersion we have experienced from childhood.

---

**1** | Music, Innovation, Corporate Culture. University of Duisburg-Essen ([www.micc-project.org](http://www.micc-project.org)).

The socio-physiological reason is important because of the integrated role music has played in our development as human beings and how it is both a product of, and an influence upon our biologies and social interactions. In-depth studies have revealed the importance of music in building and reinforcing social groupings (DeNora, 2000), and there is a significant body of neuroscientific research showing music to have cross-modal properties and a complex interrelated weave of processing functions that reach across the brain (Cross, 2003). These statements are in reality two sides of the same musical coin and emphasise how much we are indeed ›hot-wired‹ for music.

We frequently gauge our musical experiences in terms of depth of emotional connection. However, this restricts us to a comparatively narrow band of assessment and one that tends to deny the effectiveness of music when applied to other domains. In effect it becomes reduced solely to the role of elaborate decoration. If we appreciate how much our personal judgement is skewed by pervasive external influences on our musical perceptions, and understand the deep-seated relevance of music to our development as human beings, it encourages a more forensic view of music and its processes.

Generally, music tends to be classified as either a skill, such as that acquired from learning an instrument, or as a service, for example in the form of entertainment. These are both concerned with the performance aspects of music and for most people are perceived as having tangible value. For the purposes of using music as a learning device however, whether practical or metaphorical, it requires us to consider music as a process. That is to say, the action by which a composer creates a piece of music, or the means by which a performer or an ensemble prepares for and delivers a performance whether this be improvised or based on an existing piece. In this guise music takes on a deeper significance and one that is germane to this research topic.

Therefore I feel it helpful to consider music's origins and physical properties in order to establish a common point of reference for this discussion.

## ORIGINS

Anthropologists have suggested that the first music-like utterances made by Man may have been 2 million years ago, long before we developed referential speech (Mithen, 2005). The DNA of these vocalisations remains with us today in the prosodic patterns that enhance the content of our speech. They create heightened meaning by adding stress, rhythm, and intonation to our spoken words. We know, for example, from the ›interrogative‹ upward lift of the voice at the end of a sentence that a question is being asked. These types of speech patterns are universal (Bryant, Gregory A., Bennet, H Clark, 2005) and are of particular relevance when addressing young children. Technically this is known as Infant Directed Speech, and it is not too great a stretch to move from this form of heightened speech into song.



Figure 1: *Homo Ergaster*

It is suggested that originally these non-verbal sounds had a practical purpose in helping to establish bonds between tribe members, and differentiate them from others (Mithen, 2005). Over generations they became more ornate, eventually creating formalised structures that evolved into a rich canon of indigenous song that served many different social purposes; ritualistic, story-telling, informational, signalling, preservation of heritage etc. Fundamentally, music was an elaborate aural tool for defining and affirming social relationships and we still hear its modern counterparts on the football terraces today. Each culture has its own distinctive

indigenous music and it is frequently associated with physical movement (Sievers et al., 2012).

A high percentage of the music to which we listen has a regular metre of two beats. The reason for this is thought to relate to the fact that we have two legs and move rhythmically. Dance has always been associated with music and we can see, for example, how this is perpetuated currently if we observe the clubbing scene amongst young adults. The commercial music industry thrives on its dance music catalogue. At base level the glue that unites the dancers is a shared sense of pulse, and pulse is fundamental to most forms of music.

Some years ago I was director of the music project for the Royal School for Deaf Children. We frequently worked with children who, in addition to being deaf, had many other disabilities. These ranged from mobility restrictions to autism, visual impairment and so on. A common challenge for these children was the development of an adequate level of interpersonal social skills when standard methods of communication were more restricted. It was during one series of workshops we came to realise that many of them were able to maintain and share a common sense of pulse; an immediate challenge to our own assumptions about deafness. If they were able, therefore, to feel a pulse together, there was the potential for creating a viable ensemble.

Over a number of workshops they became increasingly secure in developing this fundamental musical skill, and started to take turns in adding more sophisticated rhythmical patterns over the top. Eventually we helped them form their own simple samba group; essentially, samba is constructed from the iteration of simple rhythmic motifs over a constant pulse, this forms a reinforcing spiral of effectiveness as the ensemble becomes better integrated. The physicality of performing on basic percussion elements also helped to create a more cohesive ensemble.

This stepwise progression of layering, from simple rhythmic patterns to more complex compound structures, enabled the participants to build sophisticated poly-rhythmical structures and in time they became a self-organising ensemble. Interestingly, this structure worked best when the core pulse came from within the group rather than being imposed from an external source i.e. the teacher or the facilitator, and its periodicity often seemed to relate closely to the frequency of a natural heartbeat. For the participants it created an intense socialising experience, possibly for the first time, and over the following weeks there was a dramatic change in their ability to interact with each other in contexts away from the music project.

Even at this basic level we can see how musical processes can lead to the creation of strong cohesive bonds and generative action. Whilst general perceptions may hold that music creation is a highly sophisticated activity, in essence, the way music functions is relatively simple; by organising its simple basic components in accordance with certain rules and conventions. The manipulation of patterns is fundamental to this.

## COMPONENTS

Nucleotides are the four building blocks of DNA that clump together in two ›base pairs‹ to form the strands of DNA. Music too has its own base pair. Frequency and time. They exist interdependently and it is from their management that the components for the creation of all musical styles are made.

»Music is the depiction of the passage of time in sound.« (Sir Peter Maxwell Davies. Composer)

The components of music are rhythm, melody, harmony, dynamics (i.e. loud, soft etc.), timbre and silence. Rhythm, melody, harmony and silence combine to build structures. Dynamics and timbre are nuances that are employed almost in the same way herbs and spices are used in cooking to emphasise and contrast flavours and colour.

Different genres of music are created from the manipulation of these components according to sets of rules and conventions that are in turn dictated by culture and context. For example ›samba‹ sounds like samba because of its rhythmic, melodic and timbral qualities and these emerged from the collision of African, Spanish and indigenous South American cultures during the period of the slave trade.

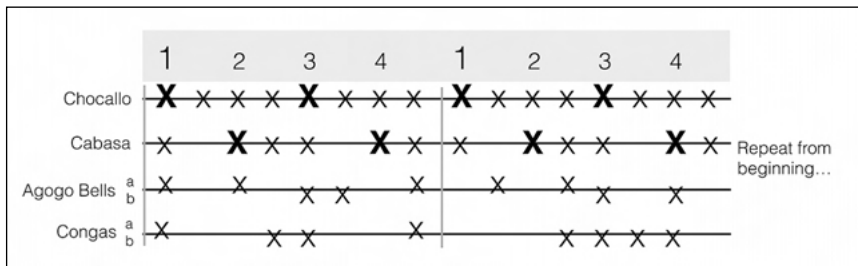


Figure 2: Samba Schematic

These components have a hierarchy and except for certain free form genres, rhythm takes the dominant role. It usually sits within an implicit metre (2 beats, 3 beats, 4 beats etc.) which remains constant throughout a piece of music, but not necessarily exclusively so. One of the advances in classical music during the 20<sup>th</sup> century, from Stravinsky onwards, was the juxtaposition of contrasting meters.

Within this metrical framework of music, almost irrespective of genre, you will find widespread use of the periodic repetition of rhythmical patterns that be contrasted, modified or embellished. Consider the simple children's song *Frère Jacques*.

It consists of three repeated rhythmical patterns.

The second, which could be considered a modification of the first, is repeated at the end of the song. The third pattern is an embellishment of the first.

Pieces can be created from rhythm alone (c.f. Reich, Clapping Music), however to form melodies rhythm has to intertwine with systemised patterns of pitches known in the West as scales or modes. Again, the periodic repetition of patterns plays an important part. Consider Frère Jacques once more. The first half consists of two repeated melodic patterns each of three rising notes (Fig. 3a, 3b).



Figure 3a: Frere Jacques

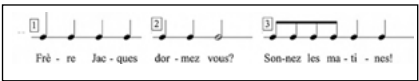


Figure 3b: Frere Jacques Rhythmic Patterns

Harmony is largely a Western concept. The sophisticated harmonies used in larger ensemble pieces such as those by Gil Evans or Pierre Boulez, or the complex polyphonic structures of J.S Bach, were only possible because a system was devised to coordinate separate musical lines within a set time frame. A music score determines both pitch and temporal alignment and its origins go back to the 11<sup>th</sup> century when a Benedictine monk, Guido d'Arezzo, first devised a system for notating pitch. It wasn't, however, until the 14<sup>th</sup> century that the systematic method of notation upon which our current system is based was devised, including a method for measuring the passage of time. Immediately prior to this an alternative method of coordinating simple polyphonic vocal lines by the use of short, reiterated, fixed rhythmic patterns or ›modes‹ was attempted, but this method was short-lived and localised.



Figure 3c: An inverted version of Fig. 1 (X) that is embellished.  
This is repeated, as are the final two measures.

By way of contrast, because music of non-Western origin doesn't apply this method of organising multiple voices vertically in a score, its essential characteristics concern more the creation of highly nuanced and linear solo melodic lines.



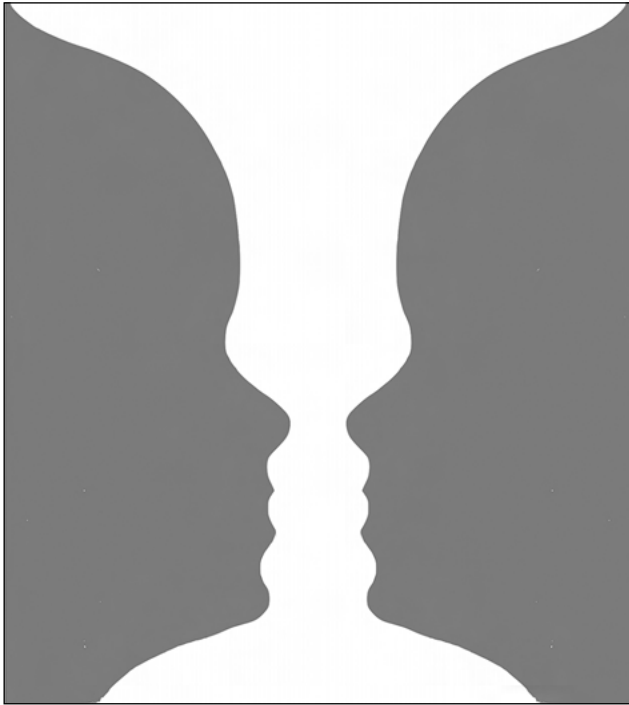
Figure 4: *Sumer is icumen in*

Chords are created by distributing notes of different pitches in vertical patterns. Although simple harmony can be created from static, sustained chords, for example as in the manner of bagpipes or hurdy-gurdies, more usually harmonic structures are created from the linear progression of chords each of which has a musical relationship with those on either side. The notes used within a chord and the way in which their relationship is defined is largely determined by historical or cultural context. For example, the harmonies of art music in the late 19<sup>th</sup> and 20<sup>th</sup> centuries is much more chromatic than that of the 18<sup>th</sup> century. Blues from the Delta is harmonically much simpler than the modal jazz of Miles Davis.

Musical structures are the framework which house the patterns created from the components of rhythm, melody, harmony and silence, and they function much in the same way that a building gives sense to the materials from which it is made.

Silence holds an interesting place in music making. It is not simply a period marking inaction. For the composer John Cage, the iconoclast who composed >4'33<, silence provided a viable performance space from which one could witness the sounds of the patterns of everyday life (Cage. 1973). For an ensemble, when a voice or instrument falls silent, it indicates an implicit change in musical texture. Silence in musical improvisation is often an underused component but it provides a period for observation and reflection for the performers in an ensemble. In fact we never really experience true silence because we live our lives to the sound of our own heartbeat and nervous system. The nearest experience to silence one can achieve is in an anechoic chamber. This, however, is also a highly disorienting experience because we lose all sense of the considerable locational information provided by our auditory system.

In my own practice I encourage the idea that music is in part shaped by the silences that both surround and are embedded within it. Artists use a similar construct as a drawing aid. ›Negative space‹, the void that surrounds an object, is used to define the shape of an object rather than its more obvious ›positive form‹ (Edwards. 1979). In this way sound and silence complement each other in a relationship where one could be considered Ying to the other's Yang.



*Figure 5: Rubin's Vase*

In the architectural design of buildings, the materials have little intrinsic meaning when viewed independently. Although they may carry innate potential it is the establishment of the relationships between them during the design and construction stages that bring sense and meaning. So it is with the components of music.

## PATTERNS IN MUSIC

Essentially, music making is an exercise in the management of expectation. Creators achieve this by applying their judgement and sensibilities to manipulate aural patterns created from music's components. How these are balanced influences the auditory processing of their listeners' neurological functions and the degree of emotional engagement. Research shows that the iteration and disruption of



musical patterns creates neurological activity that bears a direct relationship to the building of expectation (Abdullah & Plumbley, 2010). There is also evidence linking the sense of anticipation and pleasure received from listening to music with the stimulation of dopamine production. This has a direct influence on our reward system as it mediates the reinforcement of positive stimuli. (Salimpoor et al., 2010).

In simple functional terms, music can be considered as a sequential series of cycles each of which has a structure consisting of four stages created from a series or matrix of repeated patterns. Stage 1 is a state of equilibrium. Expectation starts to build through Stage 2 when the emotional tenor is intensified to the point of disruption, Stage 3, which marks the point of climax. The resolution, Stage 4, returns to the next state of equilibrium from which the process is repeated. It can happen on an expansive architectural scale such as Beethoven's *Egmont Overture*, or in miniature, as in the opening motive of *'Take That'* (Miles Davis). The patterns are implicit within each musical structure but may have different degrees of prominence.

This overt and extended use of simple patterns is a predominant characteristic of the genre known as minimalism, and composers such as Phillip Glass or Steve Reich have created extensive structures almost entirely from the interaction of evolving pattern structures; Glass's *Einstein on the Beach* lasts over five hours.

Gestalt principles suggest that our psychological tendency towards sense making, conceiving incomplete objects as a unified whole, assists in the recognition of patterns even when they are barely perceptible. For example, during the process of improvisation, as a jazz performer leads the audience away from the original statement of a *'standard'* into a more elaborate rendition, the connection with the original remains implicit. This is often achieved by maintaining the pattern of harmonies that underpin the original melody. The evolutionary nature of this process helps the listener to maintain and comprehend the connection. However, were the listener to join the performance mid-way the connection with the source material would not necessarily be quite so readily perceived.

In the preface to his book, *'Sensemaking in Organisations'* Karl Weick described a similar process but within the context of social dialogue. »You are being thrown into the middle of the sense-making conversation with only a vague idea of how it constitutes a perspective. But as you listen, you will begin to see patterns as well as create them, which coincides with a move from the periphery to the centre« (Weick, 1995).

When patterns are concealed to the level at which they become undetectable and with little by way of reference points, for most people this seems to be the moment at which musical comprehension becomes most challenging. The later music of Arnold Schoenberg and his successors was organized by the systematic use of patterns in a form known as serial or 12-tone technique. This method is simple in concept, however the aural result was highly complex with few obvious structural indicators or easily identifiable patterns. The result was music that is

still, for many listeners, perceived as being chaotic and without form when in reality it is highly structured.

As the middle of the 20<sup>th</sup> century approached and more avant-garde, experimental styles of music making emerged, greater challenges were offered to audiences demanding much more of their listening skills and sense-making processes. It also required a redrawing of the boundaries with regard to what constitutes music and how it should be newly perceived; a redefinition of its axes and variables as it were.

A similar sort of realignment was needed by the mathematician Lorenz when he created a more comprehensible visual realization to explain his mathematical model of a chaotic strange attractor; in this case a mathematical system for defining atmospheric convection. He took the model's three non linear equations and by remapping them in three different dimensions produced the ›butterfly‹ pattern which, because of its new visual domain, gave a more immediate and tangible understanding of its operation. (Wheatley, 1992).

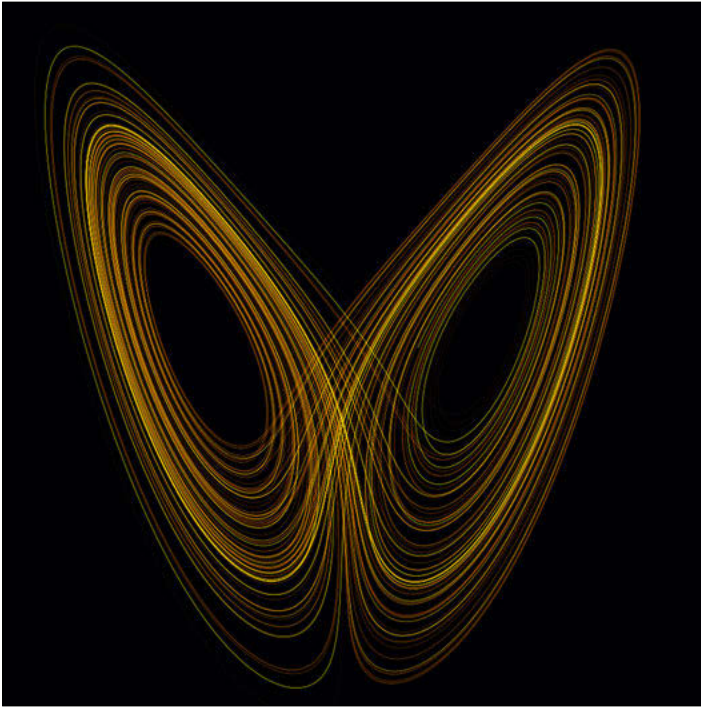
The nature of the transaction between composer or performer and listener could perhaps be considered a form of knowledge transfer where the coherency of the information being transmitted is determined largely by the degree to which the patterns received are identified subliminally. This relies both upon the information content and the manner of its presentation. In other words, patterns received and recognized as being familiar or derived from source material with which an association can be created are more readily accepted than those that are more unconventional and distant from the experience of the listener.

Steve Reich commented on this in an interview evaluating the success of the minimalist movement:

»[...] it was a restoration of harmony and rhythm in a whole new way, but it did bring back those essentials that people wanted, that people craved, but in a way they hadn't heard. Now, we're living back in a normal situation where the window is open between the street and the concert hall.« (Petridis, 2013)

As a practitioner, I find that the participants who are generally more accepting of complex and innovative concepts are those with a background rich in a diverse range of provocations. Therefore, for those who have had less access to such experiences, in the practical context of a workshop, a much more measured process of reframing has to take place when introducing new and unfamiliar patterns of thinking and acting.

In 2002, during my tenure as Head of Education at the Royal Opera House, we were given the task of introducing a new opera to 1000 inner-city school students. This was *Sophie's Choice* by the composer Nicholas Maw and based on the novel by William Styron. Not only was this challenging subject matter, but also it was to be held in an unfamiliar setting and with a musical vernacular distant from that to which the young people were familiar.



*Figure 6: Lorenz' Butterfly Pattern*

In the weeks prior to the performance we ran a programme of structured, interactive workshops that encouraged personal and individual engagement with both the narrative and the ways in which the music functioned. In this way the participants acquired a fluency of understanding with the new genre. When the day arrived, during the four-hour performance the only break from the rapt concentration of the audience was when the two main characters on stage embraced. This was greeted by a chorus of wolf whistles from the balcony! A modest triumph and an object lesson in how to deal with the transmission of complex and challenging subjects.

The discussion so far has focused largely on the role of the observer or listener and their relationship with music rather than the workshop participant. As the most powerful learning experiences come from experiential participation I intend a more forensic examination of the workshop process and some of the outcomes.

## WORKSHOPS: APPLIED METHODOLOGIES

### Background

The workshop practice I employ originates from the methodologies developed for symphony orchestra education programmes in the UK in the late 80's. Orchestras were not the instigators of this type of interactive exchange however, and the type of group engagement upon which they are based has links with theatre education methodologies; in particular those of Augustus Boal and the Theatre of the Oppressed developed during the 1960s in Brazil.

The core tenet for this style of workshop is that participants are encouraged to work together in groups to create original pieces. Technical expertise is not a prerequisite even though there is considerable emphasis on practical involvement i.e. learning by doing. A single facilitator will generally lead the process, acting as both a resource and a guide. Workshops may also involve other specialist facilitators, sometimes from different art forms. The aim is always to encourage the participants to take over the creative direction of their group.

Originally designed for children the scope of these workshops has widened considerably to encompass different musical genres, artistic disciplines and participant groups. For example I have a particular speciality with working with organisations' brand and corporate communications teams and when I ran a programme for Unilever Japan I involved jazz musicians, visual artists and one of Japan's most highly regarded hair stylists.

Experimentation plays an important role in the creation of all original music, whether composed or improvised, and is fundamental to workshop practice. It allows for the generation of nascent ideas that evolve, by use of music's components, into cohesive structures. There is a four-stage pattern to this that has been described as the 'Learning Cycle' (Kolb, 1983). These are: concrete experience – reflective observation – abstract conceptualisation – active experimentation. The periodicity at which this takes place is generally over a longer time span for composed music in contrast to when performances are improvised.

### COMPOSITION VS IMPROVISATION: A COMPARISON

Formal compositional methods follow an iterative process of rebalancing and experimentation in reworking and refining the initial material produced, and the time frame over which this takes place is immaterial to the final outcome. When improvising, however, experimentation is placed within a dynamic context where reflection and conceptualisation become contracted to a state of almost instinctive response. Composer and performer become one and the safety net of revision possibilities is removed creating a higher degree of risk and, some would say, a more intense level of creativity. The risk is partially mitigated by the personal skill

of the performing artist whose practice routines create a reservoir of patterns that can be drawn on as required.

Improvisation for most people is inextricably linked with Jazz. However, Jazz is only one category of improvisation. In reality improvisation has a long and multicultural history. For example traditional music from Romania and Indian classical music often use lengthy, freely improvised preambles as an introduction to the main body of music; respectively known as ›doina‹ and ›alap‹.

In Western art music the ability to improvise was a fundamental part of a musician's training. We know from contemporary accounts that Bach and Mozart had considerable skill as improvisers. Unlike Jazz, which coincided with the invention of recording, we have no accurate representation of how they actually sounded. Instead, there remain annotated scores of musical forms such as theme and variations or inventions, which are, essentially, transcribed improvisations. Bach's Unaccompanied Sonatas and Partitas, for example, contain many movements that are improvisatory in nature and comprised of melodic elaboration around harmonic structures.

The final outcomes for these two methods of music creation – composition and improvisation – are different; one is finite and capable of reproduction, the other ephemeral and, in practical terms, irreproducible. Both, however, have a common motivation; the intention of the creator, and the purpose of the music which can also be linked to context.

Purpose is more easily defined, but the intention of the performer is more elusive. It appears to be comprised of two complementary elements; judgment and intuition. The emerging doctrine of behavioral economics gives insight into this relationship (Kahneman, 2011). It identifies two modes of thinking. System 1 relates to the primitive area of our brain that works intuitively and quickly, System 2 is influenced by cognitive reasoning and past subjective experience. They function as a ›psychodrama with two characters‹ (Kahneman, 2011), but at times of high emotional involvement System 1 tends to dominate System 2. Kahneman's research suggests that composition, because of its more deliberate and reflective nature, relates more to System 2 thinking whereas improvisation is influenced more by System 1. This is not an exclusive arrangement, however. Within an improvisation there are often moments of repose for each performer that can offer periods for reflection, and it seems that these often bear some influence on the evolving structure of the performance. Recall of what has gone before and its restatement reinforces the overall architecture of the music that is being created, and from the listener's perspective can be an aid to their sense-making process. There is, it seems, a correlation between familiarity and emotional engagement (Pereira et al. 2011). The fewer the familiar clues left by the performer the more distant the connection for the listener.

During an improvised performance, this reduction in familiar references often seems to accompany a change in focus with regard to its intention and purpose. This is represented by an almost imperceptible move in attention of the artists from engagement with the audience towards their own private discourse. In doing this they become more attuned to their own internal system of commu-

nication and less aware of their listeners who can experience a growing state of disconnectedness.

### Case Study 1

This ›outward to inward‹ modulation became noticeable in some of the work we undertook with the Intercontinental Hotel Group (IHG), and it was something that had far reaching consequences. During the course of a workshop we held in Abbey Road Studios, London, we challenged the global marketing team to create sounds/music they felt were appropriate for their brand (Spencer 2010). This presented them with two specific challenges. They were required both to work in a practical medium with which they were unaccustomed, and also to explore unfamiliar musical territories. Despite all participants sharing a deep understanding of their brand's identity, working with sound in this way subverted their familiar responses and internalized modes of communication to the point that they started to question their brand's values. In particular, the process highlighted how much they had come to rely upon their internal discrete patterns of behavior familiar only to the members of their team that alienated them from their wider global audience and front line staff.

During the discussion which followed their Director of Global Marketing suggested that although their internal conversations as a team were immediately coherent the real challenge they faced was to be able to communicate the brand message much more effectively outside of their group. And in order to do this he felt they had to leave behind their customary references and associations and explore other processes that were more attuned to their potential audience. This insight was the ignition point for what became a major new brand positioning initiative that started shortly afterwards.

We were involved in the creation and dissemination of the internal engagement programme that formed the core of this initiative, and In hindsight it is interesting to note how much the shaping of its design had resonances with the process of improvisation. We started from reference points that were familiar to the staff and began to unfold the programme making frequent use of commonly understood metaphors or patterns of behaviour from both the hospitality industry and musical practice. To this we slowly added more radical ideas that encouraged a move away from their old positioning. Within this process we also created opportunities for the staff to contribute to the transition when they felt it appropriate. Had we started mid ›performance‹, as it were, the context would have appeared too unfamiliar with the consequence of discouraging participants and reducing the level of collaboration we actually achieved. Upon its conclusion the programme was assessed as being ›the first programme that the whole company bought into without any obvious return on ROI‹ (Vice-President of Brand Delivery. IHG)

## RATIONALE AND DESIGN

The aim of workshop programmes I feel is to move participants away from the activities with which they make the most familiar associations – the equivalent of the performing and listening aspects of music – and more towards unfamiliar territory such as the processes and functions used in musical creation. Also, when using music as a tool in this arena, I prefer acoustic instruments to their technological equivalents. There are a number of reasons for this. They provoke and stimulate the participants' natural, innate musical skills; their tactile nature requires a great deal more concentration and control; they place higher demands on good, responsive teamwork and encourage a higher level of commitment in performance. These are surely desirable qualities in any organization

Past experiences and the predominant influence of the record industry are pervasive and powerful, and their impact tends to spill over into the workshop situation. In order to escape the safety net of familiarity and encourage a free and fertile innovative environment therefore, one has to encourage the participants to leave behind some of their preconceptions about what they feel may or may not constitute music. An example of how this can affect full engagement with creative work occurs often at the start of a workshop series.

On being presented with a room full of acoustic instruments the participants proceed through a characteristic pattern of behavioral responses based on past knowledge. These form a series of complex emotional barriers each of which has to be breached.

The first is the result of a mixture of embarrassment, fear, and apprehension. Unlike children, adults rarely allow their curiosity to lead them along pathways of discovery and experimentation. This is largely a product of imagined peer pressure and fear of ridicule. Where children would happily leap at the instruments without any encouragement, adults are mistrustful and tend to view them with suspicion. More often than not the instruments remain untouched.

The next barrier is a perceptible atmosphere of disdain for what the participants mistakenly consider to be a collection of children's toys rather than a sophisticated set of ›sound generators‹. The final challenge occurs when work begins with the instruments. For this I often set some very simple exploratory compositional tasks (e.g. ›Find five completely different qualities of sound on your triangle‹). Generally the room becomes peppered with familiar musical clichés firmly rooted in past associations that constrict more freely flowing creative thoughts. The role of the facilitator is to navigate these stages as rapidly as possible, although the passage through them can be equally enlightening.

Music, in this instance, acted both as a mirror and a lens on the way the participants interacted with each other, reflecting their current patterns of behavior and prompting deeper investigation into the identification and implementation of more effective supportive strategies. The feedback from the participants included

the observation that sometimes one had to look beyond the familiar in order to highlight the need for change.

### **Case Study 2**

Early in my career I was invited to run a series of workshops in Eastern Europe for an international accountancy firm as part of their leadership programme. All three emotional barriers were very much in evidence to the point that the purpose of the whole workshop started to be undermined. This collection of executives began to resemble more a classroom of unruly children than a group of influential leaders, and in the ensuing discussion that followed the participants roundly criticized the process. It came as something of a surprise to them when their department head, a senior executive in the company, pointed out that they had displayed exactly the same behaviors as they did in the workplace and that this was the reason for running the workshop. From this revelation we were able to move forwards and explore through the use of music more collaborative and supportive ways of working.

Once the induction process into the workshop environment has been successfully navigated I often include a number of activities for heightening musical awareness that build on the latent skills of the participants. For those unused to working within this medium it is unrealistic and unfair to those participating to leap immediately into creativity mode without introducing and agreeing some simple guidelines. One of the simplest applies to listening. There is a common misconception that performing is solely about the active creation of sound, whereas I would suggest that the quality of individual listening, and the silences associated with it, have an equally important role particularly in improvisation.

When improvising, the elements for which one listens are not really that dissimilar from some of the rules we use, or opportunities we take, when structuring effective conversations. Spaces give the opportunity for introducing new ideas or expanding from what has been said earlier; generative dialogues are created from the interlinking and sharing of concepts; taking turns enables different solo voices to be heard; interjections can show approval and express support for the principle speakers. One aspect in which music differs from spoken intercommunication is that it allows for several voices to talk simultaneously about different subjects, for example the sextet in the third act of Mozart's *Marriage of Figaro*. This is, however, more a matter of coordination and there are simple techniques for developing the abilities to achieve this that rely, again, on the development of good listening skills.

There is a common misapprehension that improvisation gives you the liberty to do whatsoever takes your fancy. In reality there are a number of shared rules, values and techniques for helping to create structures that are not only meaningful to the performer, but also for the listener. One effective technique is the use of constraints.



Presented with a completely open brief the tendency is to rely upon patterns and structures that have been used before, particularly those that have been successful (Stokes 2006). The use of carefully chosen constraints impedes the return to familiar ground and does not, paradoxically, detract from artistic license but encourages creativity. As the former director of the brand management consultancy Interbrand, John Simmons, puts it ›liberation through constraint‹. (Simmons 2009)

## TOOLS AND OUTCOMES

›Soundworlds‹ is a term I use for an exercise in group composition which is based largely on the use of timbre. This is achieved by the use of constraints and starts with the participants forming a large circle. Over a silent but shared pulse, each adds their own simple, clapped rhythm one after the other. The instructions for this are crucial. Simple rhythms are best; silences are helpful; try to create something different from the rhythms already in use; each rhythmic motif must remain unchanged and be capable of sustained performance over a long period. The result is, once the whole room has become involved, a compound rhythmic continuum that can then be manipulated by the facilitator or individual participants who take turns at becoming the ›conductor‹.

Because rhythmic, melodic, and harmonic development is constrained, musical creation relies purely on the remaining three components. Dynamic modification can be applied to individual or multiple motifs; timbre, by the introduction of simple percussion instruments and changes the manner in which they are played (usually one per person; tuned percussion is selected to correspond to a particular mode or scale); silence, by the removal and replacement of specific voices when indicated.

The large collaborative instrument that results can then be manipulated by the ›conductor‹ to improvise contrasting walls of sound to create original structures and textures. It also encourages both personal discipline and commitment from the performers, and emphasizes cooperative, supportive behaviors as a team. It is not unusual for this exercise to last for over one hour without the participants realizing the passage of time.

Another exercise I use often follows on from this example. I call it ›One note symphony‹ and as the name suggests, both melodic and harmonic invention is constrained to the use of one note. This is more of an extended composition task and is carried out in separate groups. It relies in particular on the negotiation and collaborative skills of the participants in addition to their creative abilities. The ›note‹ can be performed at any octave, on any instrument/s, and repeated as little or often as necessary. The removal of melody and harmony means that the participants have to rely on the use of the other four remaining musical components; rhythm, dynamics, timbre and silence. Experimentation is fundamental and improvisation often has a role both in preparation and performance.



*Figure 7: Sound World Workshop*

Both of these examples rely heavily on the integration of patterns, structures and silence. Success, however, depends on the commitment and expertise of the participants and how they combine these with their collaborative skills and creative intuition. And for creativity to prosper I would suggest that three essential ingredients are required; trust, permission and curiosity.

Trust lies in the ability to rely on your own innate skills and to acknowledge that others do also. Permission from your peers gives you the sanction to explore without condemnation. The presence of trust and permission enables curiosity to develop freely. I know of no improvising musician who doesn't employ all three as part of their professional practice, and they do so liberally and often with a spirit of playfulness. In the previous example of the leadership training programme, the emotional defence mechanisms of the participants were so deeply entrenched that it was a challenge within the time constraints of the first workshop to establish these three ingredients effectively. The reason for this was that in reality we were challenging their organizational working practices and behaviours at a systemic level.

This might, for some, raise questions about the suitability of this type of intervention in certain contexts. Experience tells me, however, that much depends upon the preparation that takes place beforehand, and also how the programme fits within the larger organizational context. This was a major contributing factor to the success of the Royal Opera House project I mentioned earlier, and also with the IHG example (Case Study 1). In both cases we were allowed the time to determine the required outcomes, research the business or cultural context, and interview the participants. With the bank we were ›parachuted‹ in as musical ›gurus‹ with the expectation of performing transformational miracles despite the

fact that we had only limited access to background information and no common understanding of the larger business context. There were also considerable cultural conflicts for them internally in addition to a disjunction between business and arts-based practice; this despite the fact that one of the managers was an accomplished pianist.

### Case Study 3

Sometimes the obstacles are created by an organization's culture and management structure within which it sits. One of the most graphic examples of this was during a programme I initiated with the graduate recruitment team in a global investment bank. The team was divided into two sections. The largest group, predominantly women, had the task of working face to face with their prospective candidates. A management team of two monitored them, and trust, permission and curiosity were obviously scarce commodities.

This area of the banking industry is highly competitive. Eligible graduates are few and the recruitment requirements for each organization outweigh the number available. There is a need, therefore, for creative, flexible and distinctive ways in which to attract candidates. Financial remuneration alone is not necessarily the ultimate inducement to give differentiation from competitors. The purpose behind our involvement was to help the team find new ways of thinking about how they might engage with this graduate market. And for this to work effectively they needed the freedom to experiment with new ideas and models.

Working with this client exposed two characteristics that seem endemic to this business sector; the almost brutalizing and aggressive nature of the working environment, and the way in which the fear of making mistakes or missing targets drove creativity out of the system. This became particularly evident during the workshops. With the larger group the experience was lively, stimulating and collaborative. When the management team were involved the climate changed abruptly. The sense of playful risk taking evaporated and almost immediately the creative activity that had been taking place became arid and lacking in vibrancy. One comment in particular stayed with me. When we encouraged the managers to allow their team the freedom to explore possibilities without their intervention, as they left the room their instruction to their team was ›You have two hours to get this right [...] and no whinging!«. The managers themselves were not immune from this system and as one of them mentioned later, had any of his immediate superiors known in more detail of the content of the workshops the likelihood would be that he would be asked to clear his desk.

Some years ago I remember taking part in a joint performance between the London Symphony Orchestra and the Lincoln Centre Jazz Orchestra; two completely different musical genres and cultures, each with rigorously organized but different structures. The reason why these types of partnerships work so well is

that alignment is created both by the preparation beforehand (i.e. the specially prepared musical arrangements that played to the strengths of each ensemble) and the powerful sense of mutual respect that is based on trust, permission and curiosity. When such interventions are positioned well, the effects can be far reaching and, as the IHG example shows, move into areas distant from the original brief.

»This process showed me that music plays a much more powerful role than I had ever imagined [...] particularly with regard to management skills and leaving room for other peoples creativity« (Senior VP Global Brand Management. Holiday Inns)

## OBSERVATIONS

The preparation of this paper has revealed three byways that I feel would merit further investigation because they relate directly to the better functioning of organisations in the current global context.

1. How, for example, are improvisatory behaviours influenced by the cultural predispositions of different societies? The separating of cultural predispositions into different dimensions by Gert Hofstede raises interesting questions with regard to the tolerance of uncertainty (Hofstede.2003), a significant element of improvisation. It is interesting to note, for example, that India and the USA are assessed as having a high tolerance of uncertainty. They are also cultures that have considerable musical traditions based around improvisation. By contrast, Japan's traditional music and its art forms in general incorporate little by way of improvisation in the normal understanding of the term, and by Hofstede's measurements it also has the lowest tolerance of ambiguity. Might improvisation therefore give insights into this cultural dimension of business?
2. Peter Senge refers to »personal mastery« as being one of the five competencies vital to the building of effective learning organizations (Senge 1990). What does personal mastery mean in musical improvisation and how might this translate into personal performance elsewhere?
3. How might musical improvisation play into new business paradigms such as the emerging entrepreneurial movement in Japan. Particularly in technology, collaborative communities are evolving that are based on trust, reciprocity and informal (more personal) relations, and characterized by a sharing of purpose, active participation, and the equal allocation of tasks and responsibilities (Toivonen 2013). Relationships within this arena seem also to possess a transience not unlike some of the internal associations that occur within the context of a jazz ensemble. Can improvisation help us understand the connections being made in the new world order more deeply?

The investigation of these territories lies beyond the scope of this paper. They do however, suggest an intriguing case for using familiar disciplines in different ways to understand better, and bring added value to the systems within which we operate.

In her address at the 2013 Leonardo European Corporate Learning Awards, Dorothy Leonard (Professor of Business Administration Emerita, Harvard University) emphasized the importance of both pattern recognition and system thinking in the solving of complex problems, and how this was a highly developed skill common to ›deeply smart‹ people (see also Leonard & Swap 2005). However, she added this important caveat.

»Whilst pattern recognition helps them [experts] make decisions, it also leads them astray. If they see a pattern and don't question the underlying assumptions, but immediately apply a familiar solution, in this case they are not open to innovation.« (Dorothy Leonard 2013 Leonardo European Learning Award, Award Ceremony Address, Petersberg/Bonn)

Musical improvisation involves the constant reworking of ideas. As in workshops, this is generally carried out in groups or ensembles. The collaborative nature of this type of engagement and the transience of the output leads to constant reassessment and challenge. It is rare, therefore, for patterns to be repeated without modification, and it is this that maintains the freshness of the content and the attention of the listener. If Leonard's proposition is that innovation is a product of pattern recognition and the constant interrogation of these, perhaps musical improvisation offers one of the purest examples of the effective exposition of this practice.

Despite its lineage and integration within societal development, music is considered by many as an adjunct to their daily lives, and certainly an experience distant from the organizational challenges that face global business. Its well-established, robust processes and use of highly nuanced human emotions and sensibilities, however, reveal, I believe, a forensic tool with a much wider potential application. In this context it is no longer an elaborate form of decoration or entertainment but it offers the promise of an alternative and provocative tool for exploring organizational behavior and ultimately, the development of alternative, humanistic solutions.

»The real voyage of discovery exists not in discovering new landscapes but in seeing things with new eyes.« (Marcel Proust)

## REFERENCES

- Abdallah, S. & Plumbley, M. (2010): Information dynamics: patterns of expectation and surprise in the perception of music. *Connection Science*.
- Bryant, G. A. & Bennet, H. C. (2008): Evidence for Universals in Infant-directed speech *Journal of Cognition and Culture* 5 (2), 233-254.
- Cage, J. (1973): *Silence: Lectures and Writings*. Wesleyan University Press.
- Cross, I. (2003): *Music, Cognition, Culture and Evolution*. The Cognitive Neuroscience of Music. Oxford University Press.
- DeNora, T. (2000): *Music in Everyday Life*. Cambridge University Press.
- Edwards, B. (1979): *Drawing on the Right Side of the Brain*. Harper Collins.
- Hofstede, G. (2003): *Cultural Consequences: Comparing Values, Behaviors, Institutions and Institutions across Organisations*. Sage Publications Inc.
- Jones, P. (2009): *A >sound strategy< for Intercontinental Hotels*. Tourism and Hospitality Research. Palgrave-Macmillan.
- Kahneman, D. (2011): *Thinking, Fast and Slow*. Penguin.
- Kolb, D. A. (1983): *Experiential Learning: Experience as a source of learning and development*. Prentice Hall.
- Lamont, A. (2002): *Musical Identities and the School Environment*. Musical Identities. Oxford University Press.
- Leonard, D. & Swap, W. (2005): *Deep Smarts. How To Cultivate and Transfer Enduring Business Wisdom*. Harvard Business School Press.
- Mithin, S. (2007): *The singing Neanderthals: The origins of music, language, mind, and body*. Harvard University Press.
- Pereira, C. S.; Teixeira, J.; Figueiredo, P.; Xavier, J. & Castro S. L. (2011): Music and Emotions in the Brain: Familiarity Matters. *PLoS ONE* 6 (11): e27241.
- Petridis, A. (2013): Steve Reich on Schoenberg, Coltrane and Radiohead. *The Guardian* online.
- Salimpoor, V. N.; Larcher, K.; Dagher, A. & Zatorre, R. J. (2010): Anatomically distinct dopamine release during anticipation and experience of peak emotion to music. In: *Nature Neuroscience*, 14, 257-262.
- Senge, P. (1990): *The Fifth Discipline: The Art & Practice of the Learning Organisation*. Doubleday.
- Sievers, B.; Polansky, L.; Casey, M. & Wheatley, T. (2013): Music and movement share a dynamic structure that supports universal expressions of emotion. In: *PNAS (Proceedings of the National Academy of Science of the US)*, Vol 110 (1), 70-77.
- Simmons, J. (2009): *Twenty-six ways of looking at a blackberry. How to let writing release the creativity of your brand*. A&C Black. London.
- Spencer, M. (2010): If Intercontinental were a sound. In: *Journal of Business Strategy*, Vol 10 (4), 39-46.
- Stokes, P. (2006): *Creativity from Constraints: The Psychology of Breakthrough*. Springer Publishing.

- Toivonen, T. (2013): Seminar: The New Economy in East Asia – Japan and beyond. Said Business School, University of Oxford.
- Wheatley, M. J. (1992): *Leadership and the New Science*. Berrett Koehler, San Francisco.
- Weick, K. E. (1995): *Sense-making in organisations*. Foundations for Organizational Science. Sage Publications, Inc.

