Navigating Time: A Portfolio of Compositions

Matthew James Wright

Submitted for the Degree of Doctor of Philosophy

Goldsmiths College, University of London

September 2008

THESIS CONTAINS

DVD

The work presented here adheres to the regulations set out by the Research Office of Goldsmiths College, University of London and is entirely the candidate's own.

Signed _____

Date _____

Abstract

This practice-based composition PhD consists of a portfolio of creative work and a supporting commentary. The portfolio illustrates the main themes of my compositional thinking between the years 2005 and 2008 and in particular focuses on my approach to the role of time and therefore form in music. In the works, musical time is considered from a variety of perspectives, but with one essential goal: to explore form as an energised but essentially frozen surface, through and around which performers and, at times, the audience are given the ability to 'navigate'.

In essence this approach calls for a personal synthesis between linear and multi-linear (or 'modular') musical thinking and lends itself not just to scores for conventional concert instruments, but extends to encompass elements of 'turntablism', interactive media and the creation of site-specific sound installations.

The seven works presented in the portfolio are:

- *Vent / Glacier* (2008) for 'prepared' tuba and electronics.
- *Entanglement Laws* (2006-2007) for two saxophones, alto trombone, guitar, 4 keyboards and percussion.
- *Contact Theatre* (2005-2008) for six turntables.
- *References to Books on Applied Mechanics* (2006-8) for solo percussionist, electronics and website.
- *Music in the Shape of ELEVEN* (2006) for flute, keyboard, string trio, harp, percussion and laptop.
- *Mixtape Zen* (2007-2008) for four turntables and percussion.
- *Transference (51.16 North, 1.04 East)* (2007-2008), an interactive sound installation for four website projections, microphone and loudspeakers.

The works are presented as scores and a DVD-ROM and the supporting commentary, of approximately 20,000 words, deals with the critical context within which these works are set. Drawing upon theories of minimalism, improvisation, DJ culture, digital media and sonic art, I aim to explain the ways in which each of the works take a unique approach to the concept of 'navigating time.'

Table of Contents

Table of Figures

Acknowledgements

This work would not have been possible without the unbelievable support of my wife Heledd and my sister Lynda. Peter, Alon and Olivia deserve a special mention, as do the Francis family. My teachers in the past: David Bowman, Ian Elder, Ian Lord, Andy Grand, Andrew Murray, Richard Steinitz, Chris Fox, Louis Andriessen, Martijn Padding, Richard Ayres and those that made a big difference with a few words: Howard Skempton, Steve Martland, Maarten Altena and Steve Reich: my huge thanks.

During my time in Norwich, Huddersfield and The Hague – those friends who have, without knowing it, had a huge part in these pieces: especially Anthony Somerville, James Maynard, Ben Miller, Mark Read, John Lely, Mark and Henry King, Will Clarke, Finn Curry, Chris Marshall, Sean Miller, Dom Sales, Dean Nixon, Nic Ponsillo, Helen Brackley-Jones, Clare Clements, Alejandro Castanos, Keir Neuringer, Pete Harden, Tom Tlalim, Kate Moore, Gabi Sultana, Missy Mazzoli, Oscar Bettison, Roi Nachson, Carlos Itturalde, John de Simone, Chen Wagner, Anneloes Meier, Annette Schenk and Peter Adriaansz.

At Goldsmiths, I would like to thank Roger Redgate, Keith Potter and Michael Young. Thanks also go to my colleagues at Canterbury Christ Church University, the team at the Sidney Cooper Gallery and the Sounds New Festival.

Lastly, to all the performers that have constantly amazed me with their brilliance, patience and dedication to these pieces: Ensemble Klang, The Percussion Group of the Hague, Bl!ndman and Eric Sleichim, ELEVEN, Ensemble SOIL, Stewart Worthy, Diego Espinosa, Ear Massage and Sean Farrelly.

This is dedicated to the four people that have taught me the most: my wife Heledd, my sister Lynda, my niece Olivia and my mother, Barbara.

Canterbury, 11th September 2008

Introduction

> The next century will bring a profound interaction, or war, between information technology and the 'poetic mind'. It will surely be in music that one of the crucial battles will be fought: the upshot will be reconciliation at a new level – reconciliation transcending duality.[1]

> [...] we must abandon conceptual systems founded upon ideas of center, margin, hierarchy, and linearity and replace them with ones of multilinearity, nodes, links, and networks.[2]

The transition, in the West, from the 'industrial' to the 'digital' has brought with it a re-shaping of the artistic landscape and with that a potentially infinite number of manifestations of 'musical' thinking tied no longer simply to the concert hall, the church or the theatre, but also presented in the gallery, the club, the internet, the mix tape and CD-R underground, and a host of venues hidden away at the vibrant fringes of contemporary culture. This growing interchange between practices, audiences and venues (both real and virtual) is central to this portfolio, as the work presented here aims to illustrate approaches towards the creation of a compositional language built from geographically, culturally and historically disparate sources and in particular, aims to re-assess aspects of open form musical structure in light of the changes outlined above.

The playful acknowledgement of the fissures and tensions that arise between the juxtaposition and superimposition of seemingly disparate materials reflects my interest in forming a consistently evolving compositional reflex that is currently poised at the meeting points of DJ culture, minimalism, the experimental tradition, sound art, improvisation and multimedia theory. Therefore, the structures of the works presented here are complex, exploring aspects of non-linearity, improvisation, open form strategies, and modularity.

The influences upon the works range from the Italian Renaissance writings of Leonardo da Vinci, the noise scene of contemporary Japan, New York's experimental, hip-hop and 'illbient' movements, the electronica of Aphex Twin and Squarepusher, the repetitive minimalist processes of Steve Reich, the 'dialectical' musical approaches of Dutch composer Louis Andriessen, theories on the soundscape in acoustic ecology and sound art, the use of the turntable as an instrument by artists as diverse as Grandmaster Flash, Philip Jeck and Otomo Yoshihide and the growth of the internet as a new venue for compositional consideration.

Each influence brings with it a competing conception of the role of time within the audio arts and each piece presented here deals with a specific approach relating to musical form. In *Vent/Glacier* the performer improvises *through* and *around* pre-composed structures, whilst in *Entanglement Laws* and *Contact Theatre* the idea of structural erosion is used as a propulsive force. *In References to Books on Applied Mechanics* and *Music in the Shape of ELEVEN,* linear structure and non-linear modularity are simultaneously explored, whilst *Mixtape Zen* re-assesses linear

---

[1] Harvey, Jonathan. (1999) Millennium Thoughts. In *Programme Book to The Huddersfield Contemporary Music Festival.* (pp. 1) Huddersfield: Huddersfield Contemporary Music Festival

[2] Landow, George. (1991) Hypertext and Critical Theory. *In Hypertext: The Convergence of Contemporary Critical Thought and Technology.* (pp.3) Baltimore and London: John Hopkins Press

form as a catalyst in the creation of musical stasis. Finally, *Transference (51.16 North, 1.04 East)* deals with non-linear form in both physical and online manifestations.

In a short essay entitled *An introduction to sound art*, the writer and broadcaster Robert Worby states:

> When a sound is recorded, the recording medium has the effect of transforming the sound into a physical thing – a few centimetres of tape, a series of grooves on a phonograph disc, magnetic patterns on a hard disk, etched patterns on an optical disk or whatever. Manipulation of the recording medium – cutting, splicing, speeding up, slowing down, reversing direction of travel, etc – causes changes in the sound. In this way, sound can be treated as though it really is physical stuff, almost as if it did have a tactile physical form like clay or paint.[3]

For the purposes of the works discussed here, it is necessary to retain and extend Worby's definition of the recording medium to encompass vinyl records, graphic and staff notation, text and interactive animation. The diverse potentials of these media have a direct result on the way musical structure is explored within the compositions presented here and it is also necessary to emphasise the phrase "direction of travel", for this suggests the potential ability to navigate not just isolated sounds, but entire durational structures. Both points lead us to the idea of *musical composition as an investigation of time passing.*

The metaphor of navigation is borrowed here from multimedia theory and is used to describe the role of both the performers (and at times, the audience) in these works – as negotiators etching a path through an 'amorphous cloud' of fragmented musical data, a docuverse of potential musical materials and structural drives that Paul D. Miller, aka DJ Spooky, might call the "sonic debris of a possible future[4]."

Underpinning this idea of musical structure open to navigation is the concept of time as a terrain, a clearly defined 'frame' of sonic energy to be explored both from linear and multi-linear perspectives. With this in mind, these works strive to push against, to meditate upon, to re-construct and to de-centre the effect of *time* upon music, whilst at the same time reaffirming, ultimately, the reliance of sound upon *duration*. Like texts within a lexia (to quote Roland Barthes) of inherently linked documents, the writings that follow share multiple centres, overlapping points of contact and at times radically divergent views.

---

[3] Worby, Robert. (2006) Introduction to Sound Art. In Yan, Jun and Gray, Louise. *Sound and the City: British Council China SATC Anthology* (pp.20) London and Beijing: British Council

[4] Miller, Paul D. (2004) *Rhythm Science* (pp.77) Cambridge, MA and London: MIT Press

Indeterminacy, Improvisation and Open Form

> My interest in notational ambiguities, mobile scores, spontaneity in the compositional and performance processes, [...] grows out of a larger interest in hearing the tentative and unforeseeable situations that may occur [...] What interests me is to find the degree of conditioning (of conception, of notation, and of realization) that will balance the work between the points of control and noncontrol. At that point, the work, the performer, and I will most clearly exist – both as entities and identities.[5]

So writes Earle Brown in *Transformations and Developments of a Radical Aesthetic,* an essay that mirrors an important concern of the works in this portfolio. Particularly because Brown has devoted his career to the promotion of mobile scores and open form in musical structure, his work stands at a vibrant meeting point between the terms 'indeterminancy' and 'improvisation'. This raises thorny issues surrounding the cultural baggage of those terms and indeed, as saxophonist and composer Anthony Braxton writes:

> Both aleatory and indeterminism are words which have been coined [...] to bypass the word improvisation and as such the influence of non-white sensibility.[6]

However, for the purposes of clarity with relation to these works, I would define indeterminancy in my music as a *score-based* method with its roots in the experimental tradition, as exemplified by John Cage and Morton Feldman. Indeterminate elements are notated as such and I use this flexibility in the notation as a provocation towards a particular type of rehearsal situation, where the performers are asked to work on a 'realisation' of the piece. Whilst the works with indeterminate elements cannot be rehearsed in a fixed form, what *can* be learnt in these sessions is a full understanding of the consequences of ones' actions within the structure, like learning the full rules of a game.

This is fundamentally opposed to my definition of improvisation in these works, which I would clarify as a *performance-based* activity, which asks for the performer to compose in real-time. Improvisation therefore only occurs within the *Vent* version of *Vent / Glacier* (where the performer is given a limited set of harmonic possibilities and is asked to condition the work to suit the individual circumstances of the performance) and the laptop part in *Music in the Shape of ELEVEN* (where the performer is given a rough model against which to manipulate fractured samples).

If we accept that these scores do not, on the whole, ask for real-time composition (and therefore improvisation), we can say that they include indeterminate elements that are designed to add flexibility and 'uniqueness' to both the rehearsal process and the performance.

Vent Glacier exists in two versions. In the *Glacier* version, the performer reads the score in the conventional linear way, from left to right, top to bottom. In the *Vent* version, however, the performer is given a sequence of multiphonics to navigate

---

[5] Brown, Earle. (1999) Transformations and Developments of a Radical Aesthetic. *Current Musicology, 67/68.*

[6] Braxton, Anthony. (1988) In Lock, Graham. *Forces in Motion: Anthony Braxton and the Meta-Reality of Creative Music.* (pp.240) London: Quartet.

via acoustic and electronic improvisation, according to certain limited rules. Dynamics are not specified and are relative to each performance situation. Pitches are fixed throughout, although the performer may decide not to use all of the potentials offered.

In *Entanglement Laws* three unsynchronised groups each have a clear linear process to follow, but that process can be 'hijacked' by the other performers via 'floating cues', which penetrate the onward progression of the work. The duration of each pitch or rhythmic unit is indeterminate, but is, in the case of the wind players, defined by subjective 'laws' such as "the length of one breath' or 'as fast as possible'. The choice of junk instruments and keyboard rhythms used by the percussionist are also unspecified. Dynamics are not specified, other than for the wind players, who are instructed to play as loud as possible. Pitches are fixed throughout, apart from the 'cues' in the wind parts, which follow the instruction 'as high as possible';

Contact Theatre traces a linear structural process, with a flexible indication of its duration. The recorded material in the first half of the work is not specified, but its articulation is. Dynamics are not specified. Pitches at the end of the work are (approximately) fixed, but not the speed of glissandi between them, offering the performers the ability to work with the acoustic space within which the piece is presented.

In *Reference to Books on Applied Mechanics* a linear structural process is defined, but not its duration, and at points in the work the performer is asked to simultaneously navigate through a non-linear website. The choice of junk instruments to be used is left to the performer. Dynamics and certain effects are also open to manipulation and will be relative to each performance. Harmonic content is fixed in the form of samples triggered by the percussionist.

Within the mobile form of *Music in the Shape of ELEVEN* the performers are given freedom to navigate through musical modules in any order, but must stay within a given nexus of material until one of the ensemble members sounds a cue, upon which the whole group moves to a new collection of motifs. Thus the work represents a fluid relationship between non-linear modularity and linear structure. Short notes are to be played 'as fast as possible', but otherwise, no duration is given to held pitches. The laptop part includes loop-based improvisation within a specified set of rules. Dynamics are not specified, but a balance between all parts is expected. Pitches are fixed throughout.

Mixtape Zen follows a linear structural process, but again, without an indication of its duration. The material on the records is not specified (other than that the records should feature fragments of baroque music) but its articulation is. The choice of junk instruments is left to the performers, as are the type of prayer bowls used, but it is expected that these choices will provoke debate and collaboration in the rehearsal situation. Dynamics are left open.

In *Transference (51.16 North, 1.04 East)* the structure is non-linear and is represented in the form of a website projected onto the walls of a gallery. Sound is recorded and edited into the installation each day and visitors to the installation are also invited to offer material for the work via a microphone or email. Each visitor also

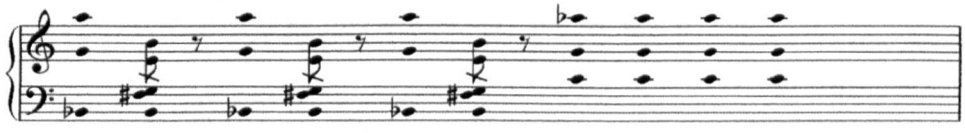
has the opportunity to navigate through the website without prior knowledge of its structure and is therefore free to superimpose and juxtapose the corresponding material.

Thus it is clear that in these works pitch content, where relevant, is fixed. This is an illustration of the importance that harmony, particularly modal / chromatic harmony, lends to my work, of which I elaborate upon when discussing the individual pieces. In terms of the essential indeterminate elements underpinning this work and discarding dynamic fluctuations (which I feel are relative to each venue and performance circumstance) we can mention three main areas: duration, chance materials and form.

Duration

For a model of indeterminate durations within a rigorously controlled harmonic sequence, it is natural to turn to *Piece for 4 Pianos* by Morton Feldman.

Figure 1 Morton Feldman, *Piece for 4 Pianos* (1957), excerpt from the first system



In the unfolding of a performance of the work we witness a delicate equilibrium between clear harmonic control and relative flexibility. The work is, in essence, a four-part canon without barlines, wherein the composer defines a linear harmonic continuum whilst each of the four performers is given a role in the durational construction of its realisation. The effect is of a delicate structural balance between new material and its multiple resonances, a concern shared across Feldman's output for piano. Indeed, as David Toop writes:

> Feldman's piano pieces could be described as a surgery of memory. Their organisation over lengthy durations is compelling, yet the divisions between the notes, those absences we call silence, demand a huge effort of memory in order to retain a grasp of this unfolding structure. Feldman eluded to [...] the performance style of David Tudor, who could hold you in the moment, 'an accumulative effect of time frozen'.[7]

Therefore, the tension between fixed harmonic materials and indeterminate durational structures provoke a certain attitude to form (and memory of form) within which the performer and I share a constantly evolving relationship. In *Vent / Glacier*, duration has crucial harmonic implications, because the longer each multiphonic is held, the greater the potential for microtonal fluctuation becomes, due to the physical demands asked of the performer. It is precisely these physical frailties that evade being captured by notation and so my role here is to stimulate a situation within which

[7] Toop, David. (2004) *Haunted Weather*. (pp.90). London: Serpent's Tail.

the idiosyncratic human qualities of the performer are brought to the surface of the listening experience, rather than hidden behind virtuosic technique.

Chance Materials

The dialogue between fixed compositional choices and indeterminate performance elements finds another analogy in the relationship between clearly defined structures and the use of chance materials for their presentation. In the portfolio, the definition of a chance material is one that suggests a general timbre, style of articulation or rhythmic effect. In particular, I use unspecified keyboard rhythms in *Entanglement Laws,* largely unspecified records in *Contact Theatre* and *Mixtape Zen*, and unspecified junk percussion in *Entanglement Laws, Mixtape Zen* and *References* to *Books on Applied Mechanics.*

In *Entanglement Laws*, the superimposition of three unspecified and unsynchronised keyboard rhythms is used to create a shimmering, chaotic rhythmic texture. In *Contact Theatre and Mixtape Zen*, the records used are largely unspecified (apart from the final drone section in *Contact Theatre*). This is because I'm interested less in John Cage's Zen-inspired chance procedures than I am in the idea of these pieces as 'sonic parasites' living on the fragmented corpses of pre-existing records. I am thinking, essentially, of compositional structures here as ways to navigate through music that already exists, certainly a concept I will return to when discussing turntablism below.

In *Entanglement Laws, Mixtape Zen* and *References to Books on Applied Mechanics*, junk percussion is used in two ways. Firstly, whilst the rhythmic patterns are largely specified, this has the secondary purpose of exposing unforeseen pitch content, particularly as in *Mixtape Zen*, where these pitches create asymmetric and antiphonal melodic cells. Secondly, junk is used for aesthetic reasons, suggesting redundancy and 'broken' materials. Certainly each of the works in the portfolio investigates the idea of 'fractured' contrapuntal thinking and focuses on capturing a particular kind of musical tension which rests just at the edge of rhythmic collapse, hinting, therefore, at a deconstruction of linear thinking.

Open Form

> This raises some of the core issues challenged by 20th century music, and 20th century thought in general: the relationship of the composer to the audience, for example, or the use of chance and accident in the creation of music; the construction of feedback systems or self-generating and adaptive mechanisms that shape sound; the exertion or abdication of control of a musical result; the modelling of music based on eco-systems and similar complex environments and the setting in motion of events that question the definition of music as a cultural production distinguished from noise or sound unorganised by human agency and intentionality.
>
> In the 21st century, such ideas have been expanded dramatically by the evolution of the Internet, in itself a self-propagating web lacking any central command or control.[8]

So writes Toop in a chapter from his book *Haunted Weather* entitled *'Growth and Complexity'*. The growth of the Internet and the resultant immersion in information from multi-linear perspectives brings us back to questions surrounding the dialogue

[8] Toop, David. (2004) *Haunted Weather.* (pp.183). London: Serpent's Tail.

between 'linear' and open form (or 'multi-linear') structure. Of course, the influence of multi-linear thinking in music is something that was investigated famously in Stockhausen's *Zyklus* (1959), but Henri Pousseur could I suggest, have foreshadowed the uses of web technology in relation to the presentation of sound works in his description of *Scambi* (1957):

> Scambi is not so much a musical composition as a field of possibilities, an explicit invitation to exercise choice. It is made up of sixteen sections. Each of these can be linked to any two others, without weakening the logical continuity of the musical process. Two of its sections, for example, are introduced by similar motifs (after which they evolve in divergent patterns); another pair of sections, on the contrary, tends to develop towards the same climax. Since the performer can start or finish with any one section, a considerable number of sequential permutations are made available to him. Furthermore, the two sections which begin on the same motif can be played simultaneously, so as to present a more complex structural polyphony. It is not out of the question that we conceive these formal notations as a marketable product: if they were tape-recorded and the purchaser had a sufficiently sophisticated reception apparatus, then the general public would be in a position to develop a private musical construct of its own and a new collective sensibility in matters of musical presentation and duration could emerge.[9]

If we are to re-appropriate a term from Umberto Eco and read the Internet as "a new mechanics of aesthetic perception"[10], then it is certainly in the non-linear hyperlinking of documents from across geographical, (sub) cultural and chronologically disparate sources that the web most closely resembles an open form composition.

References to Books on Applied Mechanics and *Transference* focus upon alternate uses of this non-linear structural thinking as a crucial technique for achieving the kinds of non-developmental stases I will go on to mention later. It is worth stating at this point the differences between the two pieces, particularly in relation to the use of hyperlinking. In *References to Books on Applied Mechanics*, hyperlinks are used to add dynamism to the chance layering of asymmetric repetitive cycles, the expressive effect being like a machine that goes nowhere, robbed of structural 'drive' in the traditional sense. This is because the work hinges on a collision between Renaissance and 21st century uses of text, the performer reading and speaking in a conventional, linear form, whilst *text as hyperlink* is simultaneously explored in the interactive animation. In *Transference*, all 'drive' is again subjugated by the open form potentials of the interactive mobiles.

However, a gradual (indeed, week-long) accumulation of material is built into the process of the work, with the ultimate goal being a transference of sonic material from the environment to the gallery and out to the Internet. In this way, the installation is, in essence, a linear work that moves with such glacial slowness that it could suggest a non-developmental form. As the work consists of four independently navigable projections of the same website, it is possible to read the work as a non-linear four-part canon, echoing (albeit in a 21st century rendering) the indeterminate juxtapositions made possible in early explorations of (admittedly linear) navigational freedom, such as the Feldman example above. As David Trend writes:

---

[9] Posseur, Henri. Quoted in Eco, Umberto, trans. Anna Cancogni (1989) *The Open Work*. Cambridge MA: Harvard University Press

[10] Possuer, Henri. Quoted in Eco, Umberto, trans. Anna Cancogni (1989) *The Open Work*. Cambridge MA: Harvard University Press

> Marshall McLuhan argued that the content of any new medium is frequently the old medium that it replaces. Hence digital culture finds itself haunted by analog-style images and endless written texts. [...] hypertext – constitutes a long-sought physical embodiment of the anti-heirarchical principles of postmodernism. Within this scheme, the decentred character of hypertext links from one Internet site to another enables systems of nodes, links, and networks to replace regimes founded upon center, hierarchy, and linearity.[11]

Indeed, as the reader will note, in the pieces presented here both digital and acoustic sources share a concern for pushing against linear constraints.

Stasis and 'Speed'

The hypothetical idea of music divorced from a chronological presentation, distanced from and untainted by time is, I would suggest, as utopian as a weightless architecture unhindered by gravity. That said, history has produced some extremely 'static' music, the most notorious being from La Monte Young:

Figure 2, La Monte Young, *Composition 1960 #7,* (1960):

To be held for a long time

The piece, is of course, much more than its representation on the page – what it sets into motion (or non-motion?) in performance is a delicate tension between intonation, noise elements, dynamics and the apparent absence of the need for progression. It is interesting and somewhat ironic, however, that a work so utterly unconcerned with conventional musical ways of measuring duration (and therefore attempting to exist 'out' of time) should contain the instruction "to be held for a long *time*". The very mention of the 'time' word loops us back to the crucial reliance of sound upon duration and reminds us of the unending tension between a sonic event and its end. (Even if, temporarily, Young's work evokes in the listener a sense of an eternal duration beyond its fragile human realisation.)

In defence of the term 'static' in relation to music, however, Tom Johnson may go some way to define the importance of the quest for structural 'stillness':

> The term "static" is often used in reference to (minimal composer's) music, since it never leaves this one level and never seems to be moving toward anything. Traditionally this word had been considered derogatory when applied to music, and in many quarters still is. But in listening to the music of these composers, one soon discovers that static does not necessarily mean boring, the way we always thought it did. Many interesting things can happen all on one plane. A pitch changes slightly, a rhythm is altered, something fades in or out. They are not

[11] Trend, David. (2004) *Reading Digital Culture* (pp.53-54) Malden, MA, Oxford and Victora: Blackwell Publishing

> big changes, but they are changes, and there is more than enough of them to sustain one's interest, provided that he can tune in on this minimal level.[12]

In attempting to attain moments of temporary stasis in the works presented here, I'm particularly keen to draw the listener's attention away from the notion of developmental, linear progressions and towards the idea, as mentioned above, of musical structure as a "frozen surface of sonic energy". To clarify this point, it is tempting to turn to the idea of music without developmental consequence and with that to Robert Fink quoting Leonard Meyer on John Cage:

> The music of the avant-garde directs us toward no points of culmination – establishes no goals toward which to move. It arouses no expectations, except presumably that it will stop. It is neither surprising, nor, once you get used to the sounds, is it particularly startling. It is simply *there.*[13]

However, the works presented here are, in defiance of Meyer's reading of Cage, fundamentally concerned with the *tension* created by the idea of non-developmental form, rather than the *non-tension.* The concept of sound grasping at stasis, of music *pushing against time*, is something that became a central concern during my studies with Louis Andriessen, Martijn Padding and Richard Ayres in The Hague during 2002-2004 and has continued to be of prime importance to my approach, particularly because it goes some way to resolve tensions between my score-based composition and my improvisations with turntables.

In 'De Snelheid' (Velocity) from 1984, Andriessen wanted to

> 'unpick' the essence of all virtuoso scherzi. That brilliant, positive approach to speed (like *Romeo and Juliet* in a car that's travelling downhill), that feeling of victory, seemed to me to be characteristic of virtuoso scherzi. Even *The Sorcerer's Apprentice* has an element of victory, of ecstasy. I wanted to do the same thing but the other way round, like a wheel that's turning in the wrong direction; a piece in which the speeding-up process finishes in a dead end and slowness wins out.[14]

Andriessen achieves this task by taking an extremely fast woodblock pulse and an extremely slow harmonic rhythm and taking them through a "gradual acceleration in terms of tempo and perception of tempo"[15] that eventually collapses under the sheer, inevitable weight of harmony at the end:

---

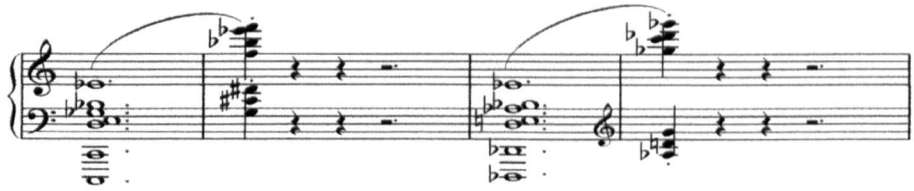
[12] Johnson, Tom. La Monte Young, Steve Reich, Terry Riley, Philip Glass. Originally published in *The Village Voice* (September 7, 1972). Reprinted In Cox, Chistoph and Warner, Daniel (Eds.) (2005) *Audio Culture: Readings in Modern Music* (pp.285) New York and London: Continuum Books

[13] Meyer, Leonard (1967) Music, the Arts, and Ideas. Reprinted in Fink, Robert. (2005) *Repeating Ourselves: American Minimal Music as Cultural Practice.* (pp.32) Berkley: University of California Press

[14] Andriessen, Louis trans. Yates, Clare (2002) In Zegers, Mirjam (Ed.), *The Art of Stealing Time* (pp.179) Todmorden: Arc Music

[15] Andriessen, Louis trans. Yates, Clare (2002) In Zegers, Mirjam (Ed.), *The Art of Stealing Time* (pp.183) Todmorden: Arc Music

Figure 3 Louis Andriessen, *De Snelheid* (1984), short score of the climax of the work.[16]



Of this, Andriessen claims:

> I wanted to explain that tempo is not defined by the speed of the pulse, as many composers think, but by harmonic rhythm. The best way to demonstrate this is by combining a very fast pulse with a very slow harmonic rhythm: II-IV-II-(V). The harmony at the end of this piece is a very slow harmonic rhythm.[17]

This combination of fast pulse and slow harmonic rhythm is actually what happens in much of the drum n' bass and intelligent techno (or 'electronica') in which I became interested in my teens. Indeed, artists such as Squarepusher (aka Tom Jenkinson) and Roni Size (aka Ryan Williams), who took blocks of elongated harmonic stasis and superimposed them above post-jungle re-interpretations of (or obvious references to) the 'Amen' break[18] in the early-mid 1990s[19], became a crucial link for me between post-minimal, avant-garde and vernacular approaches to the theme of speed in music, and began to suggest techniques in which turntables (as the vernacular instrument of choice for my generation) could be combined with score-based approaches to time in music. I was intuitively drawn to processes that created asymmetric loops at the turntables, precisely because they blurred the sensation of a clear pulse and instead focused the mind (and the body) on something resembling that 'frozen surface'. As Philip Sherburne writes:

> there are no "rewinds" in Techno: everything moves forward, but always maintaining the illusion of standing still [...] to create a particular sort of temporal dislocation.[20]

In *De Tijd* (1981), Andriessen sets the following text from St. Augustine:

> ...if only their minds could be seized and held steady, they would be still for a while and, for that short moment, they would glimpse the splendour of eternity which is for ever still. They would contrast it with time, which is never still, and see that it is not comparable. They would see that time derives its length only from a great number of movements constantly following one another into the past, because they cannot all continue at once. But in eternity nothing

---

[16] Andriessen, Louis (2002) In Zegers, Mirjam (ed.), *The Art of Stealing Time* (pp.180) Todmorden: Arc Music

[17] Andriessen, Louis trans. Yates, Clare (2002) In Zegers, Mirjam (ed.), *The Art of Stealing Time* (pp.186) Todmorden: Arc Music

[18] The so-called 'Amen break' is a five-second-drum sample taken from *Amen, Brother* by The Winstons. Gregory Sylvester "G.C" Coleman performed the drum kit solo.

[19] In two tracks in particular: *Port Rhombus* by Squarepusher, from the Port Rhombus EP (1996) released on Warp Records, and *Matter of Fact* by Roni Size and Reprazent, from New Forms (1997) released on Talkin' Loud Records

[20] Sherbourne, Philip. MicroHouse: Rules of Reduction. Originally published in *The Wire 209* (July 2001). Reprinted in Cox, Christoph and Warner, Daniel (eds.) *Audio Culture: Readings in Modern Music* (pp.322). New York and London: Continuum Books

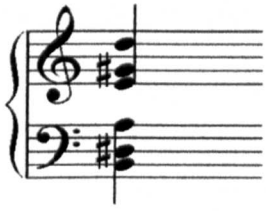
> moves into the past: all is present. Time, on the other hand, is never all present at once. The past is always driven on by the future, the future always follows on the heels of the past, and both the past and the future have their beginning and their end in the eternal present. If only men's minds could be seized and held still! They would see how eternity, in which there is neither past nor future, determines both past and future time. Could mine be the hand strong enough to seize the minds of men? Could any words of mine have the power to achieve so great a task?[21]

In response to this, Andriessen set himself the task of achieving "a situation of sustained, glorified, musical stasis"[22]; in creating a work that illustrates, musically, the idea of time passing. As he states:

> The passing of time has to be audible and, to achieve this, you have to be sparing with your musical statements. But in order to focus the attention – since without attention time does not exist at all – I have composed almost imperceptible accelerations into the forward thrust of the piece, which create precisely the impression that everything is staying the same.[23]

This dialectical approach to rhythm (the creation of stasis from extremely gradual accelerations) and the resultant tensions are also mirrored in the harmonic framework, which is based upon a superimposition of two dominant chords, a simplification of which appears here:

Figure 4 Louis Andriessen, *De Tijd* (1981), the dominant harmony underpinning the work.[24]



Upon which Andriessen comments:

> ...you could call De Tijd a succession of dominants; an endless suspension of which the resolution is always present.[25]

In taking Andriessen's logic and looping back to La Monte Young, we could read that perfect fifth in Fig. 2 as a frozen V-I cadence, a musical situation that contains its own thesis and antithesis and therefore is caught in perpetual dialogue with itself. We could of course, also appreciate it as a particularly attractive interval for provoking all sorts of fluctuations in intonation, dynamics and stamina.

---

[21] St. Augustine, *Confessions*, translation: R.S. Pine-Coffin. Reprinted in Andriessen, Louis trans. Yates, Clare (2002) In Zegers, Mirjam (ed.), *The Art of Stealing Time* (pp.164) Todmorden: Arc Music

[22] Andriessen, Louis trans. Yates, Clare (2002) In Zegers, Mirjam (ed.), *The Art of Stealing Time* (pp.159) Todmorden: Arc Music

[23] Andriessen, Louis trans Yates, Clare (2002) In Zegers, Mirjam (ed.), *The Art of Stealing Time* (pp.170) Todmorden: Arc Music

[24] Andriessen, Louis trans Yates, Clare (2002) In Zegers, Mirjam (ed.), *The Art of Stealing Time* (pp.166) Todmorden: Arc Music

[25] Andriessen, Louis trans Yates, Clare (2002) In Zegers, Mirjam (ed.), *The Art of Stealing Time* (pp.166) Todmorden: Arc Music

This pluralist way of reading music sets up a compositional situation in which time can be experienced in multiple ways: a fundamental concern here. The listener may find that both points of 'stasis' and chaotic, asymmetric pulsations coexist within the same moment in my work. In essence, I want to offer the listener a musical situation where a navigation between memory (of the past), anticipation (of the future) and an eternal (to quote St. Augustine) musical present coalesce.

Process

All of the pieces here, without exception, deal with the working out of structural processes that exist beyond a fixed duration. This is a conscious decision to create works that have a fluid durational 'life' from one performance or installation to the next and that consistently demand and thus engage the performers, curators and audience in a critical relationship with the material. These demands upon the people who perform or exhibit the works fluctuate in their complexity from piece to piece, but I am fascinated by the degree to which, as a composer, I can balance (to refer to Earle Brown) "control" with "noncontrol". In essence, I am aiming for a situation within which the people with whom I work can use my pieces in a variety of durational and structural contexts, whilst also ensuring that the works themselves retain a compositional integrity, an identifiable 'sound' borne from the internal concerns of the processes involved, a concern for balance very often echoed in 'classic' process pieces of the experimental tradition.

In *Experimental Music: Cage and Beyond* Michael Nyman says of processes:

> the duration may be determined simply by the time it takes to work through the given material. In some pieces (such as Reich's *Phase Patterns*, Gavin Bryars' *Jesus Blood Never Failed Me Yet* or Chris Hobbs' *The Remorseless Lamb)* the working-through may be similar to that of traditional music but in Paragraphs 2,6 or 7 of *The Great Learning*, or Riley's *In C*, where each performer moves through at his own speed, the duration of the piece is dependent on the inner workings of the process.

With further reference to the demands on the performers, Nyman goes onto say that:

> Experimental music thus engages the performer at many stages before, above and beyond those at which he is active in traditional Western music. It involves his intelligence, his initiative, his opinions and prejudices, his experience, his taste and his sensibility in a way that no other form of music does, and his contribution to the musical collaboration which the composer initiates is obviously indispensable.[26]

Therefore, in subjugating linear form with aspects of non-linearity in the pieces presented here, my intention is to create a delicate feedback situation between the performer and the score, one in which the performers' "tastes and sensibilities" inform the execution of a process. To bring clarity to my point, it's necessary to turn to Steve Reich's classic definition of a gradual musical process, circa 1968:

---

[26] Nyman, Michael. (1999) Towards (a Definition of) Experimental Music. In Cox, Christoph and Warner, Daniel (Eds.) (2005) *Audio Culture: Readings in Modern Music* (pp.214) New York and London: Continuum Books. (Reprinted from Nyman, Michael [1999], *Experimental Music: Cage and Beyond.* Cambridge University Press

> Performing and listening to a gradual musical process resembles:
>
> > pulling back a swing, releasing it, and observing it gradually come to rest;
> > turning over an hour glass and watching the sand slowly run through to the bottom;
> > placing your feet in the sand by the ocean's edge and watching, feeling, and listening to the waves gradually bury them.
> >
> > Although I may have the pleasure of discovering musical processes and composing the musical material to run through them, once the process is set up and loaded it runs by itself.[27]

This concern for clarity and an absence of musical rhetoric beyond the process itself echoes the quest for a purity of intent and uniform channelling of energy in Minimal visual art of the 1960s, particularly in contrast with the preceding 'vulgarity' of Pop Art. Indeed, Robert Fink claims:

> In historical narratives of 1960s visual art, the Minimalist asceticism of mid-decade is often cast as a reaction against the campy Pop Art that immediately preceded it. In this reading, after Pop embraced the Beatles, the Ben Day dot, the Brillo box, and the Campbell's soup can, Minimalism turned away, emptying itself out in protest.[28]

With this in mind, the use of gradual musical processes forty years after Reich's writings would suggest that there is still a need to 'empty' composition from non-functional, superfluous rhetoric. However, I strongly feel that creating a compositional utopia (a perfect, 'clean' process in which performers are merely executors of form) does not capture the intensity of the balance between 'control' and 'noncontrol' that I am looking for in performances of my works. At the centre of my compositional concern is a tension between the *propulsion* of mass consumerism and the *independence of thought* needed to 'turn away'. The two turntable pieces in this portfolio deal directly with this point: in *Contact Theatre* a harsh barrage of sonic fragments is gradually 'purged', through erosion processes, to reveal a meditative drone, whilst *Mixtape Zen* is essentially a compositional parasite that lives on the surface of 'barococo' records and aims to find its own voice via a cheap nod to Zen in the form of 'automated' temple bowls.

This effectively means that I build into the pieces conditions that bring about a certain degree of chance happenings, not in an effort to empty out my ego from the work in the Cageian sense, but to provoke a delicate equilibrium between a sustained compositional identity, that 'uniqueness' of each performance of the work, and all of the playful fissures between the disparate sources from which the compositional language is formed. Instead of:

> placing your feet in the sand by the ocean's edge and watching, feeling, and listening to the waves gradually bury them,

the musical effect of *interpolating gradual processes with elements of indeterminacy* in my compositional work, is, to re-interpret Reich,

---

[27] Reich, Steve. (2002) Music as a Gradual Process. In Hillier, Paul (ed.), *Writings on Music, 1965-2000* (pp.34) New York: Oxford University Press. (Reprinted from Tucker, Marcia and Monte, James, eds. [1969], *Anti-Illusion: procedures/materials*. New York: Whitney Museum of American Art.)

[28] Fink, Robert. (2005) *Repeating Ourselves: American Minimal Music as Cultural Practice*. (pp.72) Berkley: University of California Press

to stand at *or* walk along the 'ocean's edge' *with the tide either in or out*, where fragmented driftwood, just by chance, may have etched new lines in the sand.

Records as scores, turntable pioneers, repetition...and back again

Taking the vinyl record as a metaphor for a musical score, it is possible to read the growth of improvisation with turntables as a form of live compositional process that essentially deals with the de-construction and re-construction of pre-existing musical texts. In this reading, sonic materials are salvaged from their original structural drives and re-cast into new, hybridised narratives and the turntablist takes the role of a composer-curator, navigating through an open score of found sound, making audible her/his journey via the phonograph needle. This process constitutes an approach to musical history within which material can be divorced from form and assessed from multiple entry points, a form of analogue hyperlinking that reaches across chronological boundaries, dragging ghosts of the past into a vibrant collision with the present. As David Toop notes:

> Unlike CDs and other digital playback formats, the record is an object that perfectly symbolises and embodies its morbid role in the preservation and transmission of sonic culture. A spiral scratch, its gleaming dark circle is the black hole into which memories are poured, only to emerge again as ghost voices, life preserved beyond death. Frozen in time within the grooves, a voice, an instrument, a sound, becomes the living dead and is worshipped in the way that a loved one, deceased, may be adored for years by the bereaved.[29]

The use of records therefore reminds us of ourselves, for we have the ability to experience, through memory, time as an emotive, non-linear sensation, whilst at the same time being encased within an inevitably linear physical form that undergoes weathering and eventual erosion. Christian Marclay's *Record Without A Cover* (1985) engages precisely with this process of decay, being a record deliberately packaged without protection from the outside world, collecting scratches and debris as it ages, speaking as much about its journey through time as it does about its own existence in the present. Toop goes on to state:

> Over time, the record gathers dust and dirt, scratches and perhaps more serious damage. In other words, it has a life that extends beyond the usual point of closure that occurs as soon as a recording enters the manufacturing and marketing stage of its existence. The sound [...] transforms over time according to the level of abuse the artefact receives at the hands of the owner.[30]

In working with records, this calm acknowledgement of chance changes to the material itself only adds to the excitement and asks of the turntablist the flexibility needed to portmanteau between improviser, composer and listener. In the work of Philip Jeck, such as *Vienna Faults*[31], a sense of fractured stasis is created from a delicate asymmetrical arrangement of shifting loops, built from

> small strips of tape and similar rudimentary techniques (that)

---

[29] Toop, David. (2004) *Haunted Weather*. (pp.164). London: Serpent's Tail.

[30] Toop, David. (2004) *Haunted Weather*. (pp.169). London: Serpent's Tail.

[31] from *Stoke* (2002), released on Touch Records

force the stylus or arm back to the starting point.[32]

The abuse of which Toop speaks, however, may be used as a technique in its own right, and this is radically expressed in the work of the Japanese improviser Otomo Yoshihide, who repeatedly scrapes and scratches his records with a speed and violence that echoes Punk in its ferocious opposition to consumerism. In *Burner*[33] Otomo goes as far as to brutally melt his turntable with a device similar to a blowtorch, an act that applies a process of erosion (so inherent in the use of records) to the record player itself, creating a harsh sonic scar that is violently etched into the memory of the listener.

It is this duality of approaches to turntablism (calm, gently shimmering stasis on the one hand, contrasted with frenetic bursts of activity on the other) that underpins the two turntable-based compositions presented here.

The growth of the turntable as instrument of course echoes Cageian works in which many important techniques found their first voice, such as the furious, even hilarious jumpcutting between disparate sonic fragments in *Credo in US* (1942) and the creation of glissandi from manipulated sine tones in *Imaginary Landscape* (1939).

On this latter point David Revill writes:

> (Cage) was delighted to discover in the studio variable-speed turntables, for "test purposes," equipped with a clutch to shift between speeds. Cage thought of using records on the turntables as instruments, producing different frequencies and siren-like glissandi [...] Cage wrote a six-minute piece for muted piano, cymbal and two of the variable-speed turntables. The first of these played a Victor frequency record, 84522B, and a constant-note record, No.24; on the second was Victor frequency record 84522A.[34]

Turntable history, of course, also draws on the immense impact of hip-hop and the two DJs of essential importance to these works represent differing stages in the development of a turntable 'language': Grandmaster Flash and DJ Premier.

In 1976, the same year that Philip Glass's *Einstein on the Beach* was premiered at Carnegie Hall and Louis Andriessen's *Hoketus* was blaring at the Koninklijk Conservatorium in the Hague, Grandmaster Flash, building on the work of DJ Kool Herc and Francis Grasso, was perfecting his own highly synchronised, highly repetitive form of antiphony, the technique that became known as 'beat juggling' and that became the metrical basis of hip-hop DJing. Essentially created by isolating two identical sonic fragments on two identical records and navigating between them at quick succession with a crossfader, tracks such as *The Adventures of Grandmaster Flash on the Wheels of Steel*[35] exemplify a vernacular (and downright funky) approach to repetition that mirrors (albeit perhaps unknowingly) the counterpoint between multiples of similar instruments in Steve Reich's *Piano Phase* and *Violin Phase* of 1967. The turntable as *structural device* came into its own here and as Ulf Poschardt writes:

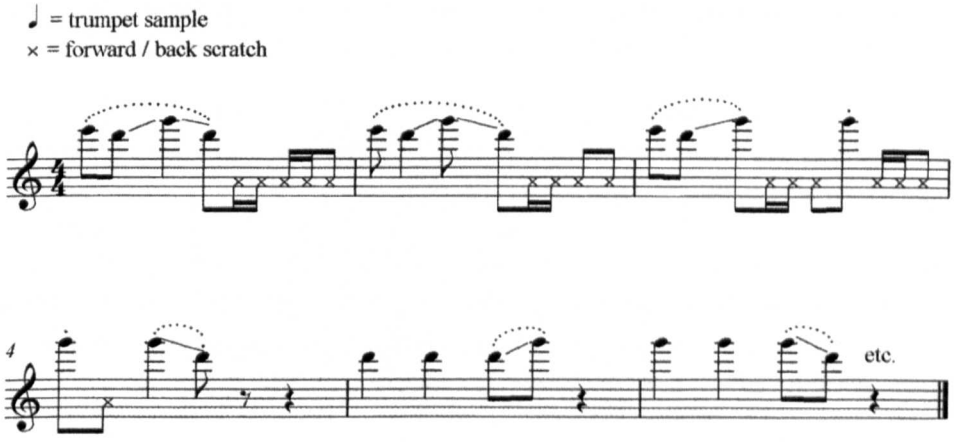
---

[32] Toop, David. (2004) *Haunted Weather*. (pp.171). London: Serpents Tail.
[33] Otomo, Yoshide. (2007) *Multiple Otomo*. Asphodel DVD, ASP 3007
[34] Revill, David. (1992) *The Roaring Silence: John Cage, A Life*. (pp. 65) London: Bloomsbury
[35] 12 inch vinyl single, (1981) released on Sugar Hill Records

> Exclamations such as 'let's dance' or 'rock it' could now be repeated an infinite number of times [...] This was done in two ways: either using the rapid backspin as a sound effect (loud squeaking), or silently reversing the record, the throw switch being pushed aside and, only after the needle had been turned back, pushed back again. The more perfect Flash's mastery of this technique, the more elegantly and delicately he was able to incorporate parts of a song into another song – without a trace of the sticky tape and glue of the collage process.[36]

This quest for the finesse of the mix in a live environment became of prime importance to hip-hop DJs of the early nineties, of whom DJ Premier (aka Christopher Martin) stands out as a prime example of an artist that reclaims for the vernacular techniques already created in the avant-garde. Coming to prominence as one half of the hip-hop duo Gangstarr, Premier excelled at the role of beat juggler and producer, but is most important here for one gloriously simple but incredibly effective re-appropriation of the Cageian 'glissandi' first heard in *Imaginary Landscape*. In *Who's Gonna Take the Weight?*[37] the pitchshift glissando is used, in combination with a rhythmic punctuation at the crossfader, to extend both the pitch and the expressive curve of a trumpet sample. In so doing, Premier overlays his own syntax onto the pre-existing structure of the original trumpet solo, effectively creating a synthesis of John Cage in 1939, Maceo and the Macks in 1973[38] and Christopher Martin in 1991.

Figure 5 Gangstarr, *Who's Gonna Take the Weight?* (1991) DJ Premier turntable solo, with all glissandi created with the pitch shifter.



[36] Postchardt, Ulf, trans. Whiteside, Shaun. (1998) *DJ Culture*. (pp.196). London: Quartet Books

[37] From Gangstarr (1991) *Step in the Arena*. Released on Chrysalis Records

[38] Although produced by James Brown, both sides of the seven-inch single sampled for the 'hook' in *Who's Gonna Take the Weight?* were recorded by Maceo and the Macks and named *Parrty* (sic) *parts 1 and 2*. It was released on People Records in 1973.

In *Contact Theatre* and *Mixtape Zen*, this playful assimilation of multiple identities as exemplified by Martins' mixing is enhanced by the use of unspecified records, creating an intricate web of references both across the surfaces of the records themselves and the historical periods they represent. In attempting to formalise my approach to improvising with records up to 2005, I made a short compendium of the techniques I used, both as a document and as a provocation to stimulate future scores and performances.[39] It is from this work that *Contact Theatre* and *Mixtape Zen* originate and within which the compositional challenge was to define ways of creating a navigable path through a collage of found sound, something, to loop back to Paul D. Miller, we could define as:

> a knowledge and pleasure in the play of surfaces, a rejection of history as objective force in favour of subjective interpretations of its residue.[40]

In his pamphlet *Rhythm Science*, Miller goes onto argue that DJ Culture should be heard as a contemporary form of collage, a practice in which repetition finds a natural place, as it replicates the mass production of a consumer society.[41] Robert Fink goes further, to suggest that repetition became latent in mid to late 20th century Western culture:

> A culture of repetition arises when the extremely high level of repetitive structuring necessary to sustain capitalist modernity becomes salient in its own right, experienced directly as a constituent of subjectivity; it is in this sense that we are constantly "repeating ourselves" through manifold experiences of repetition. "Pure" control of/by repetition has become a familiar yet unacknowledged aesthetic effect of late modernity, sometimes experienced as pleasurable and erotic, but more often as painfully excessive, alienating, and (thus) sublime.[42]

Taking Fink's point, we can read the hyper-syncopations and abrasive sonic collage of late 90s Aphex Twin and later 'breakcore' artists such as Venetian Snares as a destabilisation of the fixed pulse and tonal stability so enamoured by Steve Reich in 1970[43] and hear these developments as a critique of the glacial repetitive changes brought about by techniques such as phase shifting in *Its Gonna Rain* and *Come Out.* This disruption of precise, metrical repetition is something that naturally finds a home with the turntable, an instrument that approaches the precision of the sampler, but ultimately will never be able to replicate exact metrical loops without some sort of preparation (and even these preparations erode, like the quality of the vinyl itself).

The post-turntablist uses of the phonograph as a loop machine finds a refreshingly asymmetric, polytemporal home between Reich's systematic phasing experiments with tape and the highly clinical, repetitive world of sample-based

---

[39] This also, happily, resulted in my friend and fellow composer John Lely writing *Precision Sonics* in 2005, which focuses solely on the ½ contact technique.

[40] Miller, Paul D. (2004) *Rhythm Science* (pp.76) Cambridge, MA and London: MIT Press

[41] 'Today we have built an entire youth culture based on the premise of replication, which itself derives from the word "reply". Ours is a milieu in which much of what is heard, seen, and thought is basically a refraction of the electronicized world that we have built around ourselves.'
Miller, Paul D. (2004) *Rhythm Science* (pp.73) Cambridge, MA and London: MIT Press

[42] Fink, Robert. (2005) *Repeating Ourselves: American Minimal Music as Cultural Practice.* (pp.4) Berkley: University of California Press

[43] 'The pulse and the concept of clear tonal centre will remerge as basic sources of new music'. Reich, Steve. (2002). Some Optimistic Predictions (1970) About the Future of Music. In Hillier, Paul (ed.), *Writings on Music, 1965-2000* (pp.51) New York: Oxford University Press.

commercial music production. Taking this point, the interest in turntable-based polytemporal looping expressed in *Contact Theatre* and *Mixtape Zen* can be read as a disruption of the seamless "flow" initially offered by the turntable:

> Like television – and actually a little before the broadcasting world caught on to its power – long-playing records could provide controlled ambience, dispensing hours of what the industry was happy to market (discreetly) as a seductive flow of "continuous and uninterrupted pleasure."[44]

Moreover, the interest in creating a shifting contrapuntal dialogue of asymmetric loop systems can also be found in the non-turntable works, such as *Entanglement Laws* and *References to Books on Applied Mechanics*. As an instrument ideally suited to the navigation of polytemporal repetition, the turntable is as fundamental to my understanding of compositional structure as the tape machine was to Reich, and provides a crucial link for me between my interest in (largely, but not exclusively black) hip-hop and the (largely, but not exclusively white) techniques of the avant-garde. Indeed, as James A. Snead states:

> In black culture, repetition means that the thing *circulates* (exactly in he manner of any flow[...]) there is an equilibrium. In European culture, repetition must be seen to be not just circulation and flow but accumulation and growth. In black culture, the thing (the ritual, the dance, the beat) is "there for you to pick it up when you come back to it." If there is a goal (Zweck) in such a culture, it is always deferred; it continually "cuts" back to the start, in the musical meaning of "cut" as an abrupt, seemingly unmotivated break (an accidental *da capo)* with a series already in progress and a willed return to a prior series [...] The "cut" overtly insists on the repetitive nature of the music, by abruptly skipping back to another beginning which we have already heard.[45]

It is interesting to note that at least one writer noticed the links between a skipping record and the musical minimalism of Philip Glass as early as 1976, and that this quote from Andrew Porter could easily be applied to contemporary uses of turntables in the work of another Philip, that of Philip Jeck:

> A listener to [Glass's] music usually reaches a point, quite early on, of rebellion at the needle-stuck-in-the-groove quality, but a minute or two later he realizes that the needle has not stuck: something has happened.[46]

In this way, all of the works presented here can be read as a critical embrace of a 'culture of repetition', and this point therefore has a dramatic effect upon the use of barlines in these pieces – indeed, the reader will notice that unisons are very rarely used, and indeed all of the works, from a rhythmic standpoint, could be considered as containing fractured polytemporal textures searching for points of synchronisation.

---

[44] Fink, Robert. (2005) *Repeating Ourselves: American Minimal Music as Cultural Practice.* (pp.11) Berkley: University of California Press

[45] Snead, James A. (1984) Repetition as a Figure of Black Culture. In Gates, Jnr., Henry Louis (ed.) *Black Literature and Literary Theory* (pp.69). London: Routledge

[46] Porter, Andrew. Many-Colored Glass. The New Yorker (13th December 1976). Reprinted in Fink, Robert. (2005) *Repeating Ourselves: American Minimal Music as Cultural Practice.* (pp.199) Berkley: University of California Press

Recombinant Teleology

It is clear, therefore, that the works presented here take radically divergent approaches to the navigation of speed, direction and consequently time in music. This fluctuation between developmental and non-developmental form and linear and non-linear structure therefore implies that the idea of 'navigating time' is essentially to borrow, re-interpret and re-construct notions of 'stasis' and 'development' wherever the particular compositional scenario deems it necessary. In a stance relevant to this point, Fink acknowledges that the desire to produce musical structures that oscillate between stasis and propulsion is common for both club DJs and composers of art music:

> A disco tune (or an avant-garde process piece) should have the right to "pass" as goal-directed (for a while); to assume and then cast off whatever pieces of the old, supposedly totalized structure of teleology please it, whenever and wherever it chooses: to maintain a distanced and perhaps even ironic stance toward "traditional" teleological dictates even as it plays with their undeniably pleasurable aspects.[47]

Fink goes onto describe this theory as 'recombinant teleology', and this idea of a musical form that can assume and shed teleological goals as it chooses echoes a concept akin to the 'mix' in DJ culture, whereby a seamless musical arc, elegantly navigated by the cross fader, is created from a fragmented corpus of musical texts, each with its own teleological drive. The success of the mix in club-based dance forms after disco relies on the smooth transition between records, which itself relies upon the DJs ability to adjoin the musical fragments in terms of harmony, tempo and phase. In the compositions presented here, however, there is a desire to make a non-blending of surfaces the central subject. Indeed temporal and/or structural layers in these works are sometimes deliberately superimposed (like two apparently unconnected records caught mid-mix) creating an unstable rhythmic terrain that subverts propulsive clarity in favour of a delicate relationship between 'stasis' and 'speed'. In a lecture from 1938 entitled *New Instruments and New Music,* Edgard Varèse outlines a conception of time as terrain so close to the spirit of these compositions that it is worth quoting at length:

> Today with technical means that exist and are easily adaptable, the differentiation of the various masses and different planes as well as these beams of sound, could be made discernible to the listener by means of certain acoustical arrangements. Moreover, such an acoustical arrangement would permit the delimitation of what I call "zones of intensities". These zones would be differentiated by various timbres or colors and different loudnesses. Through such a physical process these zones would appear of different colors and of different magnitude, in different perspectives for our perception. The role of color or timbre would be completely changed from being incidental, anecdotal, sensual or picturesque; it would become an agent of delineation, like the different colors on a map separating different areas, and an integral part of form. These zones would be felt as isolated, and the hitherto unobtainable non-blending (or at least the sensation of non-blending) would become possible.[48]

---

[47] Fink, Robert. (2005) *Repeating Ourselves: American Minimal Music as Cultural Practice.* (pp.43) Berkley: University of California Press

[48] Varèse, Edgard. (1998) In Schwarz, Elliot and Childs, Barney (Eds.) *Contemporary Composers on Contemporary Music, Expanded Edition.* New York: Da Capo

The use here of terms such as "zone" and "map" refine further the concept of musical structure as a navigable environment. In the music presented here, therefore, the audible form is always the result of a fractured collision between linear and non-linear thinking. To borrow from Fink once more, the results, I hope, represent

> a new kind of recombinant teleology [...] almost exactly opposite and exactly identical to the experience of speed.[49]

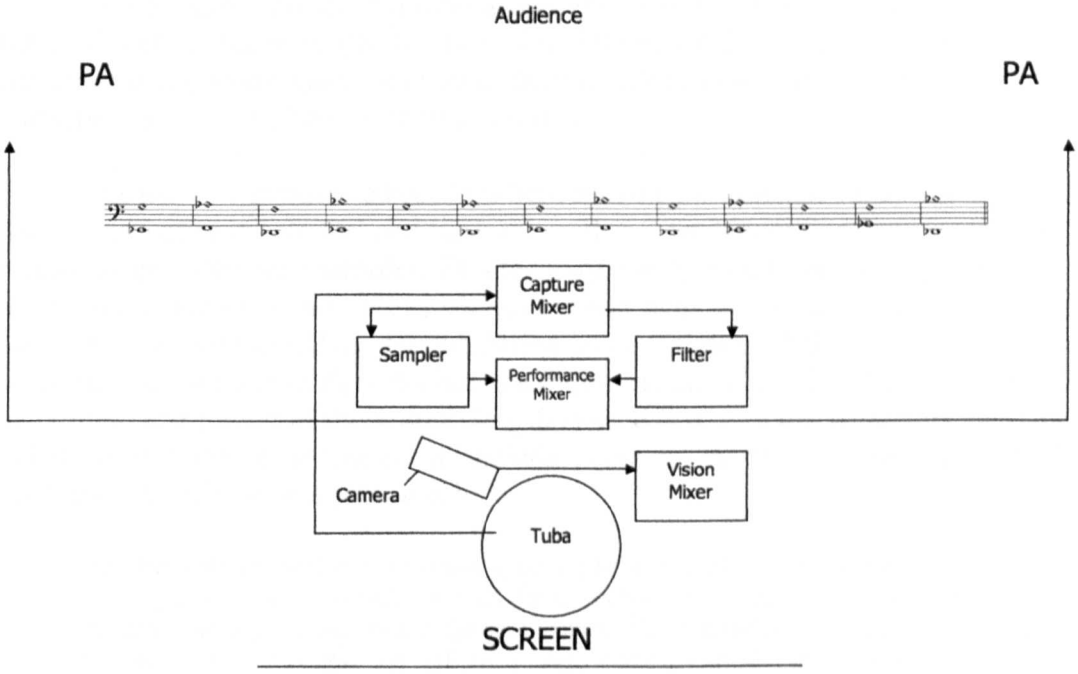
[49] Fink, Robert. (2005) *Repeating Ourselves: American Minimal Music as Cultural Practice.* (pp. 107) Berkley: University of California Press

WORKS (2005-2008)

Beginning by being still: *Vent / Glacier (2008)*

Vent / Glacier, for amplified tuba and electronics, is directly concerned with the exploration of musical stasis. The work is specifically designed to capture the imagined sound of the industrial revolution colliding with the digital, and this sense of fracture is evident in the two forms within which the work exists, representing two opposing attitudes to the synthesis of the physical and the virtual. The essential characteristics of the work are thirteen multiphonic chords and the following arrangement of electronics:

Figure 6 *Vent / Glacier* (2008), harmony and electronic setup.

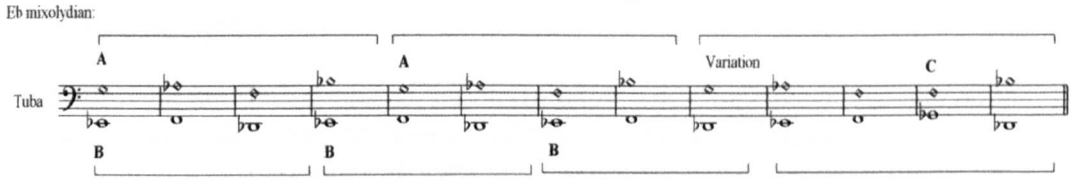


The potential permutations of the materials thus become the essence of the performance and it is suggested that the work should mark either a general *transition* from the 'industrial' to the 'digital' in the form of *Vent*, or a frozen navigation between the two states, as in *Glacier*. Both approaches are represented here – the *Vent* version being a semi-improvised structure with visuals, whilst the *Glacier* version specifies directions regarding timbre, harmony and articulation, but is indeterminate with regards to duration.

Vent

The multiphonic content is essentially built from two superimposed cycles, one consisting of a four-note vocal melody (A) and the other a three-note bass line (B) with the twelfth multiphonic (C) creating chromatic tension, functioning as b3M7 against the clear modal centre of Eb Mixolydian:

Figure 7 *Vent / Glacier* (2008), modal construction of the multiphonics



These 'pure' harmonic combinations are, however, wildly distorted by both increased gain on the microphone channel and microtonal fluctuations in the instrumental and vocal lines, creating a tension between the clarity of the chords themselves and the 'failure' of their presentation.

The use of electronic techniques here mirrors the concern for a volatile relationship between 'clarity' and 'failure', with a Korg Kaoss Pad used in its most brutally simple form as a sampler. This technique is applied to bridge gaps between breaths in the live tuba part, with a shortening and lengthening of the sample length (via the touch pad) mimicking the inhalation and exhalation of the performer and extending the compass of the tuba into the digital realm. The 'glitch' effect created by the extreme shortening of the sample length is used here as a direct way of piercing the harmonic dialogue with sinuous 'melodic' content, but also as a reference to what Kim Cascone calls "post digital music":

> The "post-digital" aesthetic was developed in part as a result of the immersive experience of working in environments suffused with digital technology: computer fans whirring, laser printers churning out documents, the sonification of user-interfaces, and the muffled noise of hard drives. [...] it is from the "failure" of digital technology that this new work has emerged: glitches, bugs, application errors, system crashes, clipping, aliasing, distortion, quantization noise, and even the noise floor of computer sound cards are the raw materials composers seek.

He goes on to say that:

> Indeed, "failure" has become a prominent aesthetic in many of the arts [...] reminding us that our control of technology is an illusion, and revealing digital tools to be only as perfect, precise, and efficient as the humans who build them.[50]

The movement, in *Vent*, through fluctuating states of control is emphasised in the use of electronic filtering, which simultaneously supports and punctures the acoustic signal in two ways: firstly, the performer may navigate through the

50 Cascone, Kim. (2005) The Aesthetics of Failure: "Post-Digital" Tendencies in Contemporary Computer Music. In Cox, Christoph and Warner, Daniel (Eds.) *Audio Culture: Readings in Modern Music* (pp.393) New York and London: Continuum Books. (Reprinted from Computer Music Journal 24, no.4 [Winter 2000])

prominent frequencies inherent in the multiphonics (similar to the way a DJ may 'sweep' through EQ settings on a mixer) and secondly, the player may alter the speed and depth of the envelope curve to further extend the articulation of the multiphonics. In the version recorded here, the filtering of the inhalation and exhalation of the performer becomes part of the collision of materials in the work and is another stage in the fracture between the acoustic and the electronic, a complex collision that could be described with illusory simplicity as 'noise'. Indeed, as Simon Reynolds claims:

> [...] if noise is the point at which language buckles and culture fails, then you could argue that noise occurs in moments, tiny breakages and stresses dispersed all over the surface of music, all kinds of music.[51]

Following my definitions of 'indeterminacy' and 'improvisation' above, we can say that in *Vent* the harmony here is specified, but not its duration, order or dynamic and that it is therefore indeterminate. With regards to the electronics, the performer is free to improvise within certain guidelines, the boundaries being the restrictions of the equipment themselves within this particular arrangement. Therefore, the challenge for the performer is to form a meaningful interaction between the diverse elements on a plateau of stasis represented by the deliberately restricted harmonic content.

The arrangement of the equipment is analogous to an organism within which the tuba provides the both the lungs (and therefore essential breath) in the work, but also the emotional intelligence (defined, largely, by changes in harmony, duration and dynamic). To continue this analogy, the filter takes the role of a nervous system, a neuro-network connecting the physicality of the acoustic performance with the cold precision of the digital realm. The Kaoss pad therefore assumes the role of both the memory of the 'organism' (something quite natural for a sampler) but also as a synthetic extension of the physicality mentioned above, extending the upward compass of the tuba beyond its physical limits. In the *Vent* version presented here, this whole process is then reflected in the visual content, which consists of a simple four-way mirror effect on a live feed from a camera placed to the left of the performer. This four-way mirror is a visual analogy of the four main sonic materials in the work (distorted tuba, distorted voice, filtering, sampling) and is mixed against a no-input blue screen from an empty channel on the vision mixer, the unchanging colour here being used here as a visual analogy of stasis.

Glacier

It is stasis and the "stresses dispersed all over the surface of music" that become the central feature of the *Glacier* reading of the work, designed as it is to be an anti-thesis to the clearly linear goal of *Vent*, and expressed through an (apparently) non-developmental form. The form is held together by a tension between the multiphonic cycle displayed above and the distribution of this progression across the length of the performer's breath. In essence, therefore, harmony and articulation are placed in an escalating isorhythmic dialogue, in which the performer firstly plays one multiphonic per breath (systems one and two in the score) to two, three, four and six breaths

[51] Reynolds, Simon. (2005). Noise. In Cox, Christoph and Warner, Daniel (Eds.) *Audio Culture: Readings in Modern Music* (pp.58) New York and London: Continuum Books. (Reprinted from Reynolds, Simon. [1990] Blissed Out: The Raptures of Rock. London: Serpent's Tail.)

(systems three, four, five and six), before snapping back to one breath per multiphonic at the end. The musical effect here is of gradual attrition, in which the need for breath subjugates the smooth execution of the harmonic material. However, it is intended that the work be performed with such 'slowness' that the main concerns, from the listeners' perspective, will be the slow rotation of the harmonic progression and the resultant fluctuations and noise elements inherent in the multiphonics.

Another 'hidden' tension in the work exists between the physical effort of the performer and the sonic results heard in the performance space. In the *Glacier* reading, it is possible for the performer to sustain the multiphonics at a calm pianissimo, thus extending the potential duration of each chord. However, the amplification and distortion of this signal makes the resultant sound far louder and 'noisier', thus adding an interesting tension between the performer's and the audience's experiences of the work.

Whilst visual content and filtering are not used in the *Glacier* version (because, frankly, the musical scenario does not need it) the use of the Kaoss pad here has an elemental harmonic function, sustaining either multiphonic 'one' or 'two' against the live chords, thus provoking a further tension between the performer and the surrounding harmonic continuum.

Both versions of *Vent / Glacier* therefore share an interest in the meeting points between harmony and 'noise' and the scores in these situations are designed to provoke, in the words of Japanese noise artist Merzbow, "the ecstasy of sound itself". It falls to Henry Cowell, writing in 1929, to provide a definitive comment here:

> [...] the noise-germ, like the bacteria of cheese, is a good microbe, which may provide previously hidden delights to the listener [...] Although existing in all music, the noise-element has been to music as sex to humanity, essential to its existence, but impolite to mention.[52]

Both versions of the work, therefore, explore the relationships between aspects of open form composition, indeterminancy, noise and improvisation. Whilst the roles of composer and performer are quite clear within the *Glacier* version of the work, in a realisation of *Vent*, the composer provides the harmonic and material nucleus of the improvisation, whilst the challenge for the performer is to create, in real time, the form of the work and to negotiate a path between tension and non-tension. If we consider this tension as 'teleology' we can turn to Fink once more:

> Detach teleology from form, and an entire panoply of new arrangements opens up: One might create tension-release arcs that organize only *some* of the musical space, beginning in the middle, petering out before the of a piece. Or a composer could present *incomplete* tension-release cycles: just an "unmotivated" climax (perhaps itself repeated cyclically), or, more interestingly, long build-ups with no clear moment of release. Why not a piece that is all climaxes – or, conversely, nothing but rising tension? One can imagine a complete teleological mechanism fragmented and dispersed through a larger span of featureless musical time [...] (In between the widely spaced "turning points" of the narrative structure – time

[52] Cowell, Henry (2005). The Joys of Noise. In Cox, Christoph and Warner, Daniel (Eds.) *Audio Culture: Readings in Modern Music* (pp.23) New York and London: Continuum Books. (Reprinted from Dick Higgins (Ed.) [2002] Essential Cowell: Selected Writings on Music. Kingston, NY: McPherson and Company.

> usually filled in traditional tonal music by hierarchically organized prolongations – one might imagine plateaus of simple repetition, aleatoric noise, or even free improvisation.)[53]

Both versions of Vent / Glacier therefore represent examples of fractured stasis, in which musical time is considered as linear, but as proceeding with glacial slowness from one tension curve to another. The work was built from fragments of an earlier work called *VENT*, written for the tuba player James Gourlay and first premiered on 29th April 2005 at the University of Leeds. After extensive revision, I performed the premiere of the *Vent* at an Open Ear[54] event on 13th June, 2008 at the ATRiuM Theatre, Cardiff.

Da capo, and back to a new beginning:
Entanglement Laws (2006-2007)

Written for the Dutch group Ensemble Klang, *Entanglement Laws* considers ways of using structural repetition and erosion processes in a musical argument, reflecting the tensions between the following quotations from author Iain Banks:

> You have this thing about separation and entanglement, and a set of beliefs I find perfectly bizarre and that I can't anticipate the results of [...]

and

> You're more a creature of habit and ritual than you think you are.[55]

The piece has an essentially linear structure, but has embedded within it a series of conditions or 'laws' that shape the internal nature of the exchanges between the performers, creating a complex web of possible readings whilst retaining the sense of a brutal, repetitive ritual. There is no score for this piece, as the ensemble is split into three independent ensembles - a 'harmony' group consisting of two saxophones and an alto trombone, a 'melody' group consisting of a de-tuned electric guitar and a keyboard and a third group consisting of a solo percussionist concerned with both melody and rhythm.

These three groups simultaneously perform three variations of the same pitch material (see Figure eight and nine) and are given relative freedom to determine the pace at which they navigate through this material, apart from when the 'laws' govern that the performers should synchronise in one of three ways (please refer to the performance notes with the 'score'). A secondary 'noise' layer to the piece is elaborated upon later. This vibrant relationship between durational freedom and structural rigour therefore creates a tension between the musical material and the structural 'laws' surrounding its performance, a dialectical situation that reflects the contradictions and potential points of contact between the two texts.

---

[53] Fink, Robert. (2005) *Repeating Ourselves: American Minimal Music as Cultural Practice.* (pp. 46) Berkley: University of California Press

[54] Open Ear is a collective of Paul Adams, Garrett Lynch and myself who formed in 2007 and focus on creating events that bring together new media with sound art and music.

[55] Banks, Iain. (2002) *Dead Air.* London: Abacus

The 'laws' come in the form of a preface to the individual instrumental parts and aims to outline the 'reaction nexus'[56] within which the work takes place. Having set up this performance scenario, the compositional challenge was to provide material that gained strength from repetition within a structurally fluctuating context, that didn't develop in the traditional sense of intervallic and rhythmic variation, but was relentlessly re-energised by a splintered argument between repetition and development. Pitch content therefore became crucial in the creation of a delicate equilibrium between stasis and change.

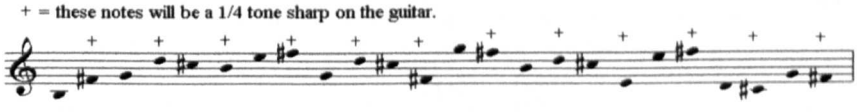
Pitch

The basis for all of the pitch content within Entanglement Laws is a repeated melodic sequence of 24 pitches:

Figure 8 *Entanglement Laws* (2006), original pitch content.

Just as all of the musical material within the piece is thrown into a dialectical relationship with the entanglement laws that puncture and provoke the progress of its presentation, so the stability of the B Dorian material here is thrown into question by the addition of microtonal inflections, created by the de-tuning of certain guitar strings:

Figure 9 *Entanglement Laws* (2006), 'detuned' pitch content



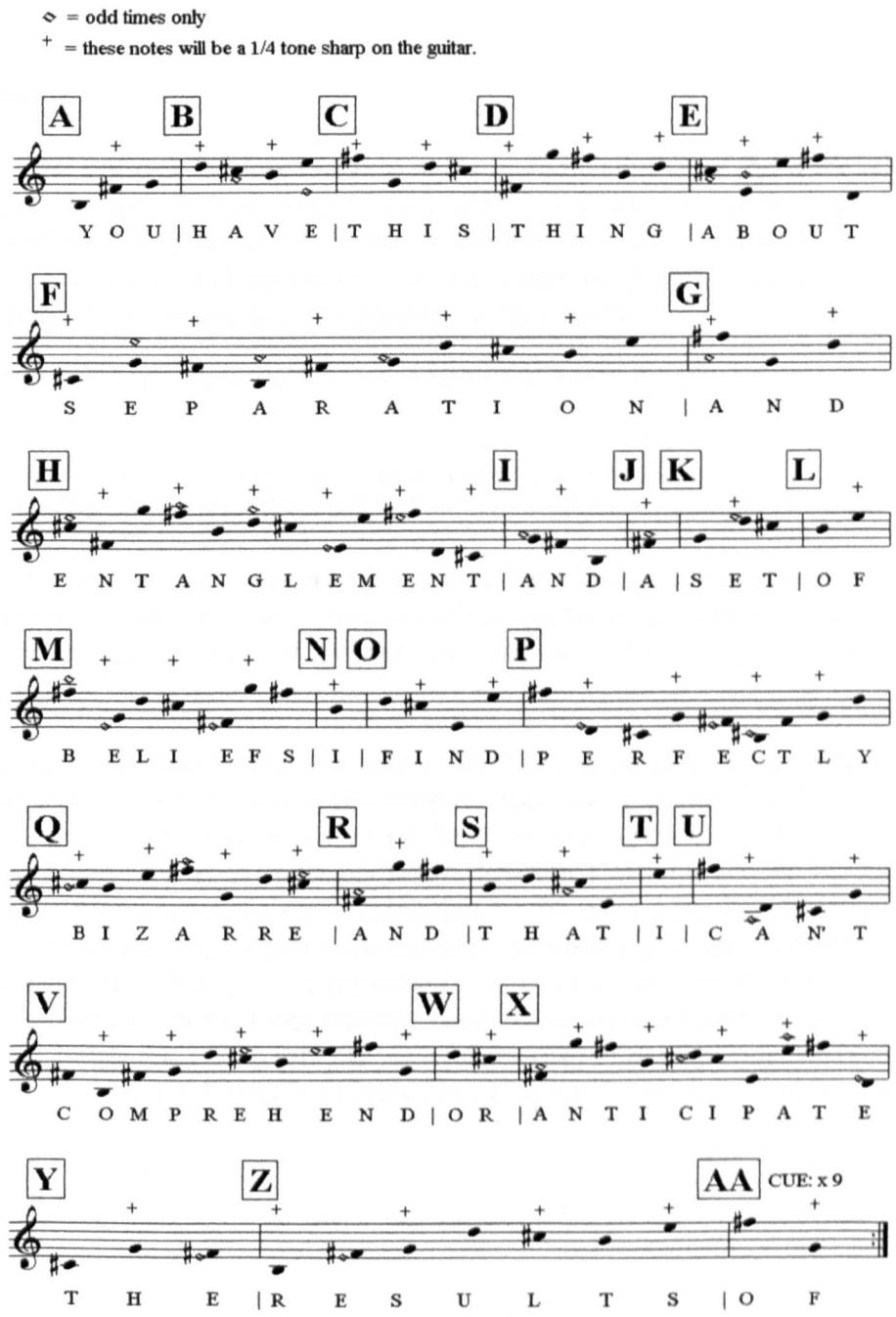
This tension between tunings, an unstable, entangled relationship between tonality and microtonality, is essentially an intervallic analogy of the rhythmically unsynchronised tensions of the piece as a whole, and therefore functions as a sort of emotional barometer throughout the work, narrating the ensuing frenzy and bringing a sense of instability, fragility and poignancy to the fore.

The omnipresence of this material is articulated through a series of interpolations created by superimposing the text of the first Banks quotation onto

[56] I'm referencing here what Anthony Braxton calls 'a collective or ensemble reality context (i.e., interactive strategies for large and small ensemble groups)' in Braxton, A. *Catalog of Works* (Synthesis Music 1989.)

repetitions of the twenty-four pitches, placing barlines where the ends of words fall, assigning rehearsal letters to each bar and harmonising the melodic line with an A, a B, C#, D, or E as it appears in the text.

Figure 10 *Entanglement Laws* (2006), interpolations of pitch and text material.



The results of this process create an isorhythmic situation in which the phrase lengths created by the punctuation of the line collide with the repetitions of the twenty-four pitches and therefore force the melody to express itself in broken shards, wheezing amongst the frenzied rotations of the surrounding rhythmic and harmonic cycles.

Harmony

This sense of fracture inherent in the melodic content of the work is further heightened by the material given to the brass players, who stretch these pitches across a series of loud, long arpeggios, or throw fragmented hockets across the performance space. The above idea of punctuation is varied here by the interpolation of the two Banks quotations, so that one fits squarely within another:

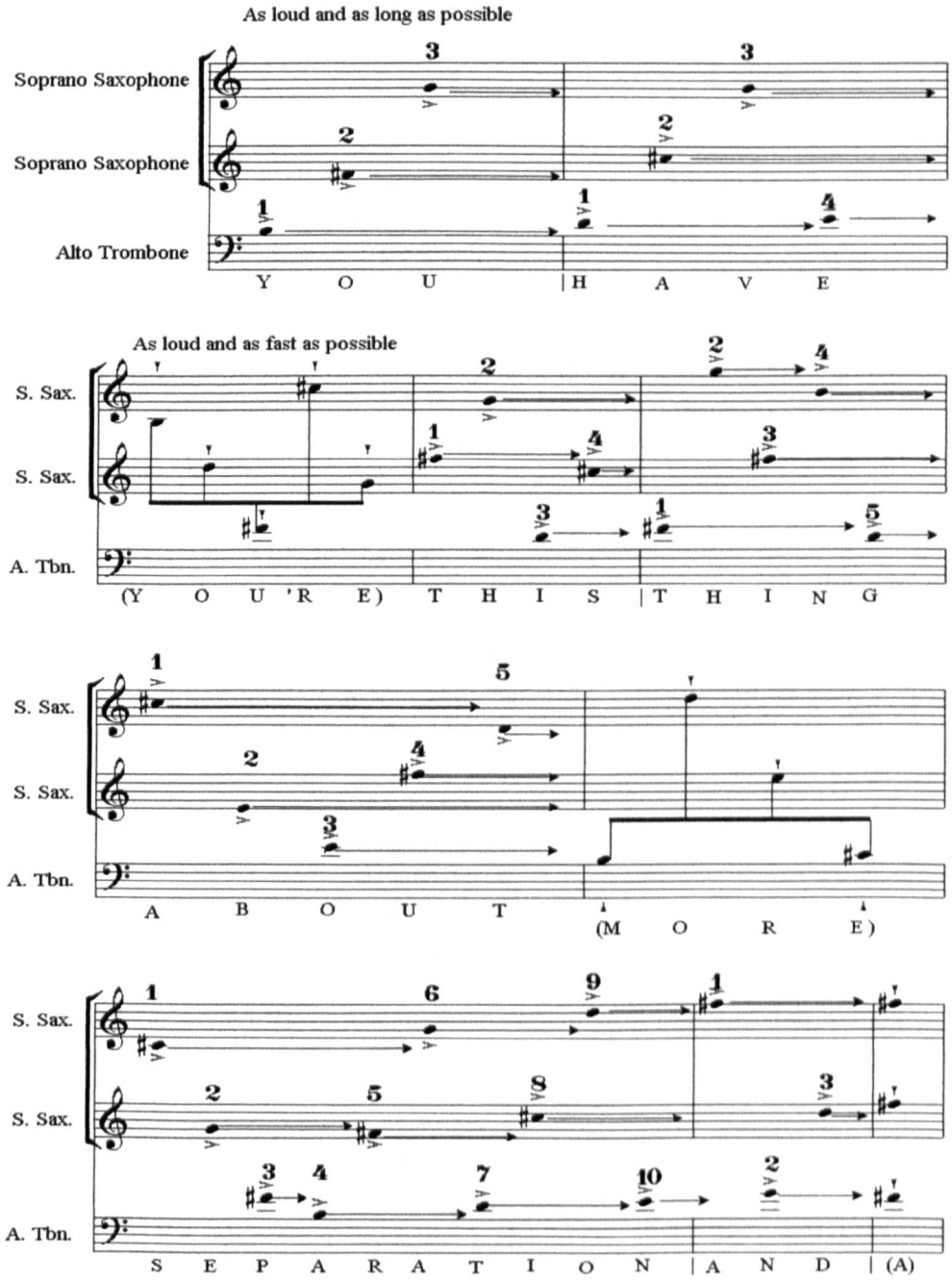
Figure 11 *Entanglement Laws* (2006), interpolations of the two texts

YOU HAVE (YOU'RE) THIS THING ABOUT (MORE) SEPARATION AND (A) ENTANGLEMENT AND A (CREATURE) SET OF (OF) BELIEFS I FIND, etc

Whether the pitch material is presented as a sustained chord or as a hocket is governed by whether the first or second of the quotes is 'activated' within the interpolation, thus giving a 'staggered' presentation of the twenty-four pitches (see Figure 12).

The entanglement laws provoke a further level of complexity by assigning three 'playing styles' to repetitions of the material, essentially stating that the first 'cycle' should consist of all of the material, whilst on its first repetition, only the 'cue' material should be played (more on this in 'Erosion') with the second repetition consisting of the hockets (given punctuation by the second Banks quotation) and the cue. Therefore, the fragmented brass material consistently refigures itself in sequences of three, but is never repeated in exactly the same context. Indeed, these structural rotations of the brass material could be considered, just as the dialogue between tonality and micro tonality, as a microcosm of the tensions between durational freedom and structural laws that are inherent within the work as a whole.

Figure 12 *Entanglement Laws* (2006), text 'activating' the pitch material



Rhythm / Noise

> There always exists, as with a pitch, a predominant rhythm, but around this there can be heard numerous other, secondary rhythms.[57]

A further translation of the tensions between the texts is expressed in the dialogue between pitch and noise. Just as diatonic and microtonal intervals within the work simultaneously undermine and reinforce each other, so the uneasy combination of relatively conventional, expensive instrumental timbres and distracting (but infectious) noise elements made from cheap resources (such as multiples of pre-set keyboard rhythms and instruments and amplifiers wrapped in tin foil) can be viewed as a sonic analogy of the surreal dialectical tension upon which the work rests. The percussionist is largely responsible for the biggest rhythmic and sonic 'distraction' within the work: the keyboard rhythms. The function of the keyboards is to form a dense unsynchronised cloud of clicking hi-hats around the pitch material, simultaneously providing both rhythmic propulsion and a sense of fractured stasis before being cruelly extinguished. The fact that there are three keyboards set at unsynchronised temporal angles to each other is again suggestive of an unresolved tension and echoes the fracture of the ensemble into three distinct groups.

The articulation of the percussion part again utilises the concept of interpolation between the texts, but here the arpeggiated and hocketed material of the brass parts is reinterpreted as a series of indeterminate 'temporal arpeggios' in which the keyboard's rhythmic cycles are superimposed, forming dense, unsynchronised webs that both simultaneously support and engulf the surrounding texture.

Erosion

Structurally, the work simultaneously presents three opposing processes: the unsynchronised presentation of the three layers of material; the 'puncturing' effect of the entanglement laws on this presentation and a third element fundamental to the sense of onward (non-) development in the piece: the idea of structural erosion.

Each group within the ensemble is presented with material that, whilst designed to be unsynchronised in performance, nevertheless has the same number of barlines, each denoted by a rehearsal mark. Beginning together at rehearsal letter A, all performers are asked to present their material with relative durational freedom, but upon reaching the end of their material, they should sound a 'cue' that signals to all groups that they should 'snap back' to letter B, and so on, until the three layers reach an assimilation at the poignantly brief end of the work, where the percussionist signals the end of the process with five brutal strikes.

In creating a set of reactions for both the independent groups and the ensemble as a whole and placing these reactions into relief with the relative freedom given to the performers in terms of pitch duration, the musical structure consistently (but arrogantly) snaps back against itself, navigating across its own linearity, becoming conscious of its own life-span and pushing 'against time'.

---

[57] Russolo, Luigi. (2005) The Art of Noises: Futurist Manifesto. In Cox, Christoph and Warner, Daniel (Eds.) *Audio Culture: Readings in Modern Music* (pp.13) New York and London: Continuum Books. (Reprinted from Russolo, Luigi trans. Barclay Brown [1986] *The Art of Noises*. New York: Pendragon)

Navigating the datacloud: *Contact Theatre (2005-8)*

Working on *Contact Theatre* gave me the opportunity to critically embrace my connection to DJ culture and explore what DJ Spooky would describe as "the datacloud"[58], the gigantic, immediately accessible, kaleidoscopic web of pre-recorded sonic debris that surrounds contemporary Western sonic practice, something that is neatly expressed in the metaphor of the record collection. In the pamphlet *The Music of the Environment*, R. Murray Schafer claims that:

> The twentieth century has given us the ability to dislocate sounds in time as well as in space. A record collection may contain items from widely diverse cultures and historical periods in what would seem, to a person from any century but our own, an unnatural and surrealistic juxtaposition.[59]

It is precisely this "surrealistic juxtaposition" of which Schafer speaks that functions as the sonic surface of *Contact Theatre*, for the six performers of the work are asked to navigate across a diverse terrain of six vinyl recordings with varying forms of articulation between the needle and the record. In essence, the sound of this work is the sonic result of a series of choreographic steps across a shifting lexia of culturally, geographically and historically diverse recordings, and sits at crossroads between my connections to DJ culture and the history of the avant-garde.

Compositional Process

The work presented here grew out of an elongated process of workshops, performances and revisions in the UK, Holland and Belgium, between 2005 and 2008. Essentially, the work had four stages of development:

- research into extended turntable techniques, completed in the autumn of 2005
- a graphic score (2006 version) designed for the Percussion Group of The Hague, performed extensively by the group since 2006
- a period of reflection, resulting in a semi-improvised version, performed by myself and Paul Adams at the Sonic Arts Network Expo in July 2007
- a fully revised score (2008 version) in staff notation, with studio recording completed in February 2008[60]

---

[58] This expression comes from an interview posted at: http://ubu.wfmu.org/sound/radio/Radio-Radio_12_Paul-Miller.mp3 (accessed on 24th June, 2007)

[59] Shafer, R. Murray. (2005) The Music of the Environment. In Cox, Christoph and Warner, Daniel (eds.) *Audio Culture: Readings in Modern Music* (pp.34) New York and London: Continuum Books. (Reprinted from Shafer, R. Murray. [1973] *The Music of The Environment.* Universal Edition)

[60] Since the completion of this revised score, an arrangement for four turntables and four voices was made in collaboration with the Belgian composer Eric Sleichim and has been performed regularly since then by the Brussels-based Bl!ndman (sic) vocal quartet.

2006 version

In the first version of the score, only four essential parameters were notated:

- the order (from 1 – 6) of each performer in each 'cycle' of the score - (this remains the same throughout, a choreographic analogy of the revolutions of the turntables themselves, but also a provocation towards an insistent, ritualised style of performance).

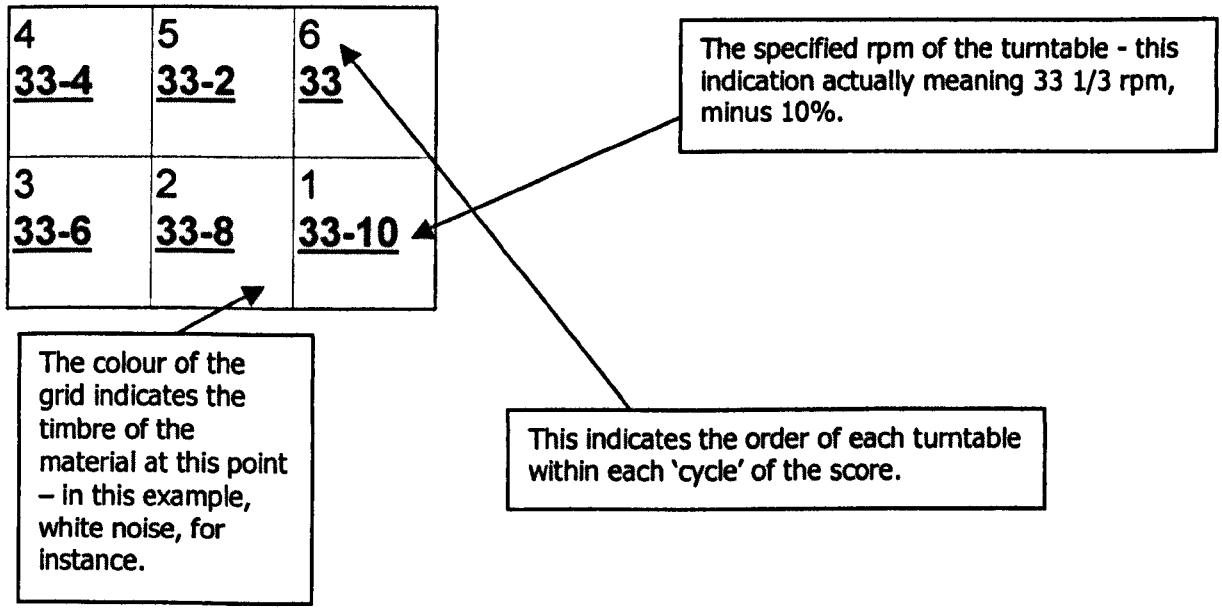
- the rpm of the turntable - in the relative absence of clearly fixed melodic, harmonic or rhythmic materials, tempi became one of the essential structural forces.

- the zone of record to be played (a distinction between the label of the record [resulting in white noise], the conventional 'playing zone' and a series of 'sticker loops' created between this playing zone and the label)

- articulation – either with 'full contact' as in conventional turntable use (with or without vibrato), 'ricochet contact', where the needle bounces on the surface much like a bow on a violin string, or 'half-contact', where the needle is left hanging above the record, just close enough to catch the slightly warped parts of the record, creating a loop effect.

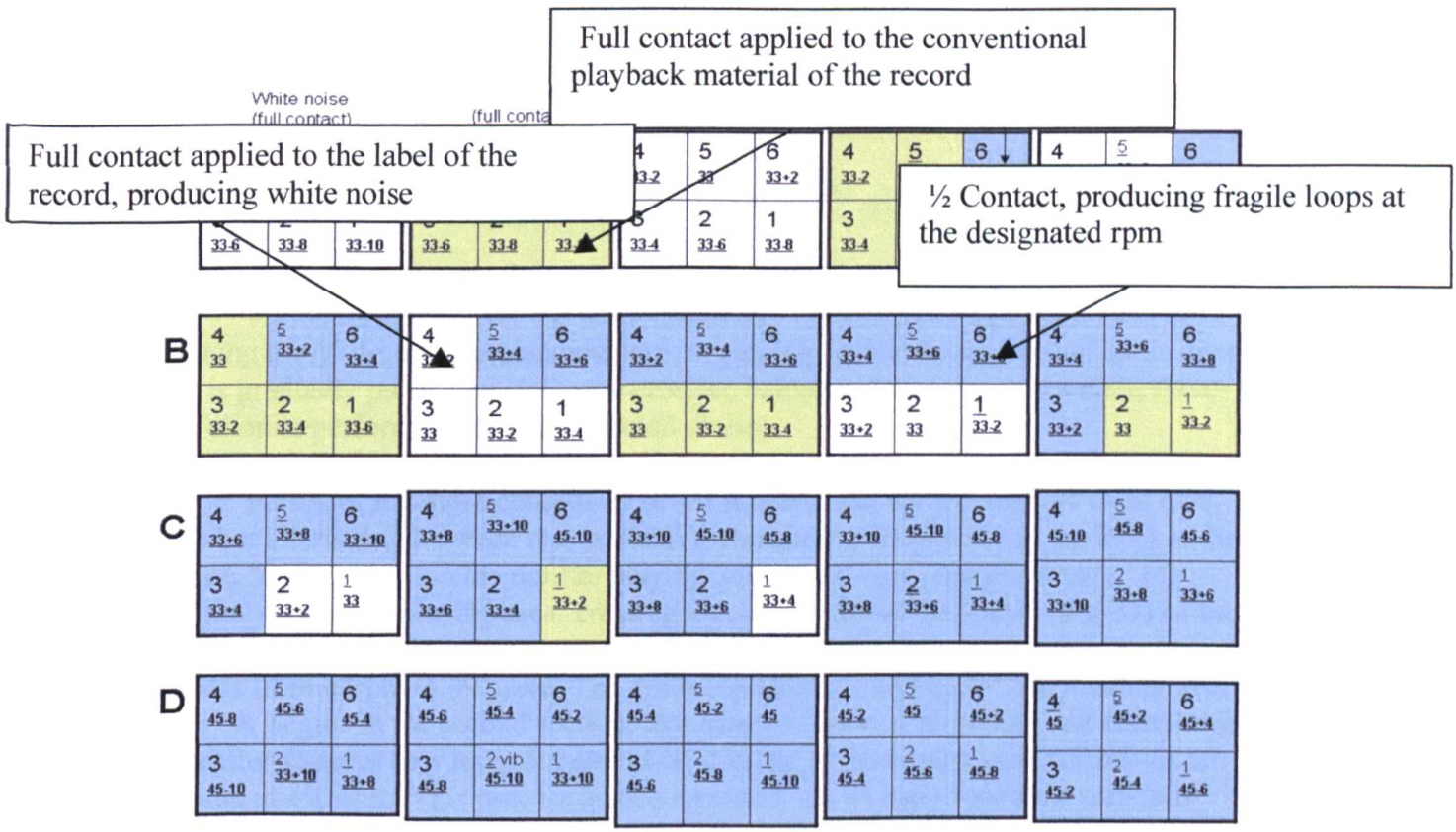
The notation for the 2006 version therefore collapsed the above parameters into a strictly functional grid for each 'cycle' of the score.

Figure 13 *Contact Theatre* (2005-8), 'grid' notation for the 2006 version



These parameters were then combined with colour changes to denote changes in articulation:

Figure 14 *Contact Theatre* (2005-8), 'grid' notation of the 2006 version, in context.

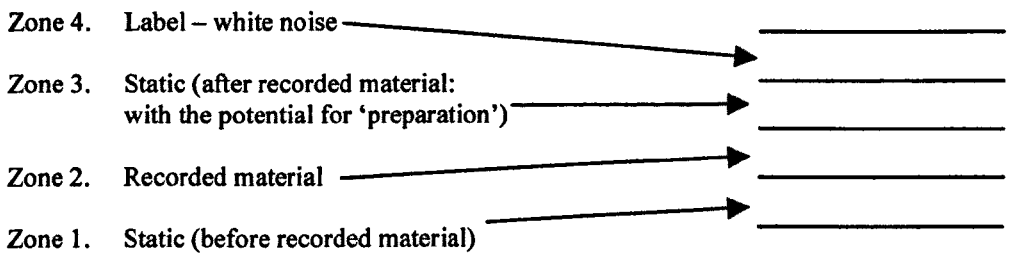


2008 version

After a period of reflection and the performance of the semi-improvised version of the work, I simplified the notation and structure. This was done for two reasons: the sonic results with graphic notation were not as focussed as possible (largely due to the relative complexity of interpreting the notation in performance) and the structure lacked the energy I associated with turntable usage, largely because the 2006 version had become a kind of 'sonic compendium' of different turntable techniques, rather than a clearly conceived piece.

To rectify these issues, the score presented here is split into four clear sections. It uses semibreve notation to indicate an indeterminate duration (from here on called a 'division') and a conventional stave to indicate the four main zones of a vinyl record (see Figure 15).

Figure 15 *Contact Theatre* (2005-8), the main 'zones' of a vinyl record and its relation to a conventional stave:



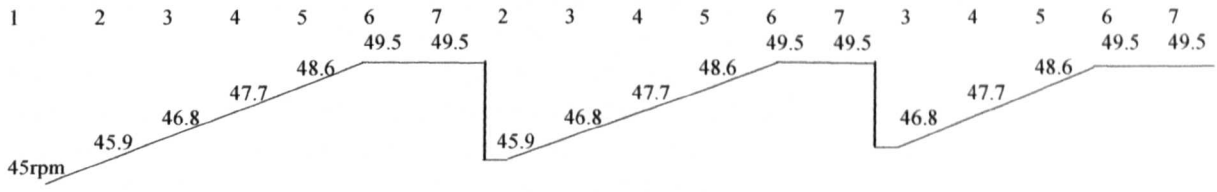
Within these zones, a total of nine techniques[61] are used (please refer to the notes in the score).

As mentioned above, the score essentially evokes an elongated process of "turning away" from mass consumerism, beginning with a dense cloud of sonic debris that is gradually purged by structural erosion, before falling away into a dark, three-part chorale performed with manipulated drones.

Part A of the score consists of seven sections that each consist of three bars, each bar alternating between the 'rewind' technique, 'full contact' on the label of the record, 'full contact' on the normal playing area of the vinyl and eventually '1/2 contact' on normal playing area, creating a delicate loop at the specified speed of the turntable. These seven sections are held together by a gradual acceleration of all records from 45rpm to 49.5rpm. The gradual process of adding looped material every third bar begins in the second section, featuring one looped turntable, and each section thereafter features new looped material until in the seventh section all turntables are looping at 49.5rpm. This process is then repeated, via da capo functions similar to those in *Entanglement Laws*, repeating from section 2 to 7, then 3 to 7 and so on. The structure of section A therefore has a sawtooth shape (see Figure 16).

[61] Documented on the DVD-ROM accompanying the Score of CONTACT THEATRE as 'Turntable techniques.mov'

Figure 16 *Contact Theatre* (2005-8), accelerations of turntable rpm at the beginning of section A: divisions 1-7, 2-7, 3-7.

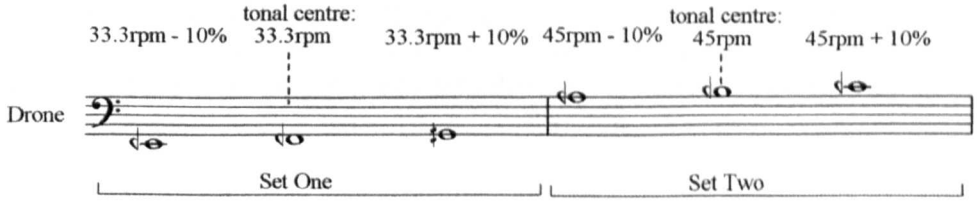


After a two bar transition consisting of a final rewind and white noise, (which is 'crushed' by switching off the power of the turntable) section B opens with the texture splitting between a 'harmony' group and a 'noise / rhythm' group, each consisting of three turntables.

'Harmony' group

The 'harmony' group works with the drone found at the end of side A of DJ Q-Bert's Marshmallow Brayks (sic), a staple battle weapon[62] for hip-hop DJs. At the default speed of 33.3rpm, the drone sounds as a flat F (see example 17) and via pitch shifter manipulations similar to those utilised by Cage in *Imaginary Landscape*, the following pitches are explored in the chorale, divided into two sets according to the temporal (and therefore tonal) centres of 33.3rpm or 45rpm:

Figure 17 *Contact Theatre* (2005-8), the two harmonic sets used from section B onwards, defined by turntable speeds.



The first drone appears in bar 23. A second drone appears at bar 24 and after a four-bar introduction (bars 24-27) announcing the pitches to be used within set one, a third drone enters at bar 28. Each drone falls to 33.3-10% rpm in canon, at a distance of

[62] A battle weapon is a vinyl record consisting of short samples designed for mixing and scratching by hip-hop DJs.

one division of the bar, before the turntable speed is changed to 45rpm and the pitches of set two are explored in canon until C. At C, the pitch drops back to the pitches of set one for two bars, before turntable one and two again move back to set two, exploring these pitches in canon (again at the distance of one division), whilst the third turntable stays on the pitches of set one, providing a lower third voice. This continues until bar 57, where the roles are swapped: player 1 and 2 continue in canon, but this time exploring set one, whereas player 3 moves to set two. After a short transition at 68-70, player 1 and 2 focus on set two in canon once more, only this time the canon is at a distance of 4 divisions, whilst player 3 continues to explore set one. At bar 84 / 85, the roles are again reversed, with player 1 and 2 exploring set one and player 3 exploring set two. This process continues until all turntables meet at a unison at the highest possible pitch in the last bar.

'Rhythm / Noise' group

As the chorale takes place in the harmony group, the rhythm / noise group enter at bar 25, with the 'half contact' technique applied to three randomly-placed stickers placed at the centre of the record, creating a three-pronged loop mechanism recalling Philip Jeck's "rudimentary techniques" as commented on by David Toop above. This process is begun by player 6, then duplicated by player 5 and 4 in bar 26, creating an asymmetric, polytemporal system of shifting loops. The progress of this process is punctuated at intuitive points throughout the texture with the 'white noise' technique, beginning at bar 28 and proceeding in the following 'arpeggios' of white noise until the end of the work:

Figure 18 *Contact Theatre* (2005-8), the process of 'white noise arpeggios', from bar 28 until the end of the work. Each type of arpeggio is assigned a letter.

	arpeggio type:	A	B	B	B	B variation
SECTION B: players	6,5 |	6,5,4 |	6,5,4 |	6,5,4 |	6,5,4,6

	arpeggio type:	C	C	C variation	A	A	A	A
SECTION C: players	4,5,6 |	4,5,6 |	4,5,6,5,4 |	6,5,4 |	6,5,4 |	6,5,4 |	6,5,4

At bar 67 player four switches off the turntable and the rhythmic texture collapses once more, recalling bar 23. Therefore, the method of instrumental exchange between performers here is (in theory, at least) actually akin to an arc, or what I like to think of as a slow, arpeggiated hocket between the performers.

Structure

At bar 10, the reader will notice that synthesised quotations are faded into the texture via mp3 players, laptops or CD players utilising a random shuffle function. These quotes are taken directly from Paul D. Miller's *Rhythm Science* and have been synthesised using various text-to-speech software (see Figure 19).

Figure 19 *Contact Theatre* (2005-8), the quotations from Rhythm Science by Paul D. Miller, aka DJ Spooky

> [...] 21st century aesthetics needs to focus on how to cope with the immersion we experience on a daily level [...]
>
> [...] a digital signifier whose form adjusts its shape in front of us like an amorphous cloud made of zeros and ones [...]
>
> [...] an interface architecture that twists and turns in sequences overlaid with slogans, statistics, vectors, labels and grids [...]
>
> [...] a knowledge and pleasure in the play of surfaces, a rejection of history as objective force in favor (sic) of subjective interpretations of its residue [...]
>
> [...] systematic attempts at figuring out a rhythm of everyday life in an industrial context [...]
>
> [...] from math to code to culture [...]
>
> [...] you can braid your own narrative with the multiplex consciousness notion, the development of sonic sculpture as a way to meld music and art and the stresses brought about by trying to blend mass entertainment with what used to be thought of as high culture [...]
>
> [...] a dialectical triangulation between thesis and anti-thesis [...]
>
> [...] from the sonic debris of a possible future, the cultural permutations of tomorrow, heard today, beyond the corporeal limits of the imagination [...][63]

The aesthetic decision to use these quotes was made for a number of reasons: firstly, I wanted to provoke collisions of materials between the 20th Century (vinyl records) and 21st Century (mp3 and beyond) in a way similar to collisions between the industrial and digital revolutions in *Vent / Glacier*. Secondly, the concept of the "datacloud" is essential to the work, and is embedded in Millers' work. As mentioned above, Miller also happens to be a DJ and is crucial to the crux of the piece, representing a collision between 'academic' techniques and hip-hop heritage.

Thirdly, the use of quotations in random shuffle mode creates a form of non-linear 'cloud' above the turntable material. In section B, the nexus of quotations used are the same as detailed above, but spoken in synthesised whispers. These are used to communicate the idea of a 'secret' zone inside the datacloud (the relatively 'static' drone chorale) that I consider as the musical equivalent of the eye of a storm.

Therefore, the work fundamentally rests upon the use of turntable rotation as a structural force: section A dealing with 45rpm-49.5rpm, whilst Sections B, C, D deal with two superimposed temporal zones: 29.97-36.63rpm and 40.5-49.5rpm. During this clearly linear progression, an indeterminate navigation across the surfaces of the records in section A is gradually transposed from the vinyl to the synthesised speech fragments, themselves arranged in a non-linear, randomised pattern.

---

[63] Miller, Paul D. (2004) *Rhythm Science*. Cambridge, MA and London: MIT Press

In conclusion, we can return again to the concept of a work aware of its own linearity. Indeed, the duration of each division of the score from section B onwards, could, in theory, be infinite, and yet each is constructed from materials that are finite: either the record ends, is eventually eroded by insistent looping, or the needle is destroyed through excessive wear.[64] It is this delicate equilibrium in *Contact Theatre* between 'curating' and 'manipulating' that has been slowly formed in the long process of performances and revisions made with the Percussion Group of The Hague, Paul Adams, Eric Sleichim and the musicians of the Bl!ndman ensemble. With this piece, it is my intention to return us again to the idea of navigation through a sonic surface, of etching paths through

> [...] a corpus of related material [...][65]

> [...] in the river of sound loosed upon the world by Edison's inventions.[66]

Hinting at non-linearity:
References to Books on Applied Mechanics (2006-2008)

With *References to Books on Applied Mechanics*, the concept of notation as an environment is further explored by borrowing the technique of hyperlinking from web design and incorporating this within a musical structure. I used the following text from the notebooks of Leonardo da Vinci, in a luminous translation by Irma A. Richter:

Figure 20 *References to Books on Applied Mechanics* (2006-8), the quotations from the notebooks of Leonardo da Vinci

> III. MECHANICS
> REFERENCES TO BOOKS ON APPLIED MECHANICS
>
> Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.
>
> Speak of motion and impetus.
>
> Speak of wheels rotating one way.
>
> You will speak of wheels that turn and return.
>
> Speak of the wheel that augments.
>
> Speak of the perpetual screws.

---

[64] This piece almost calls for the destruction of turntable needles: during rehearsals for the two performer version, four of the six needles had to be replaced, and in the actual performance in Plymouth, two further needles were destroyed. This echoes the concept of erosion here (not least with regards to the records themselves) and follows an established tradition of turntable abuse stemming from the parallel developments in hip-hop and the avant-garde. Indeed, a common hip-hop battle record that first appeared in the 1990s was entitled *Needle Thrashers.*

[65] Yankelovich, N., Meyrowitz, N. and van Dam, A. *Reading and Writing the Electronic Book (pp.18) IEEE Computer 18 (October 1985)*

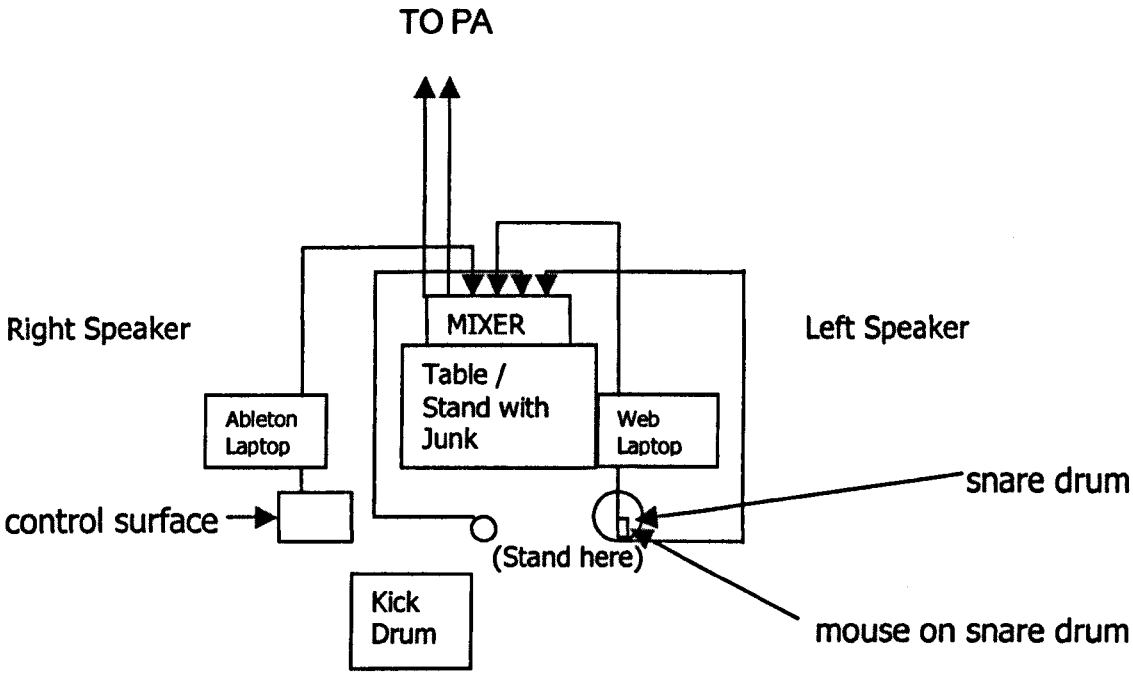
[66] Slouka, Mark. *Listening for the Silence: Notes on the Aural Life.* Harper's Magazine (April 1999)

Speak of mills and other machines that move and throw.

Speak of teeth.[67]

The elegant, dogmatic description here, and the fact that this is as much a result of the translation as it is of da Vinci's original conception, drew me to consider the text as material to be further translated – thus the work is spoken by the percussionist and 'played' syllabically on pieces of machinery (creating a strict, linear level to the work) or navigated *through* and *around* in the form of an interactive website. The work is scored for the following equipment:

Figure 21 *References to Books on Applied Mechanics* (2006-8), arrangement of equipment.



The structure consists of four contrapuntal layers: the spoken and 'played' text, performed live by the percussionist; the website; a fragmented sample of the text and a harmony layer, these last two being ideally triggered via a control surface during the performance.

Text Layer

The text is broken into ten fragments, and the structure is cast into eleven repetitive cycles, each one initiated by the percussionist speaking through the text in either the *junk* or *navigate* styles. The junk style asks the performer to mimic the syllabic structure of the words s/he speaks on pieces of broken machinery or junk percussion, with all full stops articulated as kick drum attacks. My immediate timbral association here is with Cage's *Sonatas and Interludes for Prepared Piano,* and it is the chance

[67] Da Vinci, Leonardo trans. Irma A. Richter (1998) *The Notebooks of Leonardo da Vinci: Selections.* (pp.78-79) Oxford: Oxford World's Classics

pitches that emanate from the junk percussion that function as a 'melodic' component of the junk style. Durational freedom between each fragment of the text is given to the performer, but it is expected that there is a general urgency evident in the percussionist's delivery – this should be slightly faster than normal speaking speed and with a formal, mechanistic intonation. Another model for this style comes from Stephan von Huene's *Extended Schwitters* (1988), an installation constructed from wood, metal, a computer and electrical an pneumatic compressor[68], in which fragments of Schwitters' text are blurted out by a digitised voice and accompanied by randomly-generated robotic gestures. Specifically, this style relates to the third fragment of the text:

> Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.

The navigate style requires the performer to speak the text whilst moving the mouse across the snare drum, creating both the amplified sound of the skin of the drum and triggering events in the web animation, upon which I will elaborate below. Here full stops are read as clicks on the mouse, and this action hyperlinks from one page of the website to another, changing the rhythmic structure of the animation. The general performance style here should be more relaxed than *junk*, and time should be given to the graceful movement of the cursor across and through the animated environment, as if the linear progression of the work is suddenly punctured at this point.

Assigning each fragment of the text a number from one to ten, the structure of the text of each cycle is displayed below.

Figure 22 *References to Books on Applied Mechanics* (2006-8), order of text fragments spoken and 'played' by the percussionist.

Rhythmic cycle	Order of text fragments																	
ONE	1	2	3	4	5	6	7	8	9	10	9	8	7	6	5	4	3	2
TWO	1	2	3	4	5	6	7	8	9	10	9	8	7	6	5	4	3	2
THREE	1	2	3	4	5	6	7	8	9	10	9	8	7	6	5	4	3	
FOUR	1	2	3	4	5	6	7	8	9	10								
FIVE			3	4	5	6	7	8	9	10	9	8	7	6	5	4	3	2
SIX			3	4	5	6	7	8	9	10	9	8	7	6	5	4	3	2
SEVEN	1	2	3	4	5	6	7	8	9	10	9	8	7	6	5	4	3	2
EIGHT	1	2	3	4	5	6	7	8	9	10	9	8	7	6	5	4	3	2
NINE	1	2	3	4	5	6	7	8	9	10	9	8	7	6	5	4	3	2
TEN	1	2	3	4	5	6	7	8	9	10	9	8	7	6	5	4	3	
ELEVEN	1	2	3	4	5	6	7	8	9	10	9	8	7	6	5	4	3	

Therefore, the use of the text here is relentlessly repetitive, with ten of the eleven cycles constructed from palindromes. Indeed, the use of palindromes here relates directly to the fifth fragment of the text:

[68] Installed at the Hayward Gallery, London in 2000 as part of Sonic Boom: The Art of Sound, curated by David Toop.

You will speak of wheels that turn and return

In this sense, each cycle of text is analogous to a cog in a large industrial structure, endlessly rotating with mechanistic precision. The static, unchanging nature of the repetition of the text, however, is corrupted at certain points in the structure to create a tension between stasis and change. Looking back to the grid above, there is a clear 'hole' in cycle four, whilst cycles five and six are slightly smaller than the other cycles, and there is an abrupt 'glitch' between the end of cycle ten and the beginning of cycle eleven, with fragment two also being dropped from the structure at the end. This rupturing of the musical process is directly related to the tenth fragment: "speak of teeth", where durational 'teeth' in this case, have ripped holes in the numerical structure. This hints at the structural erosion inherent in *Entanglement Laws* and the erosion of the records in *Contact Theatre* and *Mixtape Zen* and reflects my concern for a sense of abrasive attrition between the form and the material of the work, as if the 'cogs' of the industrial structure occasionally 'slip'.

Web layer

The uses of the text in a linear form within the score (albeit in largely palindromic structures) are directly contrasted with the use of the text within the website, constructed as it is from thirteen pages, which are linked in such a way as to present a 'polymorphous cloud' of multi-linear structural potentials (see Figure 22). Each page consists of a number of animations based on fragments of the text - the 'homepage' for instance, only using an animated version of the first fragment:

III. MECHANICS

around which 'hidden' hyperlinks[69] are placed, the links above the animations consisting of key words from the text:

motion; percussion; impetus; force; machines; speak

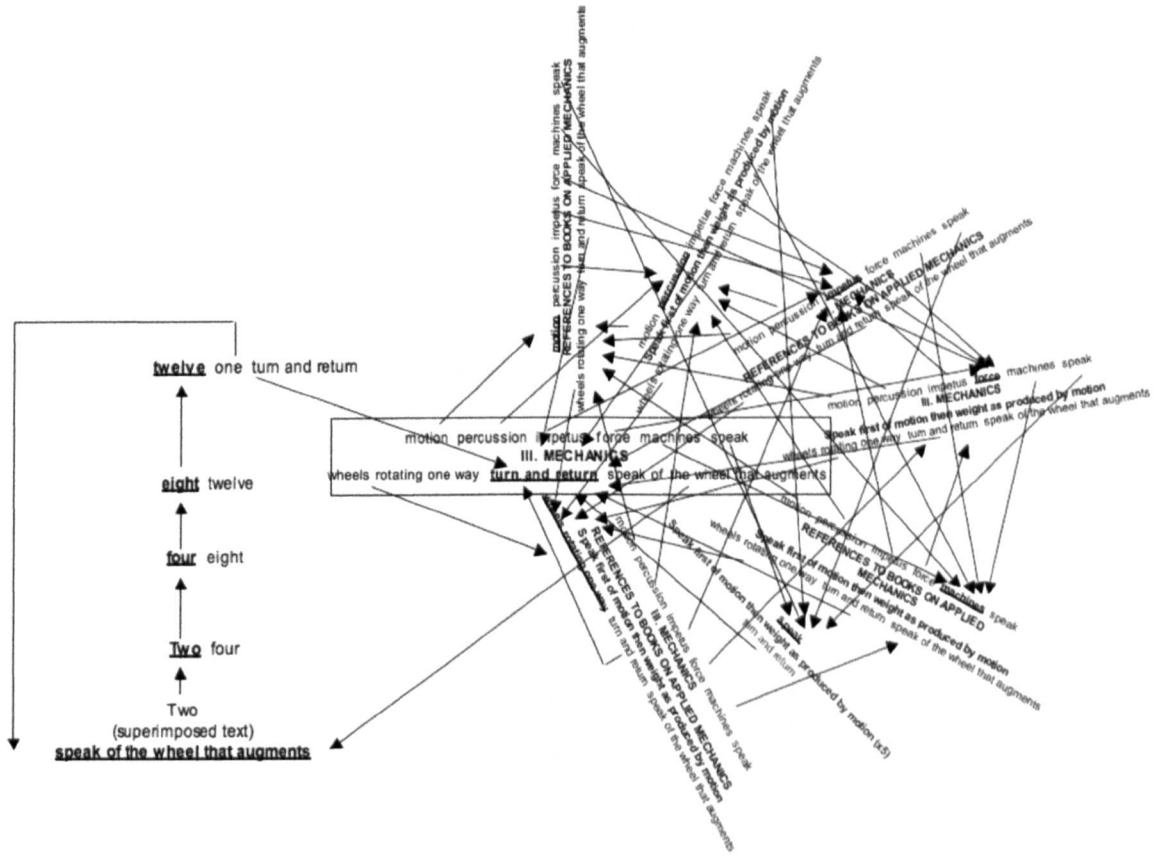
whilst the row of links beneath the animation refer to key phrases:

wheels rotating one way; turn and return; speak of the wheel that augments.

This structure therefore represents a non-linear nexus of pages, but does have within it some inherent linearity – indeed, the phrase "turn and return" links back to the homepage (a further application of cyclical repetition), whilst "speak of the wheel that augments" links to a 'closed' zone of the site, from which only one path is made possible – from 'two' to 'four' to 'eight' to 'twelve', resulting in a linear accumulation of animations before the performer is given the option to "turn and return" at the end of this particular teleological strand (see Figure 23).

[69] 'Hidden' hyperlinks are simply hyperlinks that are set to a default colour of white, with a 'rollover' colour of grey, so that the link is invisible until the cursor is placed over it.

Figure 23 *References to Books on Applied Mechanics* (2006-8), website structure.



The animations themselves where created as interactive movies in Macromedia's *Flash* software and essentially take each fragment of the text as a structural device, gradually eroding each phrase until only one letter is left, before the phrase is reassembled, therefore creating a looping cycle (see accompanying DVD-ROM). As an example, the homepage animation was constructed by taking the first fragment of the text and removing a letter from the end of the phrase within each movie frame, before then reversing this process. (See Figure 24).

Whilst this erosion process takes place, so the remaining letters of the phrase are stretched to fill the allotted space for all of the letters, giving the animation its 'elastic' appearance. This process thus creates a twenty-four part rhythmic loop, accentuated in this case by a low bass drum sample at the beginning and mid-point of the process. Further complexity is added by making the animation a rollover that it contains a duplicate of itself. Therefore, each animation has the potential for canonic layering and creates the sense of a wildly chaotic *drum machine*.

This layering is particularly explored with the 'linear accumulation' from 'two' to 'four' to 'eight' to 'twelve' that I mentioned above and explains the controlled chaos evident when the twelve animated canons of differing lengths are superimposed during cycle six and seven, functioning as the 'crisis' of the musical structure.

Figure 24 *References to Books on Applied Mechanics* (2006-8), the erosion process applied to the first line of animation, showing a subtraction and subsequent addition of one digit per frame, resulting in an 'elastic' appearance.

frame													
1	I	I	I	.	M	E	C	H	A	N	I	C	S
2		I	I	I	.	M	E	C	H	A	N	I	C
3			I	I	I	.	M	E	C	H	A	N	I
4				I	I	I	.	M	E	C	H	A	N
5					I	I	I	.	M	E	C	H	A
6						I	I	I	.	M	E	C	H
7							I	I	I	.	M	E	C
8								I	I	I	.	M	E
9									I	I	I	.	M
10										I	I	I	.
11											I	I	I
12												I	I
13													I
14												I	I
15											I	I	I
16										I	I	I	.
17									I	I	I	.	M
18								I	I	I	.	M	E
19							I	I	I	.	M	E	C
20						I	I	I	.	M	E	C	H
21					I	I	I	.	M	E	C	H	A
22				I	I	I	.	M	E	C	H	A	N
23			I	I	I	.	M	E	C	H	A	N	I
24		I	I	I	.	M	E	C	H	A	N	I	C
	Etc.												

Sample layer

The idea of controlled chaos is further explored with the use of a sample layer. Before the performance, the percussionist is asked to record a sample of the whole text spoken in the *junk* style using Ableton Live[70] software. In the live performance this sample is then algorithmically re-assembled using a 'beat repeat' audio effect, which re-distributes and repeats parts of the sample according to flexible parameters, a process recalling the ninth fragment of the text:

> Speak of mills and other machines that move and throw.

Each parameter setting will need to be altered to match the speaking speed and nuance of the performer, but I intend to distribute an example patch to future performers as an example. The general effect here should be of a violent re-assembly of the text, reflecting the "stresses" between the linear progression of the spoken word and the multi-linear processes inherent in the website.

[70] Ableton Live is a loop-based software often utilised by DJs, released by the German company Ableton AG in 2001.

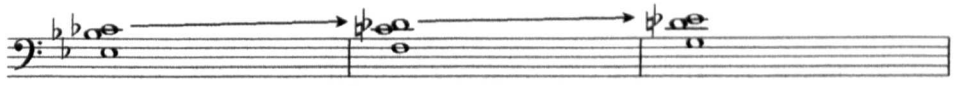
Harmony

This negotiation between linear progression and multi-linear processes could be summarised here as a tension between development and stasis, and it is with the harmony layer of the work that I am keen to express a feeling of extreme stillness to further emphasise the dense rhythmic activity. This technique of course references musical minimalism, but as mentioned above, Robert Fink is keen to point out the links between minimalist composers and DJs in the uses of harmony as building blocks of recombinant teleology, and in this case my use of an harmonic cycle utilising only three chords derives from drum n' bass, where it could be said that harmony is used as a *subset* of rhythm. To refer back to Andriessen again:

> tempo is not defined by the speed of the pulse, as many composers think, but by harmonic rhythm.[71]

The entire harmony of the work consists of three simple chords, each a transposition of the other:

Figure 25 *References to Books on Applied Mechanics* (2006-8), harmonic structure.



It is the oscillation between chords one and two that provide the main narrative drive here, with chord three functioning as a 'release'. The simple elongation of the duration of chord two at D (please refer to the score) is designed to provoke an harmonic tension that is only fulfilled by a return to the tonic – an intentionally mechanistic effect.

Deconstruction of pulse

The uses of a brutally simple, largely static harmonic language therefore focuses the attention, as in drum n' bass and techno, on rhythmic activity. This focus is crucial in *References to Books on Applied Mechanics,* as the deconstruction of pulse becomes the central subject of the work. This deconstruction is built into the conception of the work via the following indeterminate elements:

- fluctuations in the speaking and performing speed of the percussionist within the text layer
- the superimposition of asymmetric canons in the web layer

[71] Andriessen, Louis trans. Yates, Clare (2002) In Zegers, Mirjam (ed.), *The Art of Stealing Time* (pp.186) Todmorden: Arc Music

- algorithmic re-interpretations of the text within the sample layer

The piece could be considered, therefore, as an example of electronic dance music within which the structural mechanics have imploded.

The recording presented here is an example of a concert performance, but the work could also function as an installation, either in a physical or online environment, where the audience is given the opportunity to navigate through the website as the performance takes place. In this way, the work could be considered as a contemporary offspring of Earle Brown's *Calder Piece* (1966) in which a mobile is 'read' by four percussionists, creating a

> very intricate "feedback" condition between the mobile, the score, and the performers.[72]

This series of interconnections between the performer, the materials and the multiple definitions of the work itself are designed to provoke a navigation beyond the physical and contextual confines of the concert space and into a multi-linear experience of the work in which the Renaissance text is re-interpreted from a 21st century perspective. Indeed, as Roland Barthes claims:

> this text is a galaxy of signifiers, not a structure of signifieds; it has no beginning; it is reversible; we gain access to it by several entrances, none of which can be authoritatively declared to be the main one; the codes it mobilizes extend as far as the eye can reach, they are indeterminable...[73]

References to Books on Applied Mechanics was originally rehearsed in a workshop with Stewart Worthy at the University of Huddersfield in early 2006. The work was then revised and rehearsed with the Electronic Hammer trio in the studios of the Koninklijk Conservatorium in The Hague in early 2007, before receiving its premiere in Bydgoszcz, Poland on the 22nd May that year. Further revisions were made to the score with Sean Farrelly at Christ Church University in Canterbury in July 2008, and the score was again reworked into a final version in late July 2008 in Fishguard, Wales. The recording presented with this portfolio was created using the original samples of Stewart Worthy, from the Huddersfield workshop.

---

[72] Brown, Earle. (2002) *Transformations and Developments of a Radical Aesthetic.* Current Musicology 67/68

[73] Barthes, Roland trans, Richard Miller. (1974) *S/Z.* New York: Hill and Wang

Trip-Hop Mobiles: *Music in the Shape of ELEVEN (2006)*

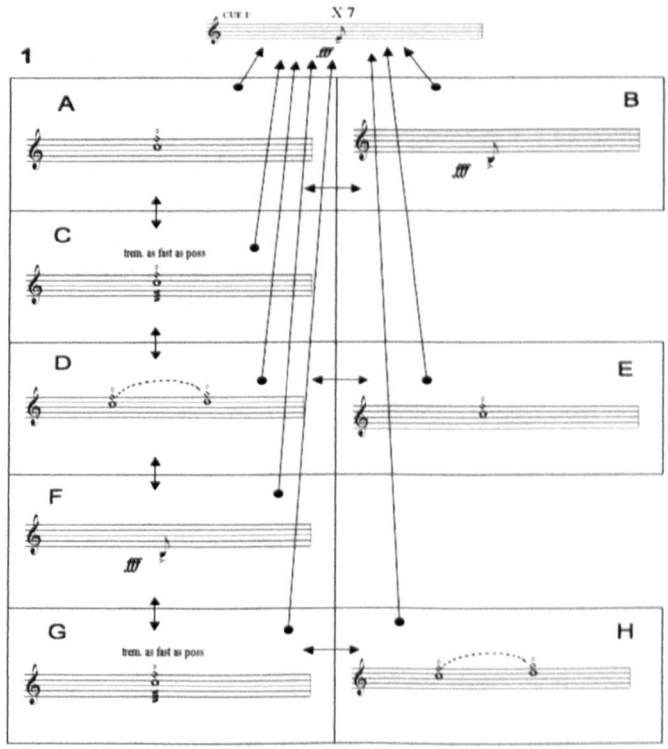
If we consider *References to Books on Applied Mechanics* as hinting at non-linearity in musical structure, *Music in the shape of ELEVEN* could be seen as an attempt to create 'sonic hyperlinks' between multiple performers. This approach naturally brings us back to the subject of the open work, and with that, to Umberto Eco, who states:

> the form of the work of art gains its aesthetic validity precisely in proportion to the number of different perspectives from which it can be viewed and understood. These give it a wealth of different resonances and echoes without impairing its original essence.[74]

This work is scored for flute, keyboard, harp, percussion, string trio and laptop and revisits the notion of the open work as a structural strategy for navigating between stasis and development. Each of the eight performers is given fifty musical figures spread across six pages, each page representing a letter from the name of the ensemble for whom it was written: ELEVEN. Therefore the structure consists of a total of four hundred musical motifs organised into these six sections, the number of motifs per section being 64, 48, 64, 72, 64 and 88, with each letter of each performer's part consisting of 8, 6, 8, 9, 8 and 11 motifs.

Each individual part is designed to be read from a multi linear perspective, with the performer able to begin at any point within the letter and to choose her / his method of navigation across the page:

Figure 26 *Music in the shape of ELEVEN* (2006), page one of the violin part, with an example of navigation through the modules and eventual 'hyperlinking' to the cue.



[74] Eco, Umberto, trans. Anna Cancogni. (1989) *The Open Work.* Cambridge, MA: Havard University Press

As an example, let us assume that the performer begins at the top left of the page, as in a conventional instrumental part. Once this first module is performed, the violinist then moves to either adjacent module, and from there the navigation of the page becomes more complex – one could proceed horizontally or vertically, reading the spaces between modules as silences. It is important to note, however, that one can begin anywhere within the letter and can proceed either sequentially such as A – B – C and so on, or through a process of gradual growth: A, A – B, A – B – C and so on, or a combination of both, such as A, A – B, B – C, C – D, or A, A-B, B – C –D, D – E – F – G, etc. Whether the performer navigates through the page using this process, or one of her / his own creation, the instrumentalist should assume that the page will finish with a sounding of the cue written above each letter. However, in a technique echoing *Entanglement Laws*, once a cue is sounded by any of the instrumentalists, whether they have finished their independent navigations of the letters or not, they must all move attacca to the next letter. In this sense, the tension of the work rests on the dialogue between the multi-linear freedom given to the performers whilst navigating their material, and the sectional linearity inherent in progressing from letter E to L to E to V and so on.

This axis between stasis and development therefore rests on a social dynamic within the ensemble where all parts are deemed equal. As Eco states:

> In the modern scientific universe, as in architecture and in Baroque pictorial production, the various component parts are all endowed with equal value and dignity, and the whole construct expands towards a totality which is near to the infinite. It refuses to be hemmed in by any ideal normative conception of the world. It shares in a general urge toward discovery and constantly renewed contact with reality.

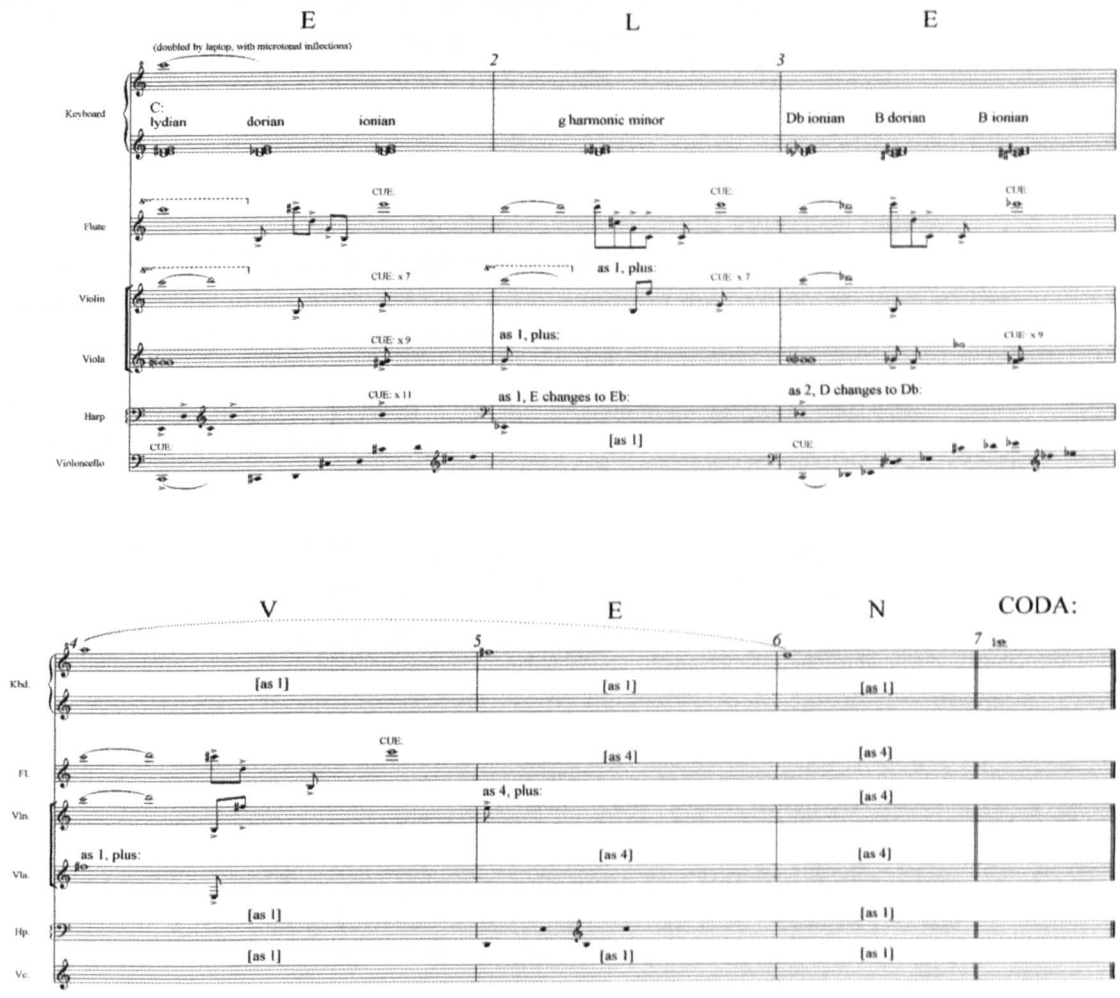
In a more practical, musical, sense, *Music in the Shape of ELEVEN* represents an

> invitation (that) offers the performer the chance of an oriented insertion into something which always remains the world intended by the author.[75]

What distinguishes the linear nature of the structure here is the clear harmonic progression in the keyboard from E – N, against which the flute, string trio and harp provide chromatic interjections (see Figure 27).

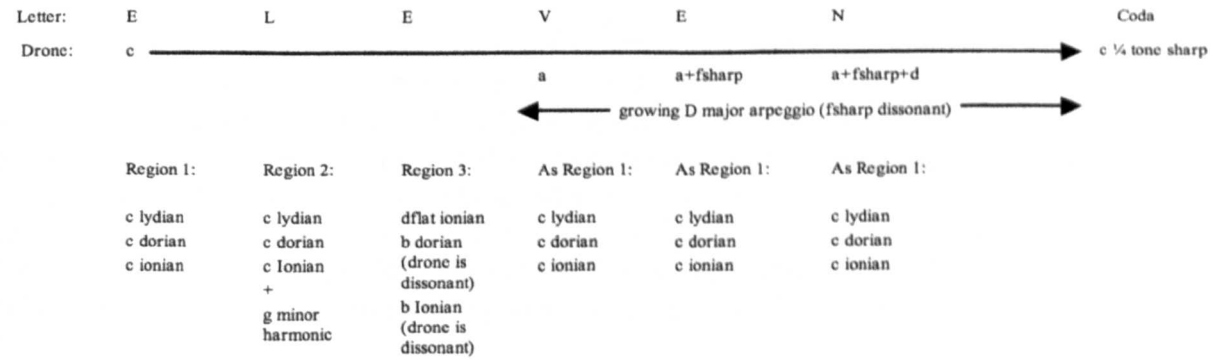
[75] Eco, Umberto, trans. Anna Cancogni. (1989) *The Open Work.* Cambridge, MA: Havard University Press

Figure 27 *Music in the Shape of ELEVEN* (2006), short score, showing harmonic detail.



The keyboard charts a course through four modal 'regions', each clinging to a drone on C:

Figure 28 *Music in the Shape of ELEVEN* (2006), analysis of drone against the six modal 'regions'.

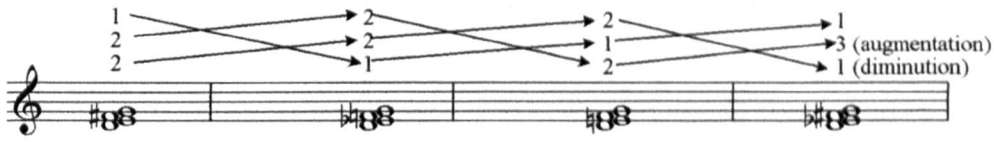


This drone is constantly in tension with 'competing' notes, particularly D (which gradually develops into a D major arpeggio towards the end of the work) and D flat. The tension between C and C# (the latter particularly prominent in the 'cello) throughout the work is thus negotiated by the laptop part, which insistently hovers between C and C ¼ tone sharp, giving the work a sense of unresolved harmonic stasis, which finally rests on C ¼ tone sharp in the coda.

Harmonic detail

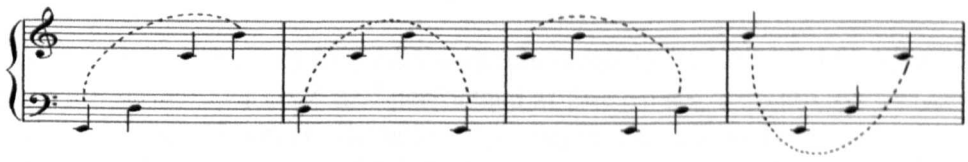
The oscillation between Lydian, Dorian and Ionian modes in the keyboard part is achieved through a simple intervallic rotation, whilst the cluster suggesting G harmonic minor in region 2 is simply derived from retaining the two outer notes of the chord and simultaneously using both accidentals used in the rotations:

Figure 29 *Music in the shape of ELEVEN* (2006), intervallic rotation in the keyboard part, with intervals expressed as numbers of semitones.



As an example of this dialogue between repetition and rotation in the other instrumental parts, it is relevant to turn to the harp part, where it is clear (in E1, the first section, and likewise throughout the piece) that E, D, C, B becomes D, C, B, E, then C, B, E, D and finally B, E, D, E.

Figure 30 *Music in the shape of ELEVEN* (2006), 'letter name rotation' in the structure of the harp part.



Later, in L, (region 2) this E crucially falls to Eb, which corresponds to the sixth degree of the G minor harmonic scale and is therefore 'consonant' in this seemingly chromatic territory. In E2 (region 3) this Eb corresponds to the second degree of Db Ionian. When considered enharmonically as D#, it also functions as the third degree of B Ionian and it is only against B Dorian that the Eb/D# sounds dissonant. The move into region three is also signalled by the transition from D to Db, corresponding to the modal centre of Db Dorian, and when considered enharmonically as C#, functions as the second degree of both B Dorian and Ionian (see Figure 27).

This modal / chromatic tension between consonance and dissonance is further emphasised by the dissonance between the drone and the harmony of region 3 (this C drone would be so much 'easier' if it were lowered to B or raised to C#, but that would create false expectations of harmonic progression). Thus the work has a 'need' for onward harmonic resolution back to the more stable modal territory of region one, and this is finally re-energised by tension created by the F sharp of the emerging D major arpeggio at the end.

Rhythmic texture

Whereas in *References to Books on Applied Mechanics* the harmonic language was distilled to emphasise rhythmic asymmetry, in *Music in the shape of ELEVEN*, rhythmic elements provide a backdrop to the restless harmonic tension. The laptop is the essential instrument here, utilising a sample of a record player looping (via the 'half contact' technique) a sample from a DJ Premier battle record. Two versions of the sample are panned left and right of the performers, and the laptop player is given freedom to improvise with the sample in three ways: either by altering the relative speeds of the samples to create phasing, altering the sample length to provide rhythmic accentuation, or transposing the sample to create chance 'melodic' material.

Gesture

To add to the fractured rhythmic dialogue, gestural 'off-cuts' litter the musical texture. Examples of these are the low, violent attacks in the flute and violin parts and the continuous scraping across the skin of the snare drum (a perfect sound to complement the 'stress' between consonance and dissonance and, of course, linking back to *References to Books on Applied Mechanics).* These tiny textural 'spikes' are designed to keep the texture alive and in a sensitive performance they can be hocketed across the ensemble as if improvised.

It is, however, the general 'hollowing out' of the instrumental palette that interests me here, for the performers are essentially asked to perform at gestural extremities - either fast, violent runs or long, still pitches – anything else in this scenario is deemed superfluous. Indeed, in contrasting the 'cello part with the viola part, there is a clear superimposition of two seemingly disparate materials, designed to provoke a sense of cool tension throughout.

Music in the Shape of ELEVEN was rehearsed by ELEVEN at Goldsmiths College in the summer of 2006 and performed at The Space, London, on the 23rd June 2006 and the Tobacco Factory, Bristol on 14th September 2006. The work was also arranged for clarinet, keyboard with laptop, percussion, violin and 'cello. This smaller version was rehearsed in Amsterdam in Feb 2008 and premiered in Utrecht in March of that year by Ensemble SOIL.

A last word on linearity: *Mixtape Zen (2007-8)*

If Music in the Shape of ELEVEN can be said to represent an investigation of the tensions between linear structure and multi-linear modularity, resulting in a fragmented rhythmic landscape, *Mixtape Zen* can read as another attempt to consider the dialogue between stasis and development, one that seeks to draw together disparate interests in a ritualised style of performance, DJ culture and Western appropriations of Zen.

In *Repeating Ourselves*, Fink turns to:

> a certain subset of the late Baroque and pre-Classic music - the crisp, impersonal, concertante music that H.C. Robbins-Landon, at the height of its popularity, dismissively dubbed *barococo*[76]

and a particular mode of listening, exemplified by a quote from a late 1960s Columbia record sleeve:

> HERE'S HOW RECORDS GIVE YOU MORE OF WHAT YOU WANT:
> THEY'LL GIVE YOU HOURS OF CONTINUOUS AND UNINTERUPTED LISTENING PLEASURE.
> Just stack them up on your automatic changer and relax...[77]

It is the idea of composition as a kind of sonic parasite - a musical spore that gradually grows *on the surface of other music* - that forms the basis for *Mixtape Zen,* the work being indeterminate with regard to duration but usually lasting around 20-25 minutes, and developing in a pattern of gradual growth and re-assembly.

The 'score' consists of a series of functional instructions, designed to make the process of the work easy to memorise, largely because the particular instrumental setup denies the use of music stands and instead focuses the 'notation' of the work inwards, onto the instruments and performers themselves (see Figure 31).

To clarify this point, the composition is based on the idea of the turntable as a metronome. By assigning a turntable to each hand of the percussionist, and setting each turntable to a different speed, the work offers a simple solution to the problem of creating, sustaining and controlling polytemporal rhythmic situations. This is made possible by placing two turntables next to each other, with stickers placed on the fixed body of each turntable to make a horizontal line clearly visible to the performer. Next, stickers are placed on the platters of the turntables, so when lined up with the stickers on the body, a continuous line is formed (see Figure 32).

---

[76] Fink, Robert. (2005) *Repeating Ourselves: American Minimal Music as Cultural Practice.* (pp.172) Berkley: University of California Press

[77] Columbia Record Sleeve, late 1960s. In Fink, Robert. (2005) *Repeating Ourselves: American Minimal Music as Cultural Practice.* (pp.175) Berkley: University of California Press

Figure 31 *Mixtape Zen* (2007-8), equipment layout

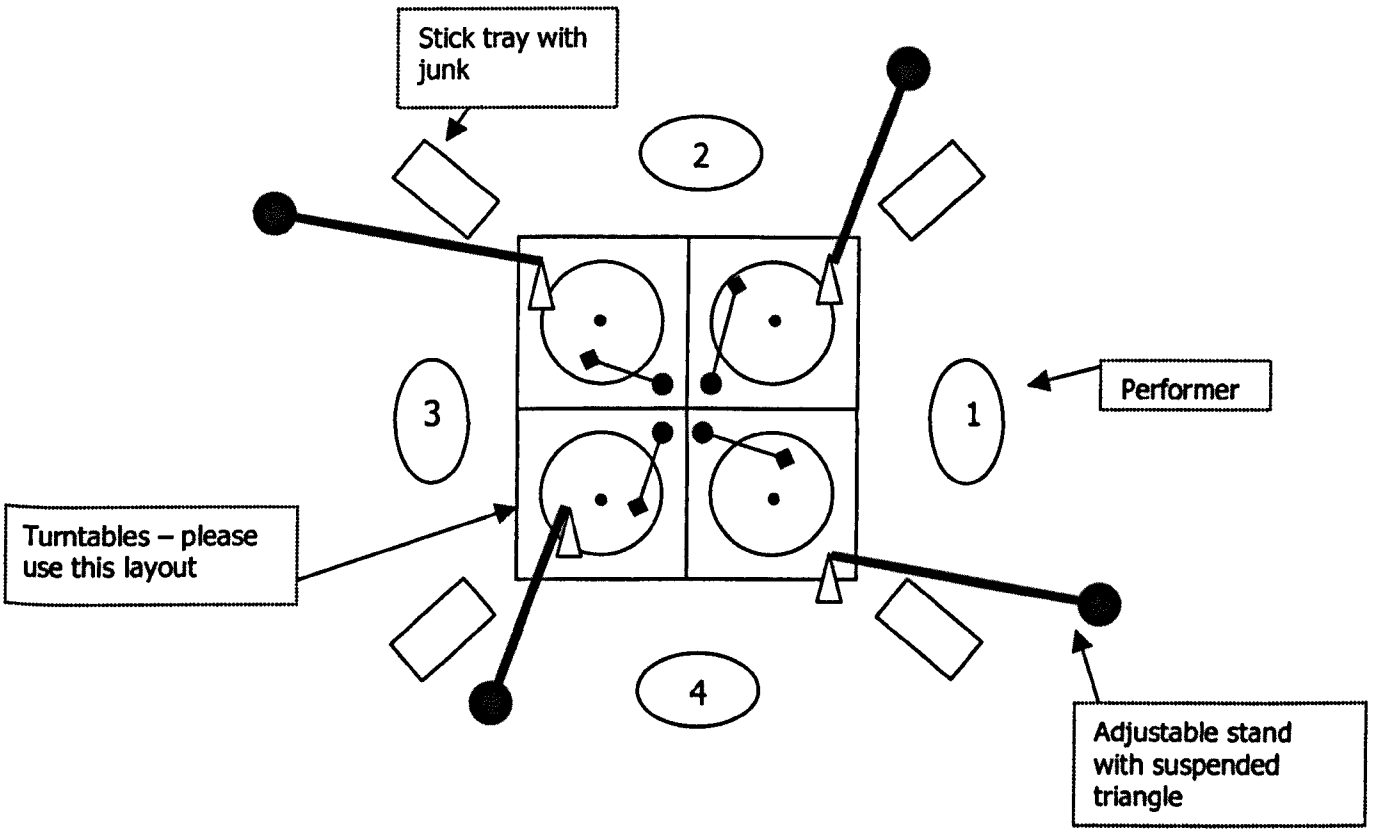
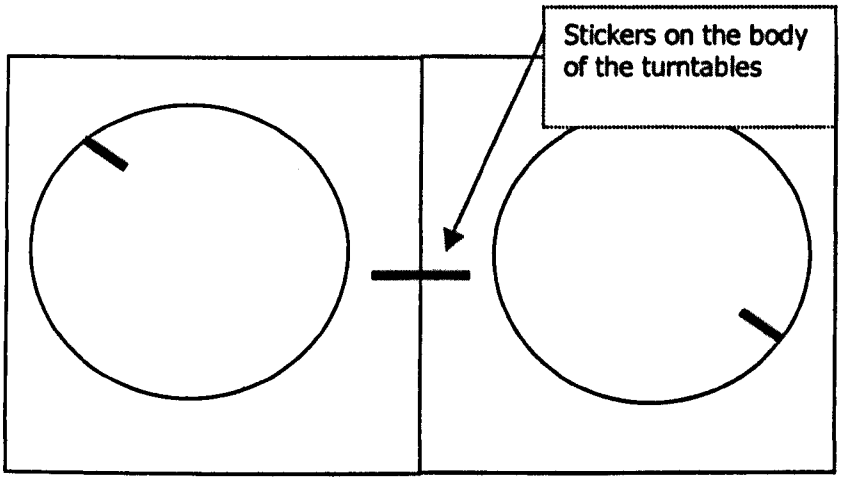


Figure 32 *Mixtape Zen* (2007-8), arrangement of stickers on turntables.

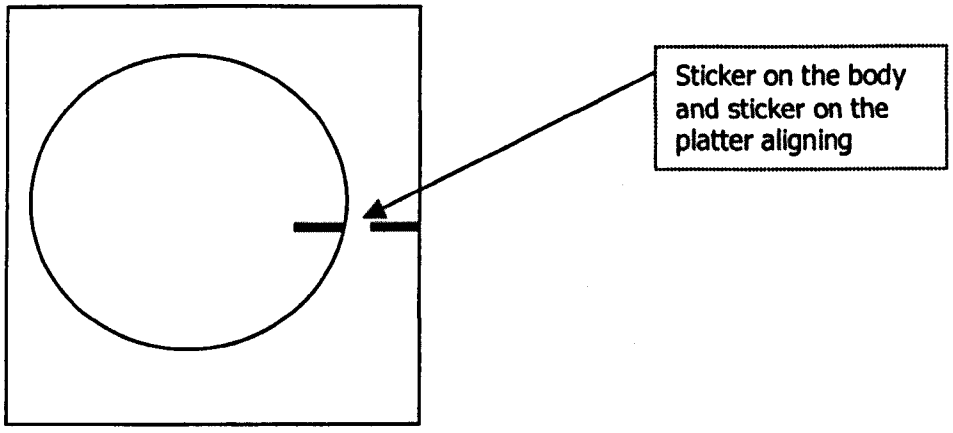
As each performer stands, there should be a turntable to their left and right. Each performer should place one sticker on the body of each turntable, and one on each platter. The stickers on the bodies of the turntables should form a continuous line:



The turntables are then set at different speeds and the percussionist must use each 'connection' between the stickers on the platter and the stickers on the body as a cue to strike the percussion placed either left or right of the turntables, the left turntable corresponding to the left hand and the right turntable, similarly, to the right hand.

Figure 33 *Mixtape Zen* (2007-8), alignment of stickers on turntables.

> When the sticker on the platter aligns with the sticker on its respective turntable, the performer strikes the percussion as instructed, (1) being one strike, (2) being two strikes, and so on. (These attacks must always be as fast as possible when played on junk. With the shakers, triangles or prayer bowls, these attacks should be played with a steady 5,4,3,2 or 1 per rotation.)



This provokes a particular kind of controlled chaos, as the hands move in and out of synchronisation with each other and the number of percussion strikes increases per 'cue' to five attacks per rotation. In this way, the layout of the turntables can actually be read as a series of four interconnecting pairs of metronomes (see Figure 34).

The asymmetric, fractured rhythmic scenario that is provoked through this technique gives *Mixtape Zen* a particular approach to musical time that is delicately poised between stasis and change, a precarious rhythmic ritual that is perhaps best captured by Steven Connor's examination of clapping (another form of dense counterpoint built from single percussive strikes):

> A single clap is convulsive and climatic. [...] Collective clapping, by contrast, is convergent and conjunctive. Rather than intensifying time, it thickens and spreads it. One might say that the single clap temporalizes time, takes a featureless space of time and exposes it to temporality by concentrating it into an instantly diffused instant, while collective clapping slows or arrests the passage of time, forming it into a mass, or durative volume.

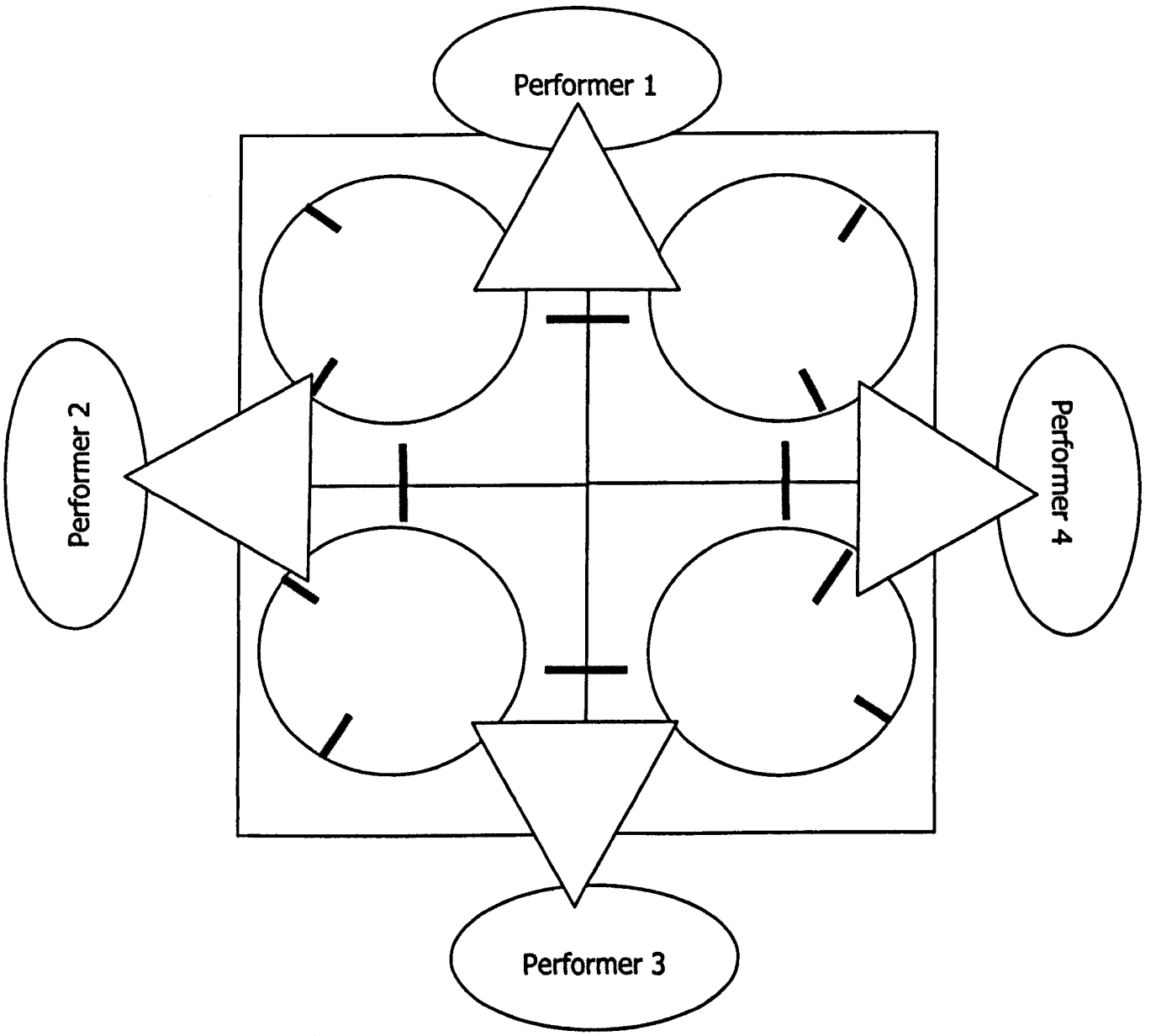
He goes on to say that:

> [...] the principal role of percussion in some cultures is to mark contacts between the human and supernatural worlds, and ritual transitions between them, and clapping may be a specialized form of this general use of percussion to produce amorphous masses of sound.[78]

[78] Connor, Steven. (2003) The Help of Your Good Hands: Reports on Clapping. In Bull, M., and Back, L., (eds.) *The Auditory Culture Reader.* Oxford and New York: Berg

Figure 34 *Mixtape Zen* (2007-8), interlocking pairs of turntables-as-metronomes, with triangles representing the performance space of each performer. (Each performers hand will be in a different tempo, according to the rpm of the turntable).

Each turntable acts as a metronome for *each hand* of the performer. If all performers prepare their turntables as above, each turntable will have four sets of stickers, at ninety-degree angles to each other, creating a kind of polyrhythmic clock:



The compositional challenge, therefore, was to keep the process as 'clean' as possible, whilst ensuring that there was enough variety in the scenario to maintain, across the ritual of the work, a tension between stasis and development. The work is cast in six cycles, the first five representing a structural erosion process similar to that in *Entanglement Laws*, whilst the sixth is an elongated coda for triangles and prayer bowls, a nod to another concern of Finks in *Repeating Ourselves*, that of the thorny issue of Zen Buddhism and its links with musical minimalism. Indeed as Fink admits:

> A phrase such as "Zen-like minimalism" flows easily onto the page – but this familiar simile risks the glibness of cross-cultural cliché, papering over fissures in both Japanese Zen and the American Reception of it.[79]

Whilst it is absolutely not the purpose of this composition to illustrate Fink's point, it is helpful to borrow his appropriation of D.T. Suzuki's definition of *satori* or 'enlightenment' in Zen, with reference the ideal performance conditions for the piece:

> the main idea is to bring the mind to a state of concentration, to a state of the highest possible tension, so as to leave the mind just two courses to pursue: either to break down and possibly go insane, or to go beyond the limits and open up an entirely new vista, which is satori.[80]

It is this tension between the 'insanity' of the rhythmic chaos created by eight unsynchronised limbs set against looped barococo fragments and the concentration needed to maintain this process through to the next cycle that is the main challenge for the performers here, with the coda being an opportunity to relax both the muscles and the mind as the performance becomes 'centred' on the temple bowls, themselves placed at the centre of the records, representing the final resting place of the work.

This use of 'automated' temple bowls comes from a turntable performance I created for the lobby of the Bridgewater Hall during Manchester's Futuresonic festival in the summer of 2005, and the use of the words *Mixtape* and *Zen* here is designed to capture the conflict between the higher aspirations of concentration expected from the performers as outlined above and a 'street', post-hip-hop approach to materials, as if the piece itself is a deconstructed DJ set that just happens to be performed by four classically-trained musicians. Indeed, we can turn back to Gangstarr for a kitsch, hip-hop appropriation of Zen and the illusion that more than four performers are creating this dense rhythmic texture:

> Thoughts are higher, elevated and focussed,
> while the path is narrow for those like us.
> Premo's beats provoke us to meditate like Zen
> with the will and the strength of a million men.[81]

The rhythmic fracture inherent in the work is closely controlled via the rotation of the turntables and in the first cycle, lead by player one, a clear process of accumulation is apparent, with each performer introducing a ½ contact loop of a new record at a new tempo. This effectively marks an acceleration from 33.3 rpm to 33.3 rpm + 6%, whilst the percussion strikes undergo an additive process from one strike per rotation to five strikes, a situation that both intensifies the speed of the contrapuntal dialogue, but at the same time thickens the density of the texture, making it less susceptible to sudden change and therefore erring on stasis and echoing Connor's idea of "mass, or durative volume" above.

---

[79] Fink, Robert. (2005) *Repeating Ourselves: American Minimal Music as Cultural Practice.* (pp.227) Berkley: University of California Press

[80] Fink, Robert. (2005) *Repeating Ourselves: American Minimal Music as Cultural Practice.* (pp.228) Berkley: University of California Press

[81] From Gangstarr (1998) It's a Set Up. On *Moment of Truth*, released on Noo Trybe/Virgin/EMI

Each cycle is then completed by a 'washing away' of the previous material with shakers, a sound that is used intuitively and that recalls the maracas so central to my memory of *Temazcal* by Javier Alvarez (1984) and Terry Riley's *The Cactus Rosary* (1993), but also a timbre that I associate with vinyl static when heard in headphones, something that as a turntablist I naturally associate with the beginning and endings of records. Thus, the rhythmic complexity heard in the percussion parts could be read as an amplification of the surface rhythms created by chance static and scratches on records, albeit fixed and controlled and translated into a compositional technique.

Each cycle then begins with a new leader and accumulates speed from a new 'base tempo', resulting in a series of extended plateaus constructed from the inherent temporal possibilities of the turntable, in much the same way as in *Contact Theatre.* Therefore, the use of tempo in *Mixtape Zen* is used, in the absence of fixed harmonic relationships, to establish a structure close to a rondo form:

Figure 35 *Mixtape Zen* (2007-8), rondo form construction

A B A C A (D)

Here D is the temple bowl coda, and the turntable speeds gradually become dislocated from their functional temporal uses, the speeds selected being based on the optimum speed for each temple bowl. Thus rpm in this context is crucial to the attack, sustain and decay envelopes of the individual pitches within the eventual harmonic clusters created by the bowls, as well as the superimposition of the ½ contact loops and the speeds of the percussion strikes. It is in this sense that the turntables can be considered the essential *structural* force throughout the whole piece, being used first as repetitive memory mechanisms before achieving a state of 'satori' via the singing bowls.

Another important element here that links back to DJ culture is the use of documentary footage, in this case, the use, in performance, of recordings of rehearsals of the work itself. This practice goes back to two of my earlier pieces, *Jumpcut* for Flute and CD and *Presents From an Edited Then* for saxophone quartet and DJ, that use rehearsal footage as both a composed contrapuntal layer (*Jumpcut and Presents*) and a provocation towards improvisation (*Presents*).

In the case of *Mixtape Zen*, the work was never performed by the group for which it was intended, but was rehearsed and recorded, and this recording was then mixed, at a later date, into the rehearsal footage presented here.

This free association between recording, editing and live rehearsal has become a natural outgrowth of my improvising and studio work and represents, for me, a delicate and stimulating balance between practice and reflection (and the places and times those processes represent) that is again tied to the use of recorded memory in DJ culture. Indeed, as Michael Bull and Les Back state:

> Listening to music offers new opportunities to address issues of globalization, place, identity, belonging, history and memory. Think about the way in which hearing a particular piece of

> music can invoke a vivid memory, or how a record collection can act as a kind of *jukebox of remembrance,* each piece of music associated with a particular time and place.[82]

Therefore, in its appropriation of barococo records, a conception of structure as a broken DJ set and a borrowing of materials from Buddhism (albeit it a rather cheap, consumerist vein), *Mixtape Zen* is a work that both hovers between geographic, (sub) cultural and chronological sources and aims to synthesise these diverse fragments into a continuum of fractured stasis.

Mixtape Zen was originally written for a performance by the Ear Massage percussion quartet in Malta in August 2007. Despite the concert unfortunately being cancelled, the audio rehearsal recording used in this work is of the quartet rehearsing the work in Utrecht in early 2007. The work is presented as video footage of the premiere and a rehearsal with the Bl!ndman quartet, which took place in Brussels in May 2008, into which the earlier Utrecht recording has been mixed.

Out in the Open Form: *Transference (51.16 North, 1.04 East)(2007-8)*

In *Aural Postcards: Sound, Memory and the City,* Fran Tonkiss comments on Roland Barthes:

> For all his insistence that it should be seen as a kind of 'writing' or 'text', Barthes' city keep bursting into speech in ways that go beyond the mute language of architectural symbols. 'The city', he claimed, 'speaks to its inhabitants, we speak our city, the city where we are, simply by living in it, by wandering through it'

Tonkiss goes onto say:

> Walking the city, people invent their own urban idioms, a local language written in the streets and as if out loud. A strange city, too, can seem like a language you don't know. Gradually you pick up a few words, recognize certain expressions, try out some turns of phrase. Walking, we compose spatial sentences that begin to make sense, come to master the intricate grammar of the streets; slowly, we learn to make the spaces of the city speak.[83]

In *Transference (51.16 North, 1.04 East),* the city as non-linear soundscape is the main subject, and the transference of sound from the streets of Canterbury, into a gallery and out onto the virtual space of a website became the works' eventual manifestation.

The work was installed in the Sidney Cooper Gallery on Canterbury's High Street for one week and was designed to be a virtual extension of the 'wandering through' of which Barthes speaks above. The essential concept was that Canterbury itself was the installation and that my contribution was merely a way to expose certain zones of sound from across the city and reflect upon the ways in which they mask, disrupt and morph into each other.

---

[82] Bull, M., and Back, L., (eds.) *The Auditory Culture Reader.* (pp.14) Oxford and New York: Berg – my italics here.

[83] Tonkiss, Fran. (2003) Aural Postcards: Sound, Memory and the City. In Bull, M., and Back, L., (eds.) *The Auditory Culture Reader.* (pp.305) Oxford and New York: Berg

I chose nine 'zones' of sound that had a particular resonance for me, and below, in no particular order, are the texts that were displayed on the walls of the gallery:

Figure 36 *Transference (51.16 North, 1.04 East)* (2007-8), examples of texts distributed in the gallery.

Gate and Doors

These are the sounds of entrances, openings and movements from one geographic space to another. They also trace movement from one sonic zone to another – from inside to outside, from the High Street into this gallery, for instance. Heard in this way, we often use buildings as large acoustic shelters that block out the sounds of our surroundings. Doors, windows and gates can puncture this illusion, however, and let reality creep back into our ears. Opening and closing a gate in a field reminds us that sound is not always as easily divided as land on a map.

Trains

Trains define movement in and out of the city, but recorded from a static point on a platform, train stations are predominately empty spaces, to be filled temporarily by sounds of departure and return. Doors opening on trains offer not just solace from the outside, but also promise a journey from the static to the transitory. This promise of travel is echoed out across the fields surrounding Canterbury and is a constant feature of our sonic experience.

Traffic

This cushion of traffic noise that rubs against the edges of the city walls is built from multiple journeys – a diffuse cloud of narratives that disperses and rearranges itself on a twenty-four hour cycle. The sounds of these roads speak of our position in history – our entanglement with nine-to-five trade and commerce, our temporary dependence upon petrol and diesel, and, to get to the point, our need to get to school, to work, to home. Threaded through this, our subconscious habit of stitching these sounds with others is ever present – the sound of the radio, a soundtrack brought from home on an mp3 player, or a voice at the end of a mobile phone.

Language

Through the intertwined narrative of languages spoken here we have the opportunity to catch glimpses of cities beyond Kent, beyond the UK, beyond Europe. This is the lifeblood of the city – the sound of co-operation, disagreement, of people thrown into dialogue. Heard from a distance, these fragments of conversation form an amorphous web of sound that runs down the High Street and disperses into the surrounding area.

Bells

Bell sounds and the history of Canterbury are so obviously intertwined that these frequencies have become an unmistakeable part of the sonic fabric of the area. The rhythms of these bells are refracted, bounced across walls and thrown out over the rooftops and fields, a phenomenon uniquely affected by your position within and proximity to the architecture of the city.

Outside the City Walls

Outside the city walls, and beyond the traffic noise, there are places in the surrounding area of Canterbury that have an internal stillness, a soundscape that is relatively untouched by industry. These spaces provide a counterpoint to the sound of transit that encircles even small cities such as ours, and give us the opportunity to think about the sounds that were here before the city, a chance to measure our 'progress'.

Pedestrian Crossings

There is a rich rhythmic complexity in the ways pedestrian crossings work. They can function like sonic hinges at the meeting points of two or more streams of transit, signalling the beginning of one traffic flow and the end of another. They also provoke reactions – people can start moving again after temporary stillness, car brakes produce high tones that seem to answer the signals of the traffic lights, and humans and machines meet at right angles for a few seconds.

Listening through the City

Listening whilst moving through the city gives us an opportunity to hear familiar sounds from multiple perspectives, catching snatches of lyrics from a busker or hearing a guitar being tested in a second hand shop blending with the sounds of generators and fire alarms. The order of these events, and their placement in our unique definition of left and right an up and down, give us the opportunity to navigate a soundscape that is constantly rotating, evolving and shifting, reinforcing a sense that simply by listening in a different way, we can make our own sonic narrative.

At the same time as making recordings of the zones represented above, I was working on a series of small modules created with Macromedia's *Flash* software, within which, as in *References to Books on Applied Mechanics*, the rollover technique was again used to trigger short samples and simple animation effects. These modules eventually became the basis for a multiple website work called *Collective Horizontal* that was first performed at an Open Ear Event focussing on networks in November 2007. On the basis of this performance I decided that the hyperlink technique could be incorporated into *Transference* and that I could represent the non-linearity of the city in the form of interactive animations, themselves projected onto each wall of the gallery, suggesting a digital 'window' onto the city outside.

After collecting sounds and photos, work on the audio and visuals took place in separate software environments and at the end of this process, eight folders of audio clips with their corresponding Flash modules were created. The modules themselves were constructed using numerical sequences based on the telephone area code of Canterbury: 01227.

Combinations of the numbers 1, 2 and 7 were therefore used to generate the number of rollovers in a 'zone' (1x2+7=9) and the frame lengths of the individual animations within the rollovers themselves (lengths of 11, 12, 17, 21, 22, 27, 71, 72, 77, 111, 112, 117 and 127 frames were used). This numerical structure underpins the durations of the animations themselves, but the photos, effects chosen and the corresponding audio samples were largely intuitive, chosen according to their relative strengths in communicating as clearly as possible the 'feeling' of each zone as described in the texts above.

Eventually a ninth zone of sound (comprised of photos, comments and sounds of visitors to the gallery) was added across the week of the installation so that there was a perceivable 'gathering' of material in the space, before the work was placed online towards the end of the week. Therefore, the construction of the modules reflected a non-linear interdependence between each of the zones, with each

collection of nine images hyperlinking, via actionscript, both back to itself and out to eight other zones. Thus the work represents the sorts of non-linear processes inherent in the website of *References to Books on Applied Mechanics*, without the underlying linear 'drive'.

As many visitors to the space returned during the week and 'learnt' how the website was constructed, remembering the links between certain zones, whilst also attempting to create a soundscape in conjunction with other visitors, it became noticeable that despite being the most deliberately 'static' and most 'open' of open form works I have so far created (2008), there *is* a sense of 'journey' and 'return' inherent in the subject matter of the installation. Indeed, it is remarkable that at many times visitors chose to finish their visit to the gallery by navigating back to the birdsong and blue sky of the *Outside the City Walls* zone, suggesting, perhaps, a clear 'centre' or constellation of "soundmarks". In *Listening to the Heard Worlds of Antebullum America*, Mark M. Smith re-appropriates this term from R. Murray Schafer:

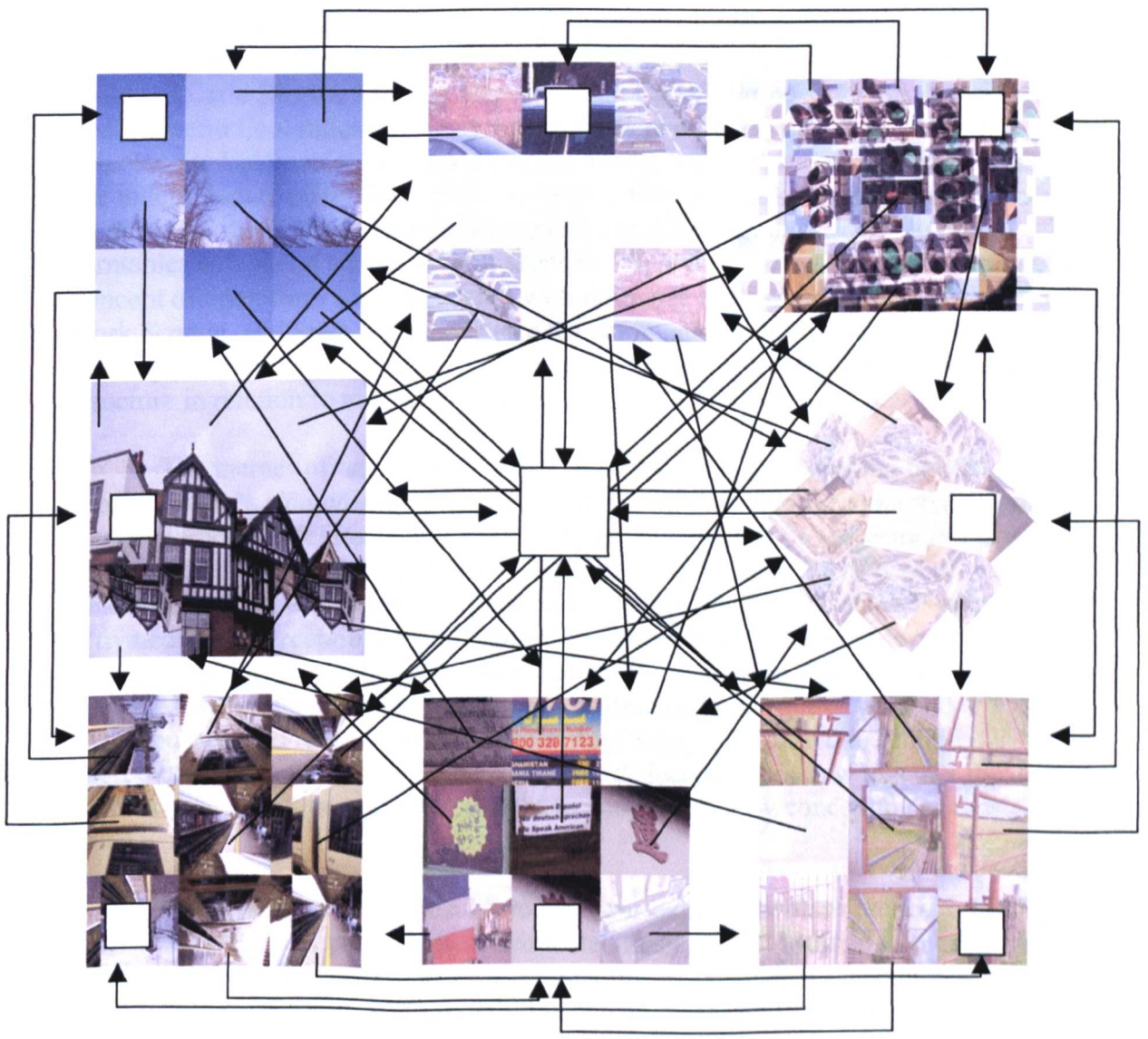
> Schafer argues that, 'once a soundmark has been identified, it deserves to be protected, for soundmarks make the acoustic life of the community unique.' Sounds, then, serve as anchors to regions, as acoustic identifiers of the community.[84]

It is perhaps serendipity that the term 'anchor' can also be related to the hyperlinking of web pages, and that 'wandering through' the city finds a natural home in the non-linear navigation of a web site. The concept of *Transference* as an online installation is as a growing organism that naturally becomes part of a wider series of 'transferences' of different grid references as the work moves to new venues. Thus *51.16 North, 1.04 East* will become a 'region' of a much larger project, reaching beyond the scope of the piece presented here. As such the work represents a complex nexus constructed in a grid formation (see Figure 37).

Transference (51.16 North, 1.04 East) was commissioned by the Canterbury Sounds New Festival and was created between July 2007 and April 2008. It was installed in the Sidney Cooper Gallery, Canterbury between Monday 14th April and Saturday, 19th April 2008.

[84] Smith, Mark M. (2003) Listening to the Heard Worlds of Antebellum America. In Bull, M., and Back, L., (Eds.) *The Auditory Culture Reader*. (pp.137) Oxford and New York: Berg (Reprinted from Journal of the Historical Society, 1[1] [Spring 2000]).

Figure 37 *Transference (51.16 North, 1.04 East)* (2007-8), example of hyperlink structure creating an open form.



Conclusion

In conclusion, let us initially loop back to the first quote of this commentary, from Jonathan Harvey:

> The next century will bring a profound interaction, or war, between information technology and the 'poetic mind'. It will surely be in music that one of the crucial battles will be fought: the upshot will be reconciliation at a new level – reconciliation transcending duality.

In the works presented here, this "reconciliation" between disparate materials is explored on a number of levels. In the commentary I looked at the terms 'indeterminancy', 'improvisation' and 'open form', and particularly to the work and words of Earle Brown, Anthony Braxton, John Cage, Morton Feldman, Henri Posseur and Umberto Eco. Indeterminancy with regards to duration was explored with reference to Feldman's *Piece for 4 Pianos*, whilst 'chance' was considered in light of the indeterminate materials used in my works, from the junk percussion *in References to Books on Applied Mechanics*, *Mixtape Zen* and *Entanglement Laws* to the use of turntables as a sound source in both *Mixtape Zen* and *Contact Theatre*. From here, the concept of open form was considered with reference to Posseur's thoughts on his own work *Scambi*, and links were made (via the comments of David Trend) with the development of the internet as a tool for re-examining open form (or multi-linear) structure in relation to musical composition.

The themes of 'stasis' and 'speed' were considered by looking briefly at La Monte Young's *Composition 1960 #7* and the concept of non-developmental form was explored with reference to Leonard Meyer's comments on the work of Cage. Louis Andriessen's work *De Tijd* was examined, particularly for its uses of 'dialectical' approaches to musical speed, where the sensation of stasis is actually activated by imperceptible accelerations. *De Snelheid* was also considered for its emphasis on the tension between pulse and harmonic rhythm. This tension was discussed with reference to the work of electronica artists Aphex Twin and Squarepusher, and drum n' bass producer Roni Size, and I turned to Philip Sherbourne, particularly his phrase 'temporal dislocation', to draw together the dual influences of 'intelligent techno' and the avant-garde on my conception of musical speed.

The concept of the musical 'process' was explored with reference to Michael Nyman definitions of process in experimental music, whilst I turned to Steve Reich's classic text *Music as a Gradual Process* to define my particular blend of process and indeterminancy. Robert Fink's definitions of Minimal visual art in light of the Pop Art movement were used to explain the "emptying out" of my musical language, particularly in the stripped-down use of vinyl records in the epilogue to *Contact Theatre.*

The use of turntables was further explored as I elaborated on my approach to records as "open scores of found sound", and I turned to David Toop to help relate the erosion of records to the human condition. The divergent approaches of Christian

Marclay, Philip Jeck and Otomo Yoshihide were considered, whilst I outlined Cage's use of the turntable glissando in *Imaginary Landscape (1939)*. The beat juggling of Grandmaster Flash was read here as a form of antiphonal hocketing and I looked at DJ Premier's appropriation of Cage's glissando technique in his work as one half of the legendary hip-hop duo Gangstarr. The writings of DJ Spooky (aka Paul D. Miller) were considered, before returning to Robert Fink and his theory of a 'culture of repetition.' Repetition in black culture, in particular the "accidental *da capo*" was elaborated upon by James A. Snead.

This diversity of approaches to musical speed, duration (and therefore form) was further considered in light of Fink's theory of "recombinant teleology" and the links between club DJs and composers of art music, before I turned to a quote from Edgard Varese in which he outlines the idea of musical form as comprising "zones of intensities."

In looking at *Vent / Glacier*, I outlined the usages of modal harmony in the construction of a series of tuba multiphonics, whilst indeterminancy with regards to duration and electronic manipulation was explored. This particular type of electronic manipulation was related to what Kim Cascone calls "post-digital music" and Simon Reynolds, Merzbow and Henry Cowell were consulted on the theme of 'noise.' I looped back to Fink once more to outline his thoughts on the detachment of teleology from musical form.

In *Entanglement Laws*, the dialogue between linear and multi-linear form was explored, with a further word on modal harmony, the uses of 'text as structure', 'rhythm and noise' and 'structural erosion'.

The turntable work *Contact Theatre* was considered in light of the thoughts of DJ Spooky and R. Murray Schafer, particularly the idea of "the datacloud" and the "unnatural and surrealistic juxtaposition" proposed by the use of vinyl records. The compositional process was explored, particularly with reference to the use of records as scores, extended turntable techniques and the development of a 'grid' notation for the first version of the work. Harmonic, rhythmic and 'noise' elements of the piece were considered, before I offered an explanation of the quotations that are borrowed from DJ Spooky and are arranged in a non-linear 'cloud' above the live performance.

The composition of *References to Books on Applied Mechanics* was explored, along with the layout of the equipment, being, as it is, a hybrid mixture of percussion, DJ technology and multimedia materials. The manipulation and translation of a Leonardo da Vinci text into musical and visual material was explored, with details given relating to the live, sampled and interactive layers of the work. These diverse materials were considered as being the basis of an eclectic electronic dance music within which a "deconstruction of pulse" is evident.

Music in the Shape of ELEVEN was considered from a variety of perspectives: firstly, the navigation of individual parts was elaborated upon. Intervallic rotation, and rotation in the construction of the individual modules was explored. The rhythmic texture was outlined as a 'broken' mechanism built from looped fragments of a DJ Premier instrumental. Of crucial importance here was the idea of a "hollowing out" of

the gestural palette, in which I explored "either fast, violent runs or long, still pitches."

In commenting on *Mixtape Zen,* I turned again to Fink and his theories on the links between *barococo* easy listening and Zen Buddhism. The use of the turntable as a metronome (a kind of "polytemporal clock") was outlined, along with an explanation of the accumulation processes used to hold the work together. Steven Connor's thoughts on the "ritual transitions" and "amorphous masses of sound" created by clapping were appropriated, and I outlined my interest in weaving documentary footage into the live performance of my works, something that comes quite naturally from my interest in DJ culture.

This use of documentary sources was further elaborated upon in my comments on *Transference (51.16 North / 1.04 East),* in which I used found sound from the streets of Canterbury as the basis for a week-long interactive installation. Fran Tonkiss' notes on Roland Barthes were used to outline the idea of "making the city speak" and R. Murray Schafer's theory (via Mark M. Smith) of "soundmarks" was appropriated here, with reference to the aesthetic 'feel' of the interactive website at the heart of the installation. The hyperlink was referred to here as an essential tool in the re-investigation of multi-linear form in musical composition.

Having considered Harvey's thoughts on a "reconciliation transcending duality", let us turn to back to the second quote of this commentary:

> [...] we must abandon conceptual systems founded upon ideas of center, margin, hierarchy, and linearity and replace them with ones of multilinearity, nodes, links, and networks.

This portfolio is not designed as a stubborn manifesto to promote the re-application of open form and indeterminate techniques into contemporary composition. However, what can be said is that the works presented here could not have been created without a certain 'de-centring' away from conventional modes of musical production. The technical and aesthetic horizons of these works rely crucially on a network of elements drawn from free improvisation, hip-hop, electronica, the experimental tradition, the influences of sonic art and new media, as well as a host of personal experiences that just happen to have expressed themselves in the form of sound. Therefore, as hypertext reshapes our conception of reading, so the increasing complexity of 21st Century sonic experience calls for performers and audiences with a multi-(sub)cultural musical heritage, an ability to 'navigate time': a critical flexibility regarding performance practice, venue, material and form.

MW - Canterbury, September 2008

Bibliography

Andriessen, Louis trans. Yates, Clare (2002) In Zegers, Mirjam (ed.), *The Art of Stealing Time* Todmorden: Arc Music

Banks, Iain. (2002) *Dead Air.* London: Abacus

Barthes, Roland trans, Richard Miller. (1974) *S/Z.* New York: Hill and Wang

Brown, Earle. (1999) Transformations and Developments of a Radical Aesthetic. *Current Musicology, 67/68.*

Bull, M., and Back, L., (eds.) (2003) *The Auditory Culture Reader.* Oxford and New York: Berg

Cox, Christoph and Warner, Daniel (Eds.) (2005) *Audio Culture: Readings in Modern Music.* New York and London: Continuum Books

Eco, Umberto, trans. Anna Cancogni (1989) *The Open Work.* Cambridge MA: Harvard University Press

Fink, Robert. (2005) *Repeating Ourselves: American Minimal Music as Cultural Practice.* Berkley: University of California Press

Huddersfield Contemporary Music Festival (1999) *Programme Book to The Huddersfield Contemporary Music Festival.* Huddersfield: Huddersfield Contemporary Music Festival

Key, Susan and Rothe, Larry (Eds.) (2001) *American Mavericks: Visionaries, Pioneers, Iconoclasts.* Berkley: University of California Press

Landow, George. (1991) *Hypertext: The Convergence of Contemporary Critical Thought and Technology.* Baltimore and London: John Hopkins Press

Lock, Graham. (1988) *Forces in Motion: Anthony Braxton and the Meta-Reality of Creative Music.* London: Quartet.

Miller, Paul D. (2004) *Rhythm Science.* Cambridge, MA and London: MIT Press

Postchardt, Ulf, trans. Whiteside, Shaun. (1998) *DJ Culture.* London: Quartet Books

Reich, Steve and Hillier, Paul (Ed.) (2002) *Writings on Music 1965-2000.* New York: Oxford University Press

Revill, David. (1992) *The Roaring Silence: John Cage, A Life.* London: Bloomsbury

Richter, Irma (Ed.) (1980) *The Notebooks of Leonardo da Vinci.* Oxford and New York: Oxford University Press

Schwarz, Elliot and Childs, Barney (Eds.) (1998) *Contemporary Composers on Contemporary Music, Expanded Edition.* New York: Da Capo

Slouka, Mark. *Listening for the Silence: Notes on the Aural Life.* Harper's Magazine (April 1999)

Snead, James A. (1984) Repetition as a Figure of Black Culture. In Gates, Jnr., Henry Louis (Ed.) *Black Literature and Literary Theory* London: Routledge

Trend, David. (2004) *Reading Digital Culture (Ed.)* Malden, MA, Oxford and Victora: Blackwell Publishing

Toop, David (2004) *Haunted Weather.* London: Serpent's Tail

Yan, Jun and Gray, Louise (Eds.) (2006) *Sound and the City: British Council China SATC Anthology* London and Beijing: British Council

Yankelovich, N., Meyrowitz, N. and van Dam, A. *Reading and Writing the Electronic Book. IEEE Computer 18 (October 1985)*

Appendices:

Scores:

- *Vent / Glacier* (2008) for 'prepared' tuba and electronics.
- *Entanglement Laws* (2006-2007) for two saxophones, alto trombone, guitar, 4 keyboards and percussion. Presented as performance notes with parts.
- *Contact Theatre* (2005-2008) for six turntables.
- *References to Books on Applied Mechanics* (2006-8) for solo percussionist, electronics and website.
- *Music in the Shape of ELEVEN* (2006) for flute, keyboard, string trio, harp, percussion and laptop. Presented as performance notes with parts.
- *Mixtape Zen* (2007-2008) for four turntables and percussion.
- *Transference (51.16 North, 1.04 East)* (2007-2008), an interactive sound installation for four website projections, microphone and loudspeakers. Presented as installation notes to accompany the DVD-ROM documentation.

DVD-ROM:

'Audio' folder:

- *Glacier* (2008) – performed by the composer, recorded June 2008, Canterbury. (18:35)
- *Entanglement Laws* (2006) – performed by Ensemble Klang, 12th January 2007, KORZO Theatre, Den Haag. (14:42)
- *Contact Theatre* (2005-8) – performed by the composer, recorded February 2008, Canterbury. (22:58)
- *References to Books on Applied Mechanics* (2006-2008) – performed by Stewart Worthy, April 2006, Huddersfield and edited by the composer. (10:49)
- *Music in the Shape of ELEVEN* (2006) – performed by ELEVEN and the composer, June 2006, The Space, London. (9:33)
- *Mixtape Zen* (2007-2008) workshop footage performed by the Bl!ndman percussion quartet, May 2008, Brussels. (26:31)

'Scores' folder:

- Printable pdf files of the scores listed above

'Visual' folder:

- Vent.mov – performed by the composer, June 2008, Canterbury. (14:32)
- Contact Theatre 1.JPG and Contact Theatre 2.JPG – photographs of the rehearsal process and turntable set up for Contact Theatre (2006 version) October, 2006, Amsterdam.
- Turntable Techniques.mov – conversation between the composer and Eric Sleichim regarding the techniques in *Contact Theatre* (2008 version) May 2008, Brussels. (6:24)
- References.mov – workshop of *References to Books on Applied Mechanics* performed by Sean Farrelly, showing the working process, July 2008, Canterbury. (2:43)
- Mixtape compression.mov – workshop of *Mixtape Zen* performed by the Bl!ndman percussion quartet, May 2008, Brussels (26:59)
- Avelgem compressed.mov – footage of the premiere of Mixtape Zen, performed by the Bl!ndman percussion quartet, 28th November, 2008, Avelgem, Belgium. (15.56)
- Transference.swf – interactive shockwave file used for the installation of *Transference (51.16 North, 1.04 East)*.
- Transference.mov – documentary footage of the installation, filmed at the Sidney Cooper Gallery, Canterbury, between 14th and 19th April 2008. (5:42)

CONTACT THEATRE

matthew wright (2005-8)

CONTACT THEATRE (2005-2008)

Imagine a huge cloud, built of fragments of yesterday, blown into a whirlwind by rotating machines. Imagine passing through this violent storm, reaching the centre and suddenly finding stillness.

CONTACT THEATRE was written for the Percussion Group of the Hague and is based on the following nine quotes from Paul D. Miller's book *Rhythm Science:*

"..21st century aesthetics needs to focus on how to cope with the immersion we experience on a daily level.."

"..a digital signifier whose form adjusts its shape in front of us like an amorphous cloud made of zeros and ones.."

"..an interface architecture that twists and turns in sequences overlaid with slogans, statistics, vectors, labels and grids.."

"..a knowledge and pleasure in the play of surfaces, a rejection of history as objective force in favour of subjective interpretations of its residue.."

"..systematic attempts at figuring out a rhythm of everyday life in an industrial context.."

"..from math to code to culture.."

"..you can braid your own narrative of the multiplex consciousness notion, the development of sonic sculpture as a way to meld music and art and the stresses brought about by trying to blend mass entertainment with what used to be thought of as high culture.."

".. a dialectical triangulation between thesis and anti-thesis.."

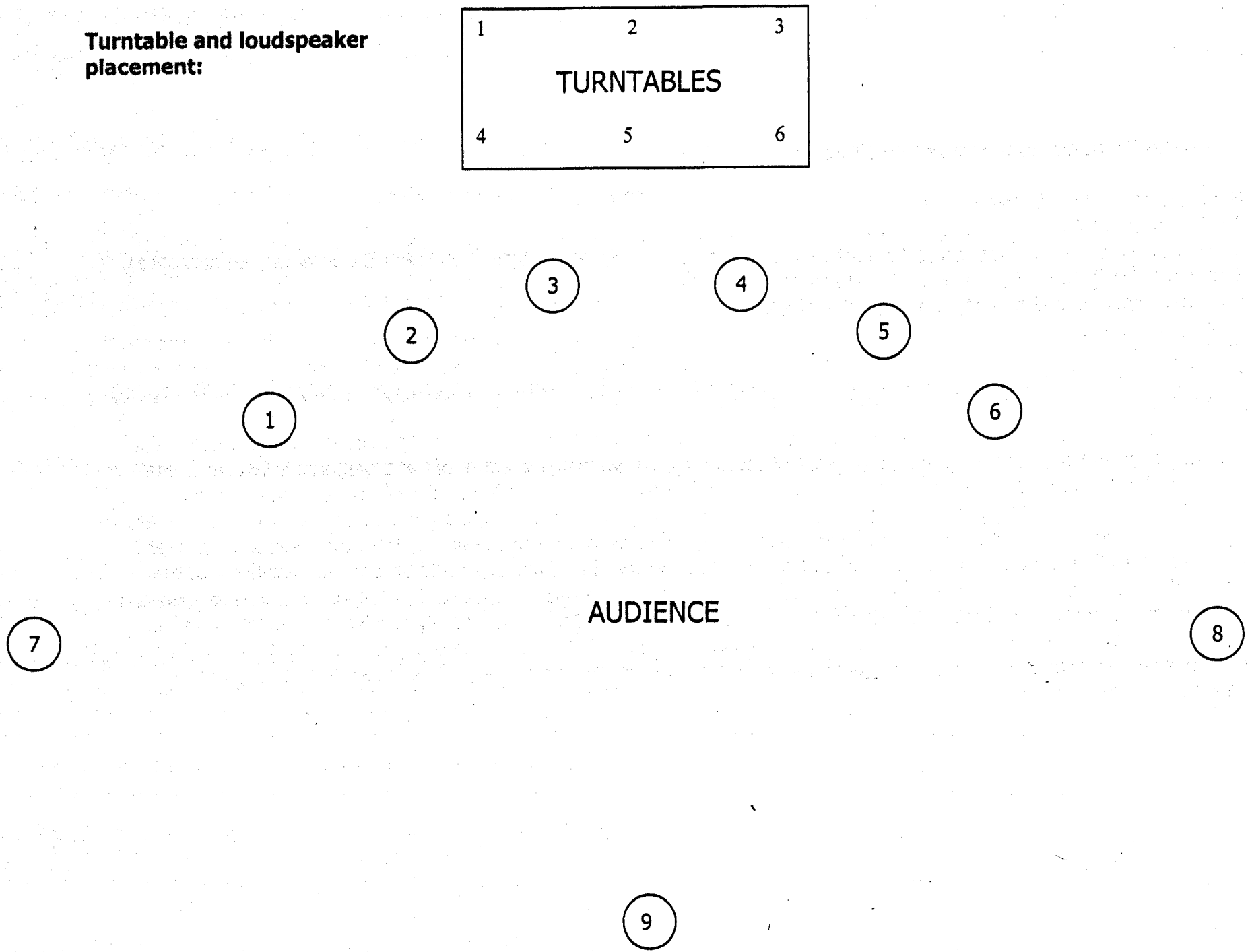
"..from the sonic debris of a possible future, the cultural permutations of tomorrow, heard today, beyond the corporeal limits of the imagination.."

Equipment and notes for sound engineers:

6 turntables – up to six performers
3 x 2-channel or 2 x 3-channel dj mixers
3 unspecified records, 1 jazz record (preferably a trumpet solo), 1 hip hop record, 1 rap record (preferably an accapella), 3 copies of DJ Q-Berts' 'Marshmallow Brayks' record, stickers.
PA with at least nine channels – one sound engineer
Nine Loudspeakers
Six Monitors
1 laptop and sound card with at least 3 output channels – or – 3 mp3 players / CD players (preferably with shuffle facility)

The turntables are arranged in a rectangle as shown below, with a video camera placed high above the performers. The live feed from the camera should be a tight shot of the turntables, so that a 'theatre' of hand gestures is visable to the audience. Six of the loudspeakers (speakers 1-6) should be placed in a semi-circle in front of the audience, and the remaining three speakers (speakers 7-9), used for the speech fragments and whispers only, should be placed at the left, right and behind the audience. The signal from turntable 1 should be routed to speaker 1, from turntable 2 to speaker 2 and so on for all of the turntables. The speech fragments that enter at 4, Cycle 2, should be panned sensitively at the desk between speakers 7 + 8 during section A. Whispers 1 should be routed to speaker 7, whispers 2 routed to speaker 8 and whispers 3 routed to speaker 9. A distinction should be made between the extremely precise, dry signals from the turntables and a slight reverb on the speech fragments and whispers. Where the sound engineer is asked to fade in or out the speech fragments or whispers, this should take place within the bar it is requested, apart from the last fade, which is extremely gradual.

Turntable and loudspeaker placement:



Each record is conceived as material with four 'zones':

- Zone One – the static at the beginning of the record, before any recorded material
- Zone Two – Recorded Material
- Zone Three – the static at the end of the recorded material. The zone used for preparing the records with stickers.
- Zone Four – the label at the centre of the record.

Within these zones, a total of nine techniques are used:

- The 'rewind' on zone two – creating a high frequency 'squeal'. This should be performed with a speed beginning at one revolution per second and reaching at least three revolutions per second.
- 'full contact' on zone four – drop the needle onto the label of the record, creating harsh white noise.
- 'full contact' on zone two – a simple playing of the record.
- 'half contact' on zone – lift the tone arm with the lever so that it is suspended just above the record, enough to begin looping material on the record.
- 'power off' on zone four – drop the needle onto the label of the record and switch off the power of the turntable.
- 'drone' on zone four - place the needle on the drone at the end of side A of DJ Q-Berts' Marshmellow Brayks – a flat F will be heard at 33.3rpm.
- 'pitchshift glissandi' on zone four – place the needle on the drone at the end of side A of DJ Q-Berts' Marshmellow Brayks and alter the pitch of the drone with the vari-speed pitchshifter. (Players 1-3 only)
- 'half contact' on stickers placed in zone three – prepare records with at least three stickers in zone three, and lower the needle above these stickers as in the 'half contact' technique mentioned above. The effect should be of a looping rhythm with at least three attacks.
- 'vibrato' on the 'drone' - place the needle on the drone at the end of side A of DJ Q-Berts' Marshmellow Brayks and lightly 'dust' the surface of the record with the left hand.

All of these techniques are illustrated on the accompanying CD-ROM.

The speech fragments and whispers faded into the mix by the sound engineer consist of digitized versions of the DJ Spooky quotes. The overall effect of the performance should be of an overwhelming whirlwind of sound at the front of the audience, with a slightly detached 'narration' from the speech fragments and whispers at the sides and behind.

Thanks for playing - MW

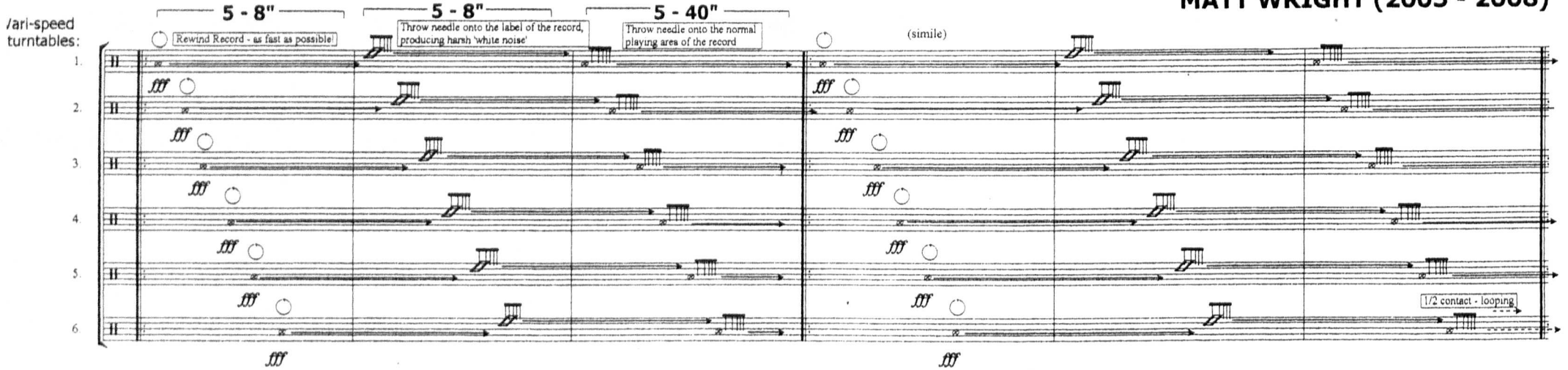
CONTACT THEATRE

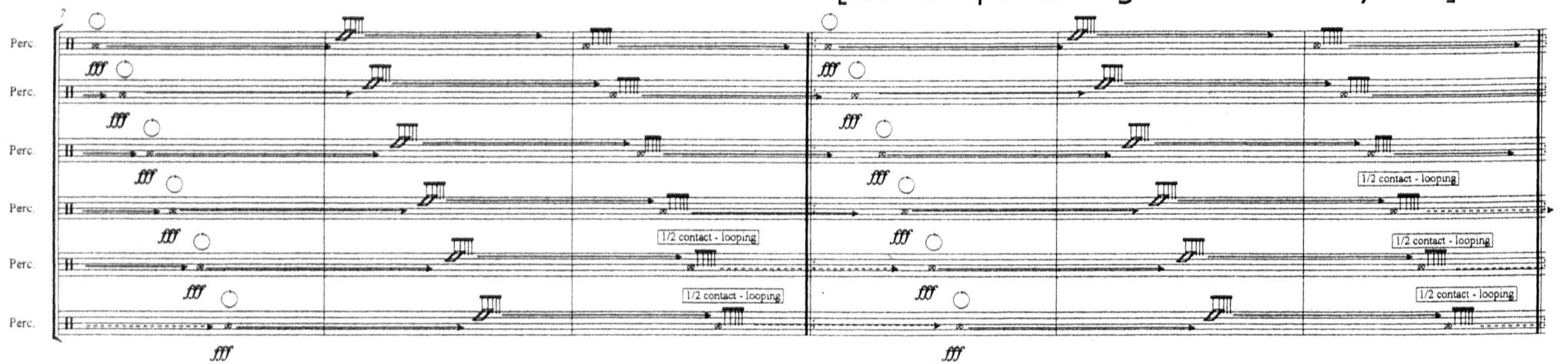
(With huge thanks to The Percussion Group of The Hague)

A: Violent, relentless and constantly changing

(Play sections 1 - 7, then 2 -7, 3 - 7, 4 - 7, 5 -7, 6 -7 and 7, becoming more frenetic each time, before moving attaca onto B)

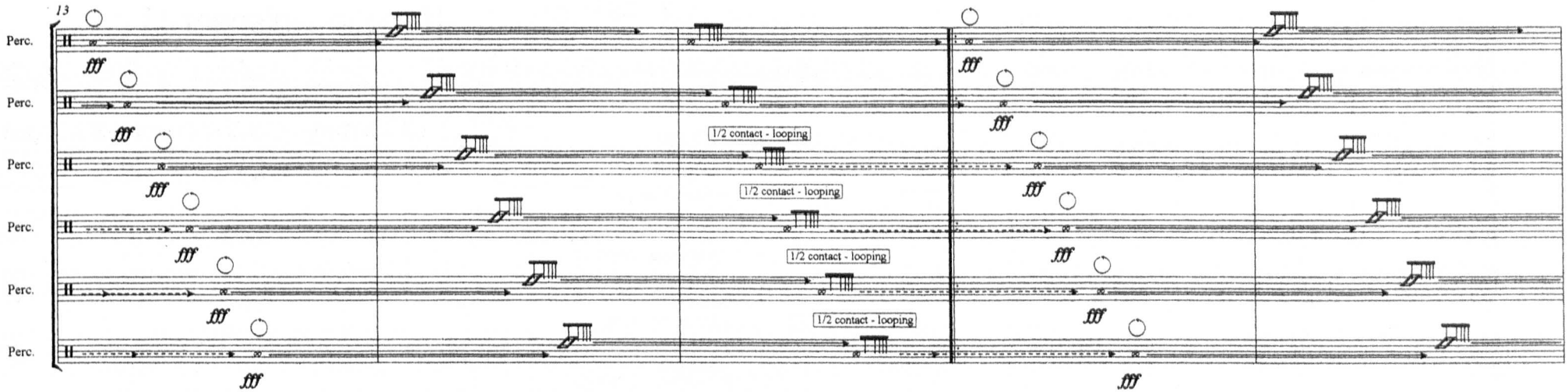
MATT WRIGHT (2005 - 2008)





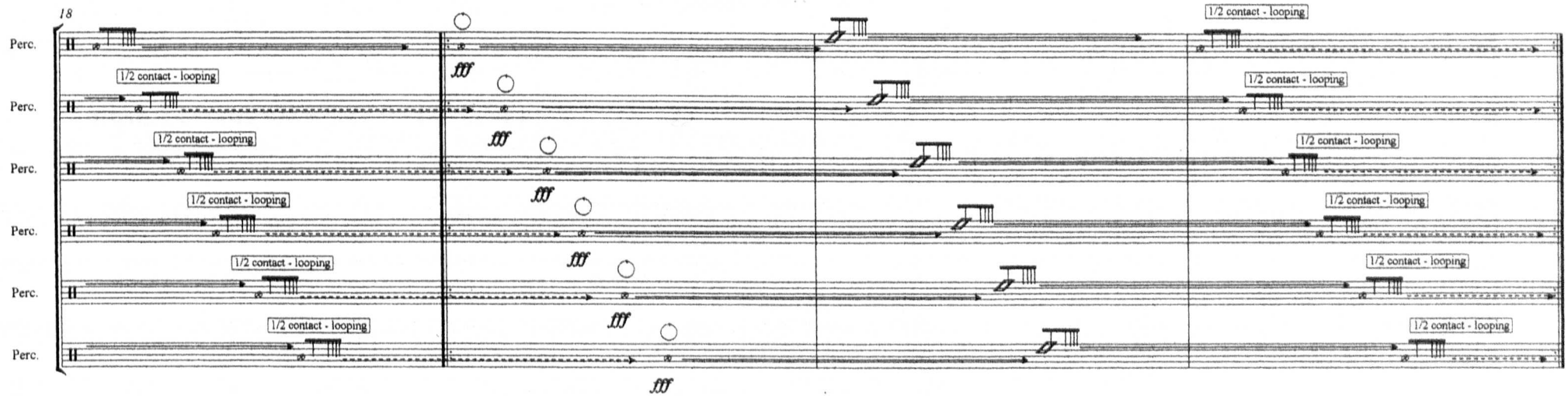
5 45+8rpm

6 45+10rpm

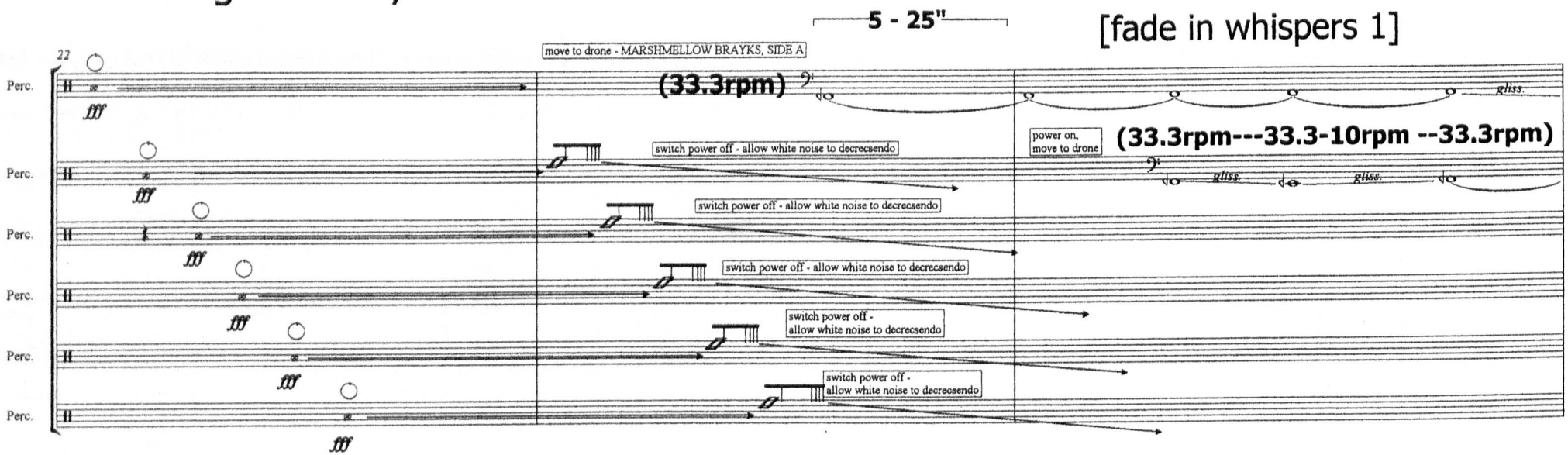


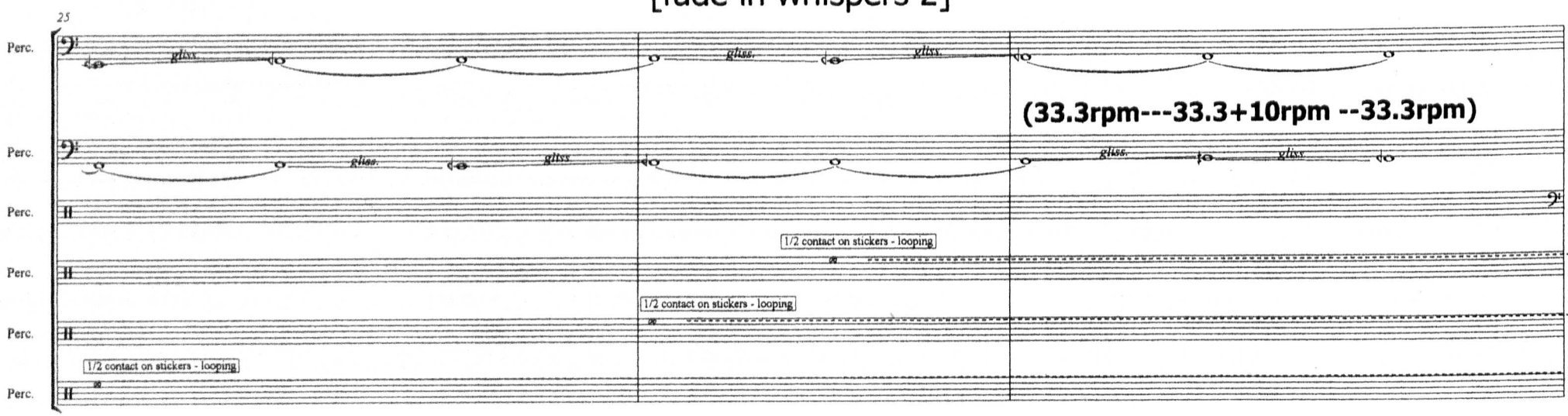
7 45+10rpm

[fade out speech fragments here - Cycle 7]

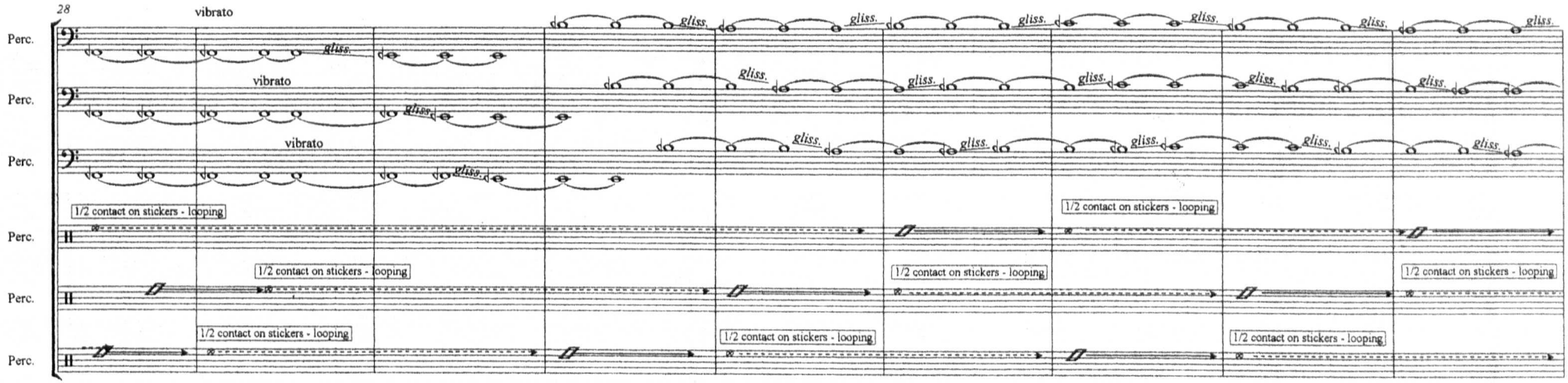


B:Finding harmony - slow and meditative

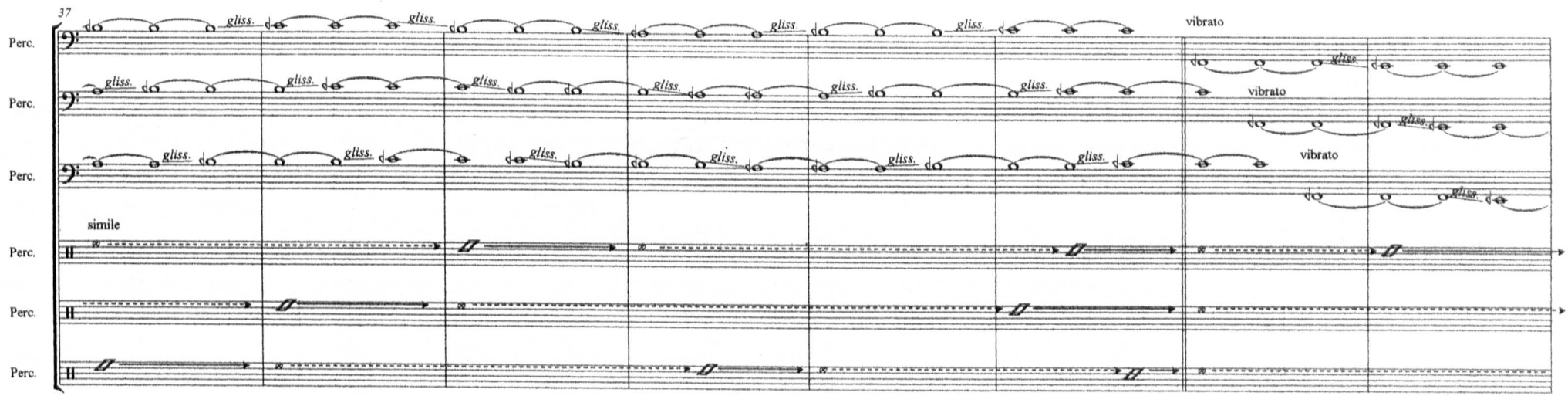


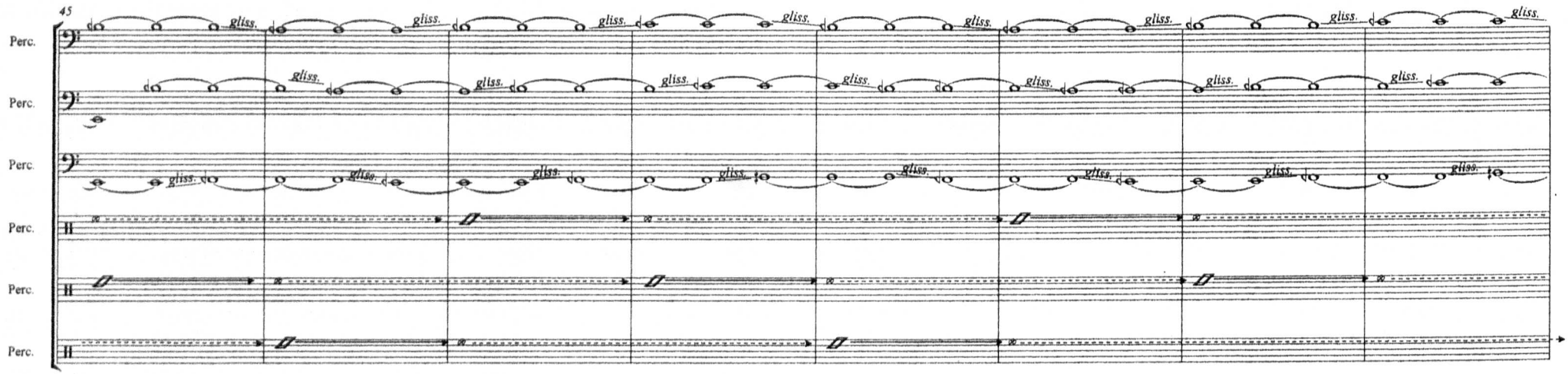


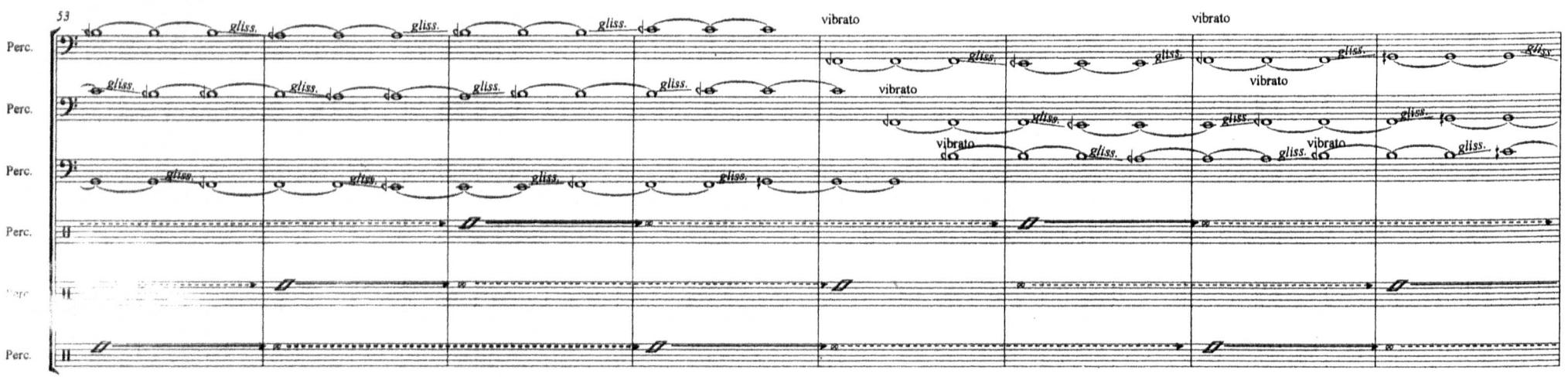
[fade in whispers 3]

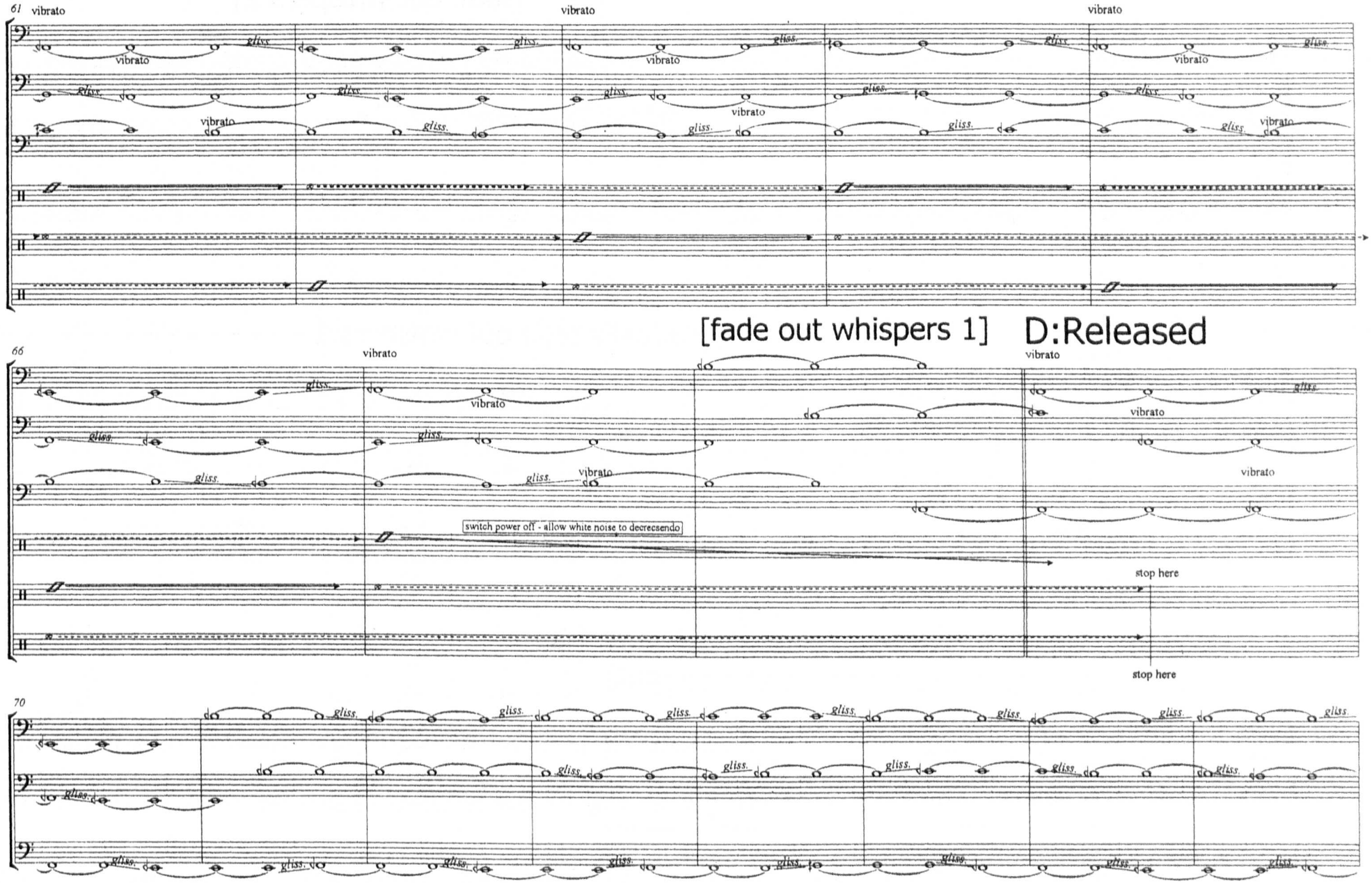


C:Growing in intensity

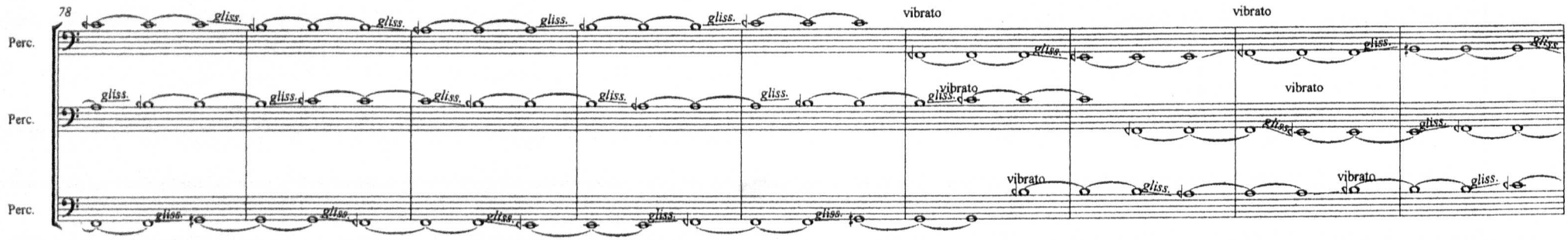



45
Perc.
Perc.
Perc.
Perc.
Perc.
Perc.
gliss.

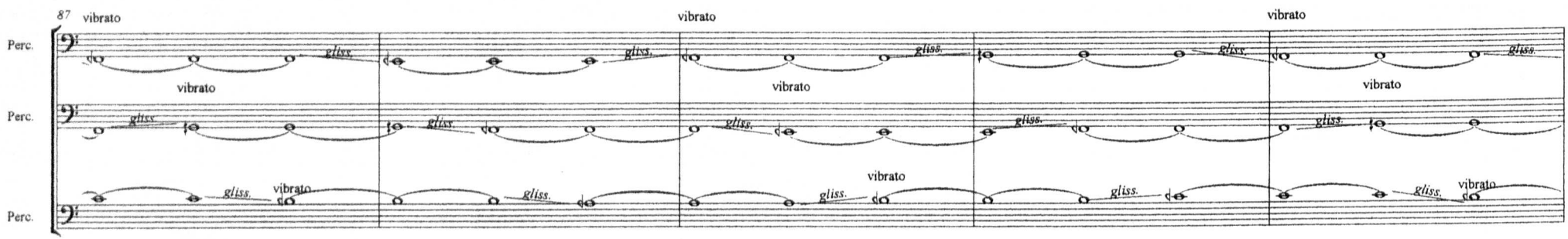

53
Perc.
Perc.
Perc.
Perc.
Perc.
Perc.
gliss.
vibrato


61
vibrato
vibrato
vibrato
Perc.
gliss.
66
[fade out whispers 1]
D:Released
switch power off - allow white noise to decrecsendo
stop here
70

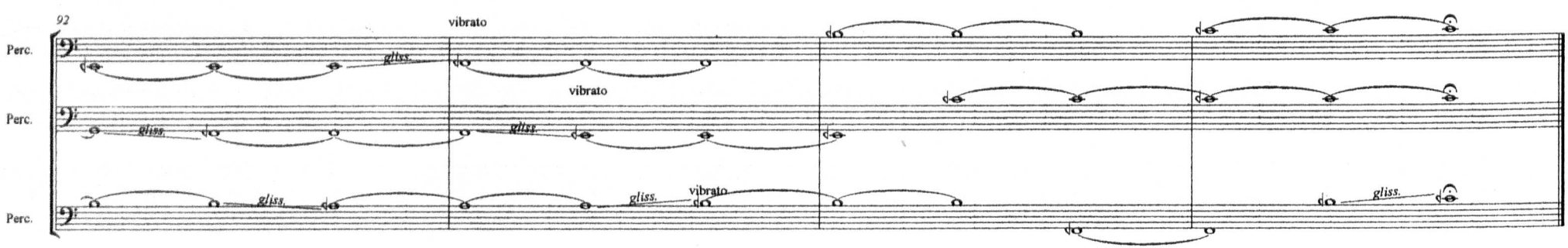
[fade out whispers 2]



[gradually fade out whispers 1 -



- -out]



(2005 - 2008) Canterbury, Amsterdam, Antwerp.

Music in the shape of ELEVEN

matthew wright (2006)

Imagine a scorched musical landscape littered with obsolete junk, an eternal horizon sounding like music at the edge of collapse.

PERFORMANCE NOTES:

Flute
Keyboard (with programmable pitch bend wheel)
Harp
Percussion
Laptop (Running a patch supplied by the composer with Ableton Live)
Violin
Viola
'Cello
PA
Optional Monitors

This series of mobiles was created for the London-based ensemble ELEVEN and was premiered in The Space, Isle of Dogs, on 23rd June 2006.
The letters E L E V E and N function as the six sections of the work, and each player is given freedom to begin where he or she wishes within a letter, moving to an adjacent module either horizontally or vertically. Once a performer has played all of the music of a given letter they can either repeat the material in the order they chose, OR play the cue at the top or side of the page. Once the cue is sounded, the whole ensemble moves attacca to the next section (letter) until the final letter, N. At N, the keyboard player signals the end of the sixth section and plays a very short CODA with the percussionist.

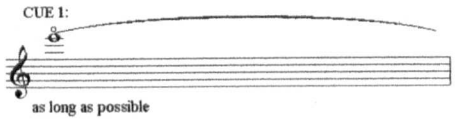
It is expected that the performers will work through their parts at a generally slow pace, but when indicated, some modules should be played as fast as possible. The performance should have a vibrant contrast between long, ecstatic moments and points of explosive violence.

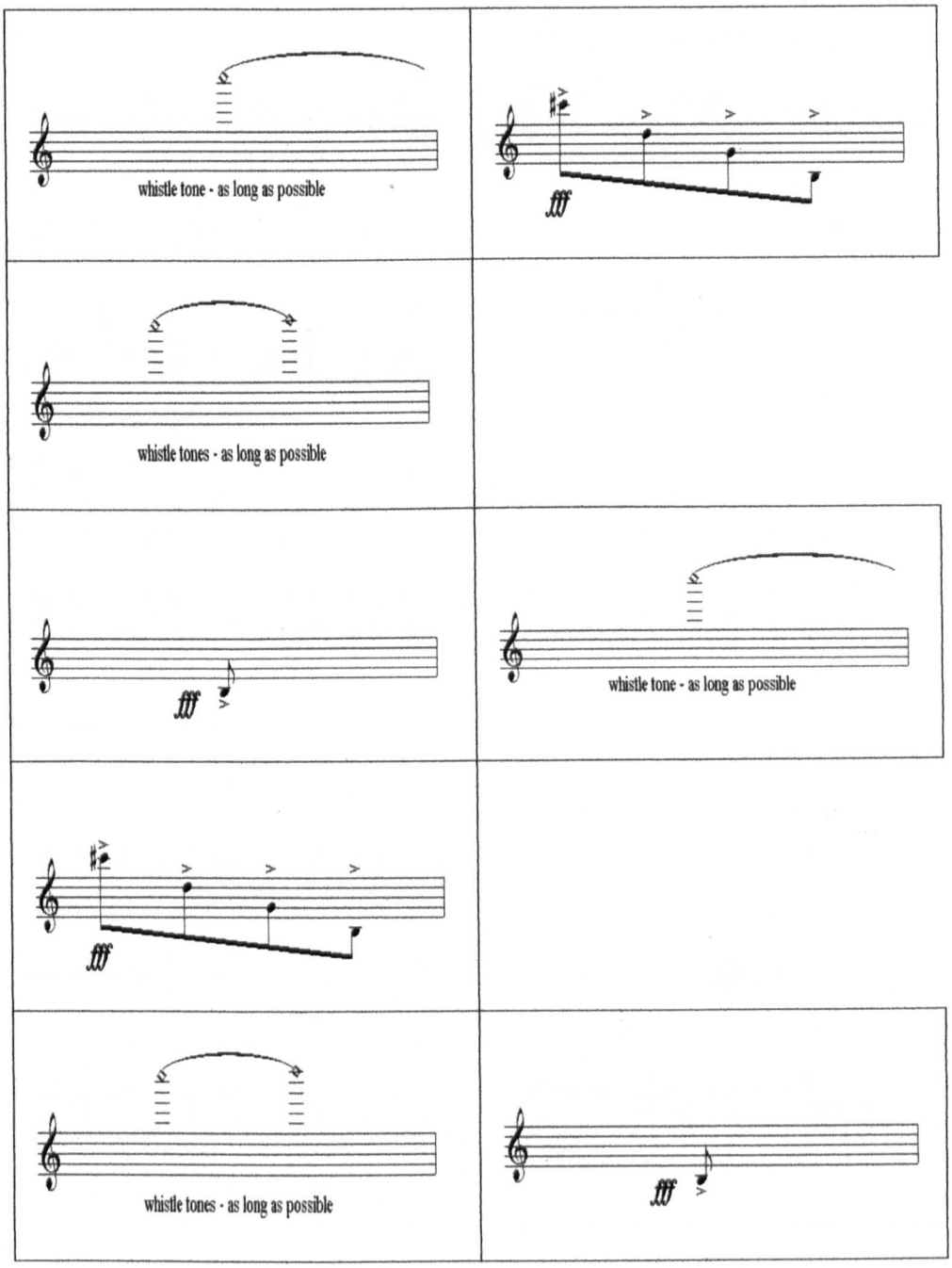
NOTES FOR SOUND ENGINEERS:

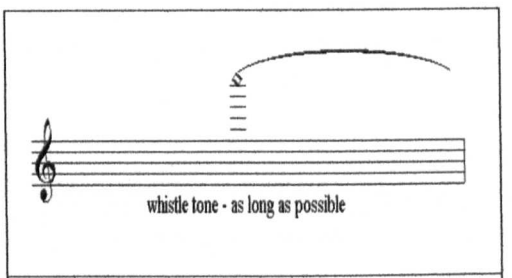
The ensemble should be lightly amplified and very slight reverb and delay should be added – the effect should be 'hazy'.

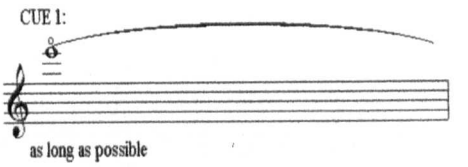
Thanks for playing - MW

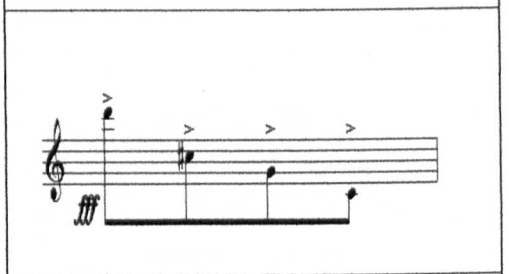
FLUTE

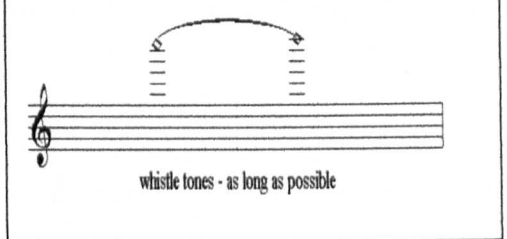

CUE 1:
as long as possible

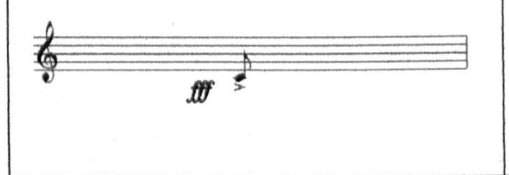

whistle tone - as long as possible
fff
whistle tones - as long as possible
fff
whistle tone - as long as possible
fff
whistle tones - as long as possible
fff

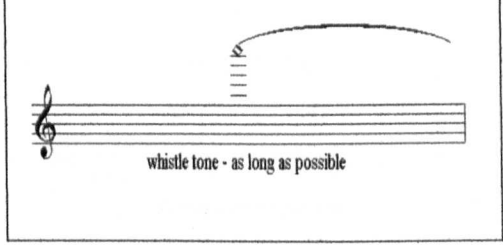

whistle tone - as long as possible

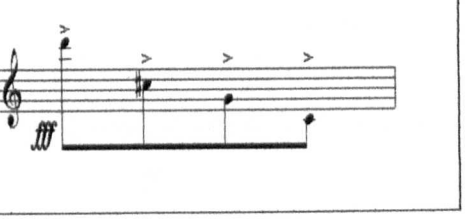

CUE 1:
as long as possible


fff

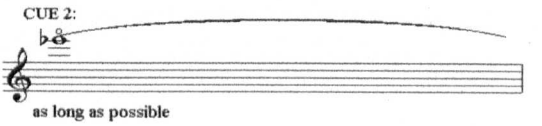

whistle tones - as long as possible

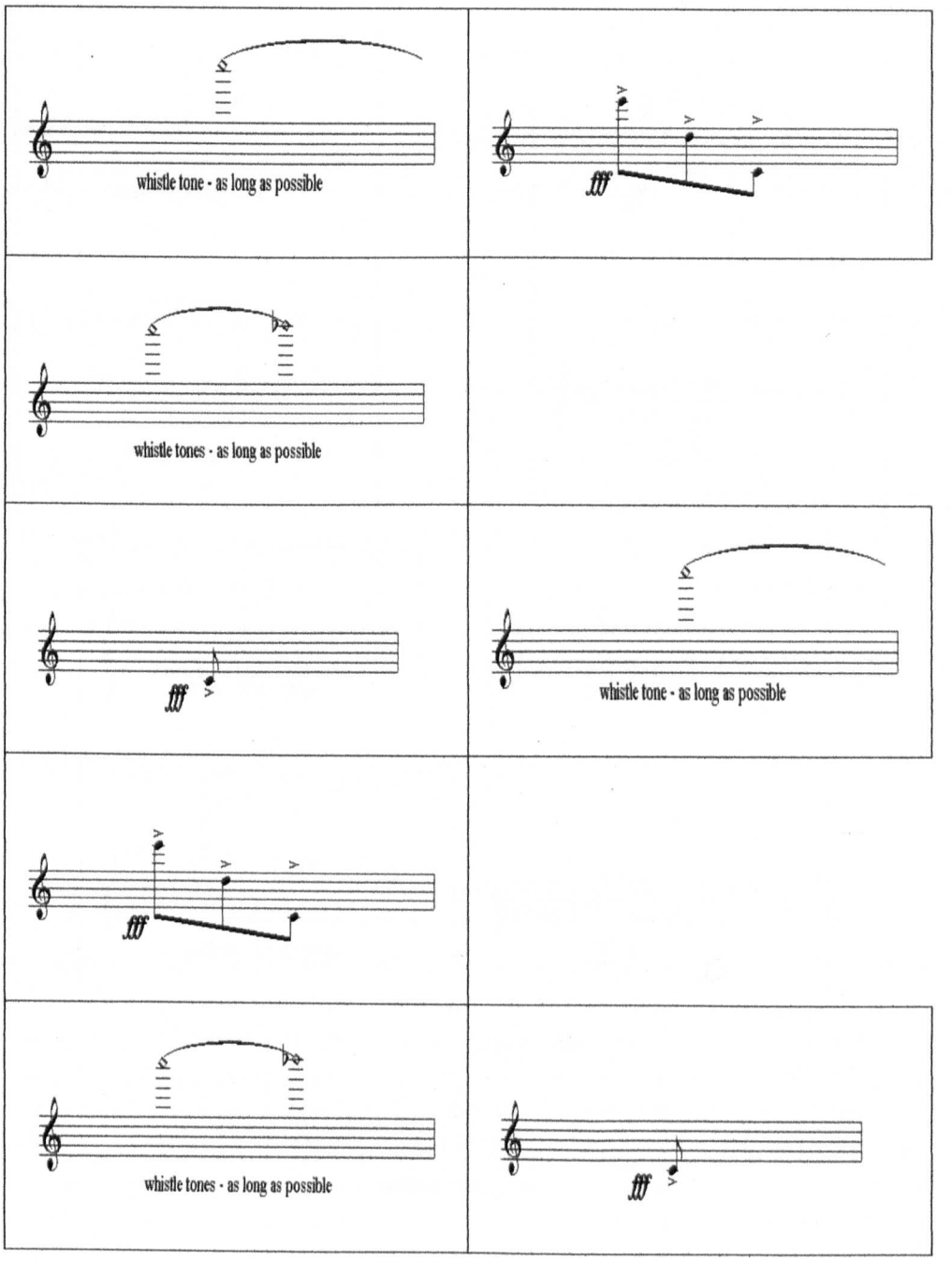

fff


whistle tone - as long as possible

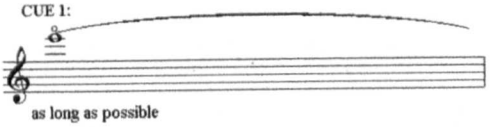

fff

FLUTE

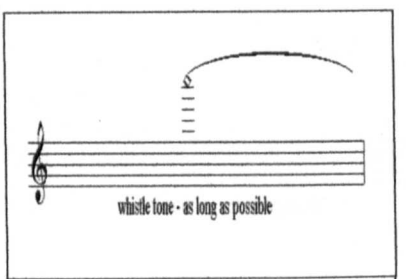

CUE 2:
as long as possible


whistle tone - as long as possible
fff
whistle tones - as long as possible
fff
whistle tone - as long as possible
fff
whistle tones - as long as possible
fff

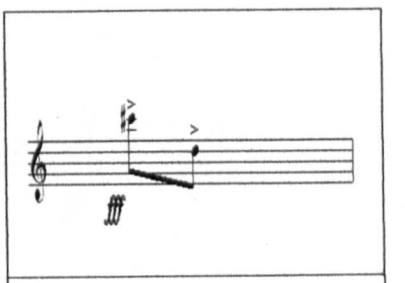
CUE 1:

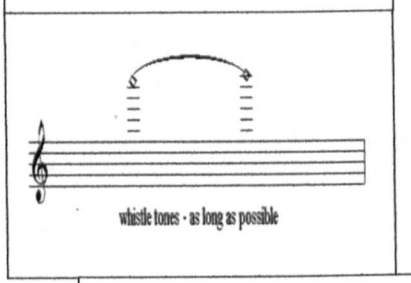


as long as possible

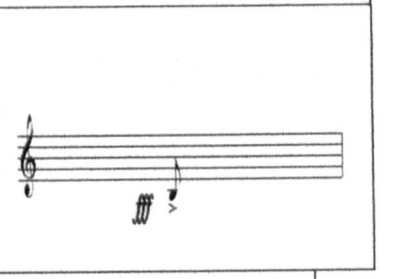


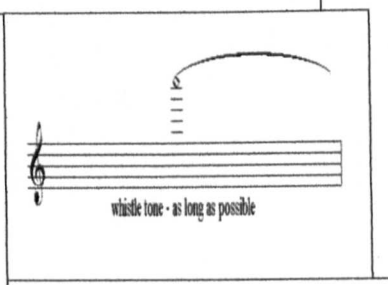
whistle tone - as long as possible



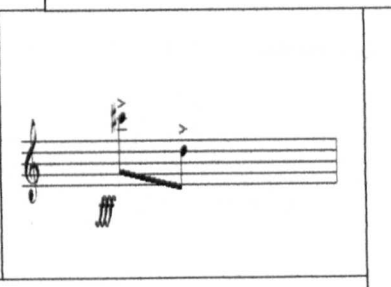


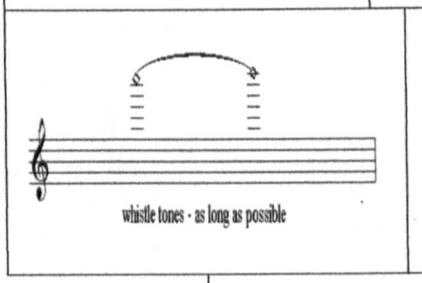
whistle tones - as long as possible



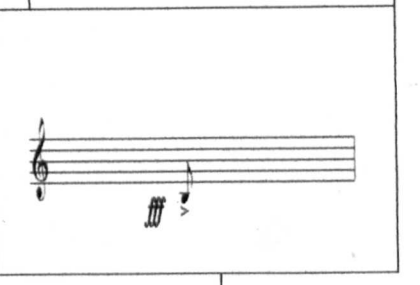


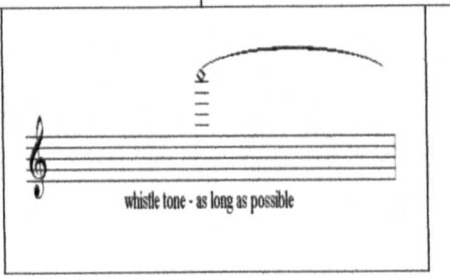
whistle tone - as long as possible





whistle tones - as long as possible

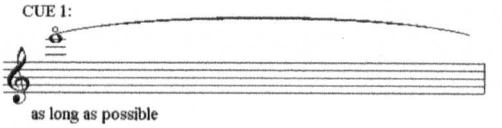


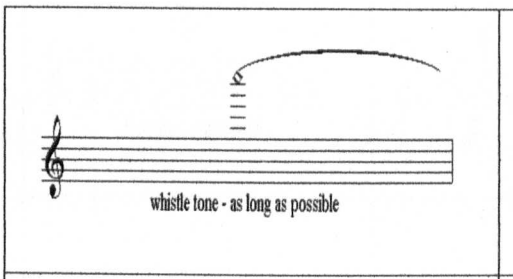


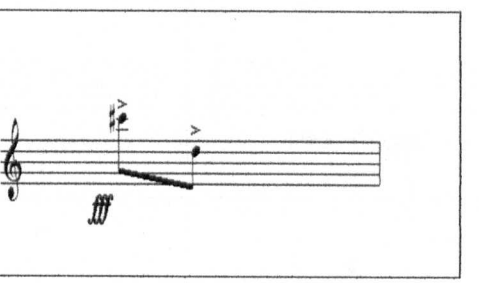
whistle tone - as long as possible

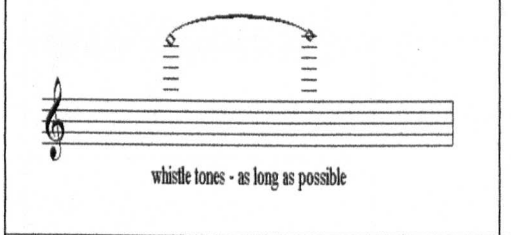
FLUTE

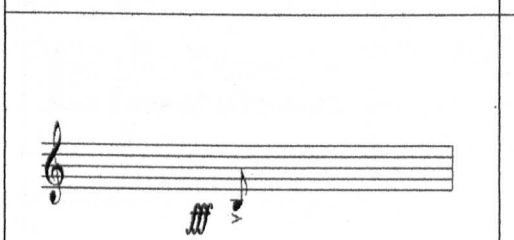
CUE 1:

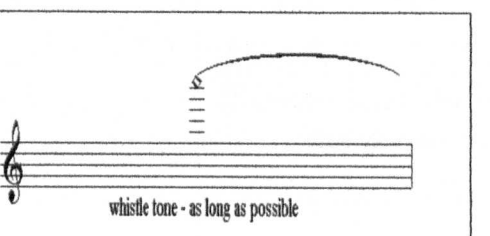

as long as possible

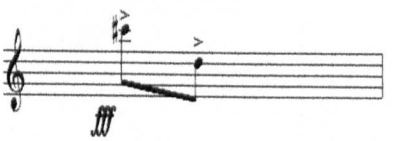

whistle tone - as long as possible

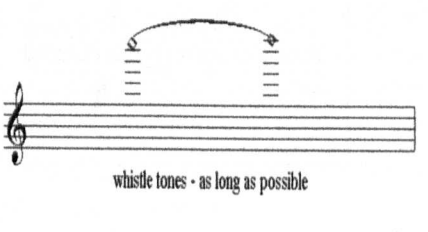

fff

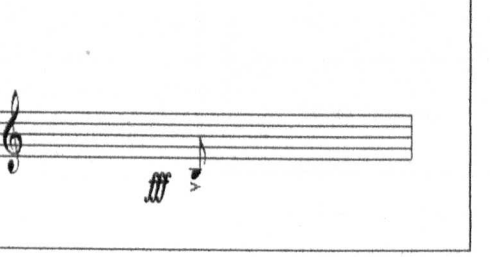

whistle tones - as long as possible


fff

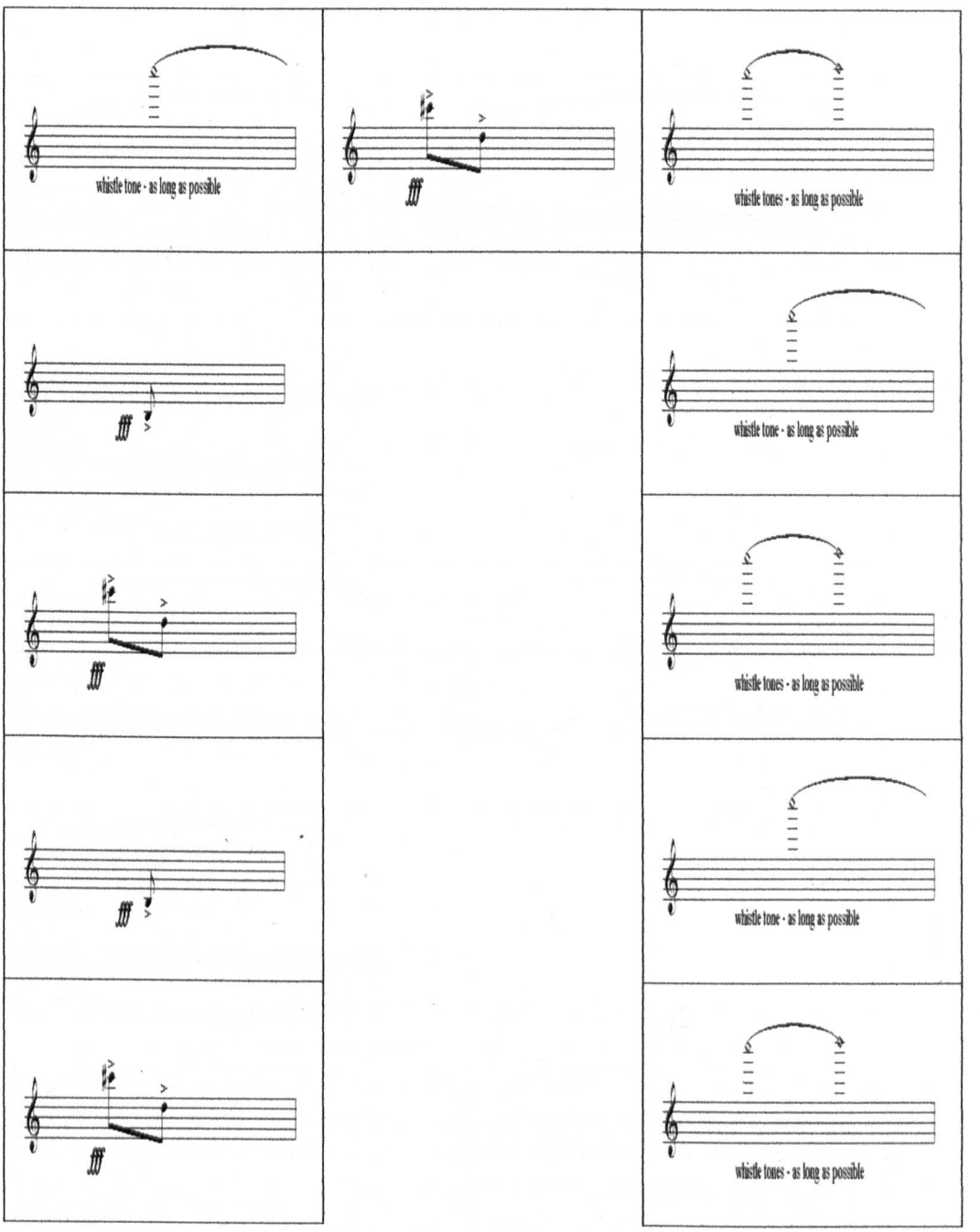

whistle tone - as long as possible


fff

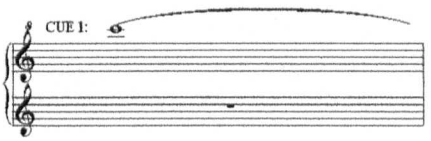

whistle tones - as long as possible

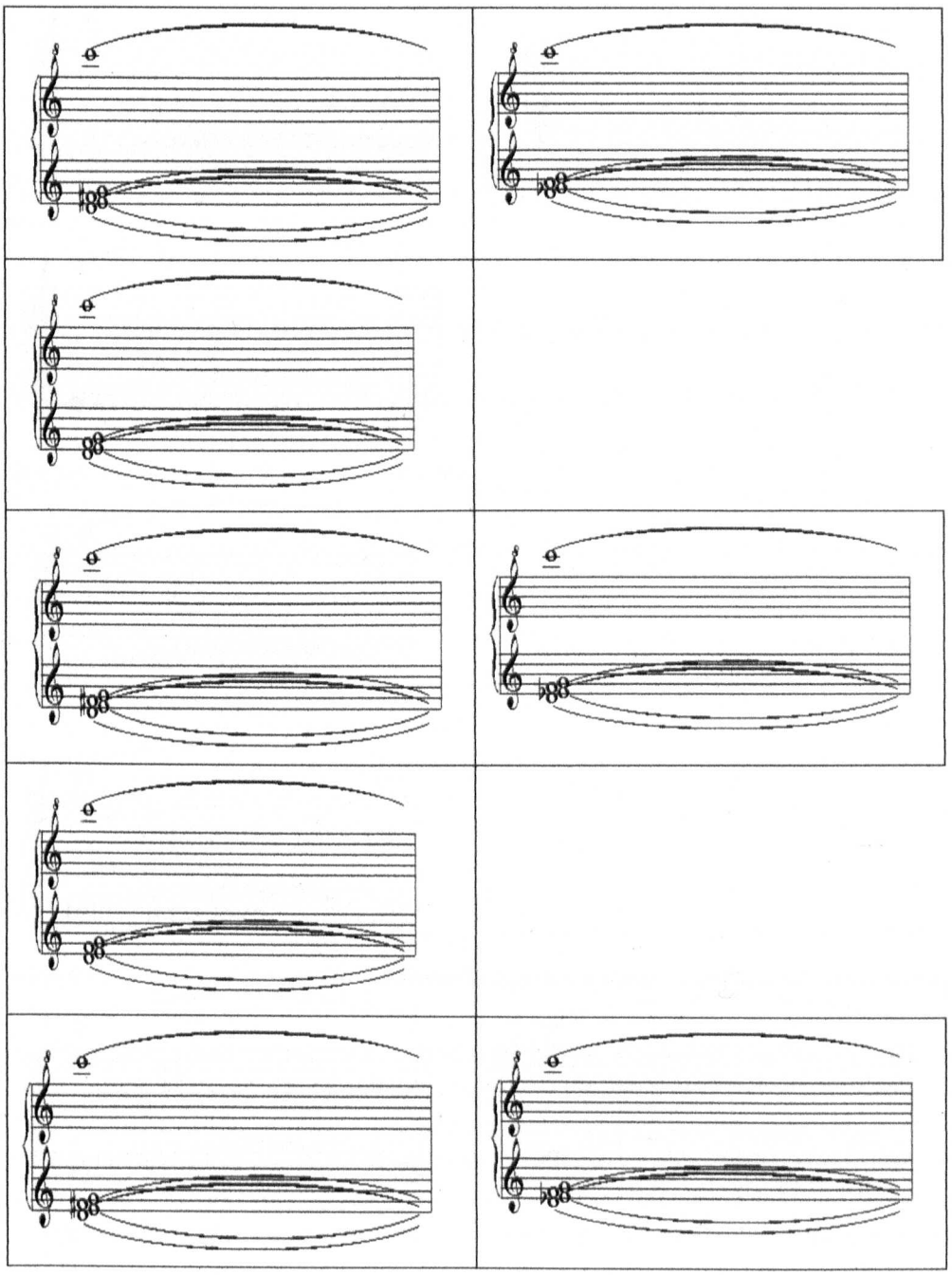

fff

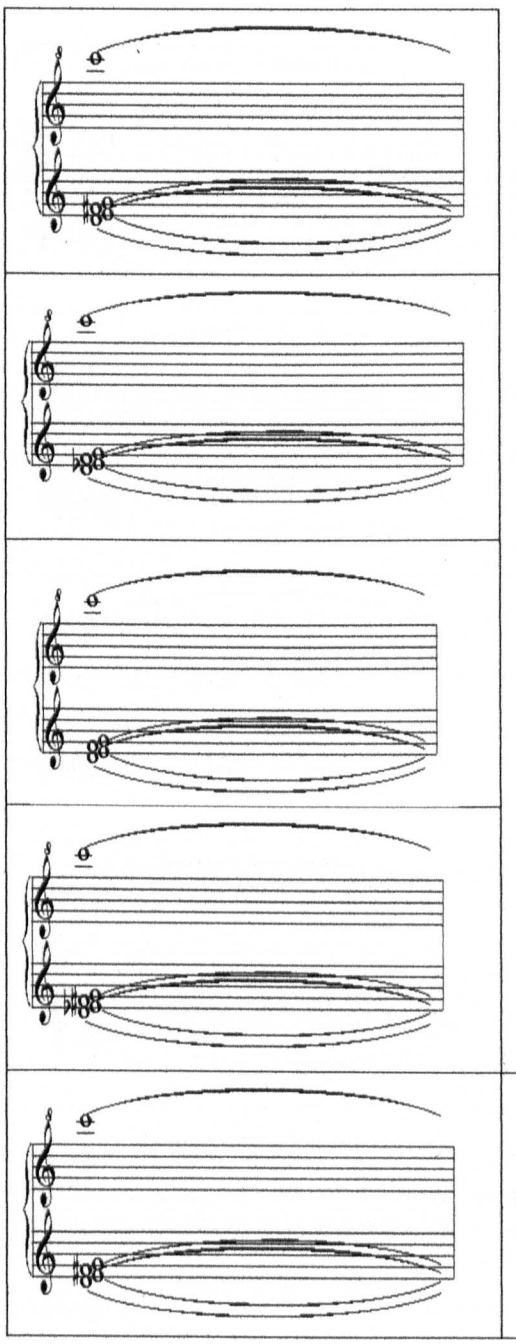
matt wright 2006

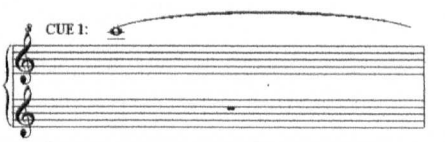


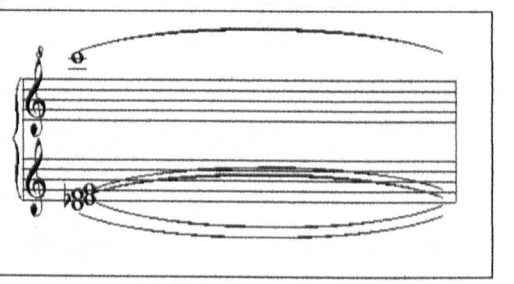
KEYBOARD



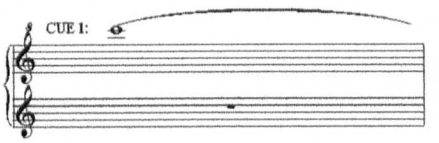


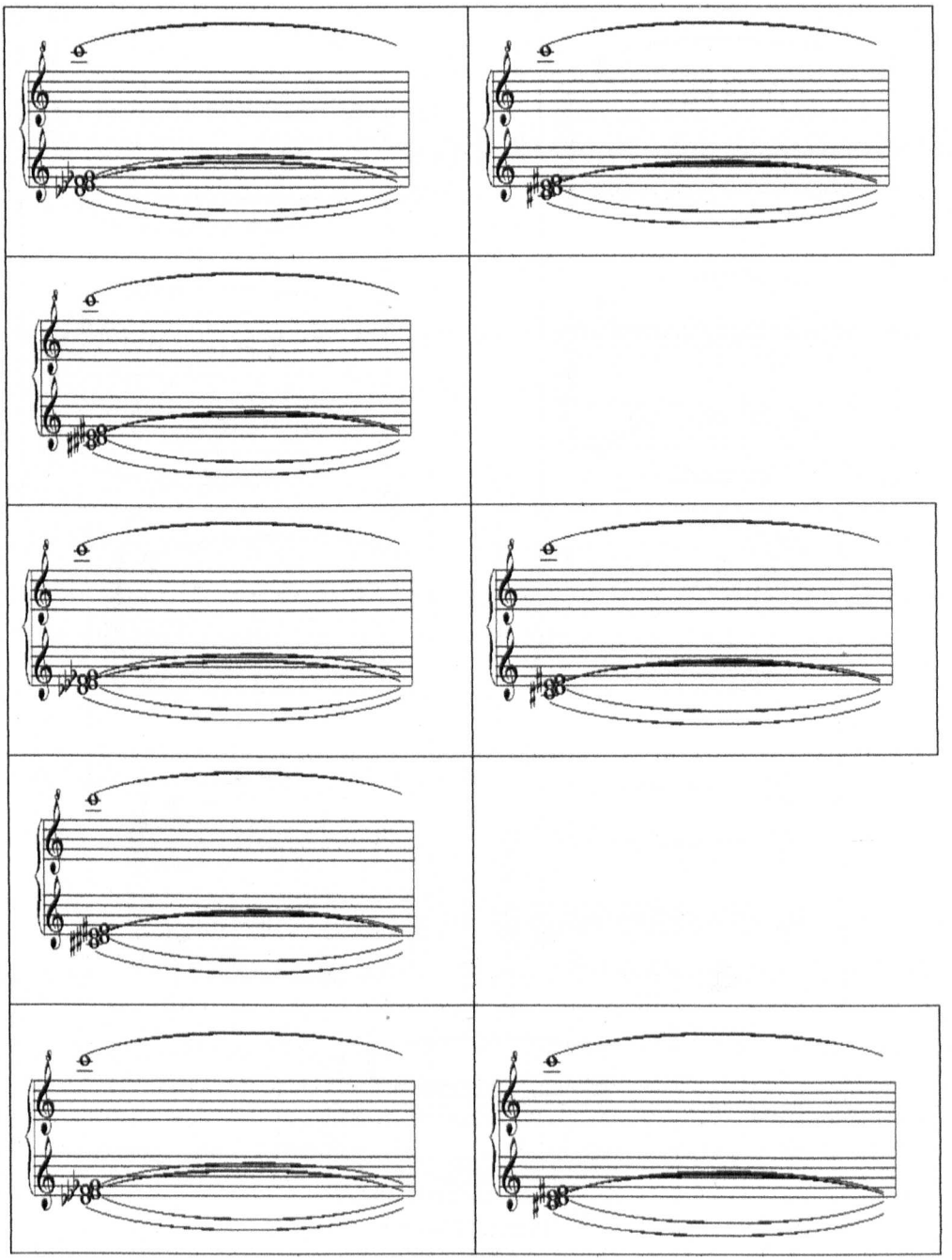


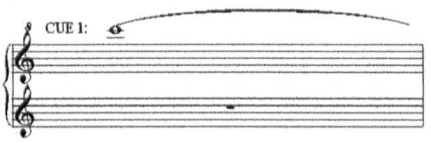

CUE 1:

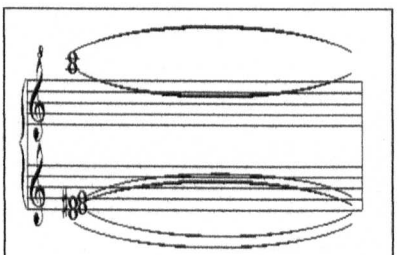


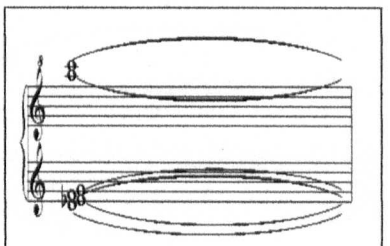
KEYBOARD

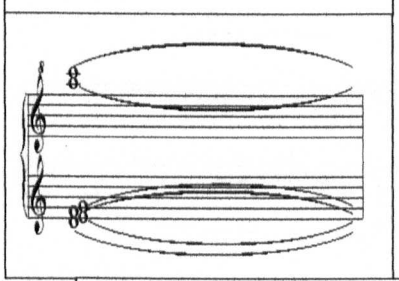


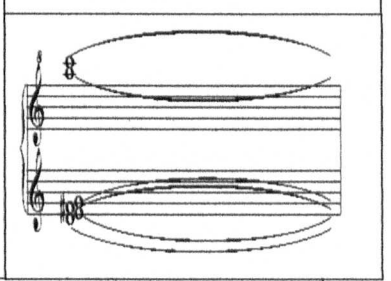


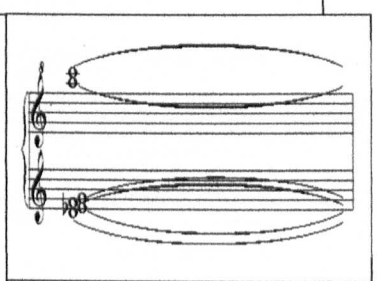

CUE 1:

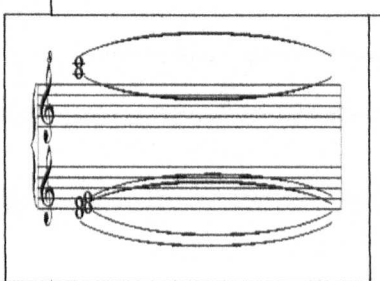


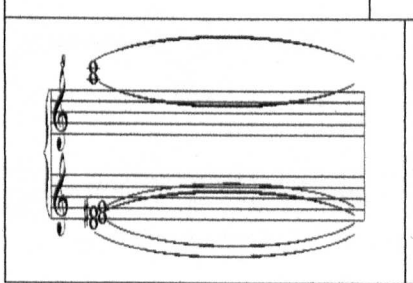


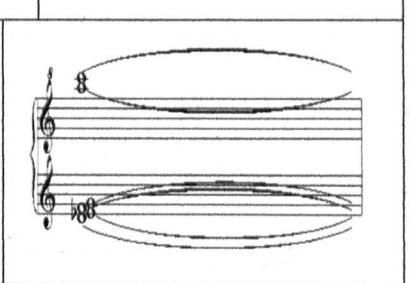


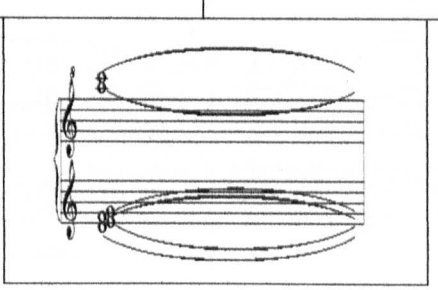




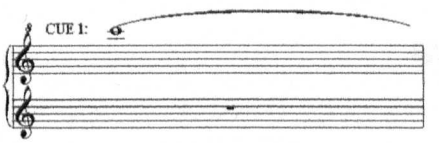


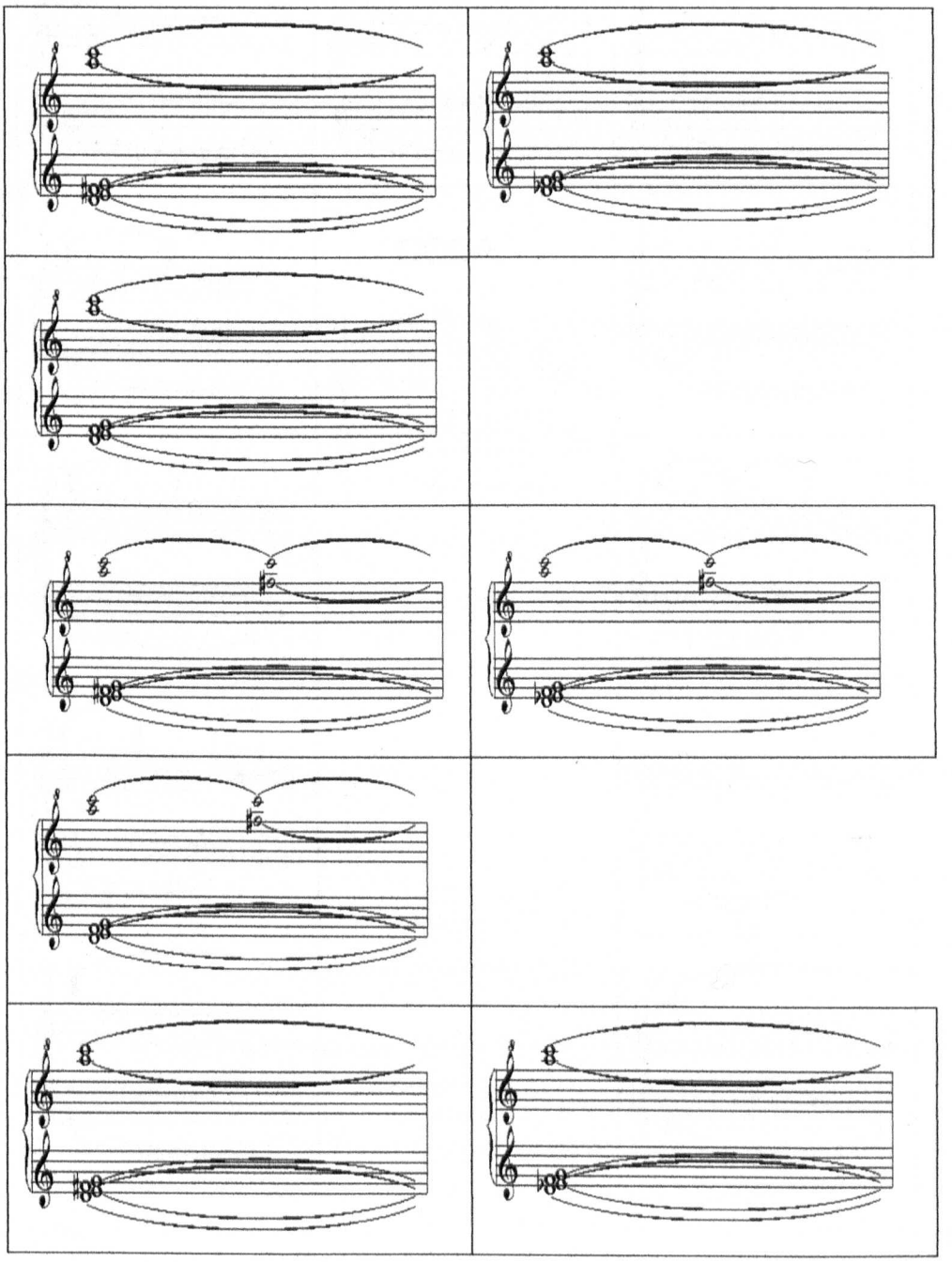




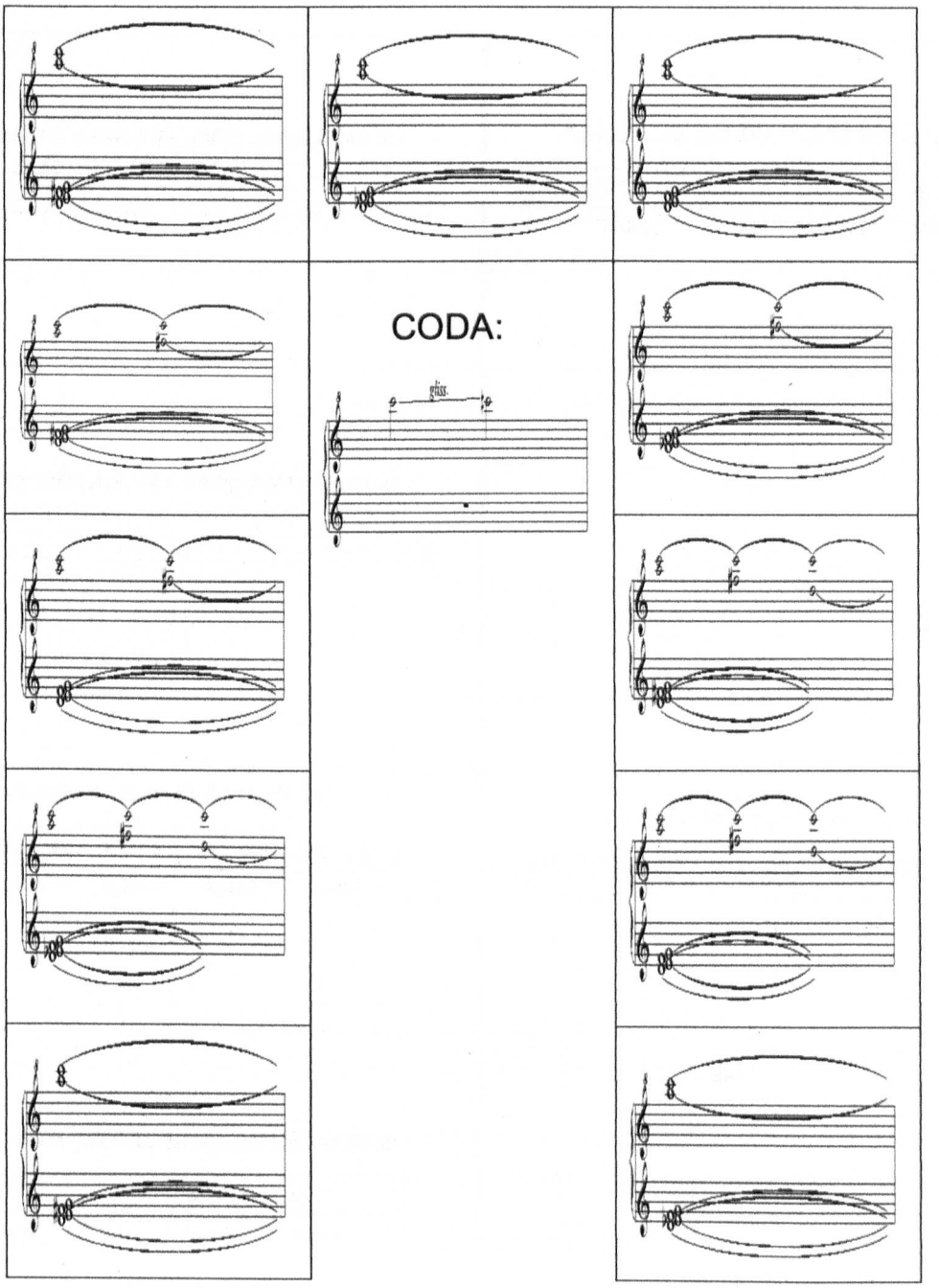


KEYBOARD



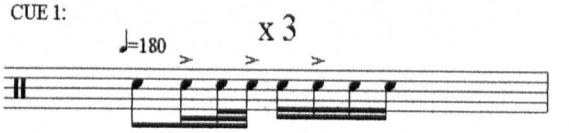


matt wright 2006



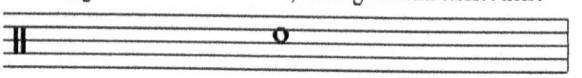
SNARE DRUM

CUE 1:

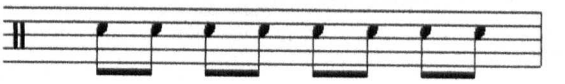


(subdued drum n' bass feel)

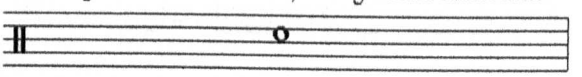
drag brush across snare drum, creating constant surface noise



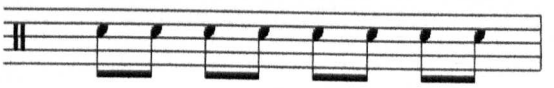
drag brush across snare drum, creating a stable rhythmic pattern



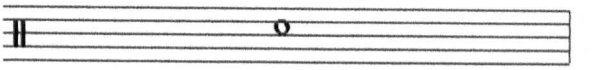
drag brush across snare drum, creating constant surface noise



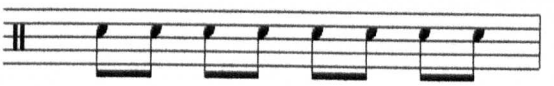
drag brush across snare drum, creating a stable rhythmic pattern



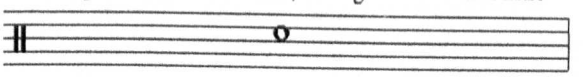
drag brush across snare drum, creating constant surface noise



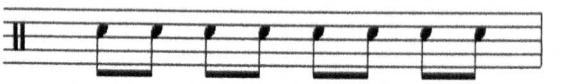
drag brush across snare drum, creating a stable rhythmic pattern



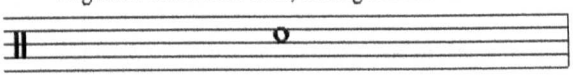
drag brush across snare drum, creating constant surface noise



drag brush across snare drum, creating a stable rhythmic pattern

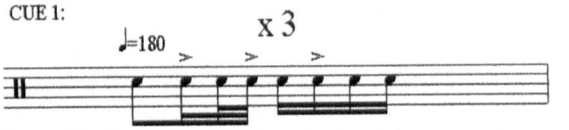


drag brush across snare drum, creating constant surface noise



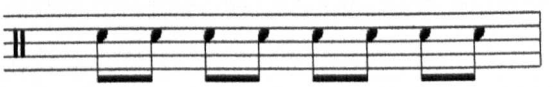
CUE 1:

x 3

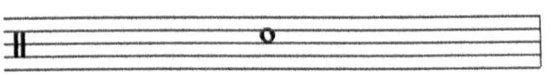


(subdued drum n' bass feel)

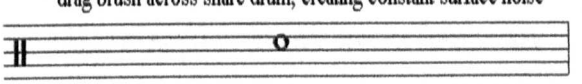
drag brush across snare drum, creating a stable rhythmic pattern



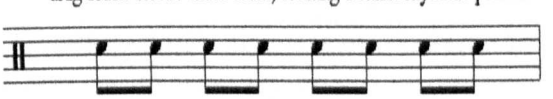
drag hand/fingernails across snare drum, creating constant surface noise



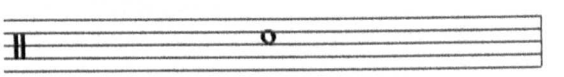
drag brush across snare drum, creating constant surface noise



drag brush across snare drum, creating a stable rhythmic pattern

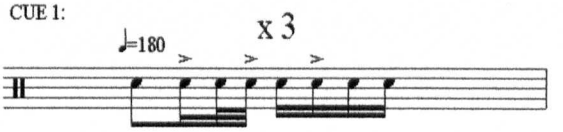


drag hand/fingernails across snare drum, creating constant surface noise



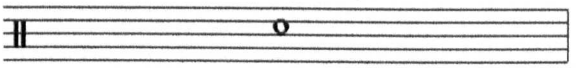
SNARE DRUM

CUE 1:

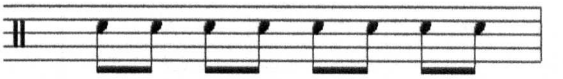


(subdued drum n' bass feel)

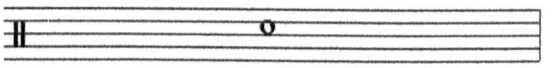
drag brush across snare drum, creating constant surface noise



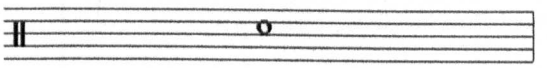
drag brush across snare drum, creating a stable rhythmic pattern



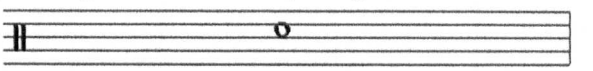
drag hand/fingernails across snare drum, creating constant surface noise



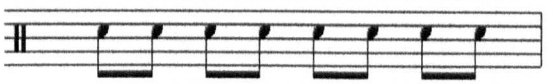
take snare off and
drag brush across drum, creating constant surface noise



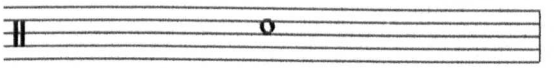
drag brush across snare drum, creating constant surface noise



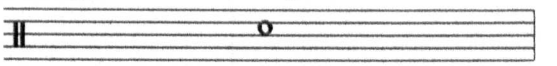
drag brush across snare drum, creating a stable rhythmic pattern



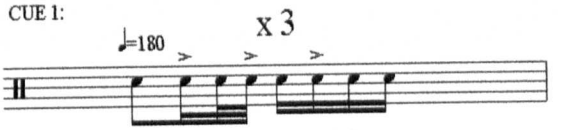
drag hand/fingernails across snare drum, creating constant surface noise



take snare off and
drag brush across drum, creating constant surface noise

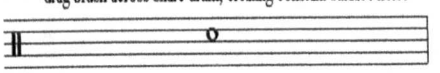


CUE 1:

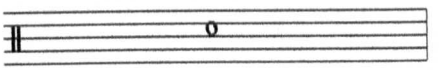


(subdued drum n' bass feel)

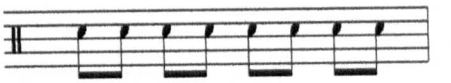
drag brush across snare drum, creating constant surface noise



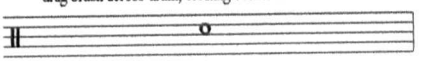
drag hand/fingernails across snare drum, creating constant surface noise



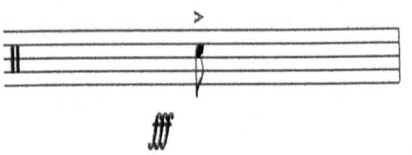
drag brush across snare drum, creating a stable rhythmic pattern



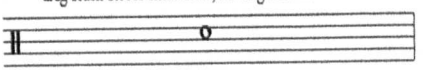
take snare off and
drag brush across drum, creating constant surface noise



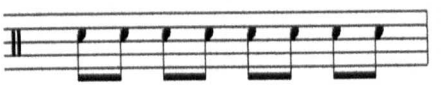
snare on, with stick



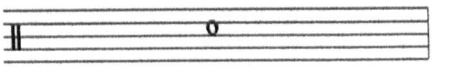
drag brush across snare drum, creating constant surface noise



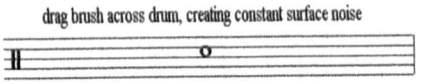
drag brush across snare drum, creating a stable rhythmic pattern



drag hand/fingernails across snare drum, creating constant surface noise

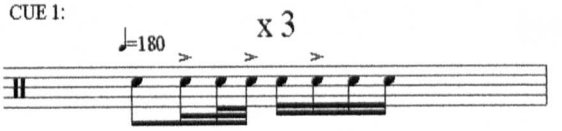


take snare off and
drag brush across drum, creating constant surface noise



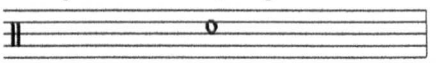
SNARE DRUM

CUE 1:



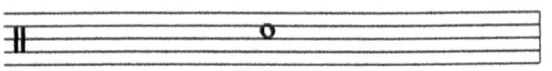
(subdued drum n' bass feel)

drag brush across snare drum, creating constant surface noise

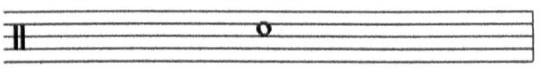


drag brush across snare drum, creating a stable rhythmic pattern

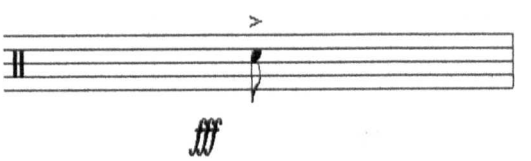
drag hand/fingernails across snare drum, creating constant surface noise



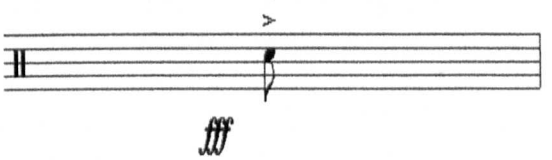
take snare off and
drag brush across drum, creating constant surface noise



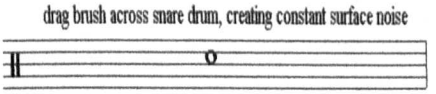
snare on, with stick



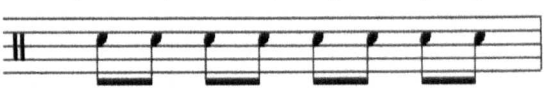
snare off, with stick



drag brush across snare drum, creating constant surface noise

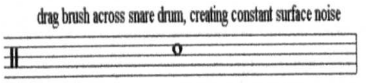


drag brush across snare drum, creating a stable rhythmic pattern

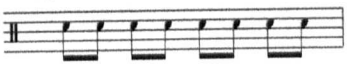


matt wright 2006

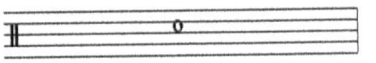
drag brush across snare drum, creating constant surface noise



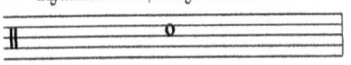
drag brush across snare drum, creating a stable rhythmic pattern



drag hand/fingernails across snare drum, creating constant surface noise

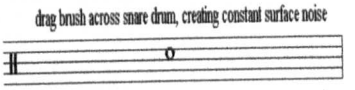


take snare off and
drag brush across drum, creating constant surface noise

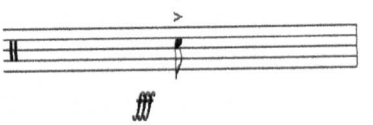


CODA:

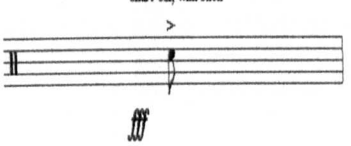
drag brush across snare drum, creating constant surface noise



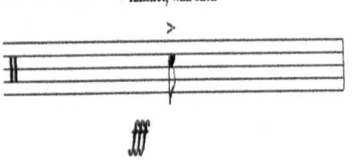
snare on, with stick



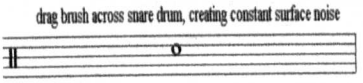
snare off, with stick



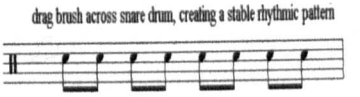
rimshot, with stick



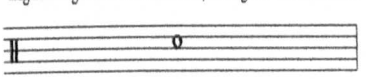
drag brush across snare drum, creating constant surface noise



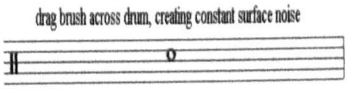
drag brush across snare drum, creating a stable rhythmic pattern



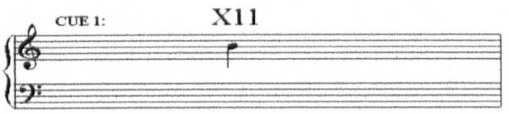
drag hand/fingernails across snare drum, creating constant surface noise

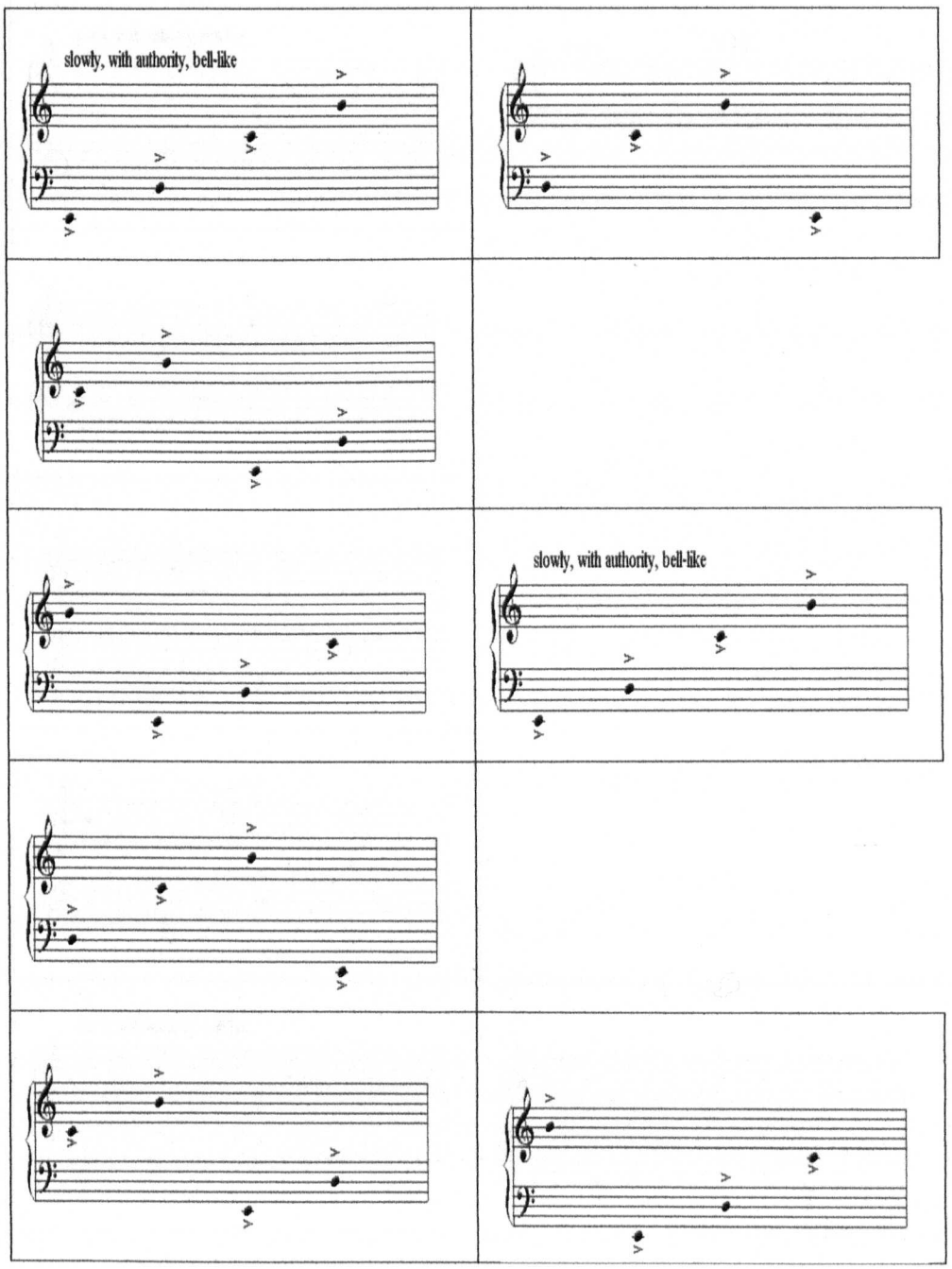


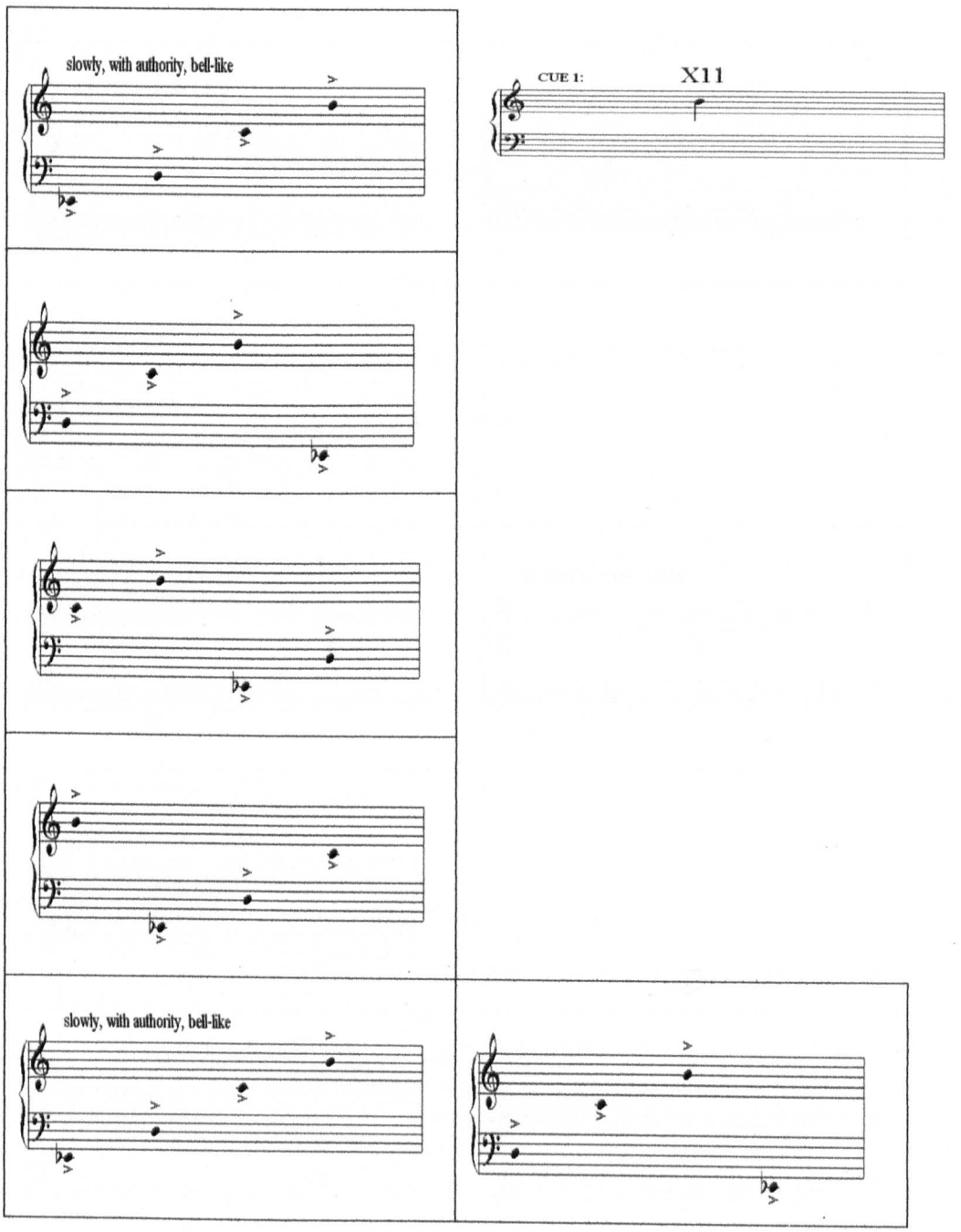
take snare off and
drag brush across drum, creating constant surface noise



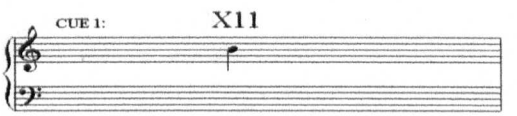
HARP

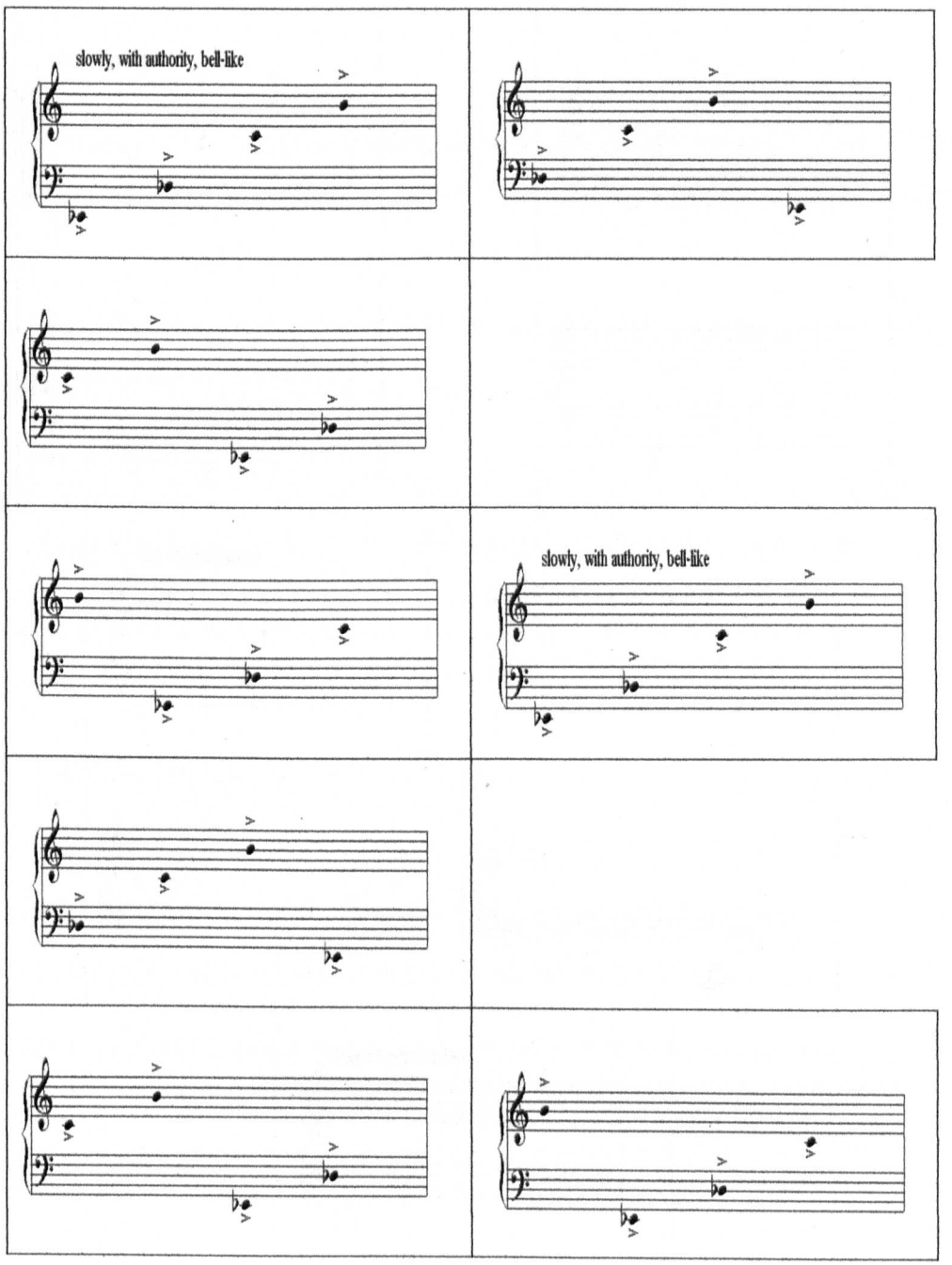

CUE 1:
X11

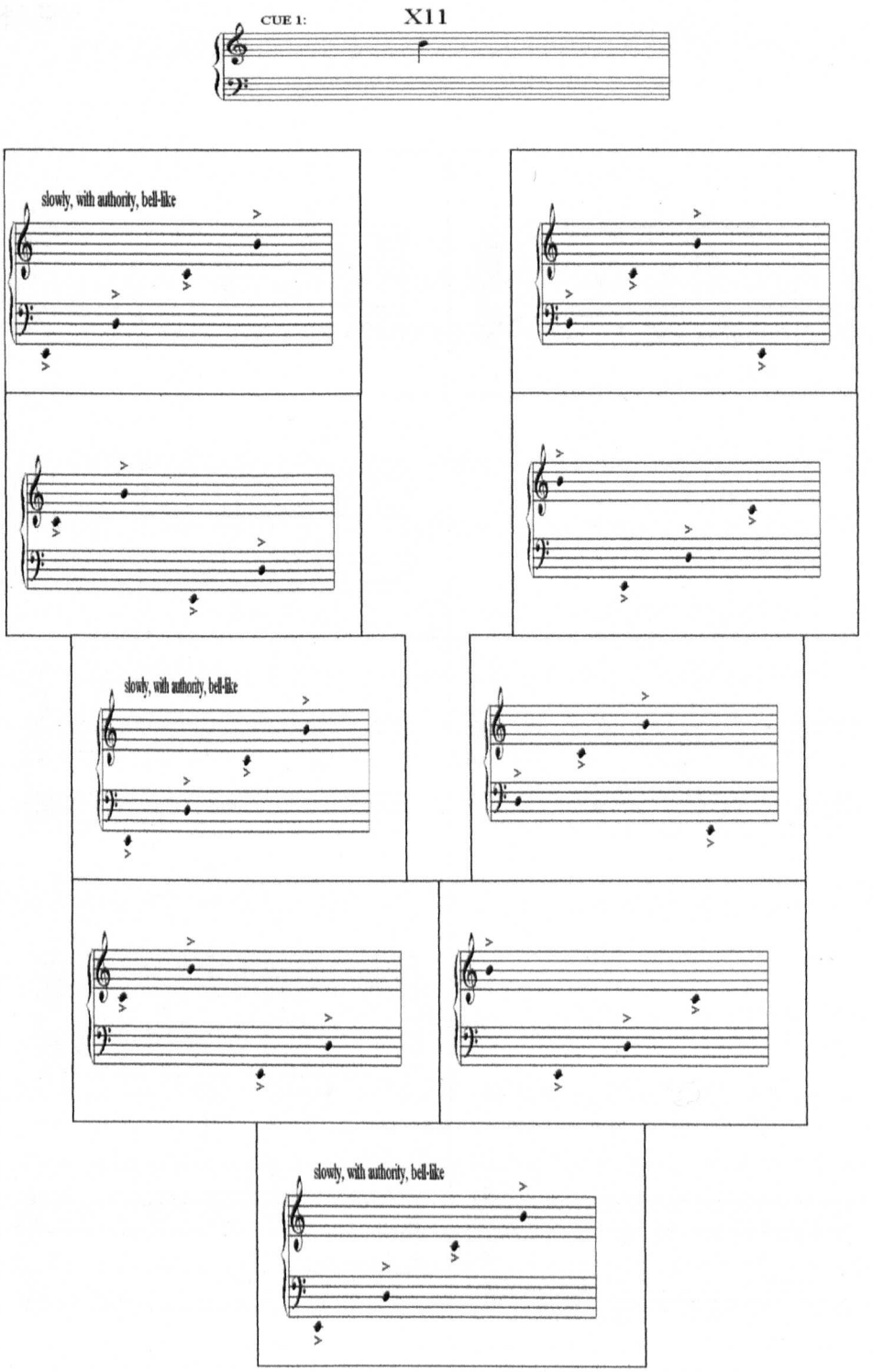

slowly, with authority, bell-like
slowly, with authority, bell-like


slowly, with authority, bell-like
CUE 1:
X11
slowly, with authority, bell-like

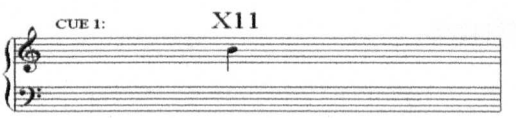
HARP

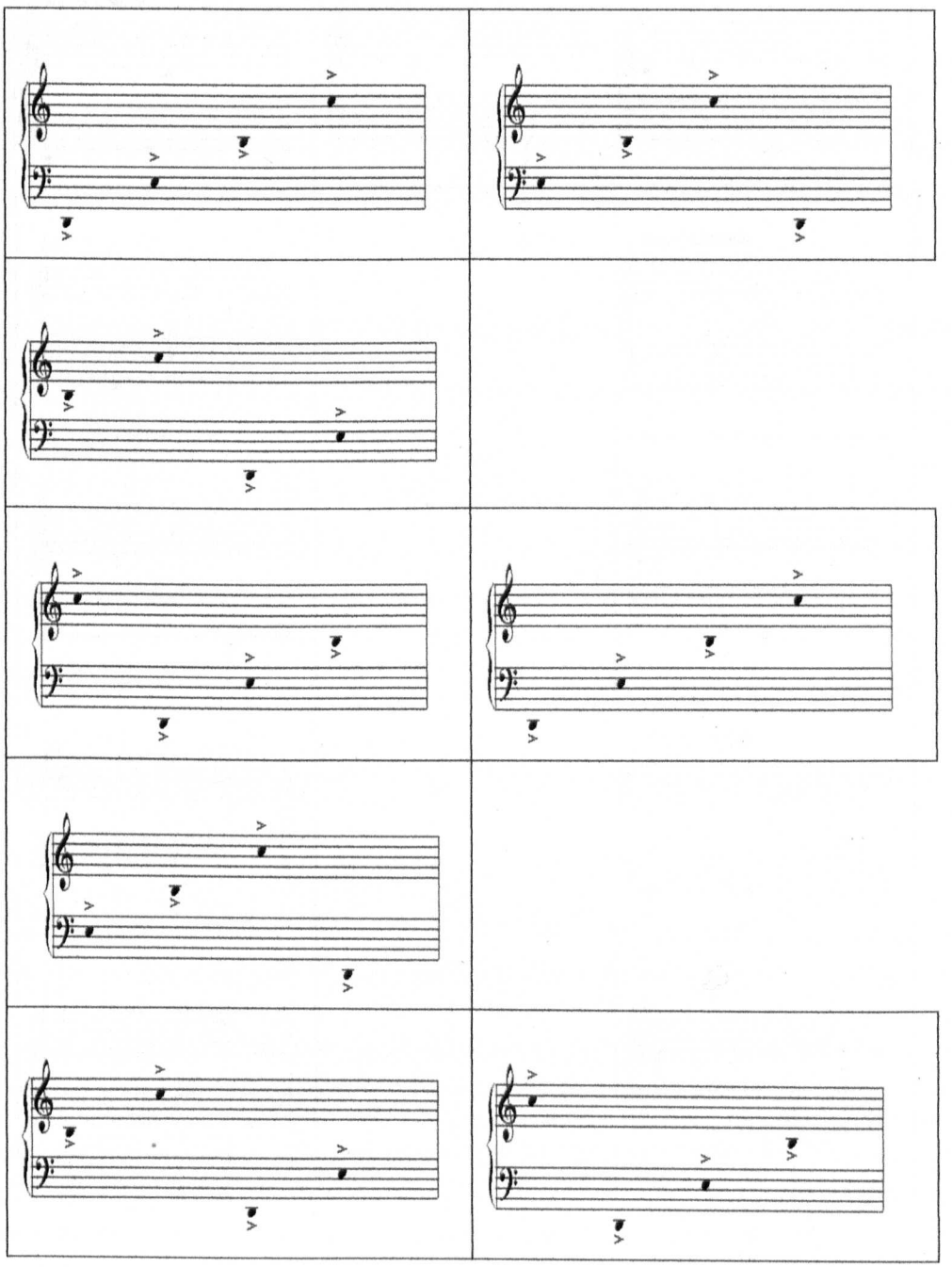

CUE 1:
X11


slowly, with authority, bell-like
slowly, with authority, bell-like

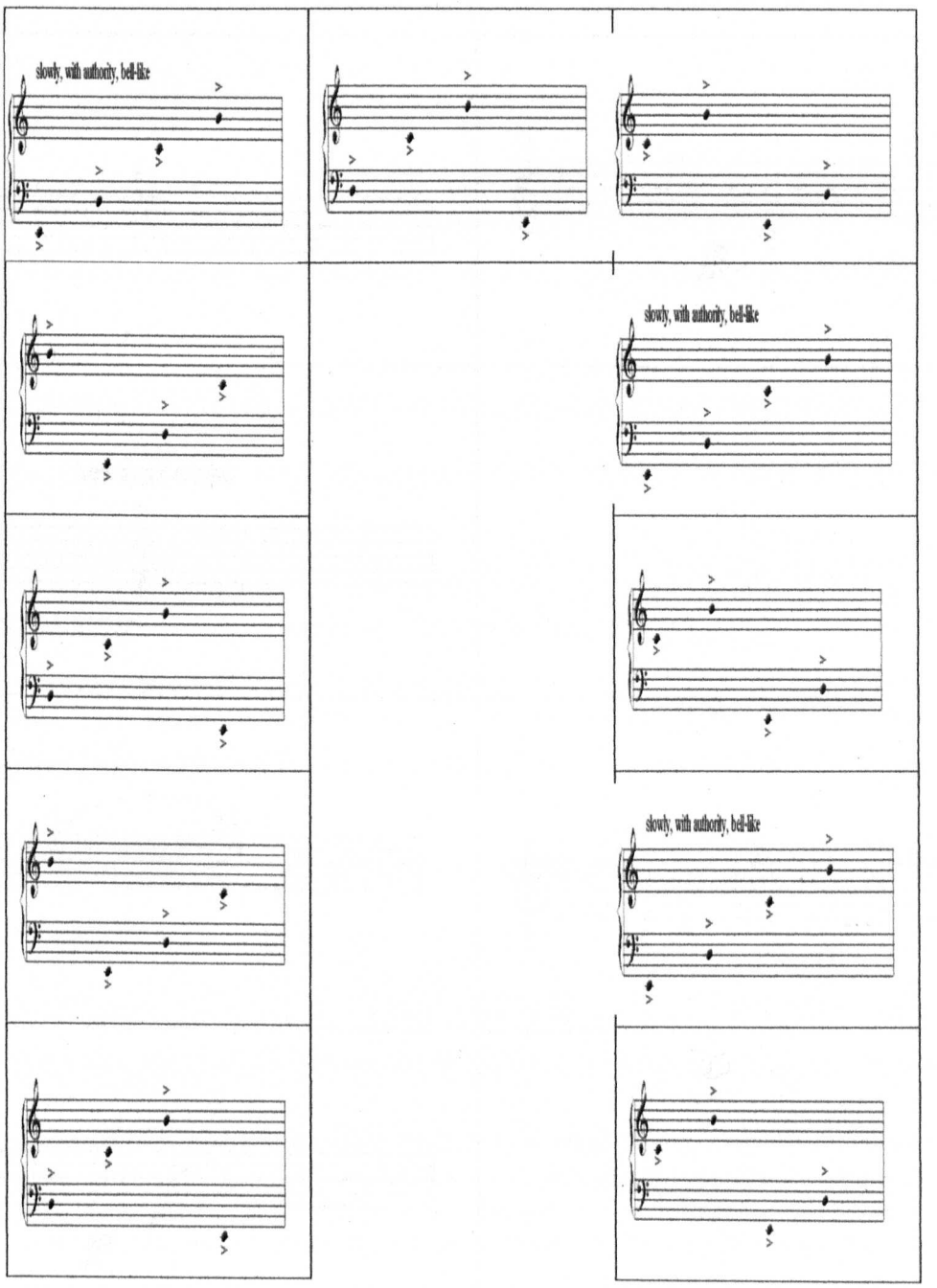

CUE 1:
X11
slowly, with authority, bell-like
slowly, with authority, bell-like
slowly, with authority, bell-like

HARP

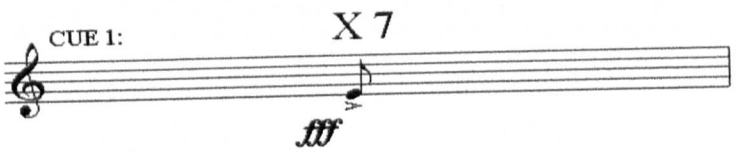


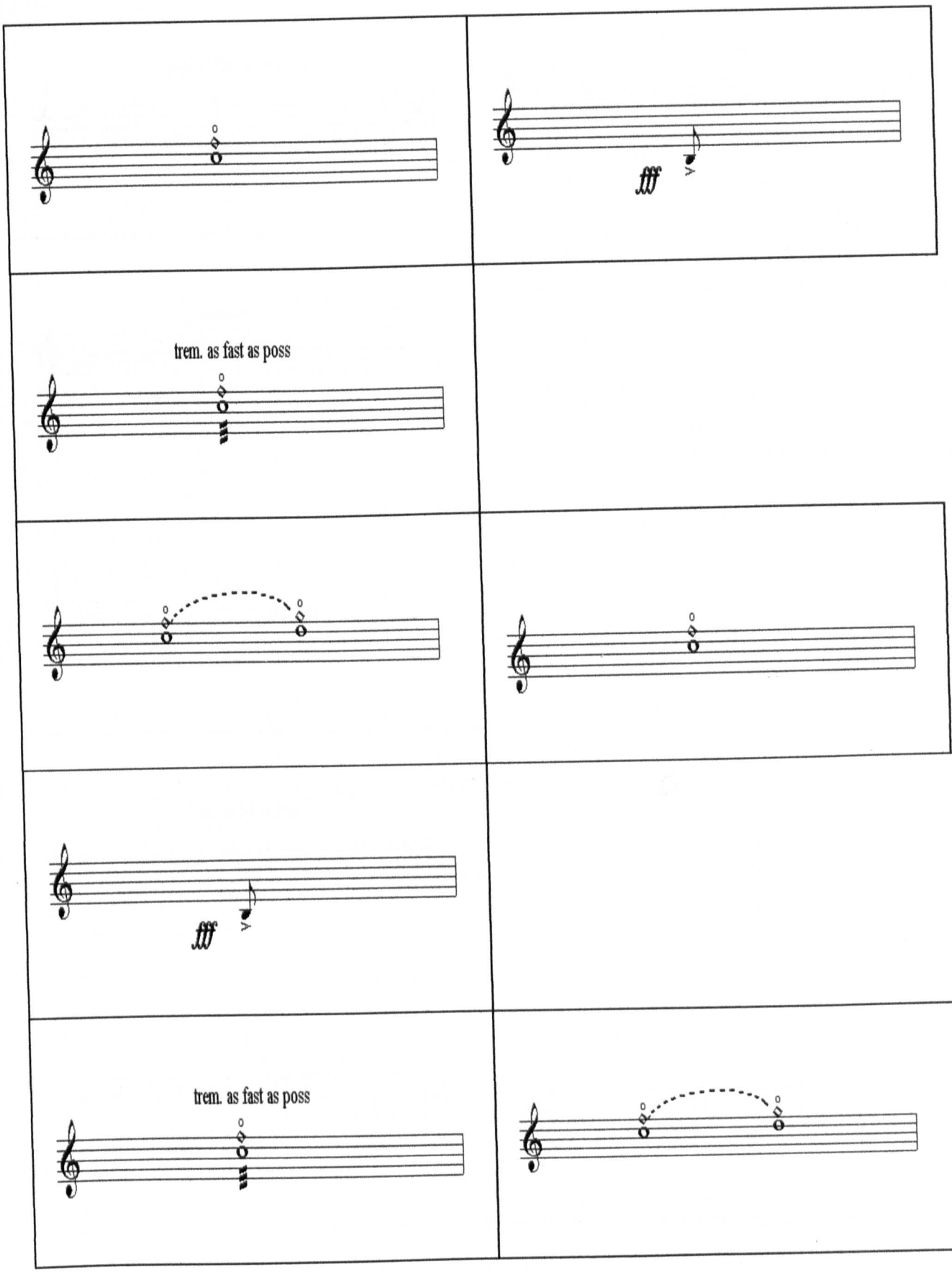


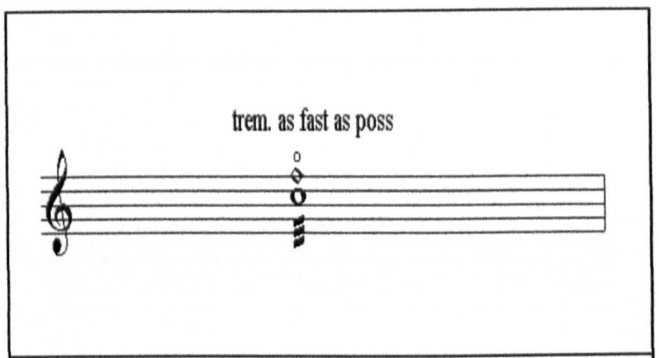
matt wright 2006

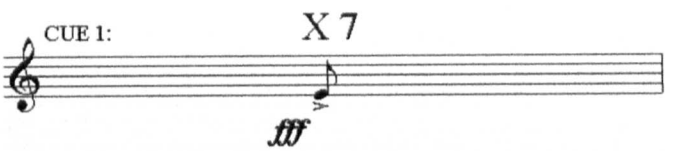


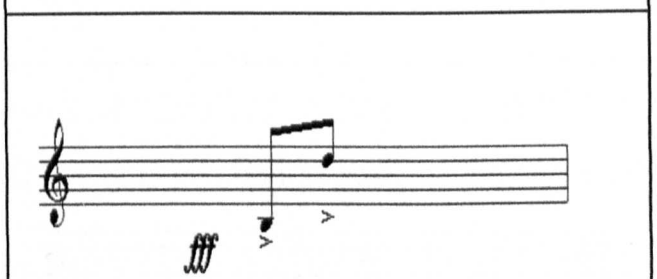
VIOLIN

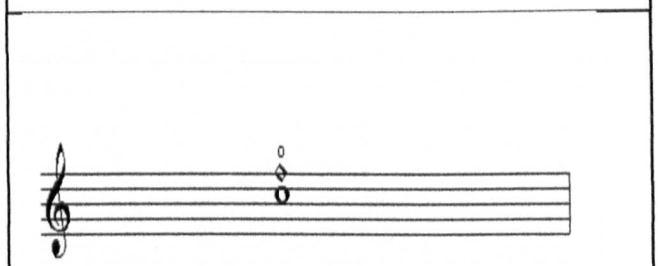


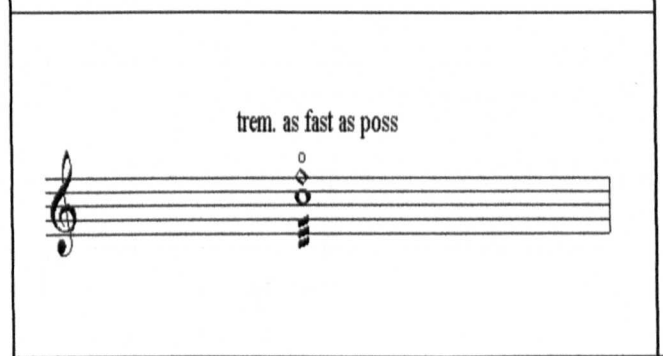


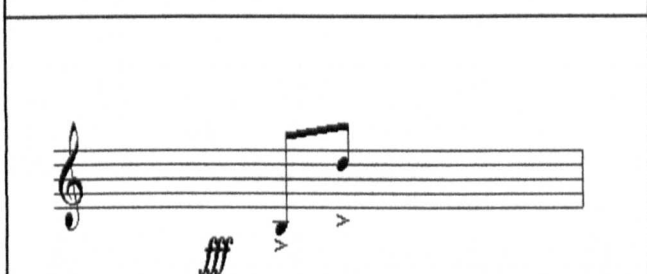

trem. as fast as poss

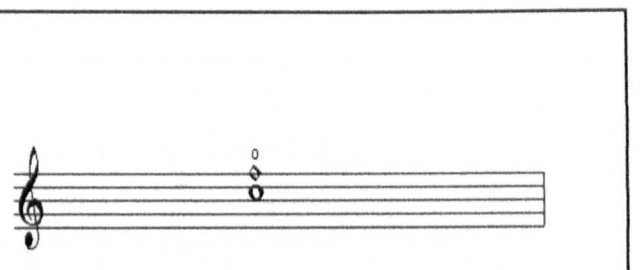

CUE 1:
X 7
fff


fff

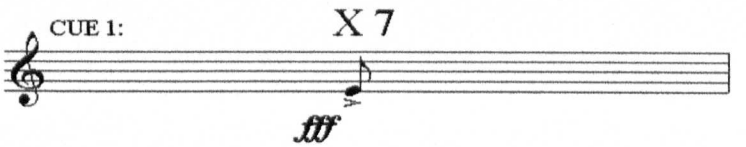


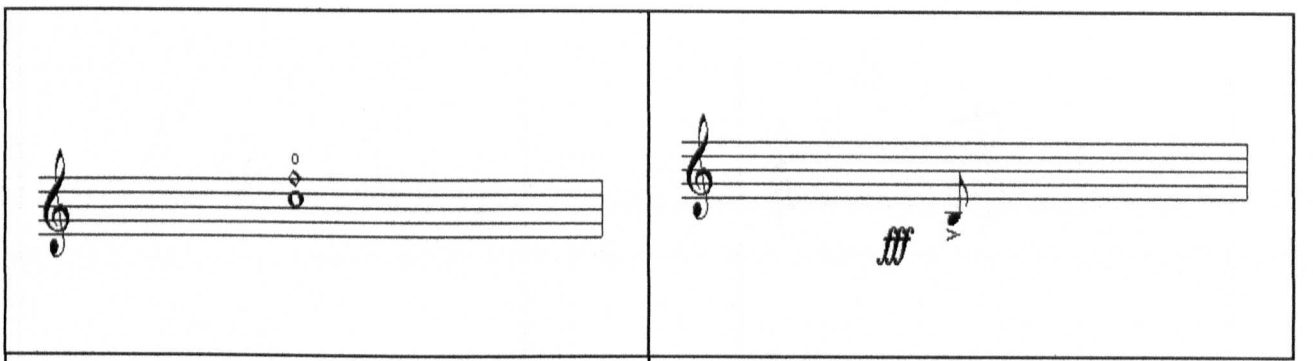

trem. as fast as poss

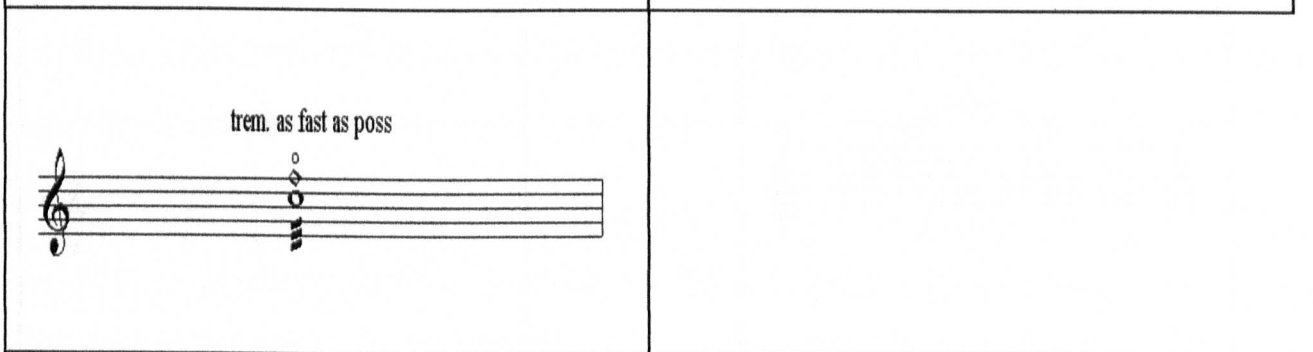

fff

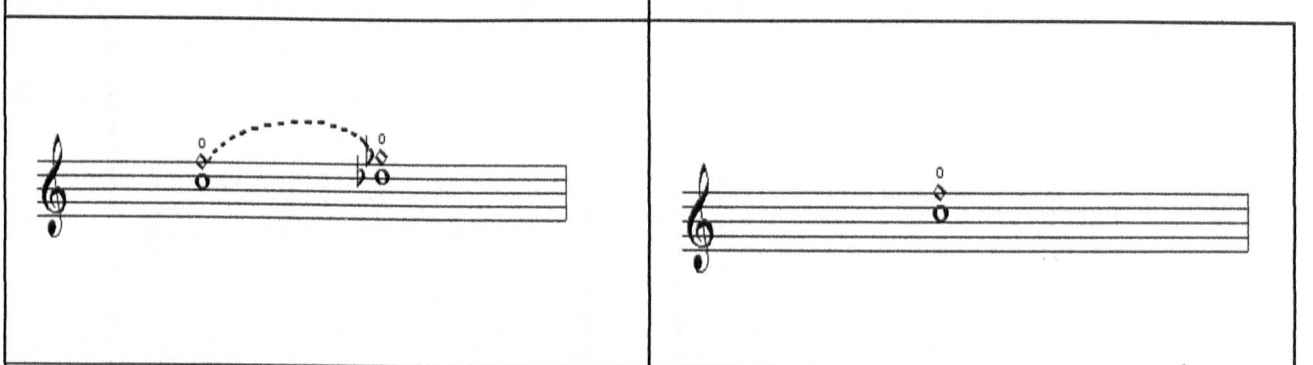


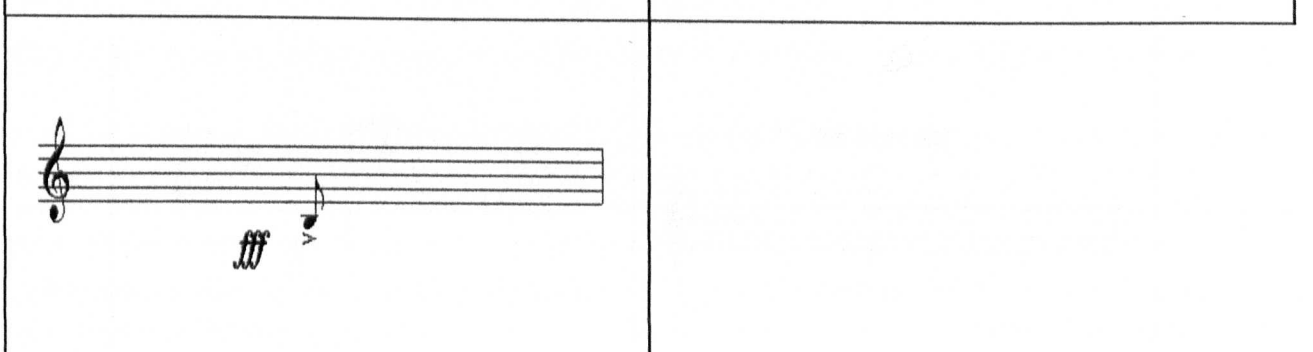
VIOLIN

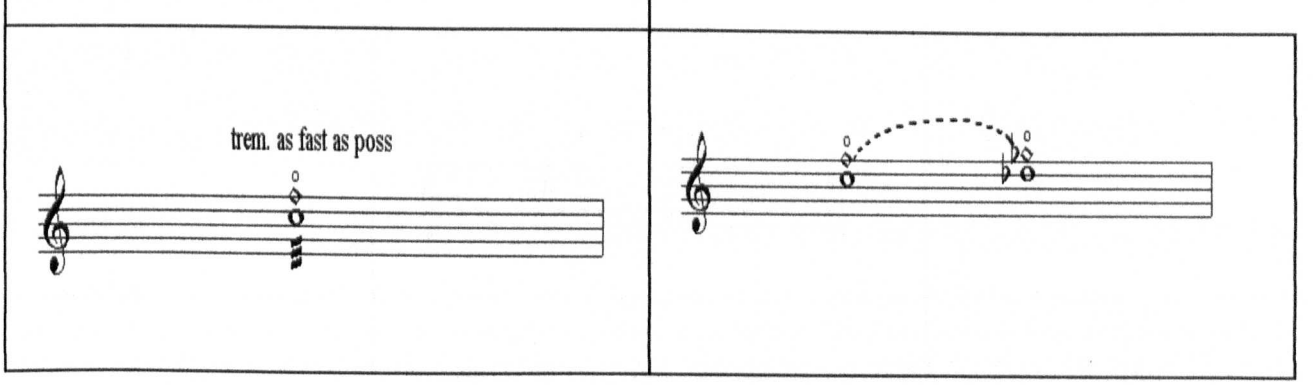


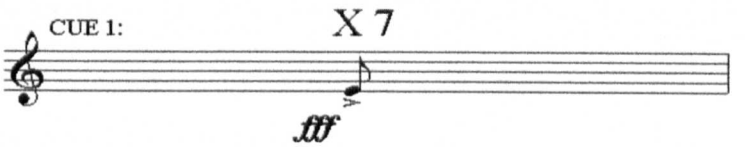


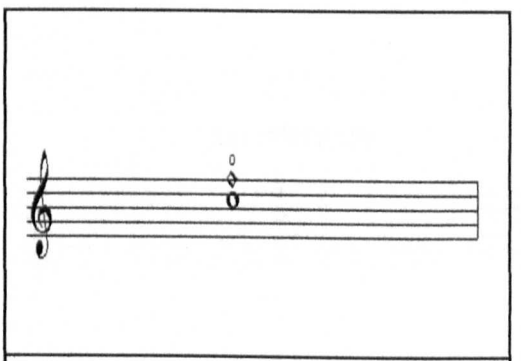


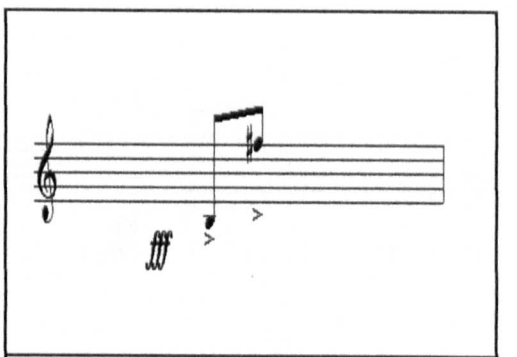


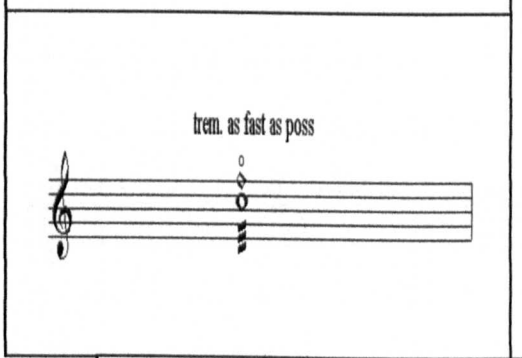


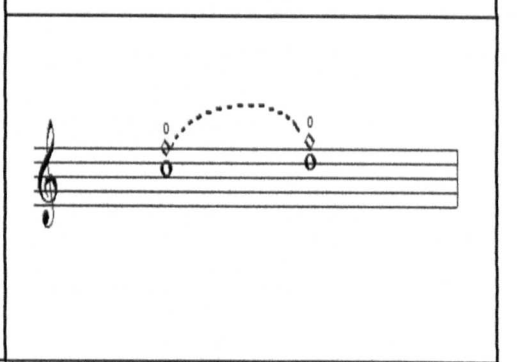


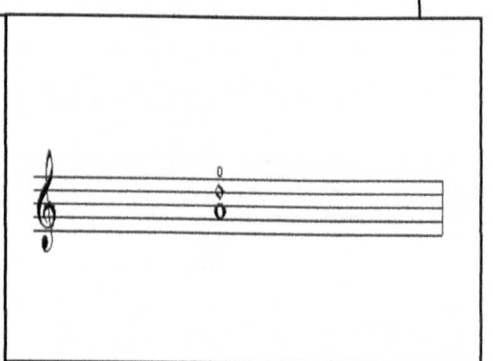

CUE 1:
X 7
fff

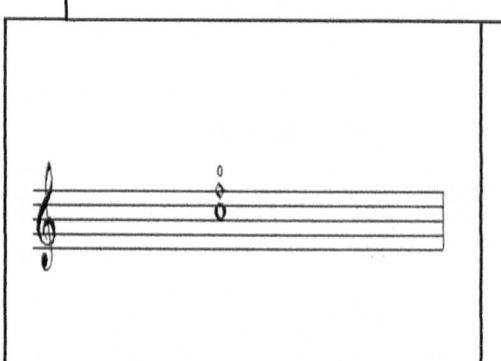


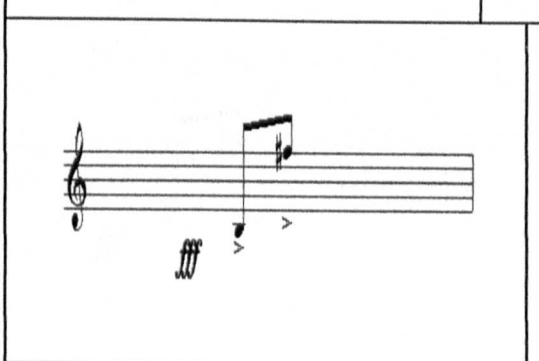

fff

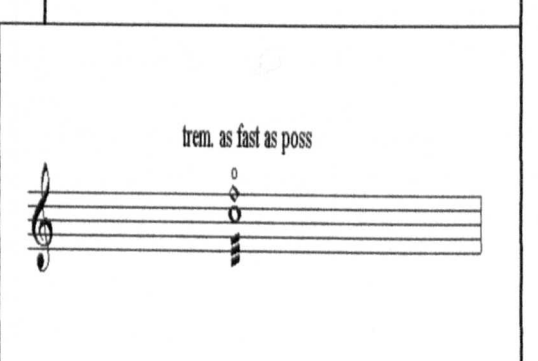

trem. as fast as poss

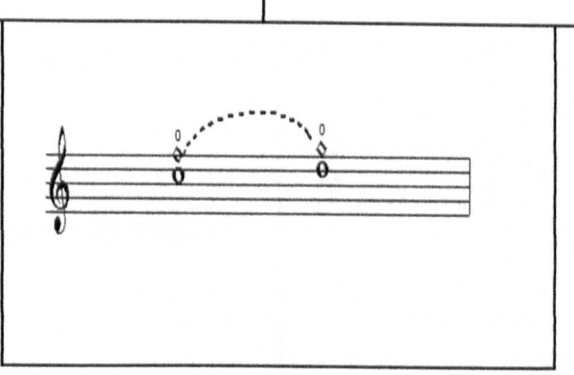




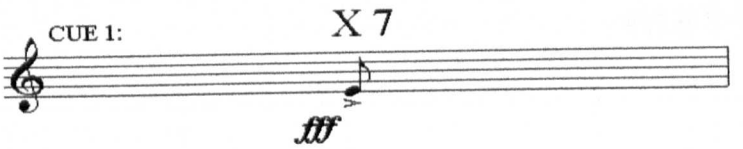


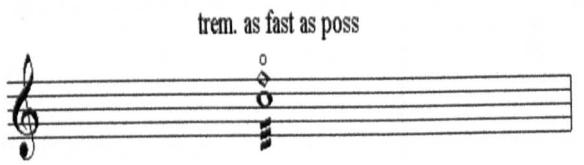

fff

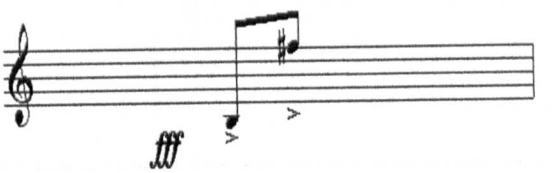

trem. as fast as poss

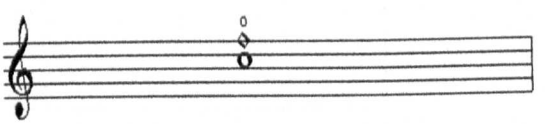


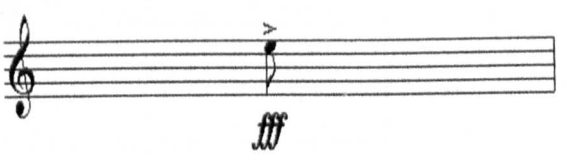
VIOLIN

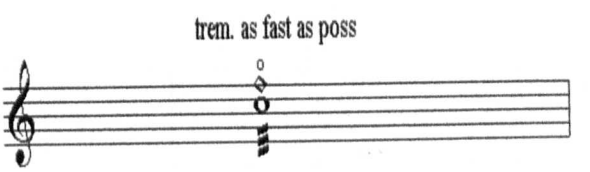

CUE 1:
X 7
fff

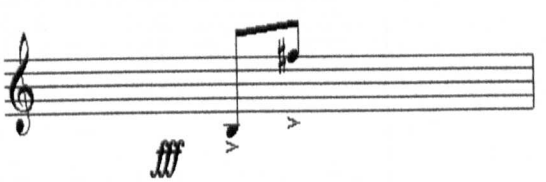

trem. as fast as poss

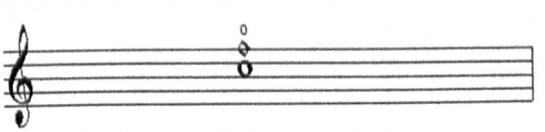

fff

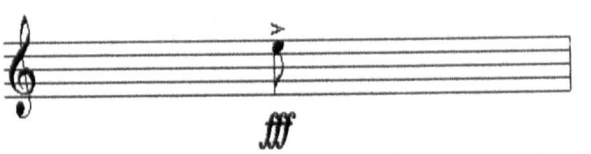



fff

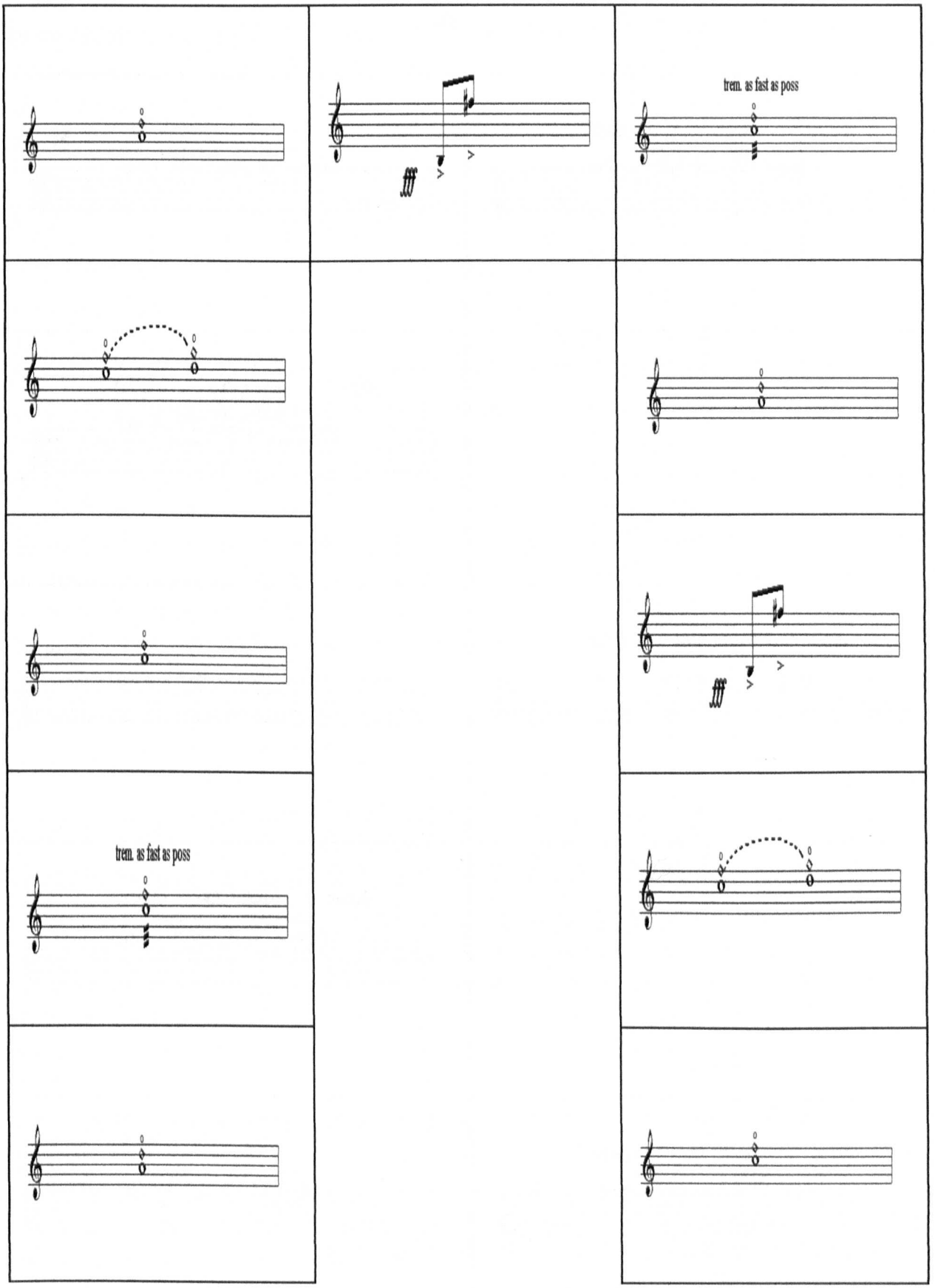

trem. as fast as poss


fff

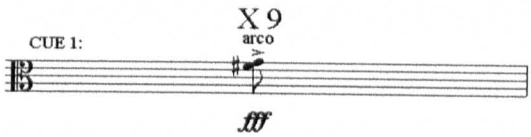



fff

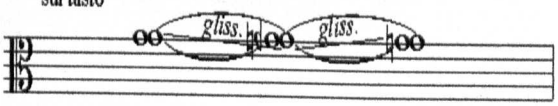
matt wright 2006



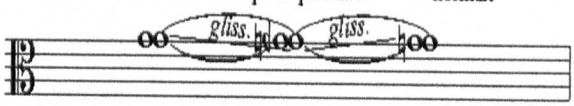
VIOLA



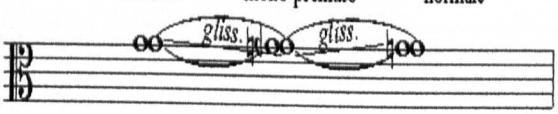
sul tasto



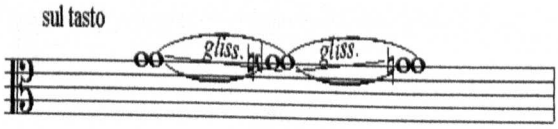
normale - - - - - poco premuto - - - - - normale



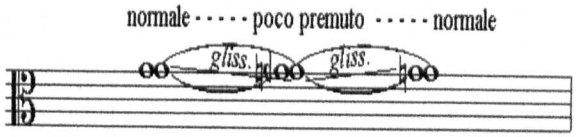
normale - - - - - molto premuto - - - - - normale



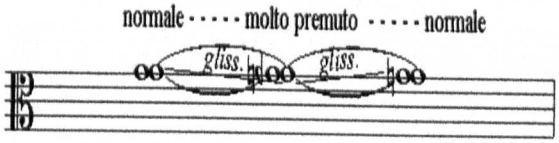
sul tasto



normale - - - - - poco premuto - - - - - normale

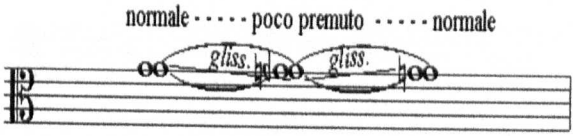


normale - - - - - molto premuto - - - - - normale

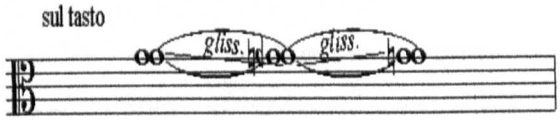


sul tasto

normale - - - - - poco premuto - - - - - normale



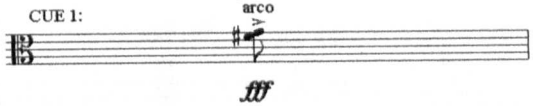
sul tasto



X 9

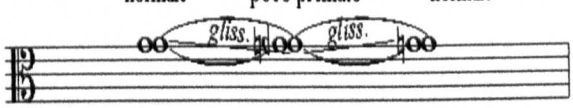
CUE 1:

arco



fff

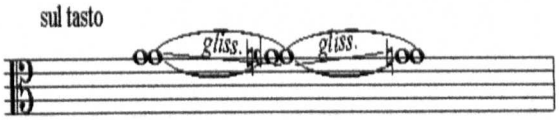
normale - - - - - poco premuto - - - - - normale



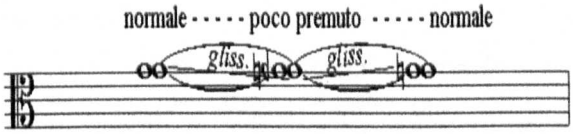
snap pizz

fff

sul tasto



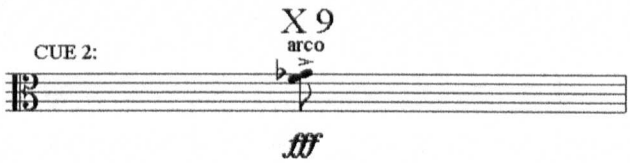
normale - - - - - poco premuto - - - - - normale

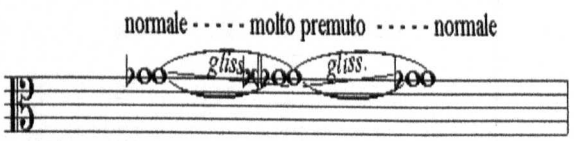


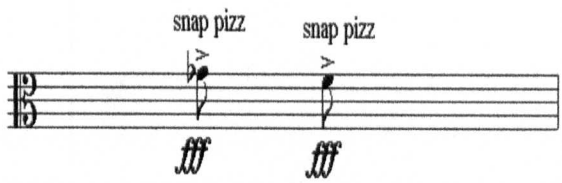
snap pizz

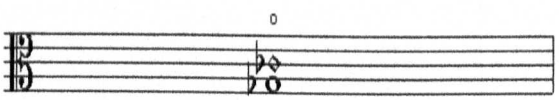
fff

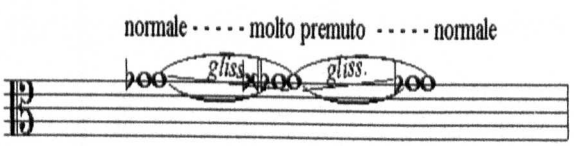
VIOLA

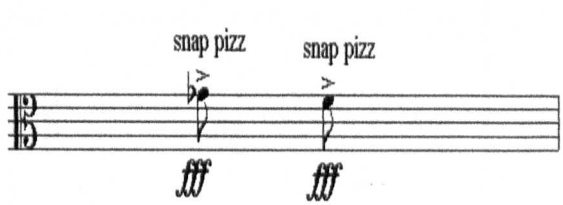

X 9
CUE 2:
arco
fff

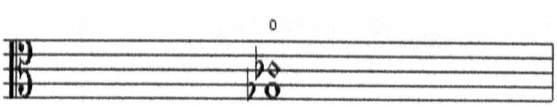

normale - - - - - molto premuto - - - - - normale
gliss.
gliss.

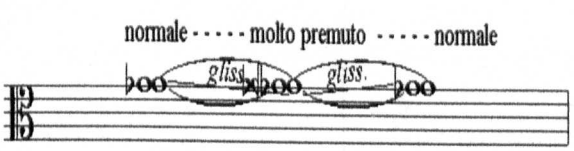

snap pizz
snap pizz
fff
fff

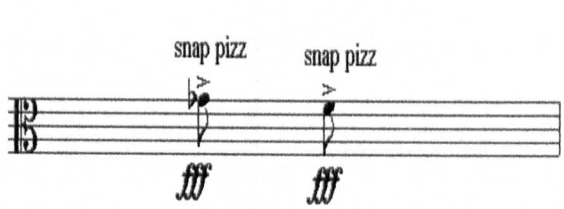

0


normale - - - - - molto premuto - - - - - normale
gliss.
gliss.

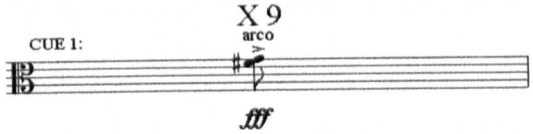

snap pizz
snap pizz
fff
fff

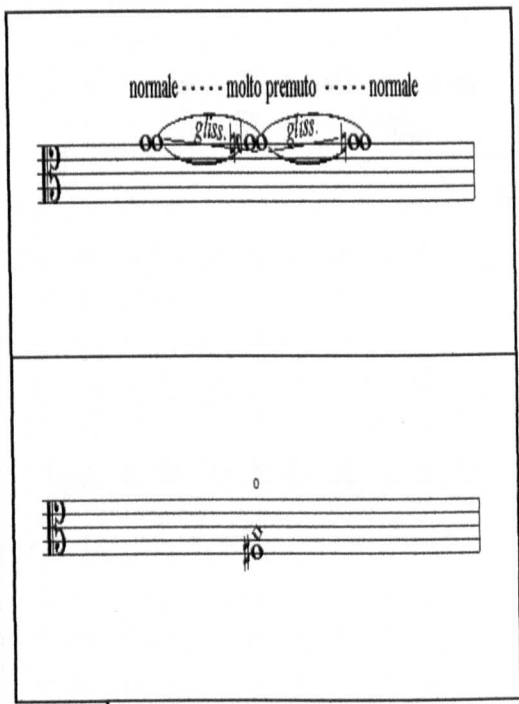

0

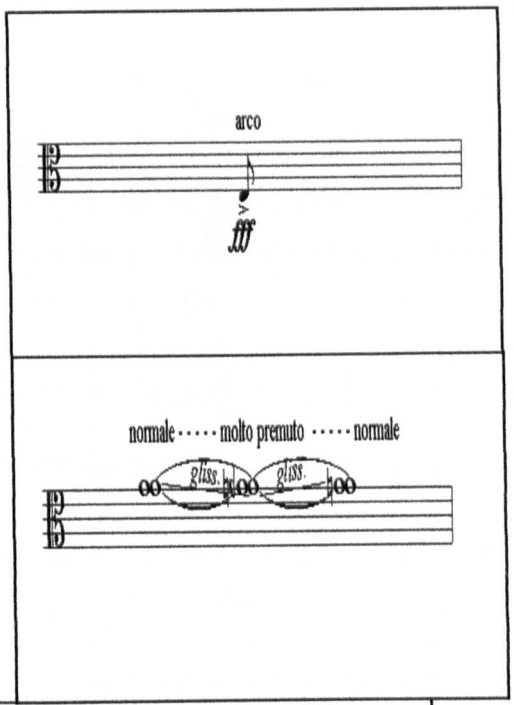

normale - - - - - molto premuto - - - - - normale
gliss.
gliss.

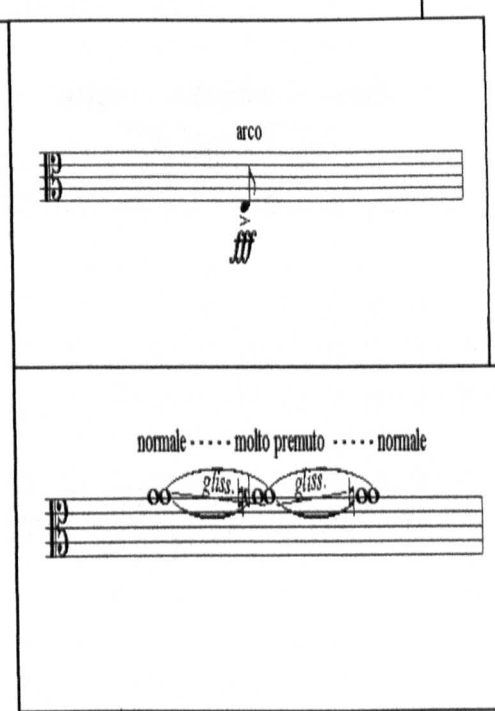

snap pizz
snap pizz
fff
fff

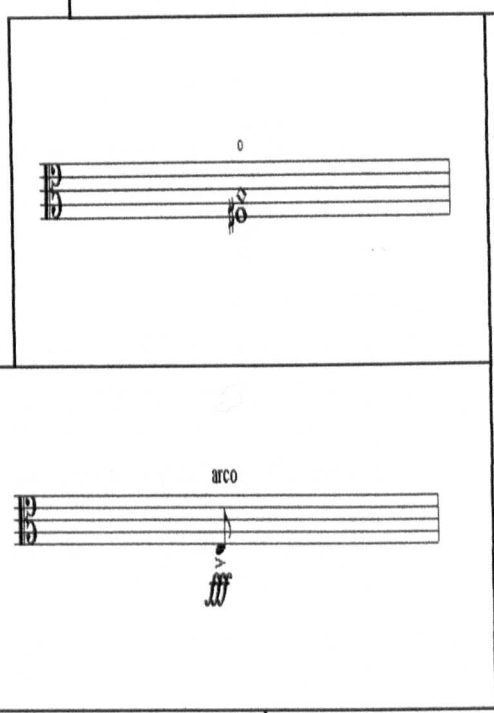
X 9

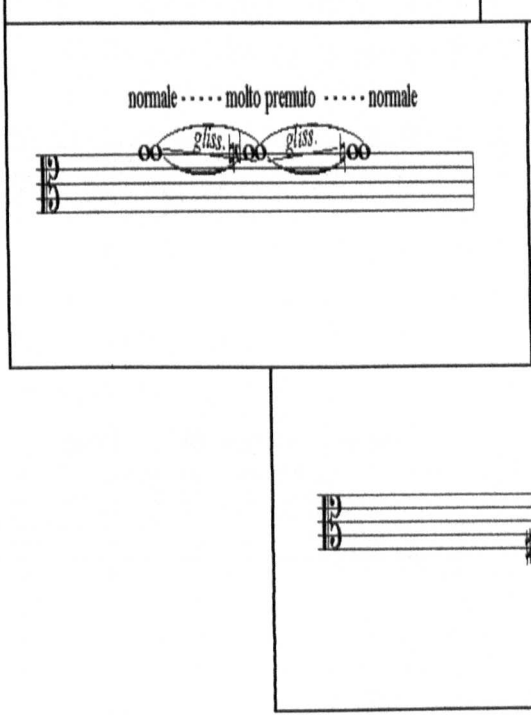

CUE 1:
arco
fff

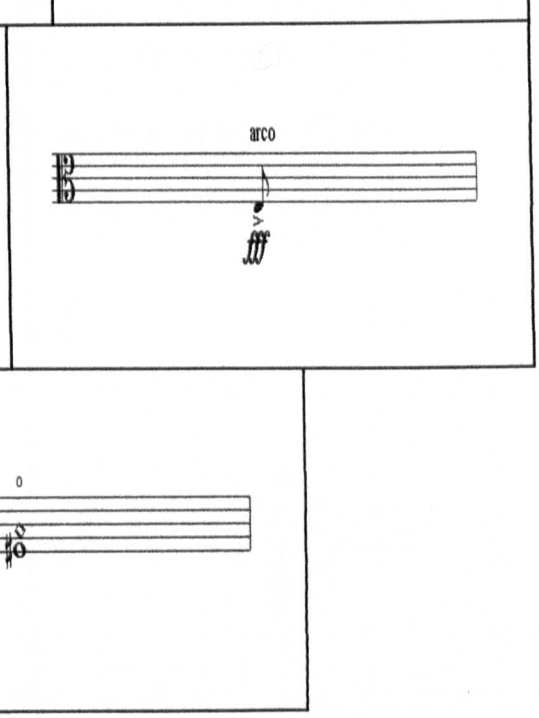

normale ····· molto premuto ····· normale
gliss.
gliss.
0

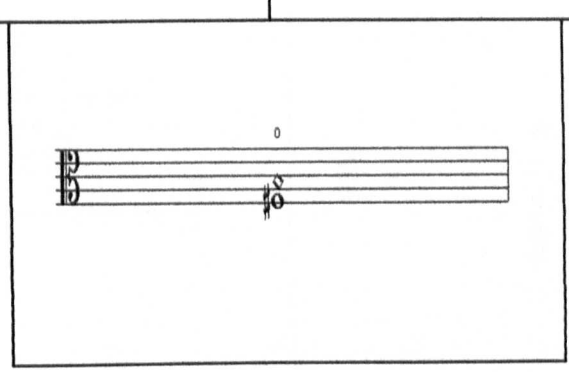

arco
fff
normale ····· molto premuto ····· normale
gliss.
gliss.


arco
fff
0

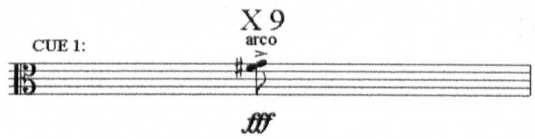

0

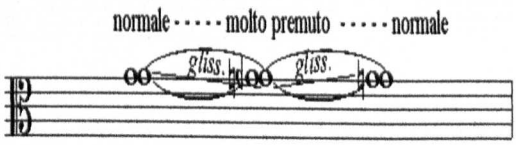

normale ····· molto premuto ····· normale
gliss.
gliss.

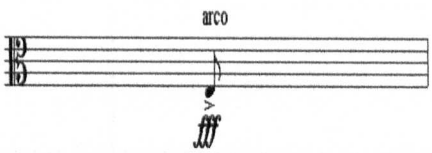

arco
fff

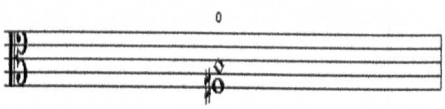

0

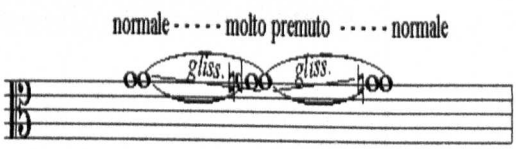
VIOLA

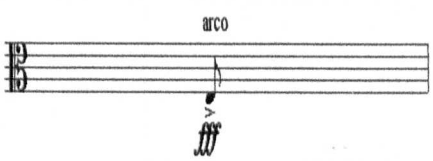

X 9
CUE 1:
arco

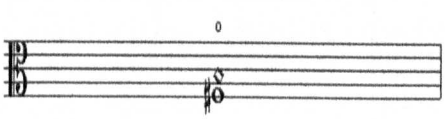

normale - - - - - molto premuto - - - - - normale
gliss.
gliss.

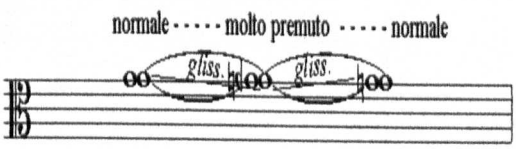

arco

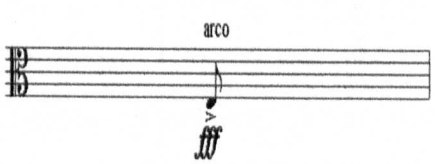

0


normale - - - - - molto premuto - - - - - normale
gliss.
gliss.

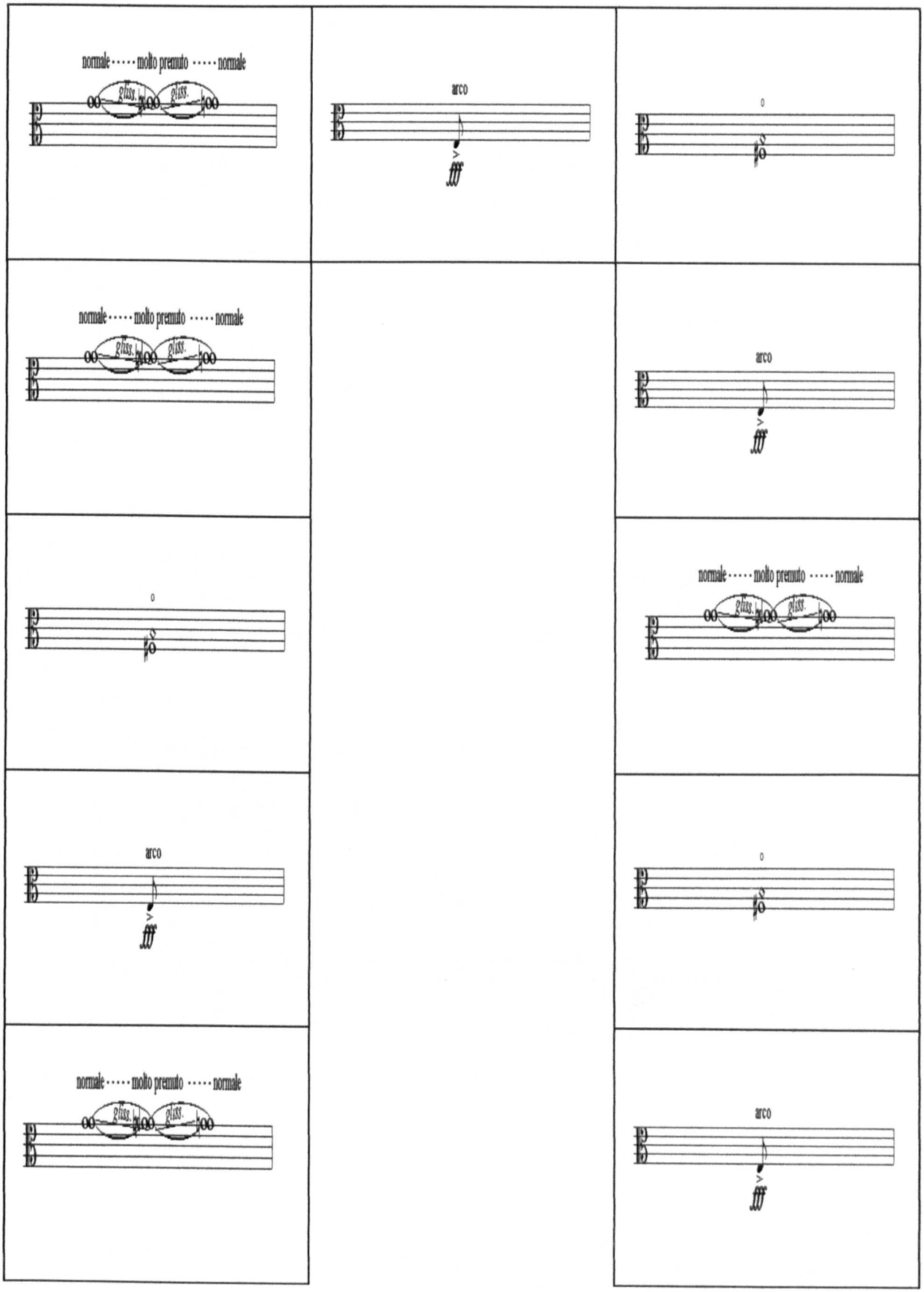

arco


0


normale - - - - - molto premuto - - - - - normale
gliss.
gliss.

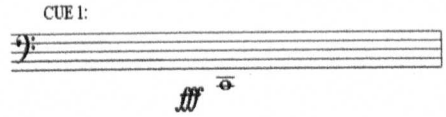

arco

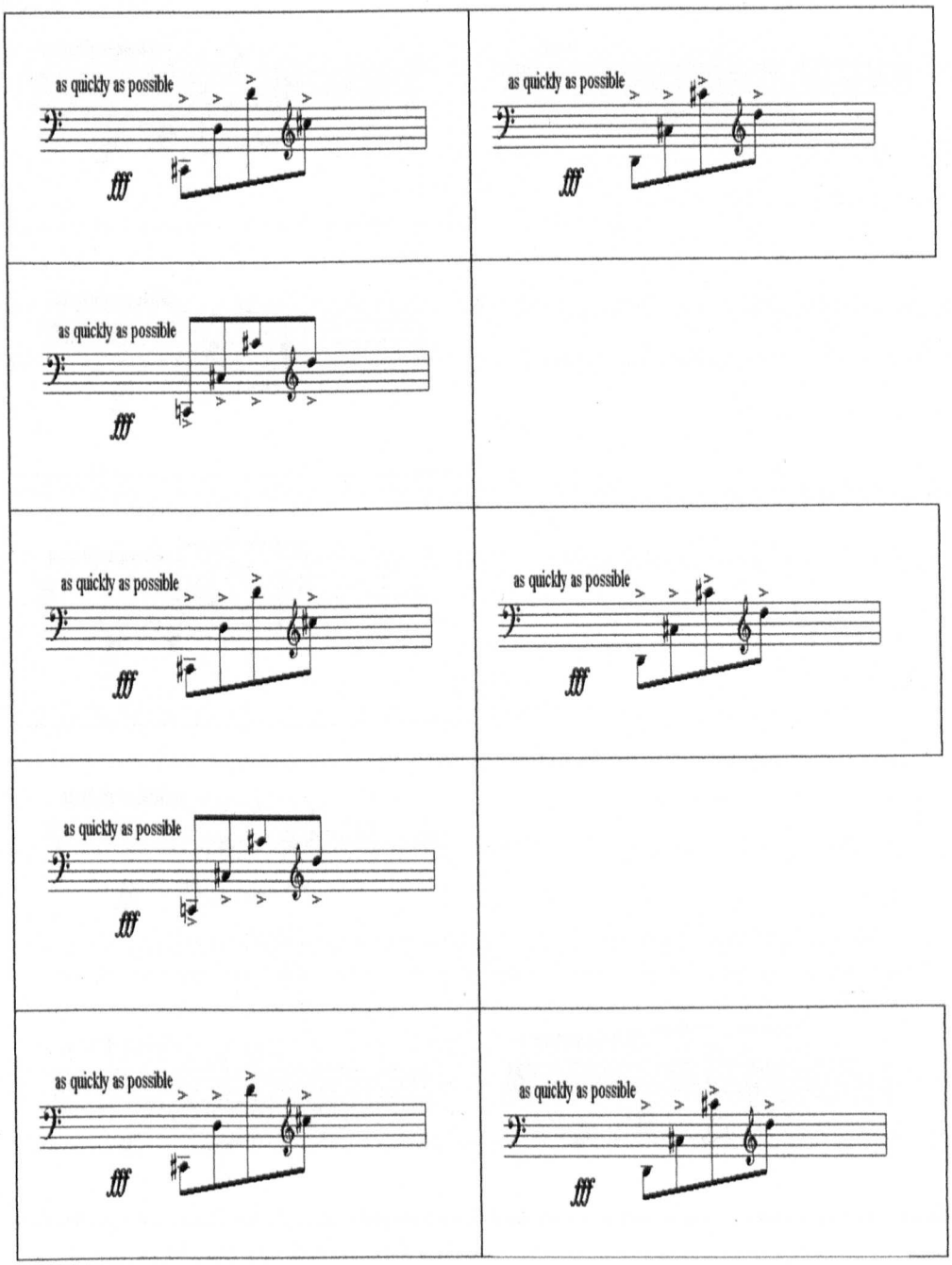
matt wright 2006

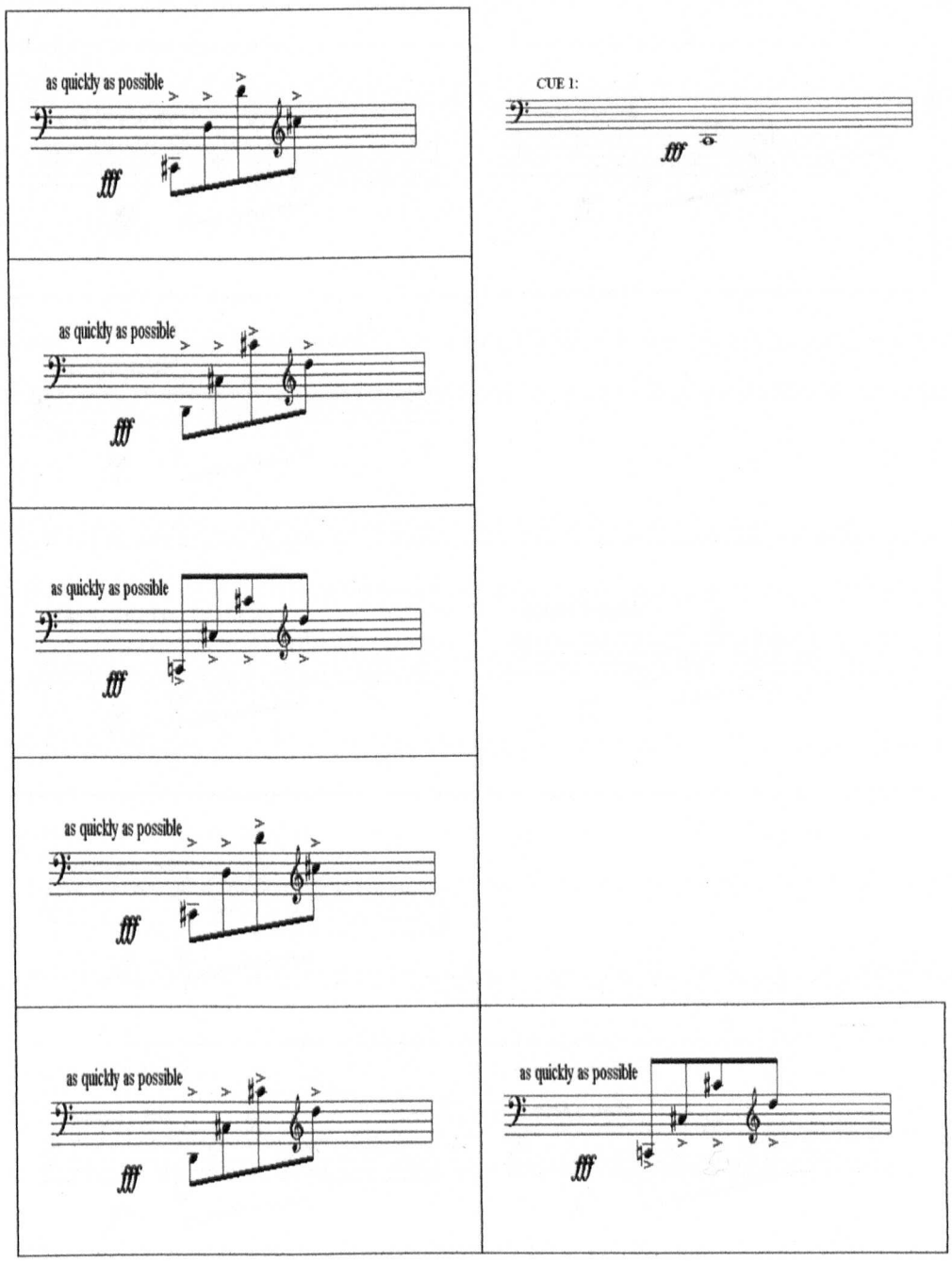


'CELLO

CUE 1:


fff

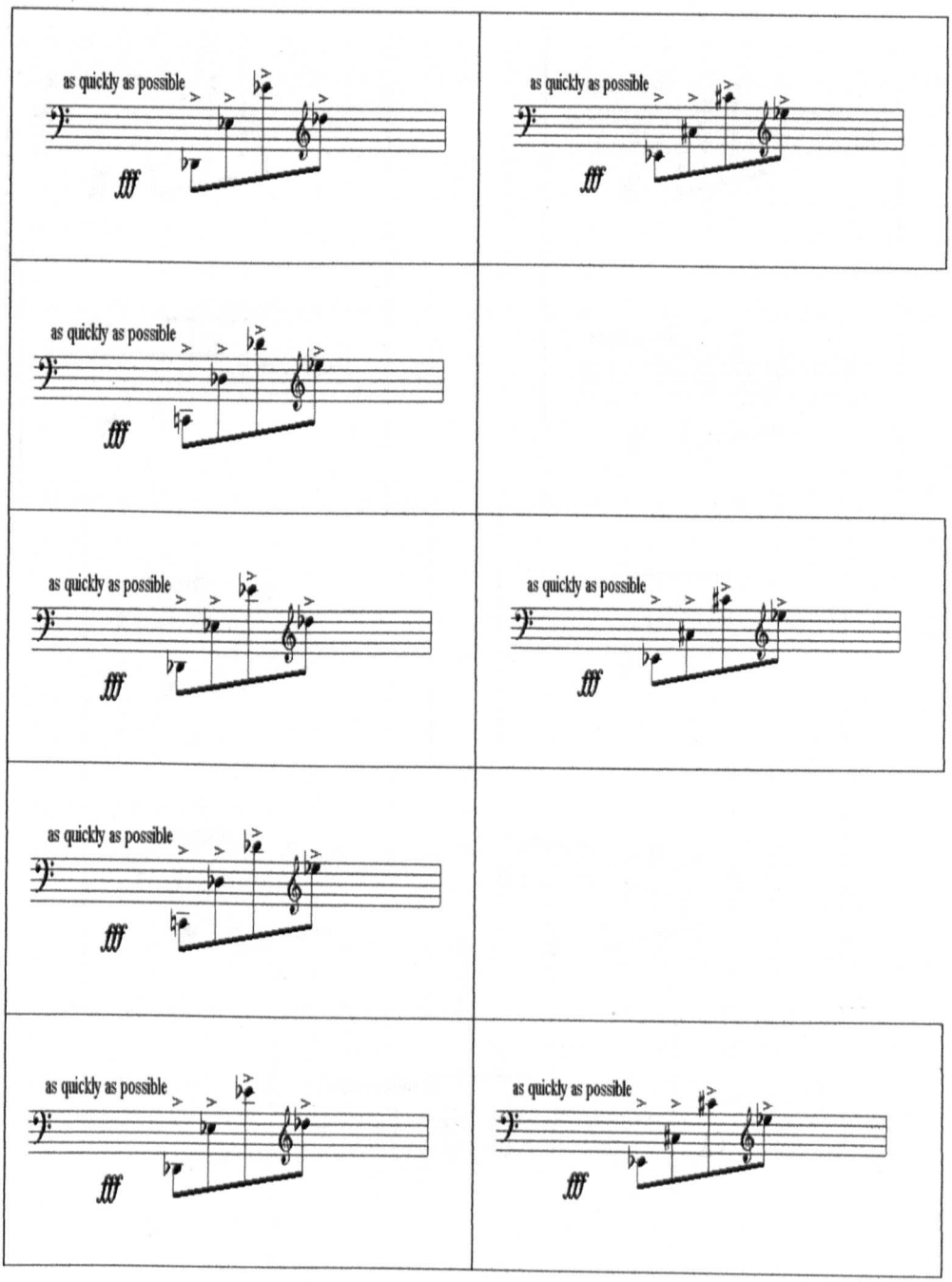

as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff


as quickly as possible
fff
CUE 1:
fff
as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff

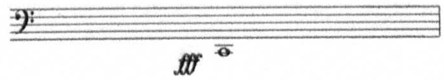
'CELLO

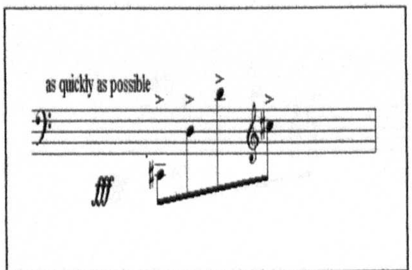
CUE 1:

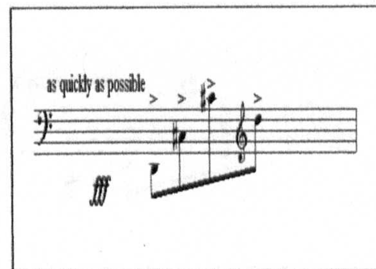

fff

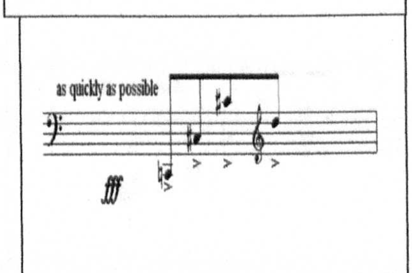

as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff
as quickly as possible
fff

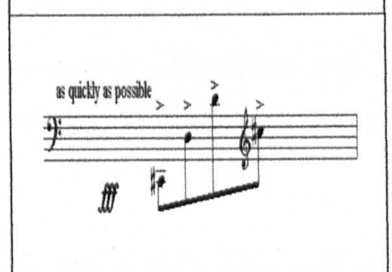
CUE 1:

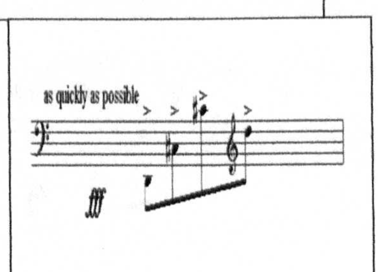

fff

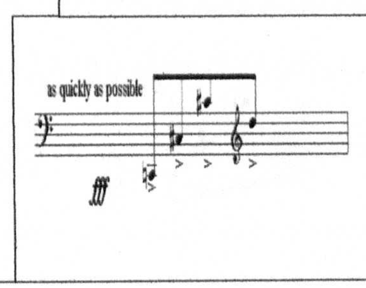

as quickly as possible
fff

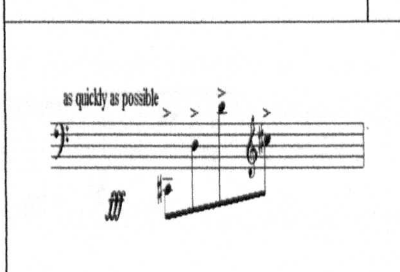

as quickly as possible
fff

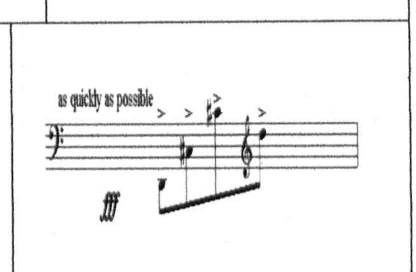

as quickly as possible
fff

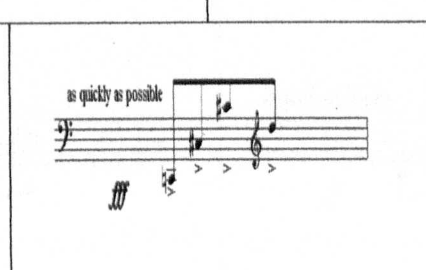

as quickly as possible
fff


as quickly as possible
fff


as quickly as possible
fff


as quickly as possible
fff

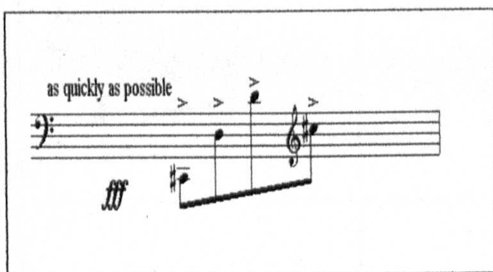

as quickly as possible
fff

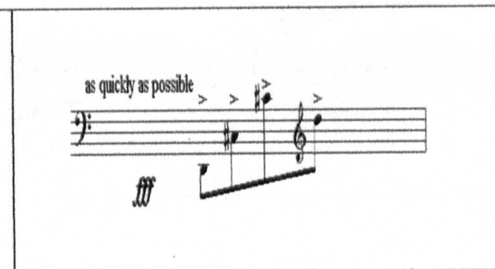

as quickly as possible
fff

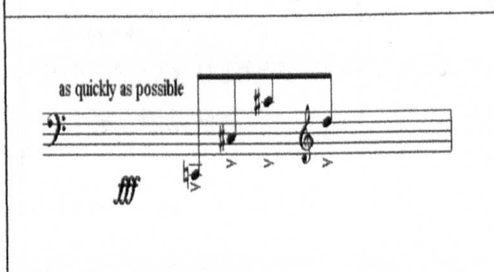
'CELLO

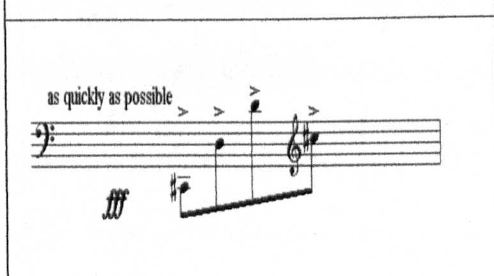
CUE 1:

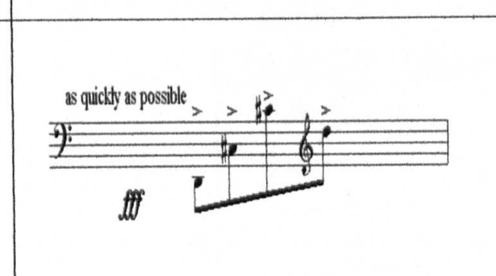

fff

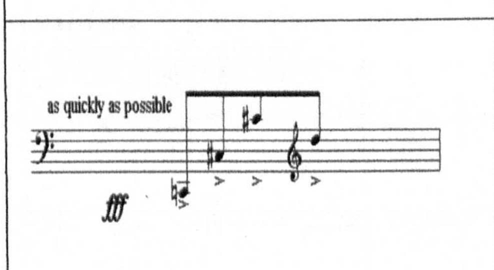

as quickly as possible
fff

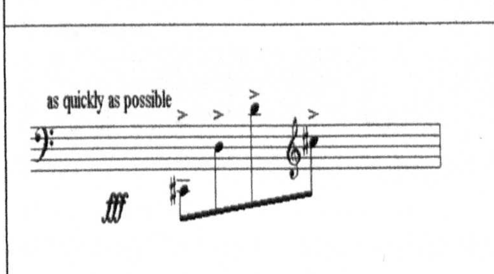

as quickly as possible
fff

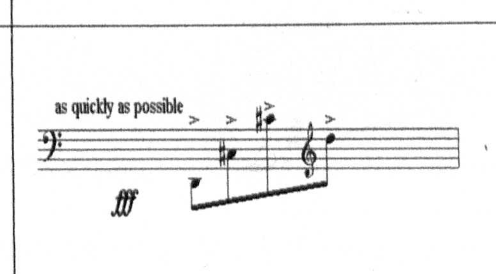

as quickly as possible
fff


as quickly as possible
fff

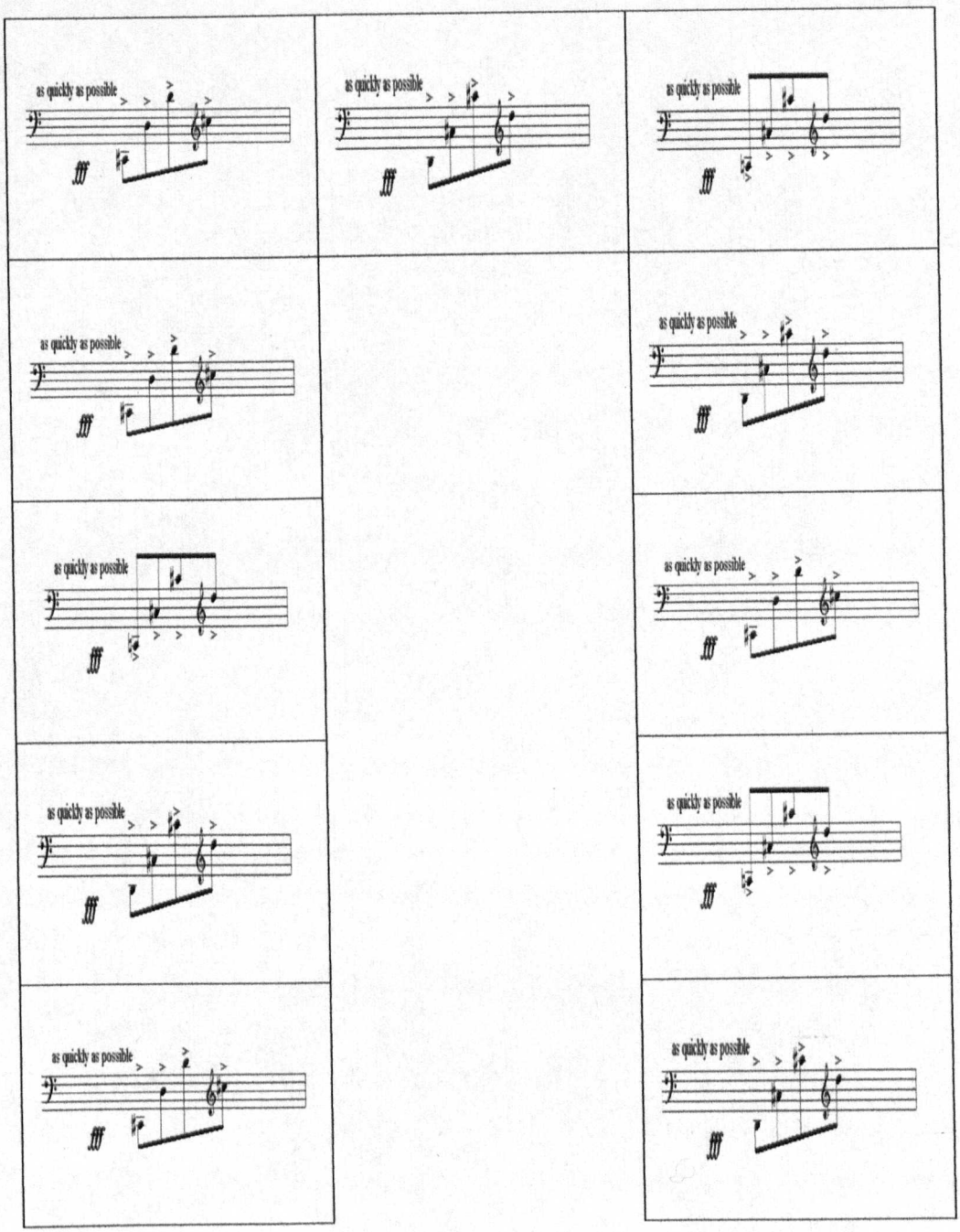

as quickly as possible
fff


as quickly as possible
fff


as quickly as possible
fff


as quickly as possible
fff

matt wright 2006



Entanglement Laws

matthew wright (2006)

"You have this thing about separation and entanglement, and a set of beliefs I find perfectly bizarre and that I can't anticipate the results of...."

"You're more a creature of habit and ritual than you think you are"

Entanglement Laws (2006) was written for the Dutch group Ensemble Klang and was premiered at the KORZO theatre, The Hague, on 12th January 2007. The work is based on the contradictory tensions between the above quotations from the novel 'Dead Air' by Iain Banks.

The piece has built within it a series of conditions or laws that shape the internal structure of exchanges between the performers, creating a complex web of possible readings. Despite this, the work should always have the effect of a brutal, repetitive ritual. There is no score for the work, as the ensemble is split into three independent ensembles - a 'harmony' group consisting of two saxophones and alto trombone, a 'melody' group consisting of a de-tuned electric guitar and a keyboard and a third group consisting of a percussionist. These three groups simultaneously perform three variations of the same pitch material and are left to determine the pace at which they navigate through this material, apart from when the 'entanglement laws' govern that the performers should synchronise in one of three ways.

Thanks for playing - MW

ENTANGLEMENT LAWS for the three individual groups:

There are 3 groups:

(1) Soprano (or Tenor Sax)
Soprano (or Tenor Sax)
Alto Trombone

Changes between soprano and tenor saxes during the piece is essential – make sure this happens!
All instruments should have bells covered by tin foil, and should be amplified.

PLAYING STYLES:

Long notes : As loud and as long as the breath of the first player, always flutter-tongued.
Hockets: As fast and as loud as possible, with staccatissimo articulation.

1st time: All material
2nd time: Cue only
3rd time: Hockets and Cue

(2) Guitar
Keyboard

Some strings should be detuned to produce the microtonal intervals indicated in the guitar part. The amp should be covered in tin foil. A keyboard with electric piano sound should be used - touch sensitivity is not important. The keyboard should be amplified and the amp should be covered in tin foil.

PLAYING STYLES:

even times: melody only
odd times: melody plus diamond notes.

(3) Percussionist: 3 small keyboards or drum machines (with unspecified electronic drum patterns), 6 pieces of heavy junk percussion (large tin cans, car parts, etc.), two small but resonant splash cymbals and a kick drum.

When numbers appear in the part, the percussionist should play the number of strikes indicated with a combination of junk and cymbals at her/his discretion. Cymbals should be used sparingly, such as moments of high tension within the music, or when the percussion part is exposed.
At least one of the keyboards / drum machines should be used for the melodic material in the part, and it should ideally be detuned by a ¼ tone and utilise an electric piano sound. The drum patterns themselves are not notated (as these will change from performance to performance) but all should be set to the fastest possible tempo and should consist of cheap synthesised hi-hat and cowbell sounds. Snare drum sounds within the keyboard rhythms should be avoided. Changes of rhythm / tempo throughout the piece are encouraged. All keyboards / drum machines should be amplified. The effect should be noisy, and should sound like cheap 'street techno' as if performed by a busker. If finding cheap keyboards or drum machines is impossible, the effect could be created with a laptop, but this loses the sense of 'rawness' in performance – please consult the composer before using this option.

PLAYING STYLES:

1st time: All material
2nd time: No Keyboard beats
3rd time: 'Cue' end of cycle at anytime using the kick drum and the loudest piece of junk, making all players move to the beginning of the next cycle.

ENTANGLEMENT LAWS for the whole ensemble:

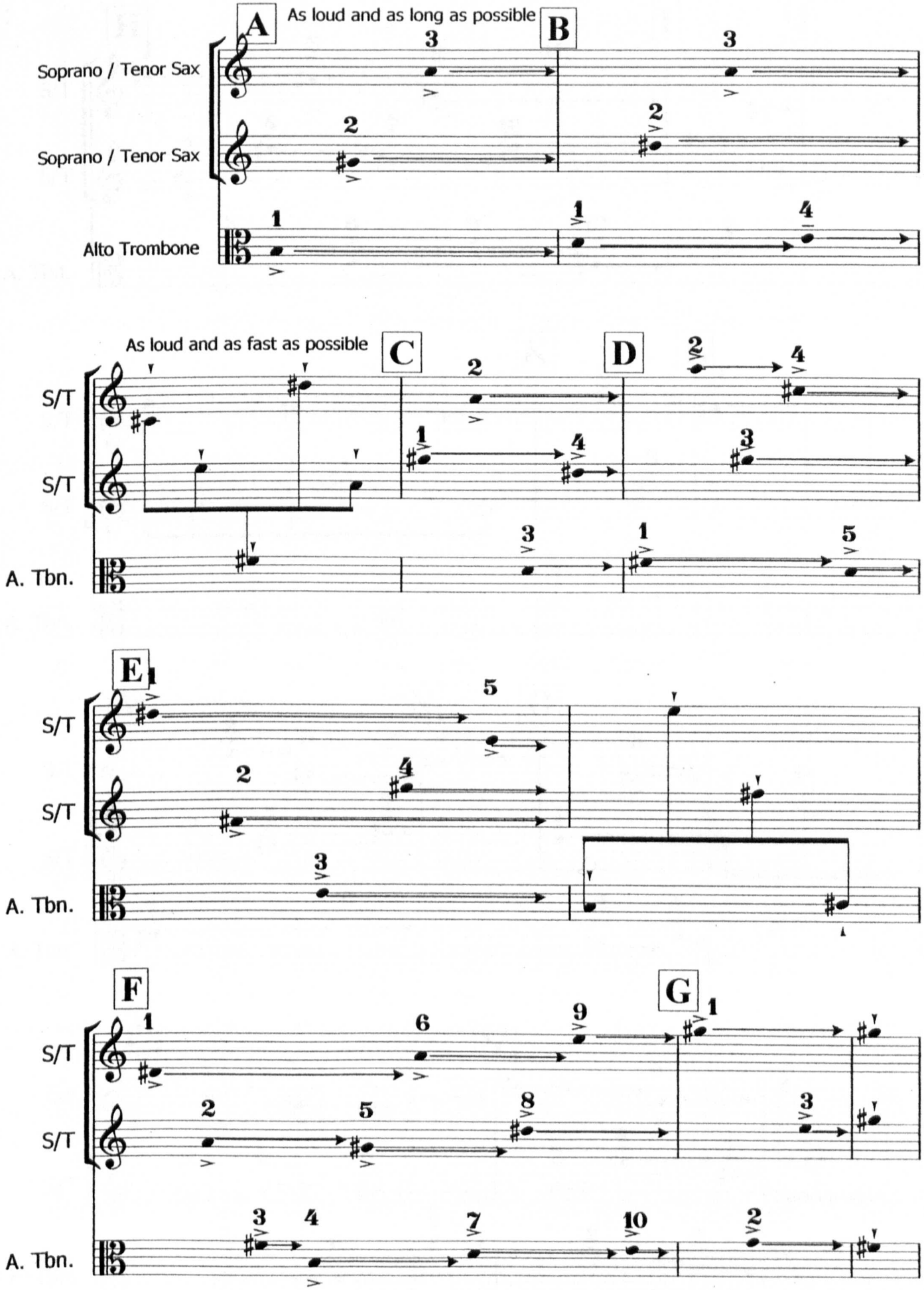
Each group plays their music loud and independently of the other groups, apart from:

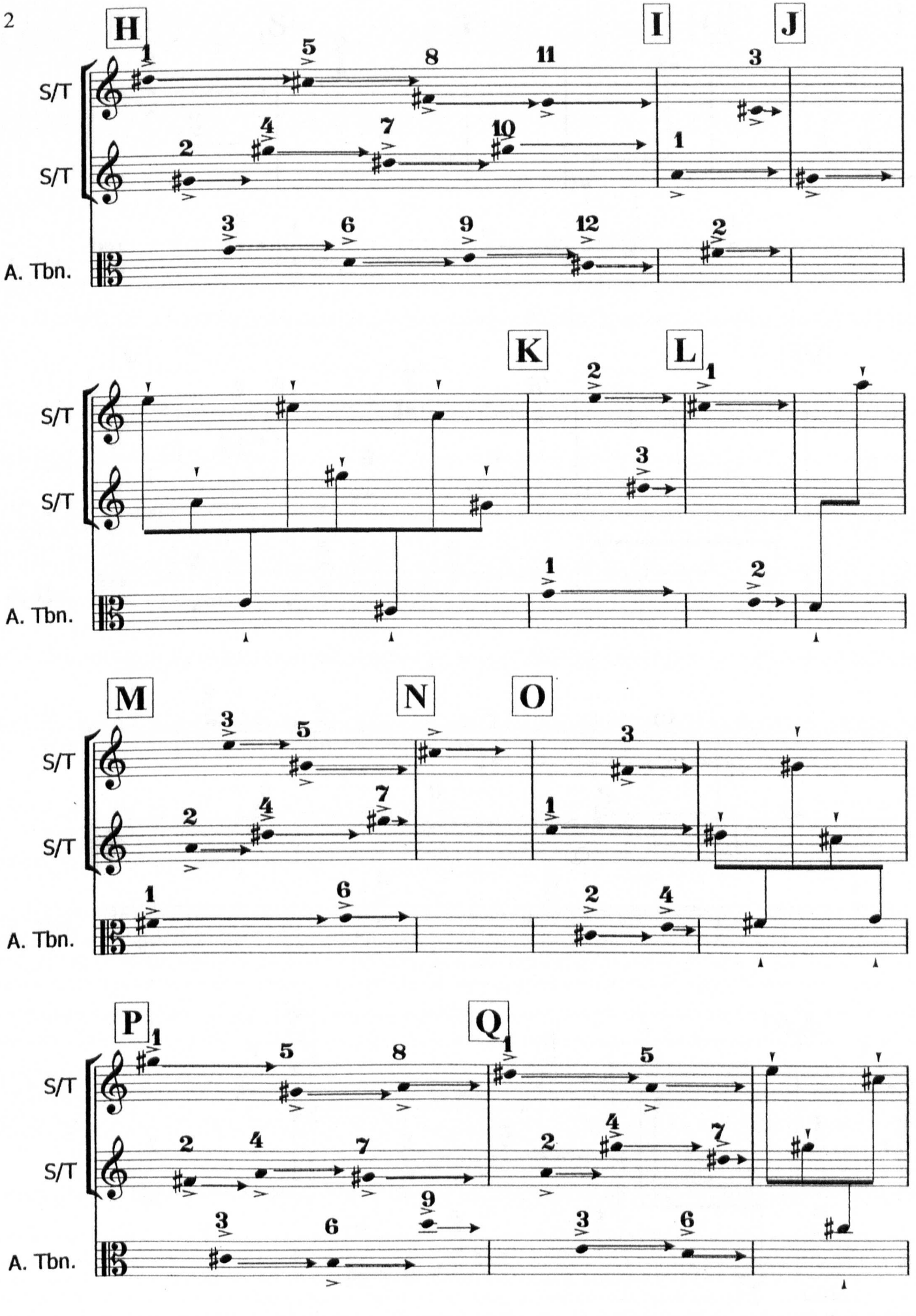
- when a group reaches the end of its part. When this happens, the 'cue' is sounded, and all groups (even if they haven't all reached the end of their part) go to the beginning of the next cycle.

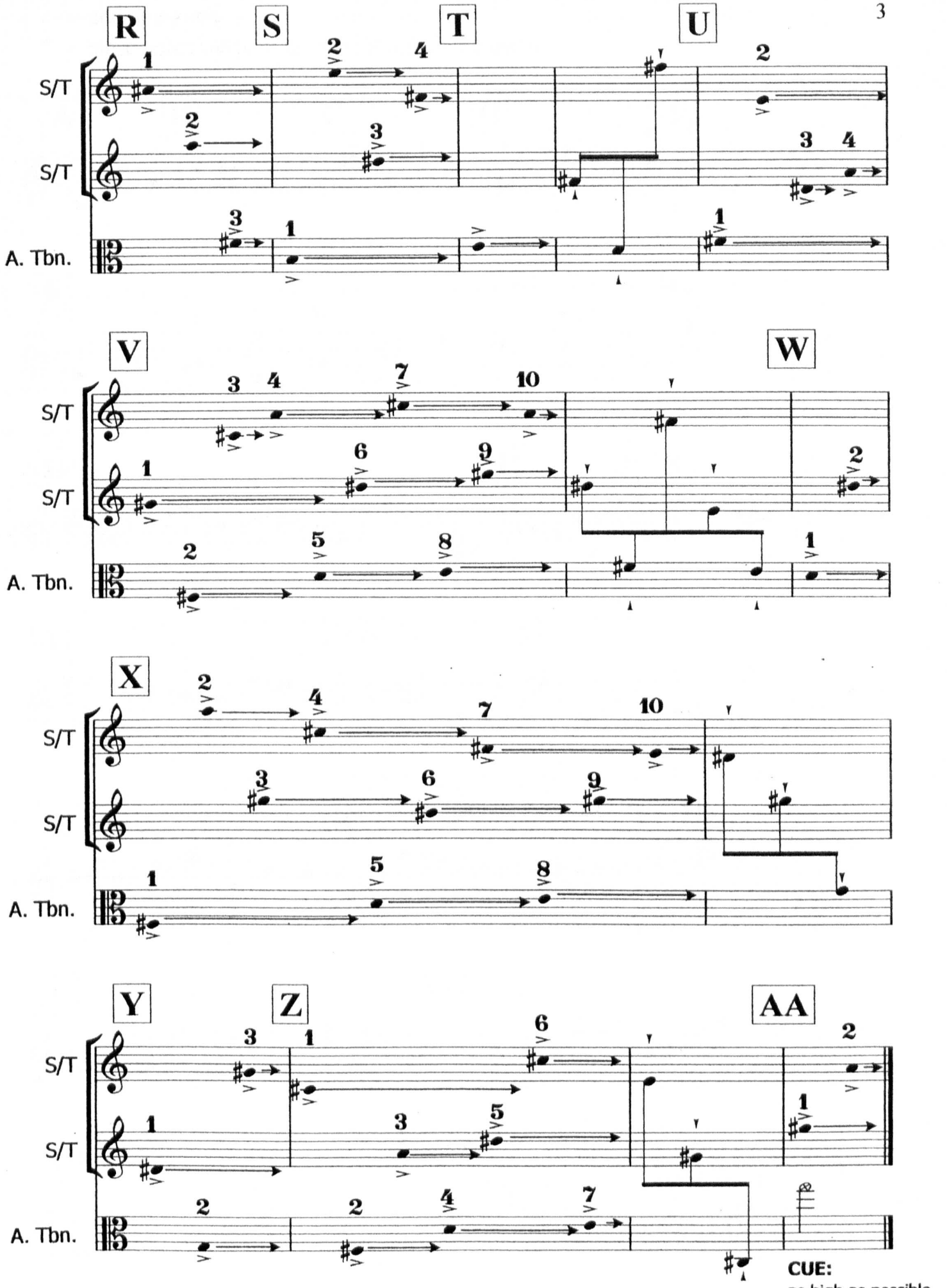
- when silence occurs. In this case, the whole group should cherish the silence, continuing with the piece only when there is a mutual agreement to continue.

- at the end of the piece, where every group plays its cue and waits for the percussionist to signal the end of the performance with five kick drum / junk or cymbal strikes.

GROUP ONE: Brass (transposed)



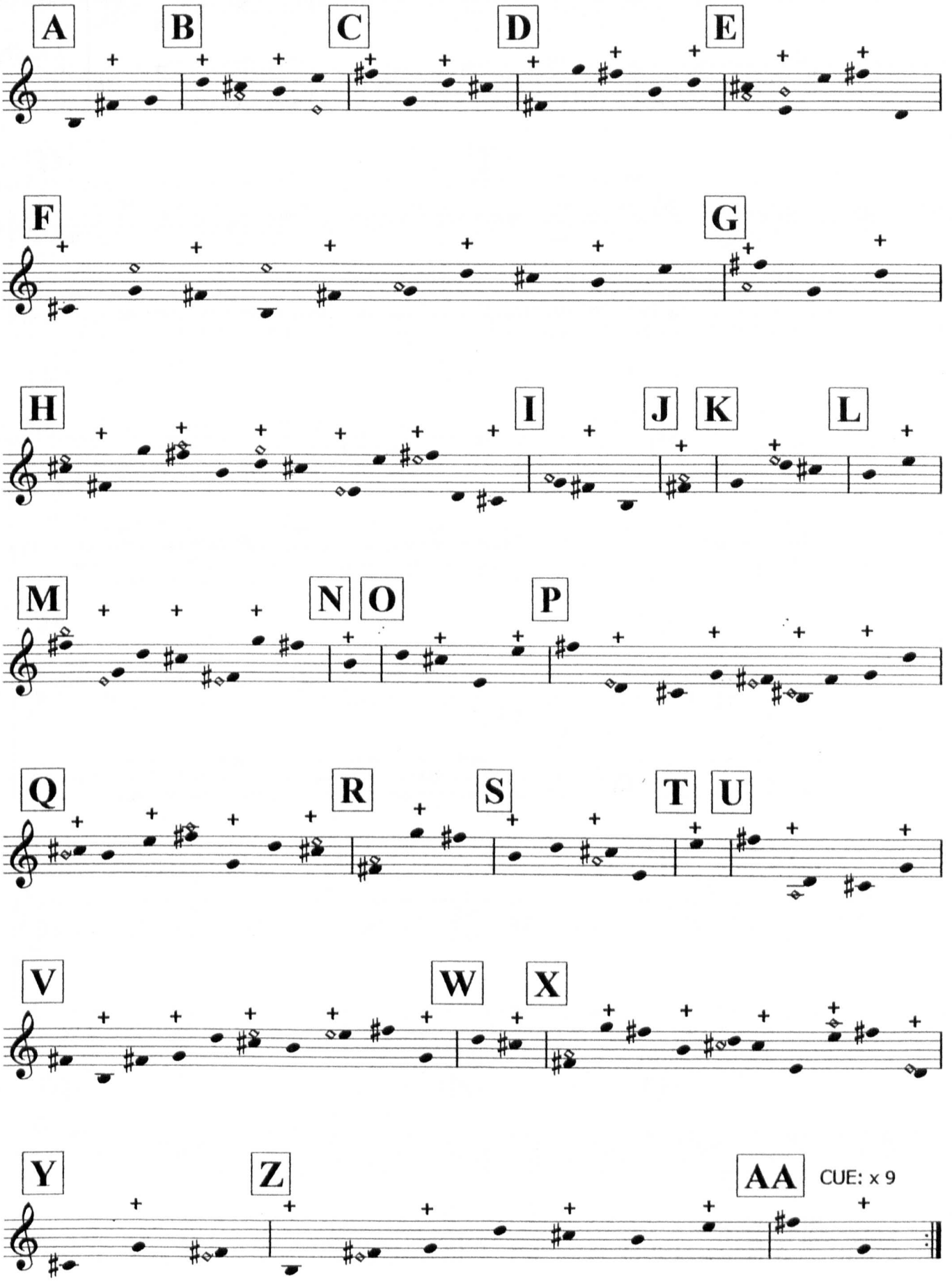

H
I
J
K
L
M
N
O
P
Q
S/T
S/T
A. Tbn.


R
S
T
U
V
W
X
Y
Z
AA
S/T
S/T
A. Tbn.
CUE:
as high as possible

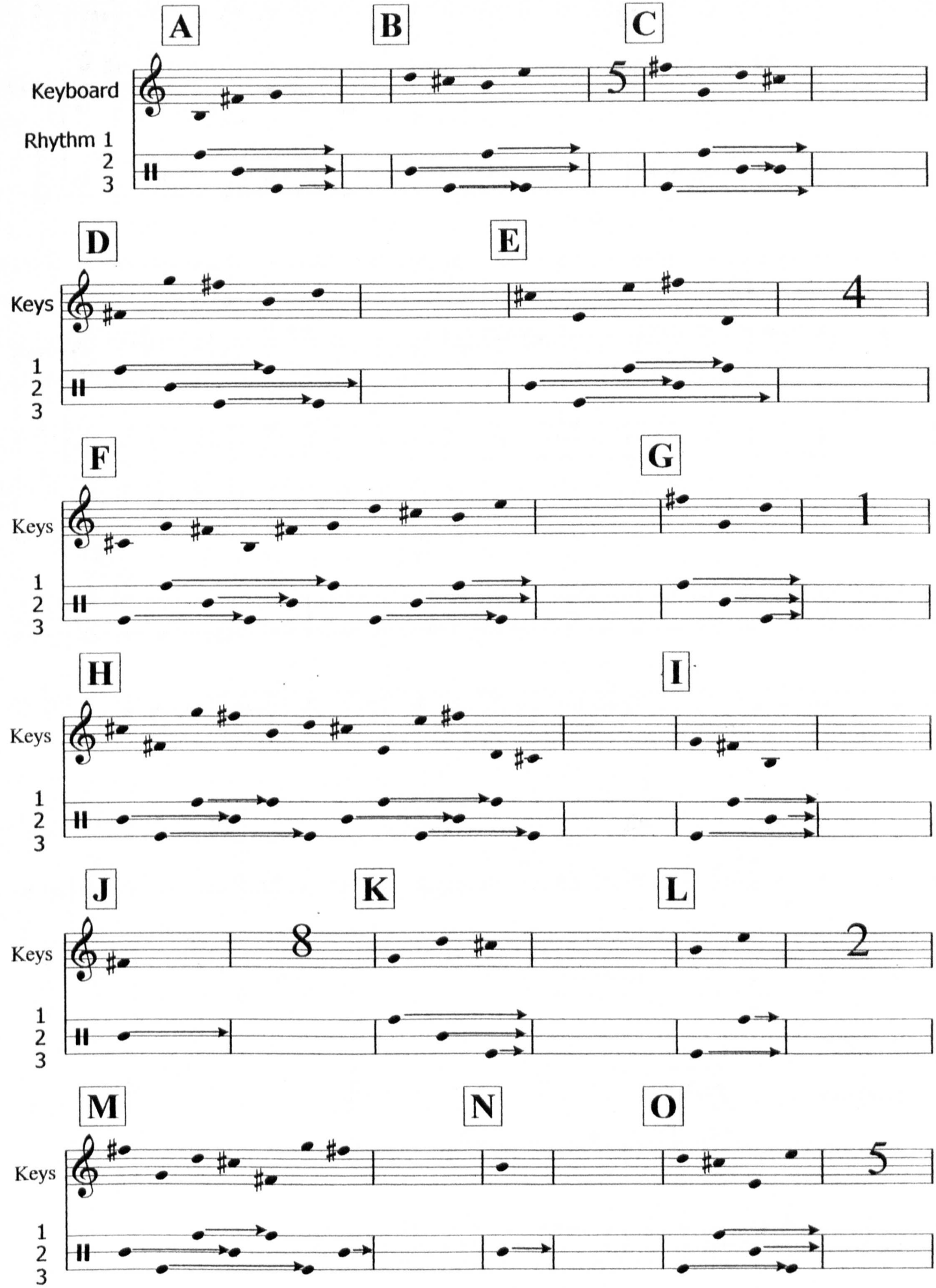
GROUP TWO: Electric Guitar and Keyboard

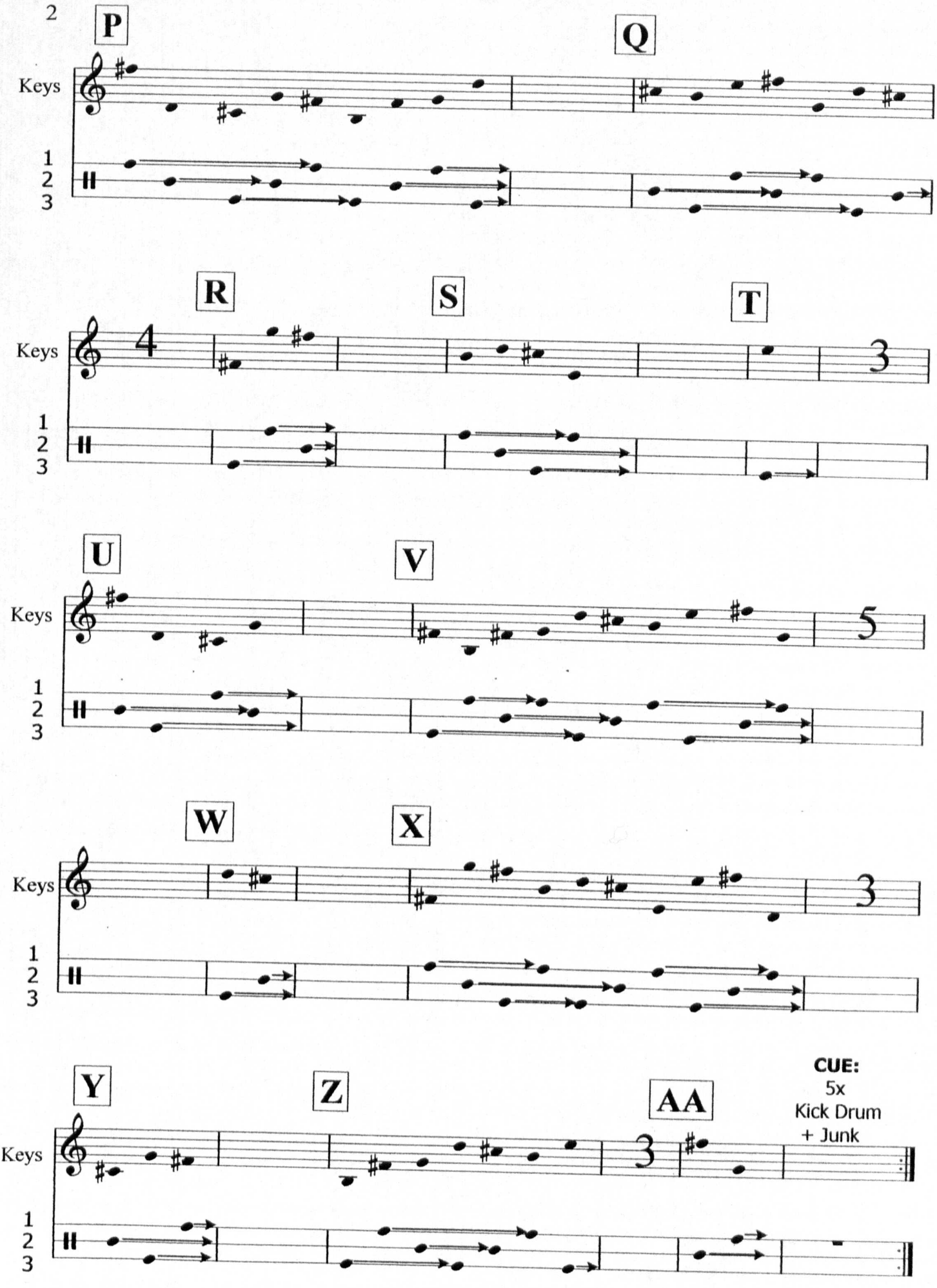
◇ = odd times only

+ = these notes will be a 1/4 tone sharp on the guitar.



GROUP THREE: Percussion




P
Q
Keys
1
2
3
R
S
T
4
3
U
V
5
W
X
Y
Z
AA
CUE:
5x
Kick Drum
+ Junk

References to Books on Applied Mechanics

matthew wright (2006-2008)

References to Books on Applied Mechanics (2006-2008)

'III. MECHANICS
REFERENCES TO BOOKS ON APPLIED MECHANICS

Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.

Speak of motion and impetus.

Speak of wheels rotating one way.

You will speak of wheels that turn and return.

Speak of the wheel that augments.

Speak of the perpetual screws.

Speak of mills and other machines that move and throw.

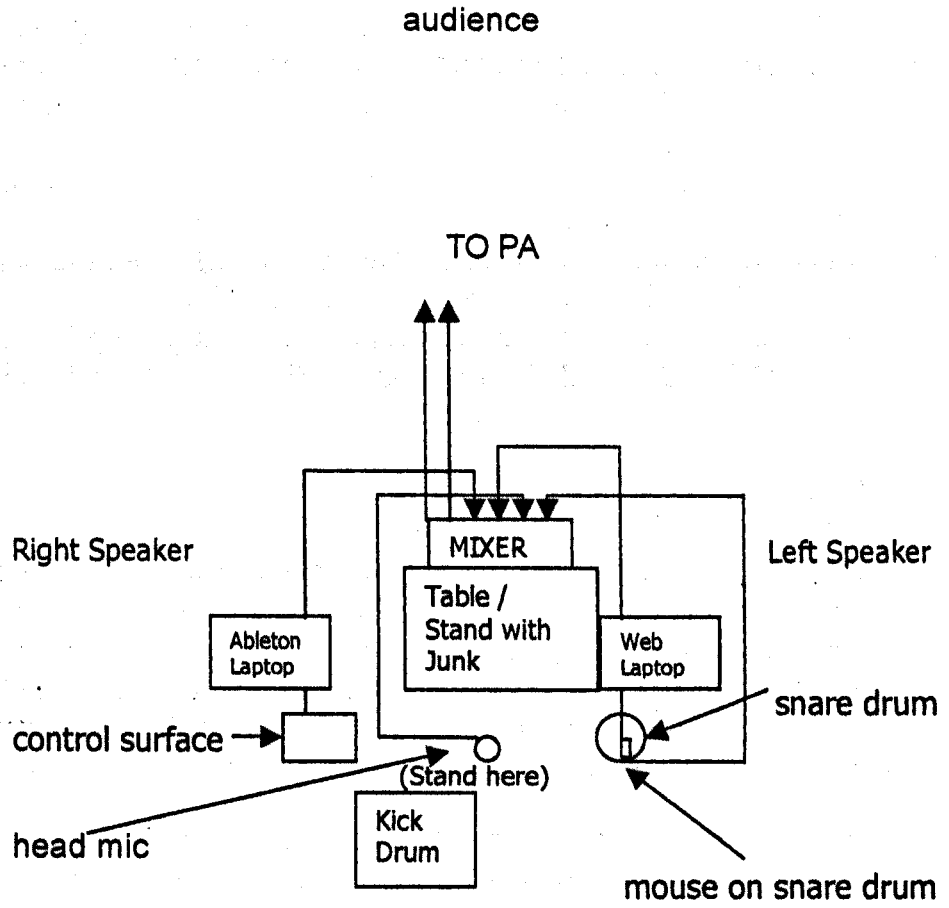
Speak of teeth.'

From the notebooks of Leonardo Da Vinci, translated by Irma A. Richter, pub. OUP.

INSTRUMENTS:

Junk Percussion – pieces of machines, wheels, screws, etc.
Kick Drum
Snare Drum (amplified with contact mic)
Head mic for voice
Laptop with mouse, running a web browser or Flash Player
Laptop running Ableton Live
Control surface, such as a Keyboard or Trigger Finger (optional)
Mixer (at least four channels)
Monitor (optional)
PA system

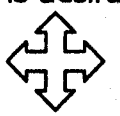
Projector
Large Screen



PERFORMANCE STYLE:

There are two main playing styles within this piece:

- JUNK - the performer speaks the text whilst imitating her / his natural syllabic rhythms on the junk percussion, reading each full stop as a kick drum attack. Freedom is left to the performer as to the method of playing the junk: with soft / hard sticks, or hands, etc. Dynamics are also open, but it is expected that the performer speak with urgency, slightly faster than normal speaking speed.

- NAVIGATE - the performer speaks the text whilst moving the mouse across the snare drum. This action will move the cursor across the website, which will trigger sounds when the cursor comes into contact with the animated text. All full stops in this style should be read as clicks on a hyperlink within the website. Choices of where to click are left to the performer, unless specified in the score. Subtle variations in Ping Pong Delay on the snare and voice channels at these points is desirable – the voice should sound slightly robotic. The navigate style is indicated by this symbol: 

STRUCTURE:

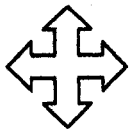
The performer reads the score in the conventional form, from left to right, up to down, and is given freedom as to when to progress from one part of the score to the next. However, there should be a sense of omnipresent tension throughout. The duration could be anything from 10 – 15 minutes in a concert, or stretched out to a much longer period of time for an installation. The Ableton Live laptop should be running the patch supplied by the composer. The harmony consists of three chords (1-3), which should be triggered via the control surface (or laptop) at the point indicated in the score. This also goes for the vocal sample, which should be recorded before the performance and triggered in the manner described above.

This work could not have been made without the skill and patience of Stewart Worthy, Diego Espinosa, The Electronic Hammer and Sean Farrelly. Thanks for playing – MW.

A:

CYCLE ONE

Navigate on Snare



III.MECHANICS	REFERENCES TO BOOKS ON APPLIED MECHANICS	(Junk) Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.	Speak of motion and impetus.	Speak of wheels rotating one way.	You will speak of wheels that turn and return.	Speak of the wheel that augments.	Speak of the perpetual screws.	Speak of mills and other machines that move and throw.	Speak of teeth.

Iarmony: Fade in (1) → IN (1) ——————————————————————————→

B:

Speak of mills and other machines that move and throw.	Speak of the perpetual screws.	Speak of the wheel that augments.	You will speak of wheels that turn and return.	Speak of wheels rotating one way.	Speak of motion and impetus.	Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.	REFERENCES TO BOOKS ON APPLIED MECHANICS

(2) ——————→ (1) ——————————————————————————→

C:

CYCLE TWO

III.MECHANICS	REFERENCES TO BOOKS ON APPLIED MECHANICS	Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.	Speak of motion and impetus.	Speak of wheels rotating one way.	You will speak of wheels that turn and return.	Speak of the wheel that augments.	Speak of the perpetual screws.	Speak of mills and other machines that move and throw.	Speak of teeth.

(2) ——————→ (1) ——————————————————————————→

Sample: IN ——————————————————————————→

D:

Speak of mills and other machines that move and throw.

Speak of the perpetual screws.

Speak of the wheel that augments.

You will speak of wheels that turn and return.

Speak of wheels rotating one way.

Speak of motion and impetus.

Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.

REFERENCES TO BOOKS ON APPLIED MECHANICS

(2)

(sample)

CYCLE THREE

III.MECHANICS

REFERENCES TO BOOKS ON APPLIED MECHANICS

Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.

Speak of motion and impetus.

Speak of wheels rotating one way.

You will speak of wheels that turn and return.

Speak of the wheel that augments.

Speak of the perpetual screws.

Speak of mills and other machines that move and throw.

Speak of teeth.

(1) (cut)

(sample)

web audio: IN

F:

Speak of mills and other machines that move and throw.

Speak of the perpetual screws.

Speak of the wheel that augments.

You will speak of wheels that turn and return.

Speak of wheels rotating one way.

Speak of motion and impetus.

Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.

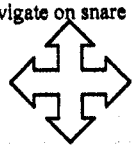
(sample) (cut)

(web audio) (cut)

G:

CYCLE FOUR

Navigate on snare



(Navigate) III.MECHANICS

REFERENCES TO BOOKS ON APPLIED MECHANICS

Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.

Speak of motion and impetus.

<KICK DRUM>

Speak of wheels rotating one way.

You will speak of wheels that turn and return.

<KICK DRUM>

Speak of the wheel that augments.

<KICK DRUM>

Speak of the perpetual screws.

Speak of mills and other machines that move and throw.

<KICK DRUM>

Speak of teeth.

<KICK DRUM>

Harmony Fade in (1) Web Audio: IN

IN

(change page - AUGMENT)

(change page - TWO)

(change page - FOUR)

(change page - EIGHT)

H:

CYCLE FIVE

(Junk)
Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.

Speak of motion and impetus.

Speak of wheels rotating one way.

You will speak of wheels that turn and return.

Speak of the wheel that augments.

Speak of the perpetual screws.

Speak of mills and other machines that move and throw.

Speak of teeth.

(1)
web audio - EIGHT)

I:

Speak of mills and other machines that move and throw.

Speak of the perpetual screws.

Speak of the wheel that augments.

You will speak of wheels that turn and return.

Speak of wheels rotating one way.

Speak of motion and impetus.

Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.

REFERENCES TO BOOKS ON APPLIED MECHANICS

(1)
(web audio - EIGHT)

J:

CYCLE SIX

Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.

Speak of motion and impetus.

Speak of wheels rotating one way.

You will speak of wheels that turn and return.

Speak of the wheel that augments.

Speak of the perpetual screws.

Speak of mills and other machines that move and throw.

Speak of teeth.

(1)
Sample: IN
(web audio – EIGHT)

K:

Speak of mills and other machines that move and throw.

Speak of the perpetual screws.

Speak of the wheel that augments.

You will speak of wheels that turn and return.

Speak of wheels rotating one way.

Speak of motion and impetus.

Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.

REFERENCES TO BOOKS ON APPLIED MECHANICS

(1)
(sample)
(change page - TWELVE)

CYCLE SEVEN

III.MECHANICS	REFERENCES TO BOOKS ON APPLIED MECHANICS	Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.	Speak of motion and impetus.	Speak of wheels rotating one way.	You will speak of wheels that turn and return.	Speak of the wheel that augments.	Speak of the perpetual screws.	Speak of mills and other machines that move and throw.	Speak of teeth.

(2)
(sample)
(web audio - TWELVE)

M:

Speak of mills and other machines that move and throw.	Speak of the perpetual screws.	Speak of the wheel that augments.	You will speak of wheels that turn and return.	Speak of wheels rotating one way.	Speak of motion and impetus.	Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.	REFERENCES TO BOOKS ON APPLIED MECHANICS

(2)
(sample) (cut)
(web audio – TWELVE)

CYCLE EIGHT

III.MECHANICS	REFERENCES TO BOOKS ON APPLIED MECHANICS	Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.	Speak of motion and impetus.	Speak of wheels rotating one way.	You will speak of wheels that turn and return.	Speak of the wheel that augments.	Speak of the perpetual screws.	Speak of mills and other machines that move and throw.	Speak of teeth.
(1)	→	→	→	→	→	→	→	→	→
(web audio - TWELVE)	→	→	→	→	→	→	→	→	(change page – TURN AND RETURN) →

O:

Speak of mills and other machines that move and throw.	Speak of the perpetual screws.	Speak of the wheel that augments.	You will speak of wheels that turn and return.	Speak of wheels rotating one way.	Speak of motion and impetus.	Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.	REFERENCES TO BOOKS ON APPLIED MECHANICS
(2) →	→	(1)	→	→	→	→	→
(web audio – TURN AND RETURN)	→	→	→	→	→	→	→

CYCLE NINE

III.MECHANICS	REFERENCES TO BOOKS ON APPLIED MECHANICS	Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.	Speak of motion and impetus.	Speak of wheels rotating one way.	You will speak of wheels that turn and return.	Speak of the wheel that augments.	Speak of the perpetual screws.	Speak of mills and other machines that move and throw.	Speak of teeth.
(2)	→	(1)	→	→	→	→	→	→	→
(web audio -	→	→	→	→	→	→	→	→	→

Q:		Speak of mills and other machines that move and throw.	Speak of the perpetual screws.	Speak of the wheel that augments.	You will speak of wheels that turn and return.	Speak of wheels rotating one way.	Speak of motion and impetus.	Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.	REFERENCES TO BOOKS ON APPLIED MECHANICS
		(2) →							
		(web audio – TURN AND RETURN) →							

CYCLE TEN

III.MECHANICS	REFERENCES TO BOOKS ON APPLIED MECHANICS	Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.	Speak of motion and impetus.	Speak of wheels rotating one way.	You will speak of wheels that turn and return.	Speak of the wheel that augments.	Speak of the perpetual screws.	Speak of mills and other machines that move and throw.	Speak of teeth.
(3) →		(cut)							
(web audio) →		(cut)							
S:		Speak of mills and other machines that move and throw.	Speak of the perpetual screws.	Speak of the wheel that augments.	You will speak of wheels that turn and return.	Speak of wheels rotating one way.	Speak of motion and impetus.	Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.	
								Sample: IN →	

CYCLE ELEVEN

III.MECHANICS	REFERENCES TO BOOKS ON APPLIED MECHANICS	Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.	Speak of motion and impetus.	Speak of wheels rotating one way.	You will speak of wheels that turn and return.	Speak of the wheel that augments.	Speak of the perpetual screws.	Speak of mills and other machines that move and throw.	Speak of teeth.

(sample)

U:	Speak of mills and other machines that move and throw.	Speak of the perpetual screws.	Speak of the wheel that augments.	You will speak of wheels that turn and return.	Speak of wheels rotating one way.	Speak of motion and impetus.	Speak first of motion then weight as produced by motion, then of the force that proceeds from weight and motion, then of the percussion that springs from weight, motion and often from force.	

Canterbury, Huddersfield, Den Haag, Fishguard, 2008

Mixtape Zen

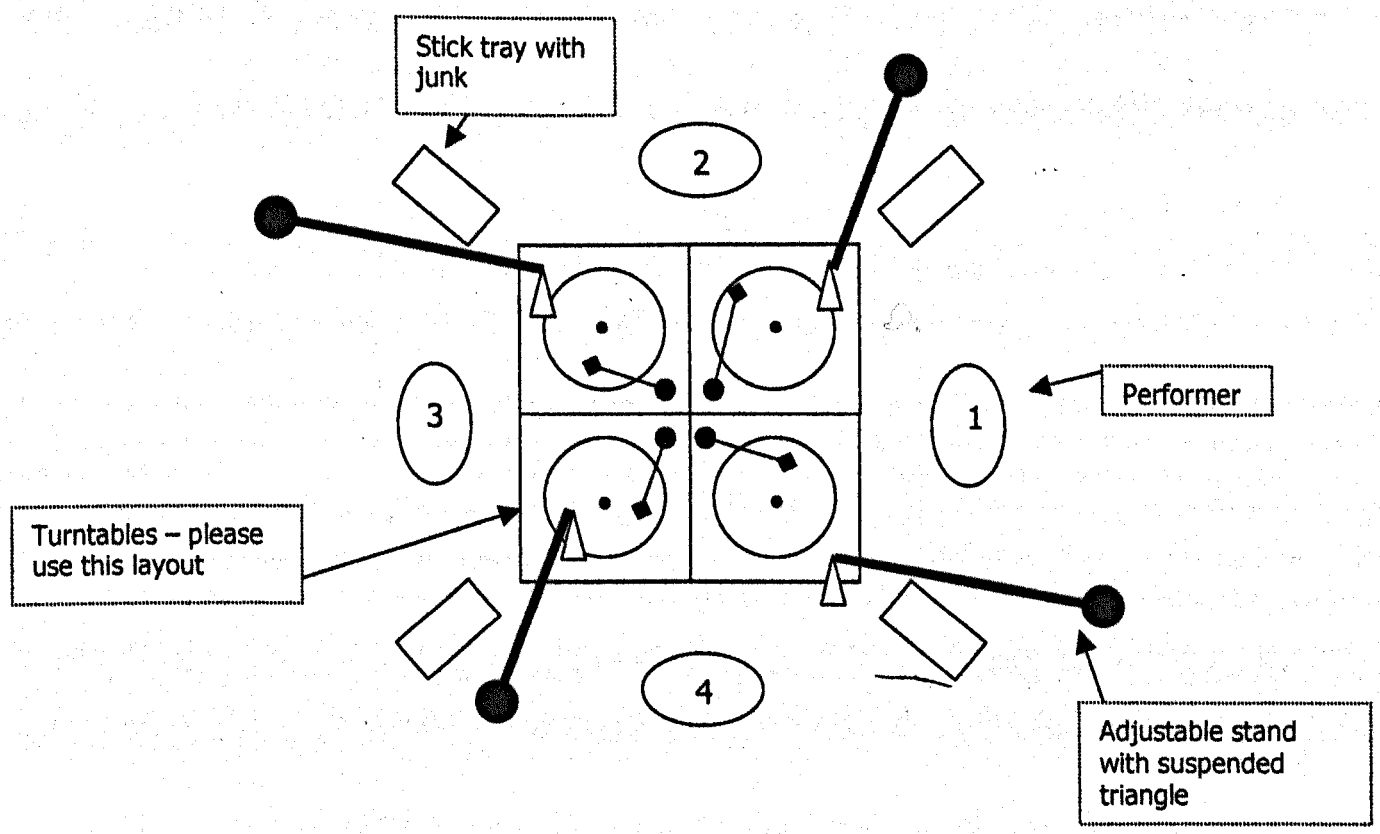
matthew wright (2007-2008)

Mixtape Zen (2007-8)

Imagine a music that lives on the surface of other music, a parasite that multiplies slowly, like a spore.
Imagine a state of concentration that begins with a loop and ends with meditation.

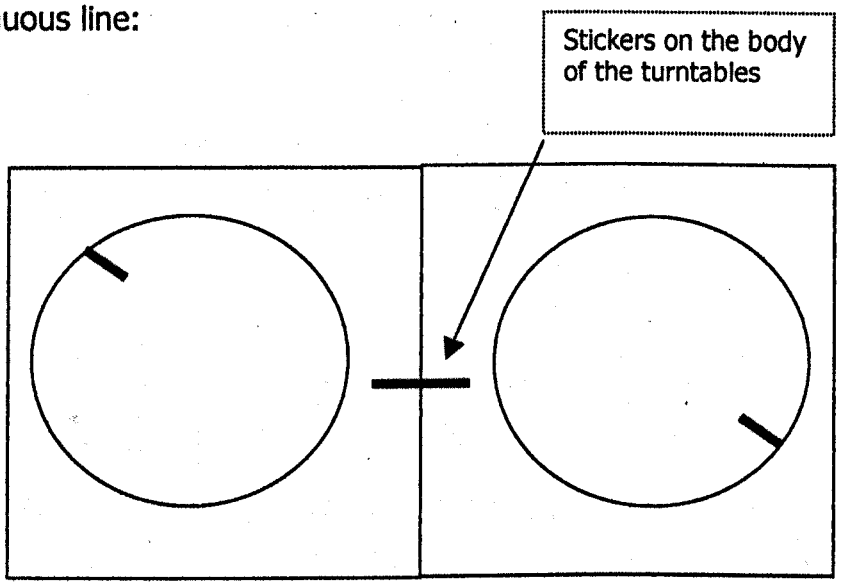
PERFORMANCE NOTES:

One square table (large enough to hold the four turntables and two mixers)
4 turntables
4 classical records
2 DJ mixers
4 shakers
4 drum stick trays (or similar - to lay the junk percussion on)
4 adjustable stands
4 triangles
4 prayer bowls
16 pieces of junk, cans, etc
PA with 4 loudspeakers + Laptop running Ableton Live (operated by the sound engineer)
Optional monitors

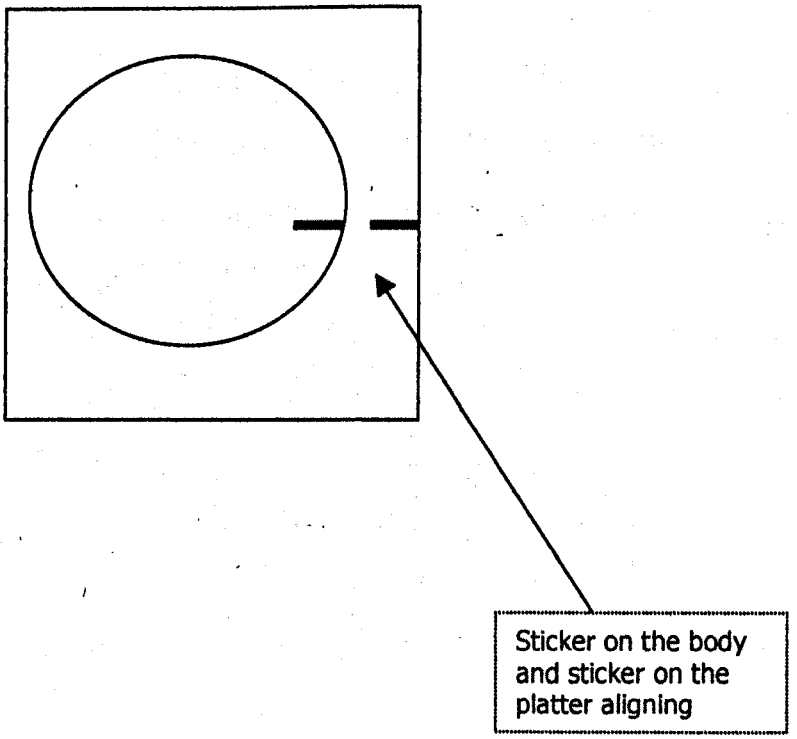


PREPARATION OF TURNTABLES:

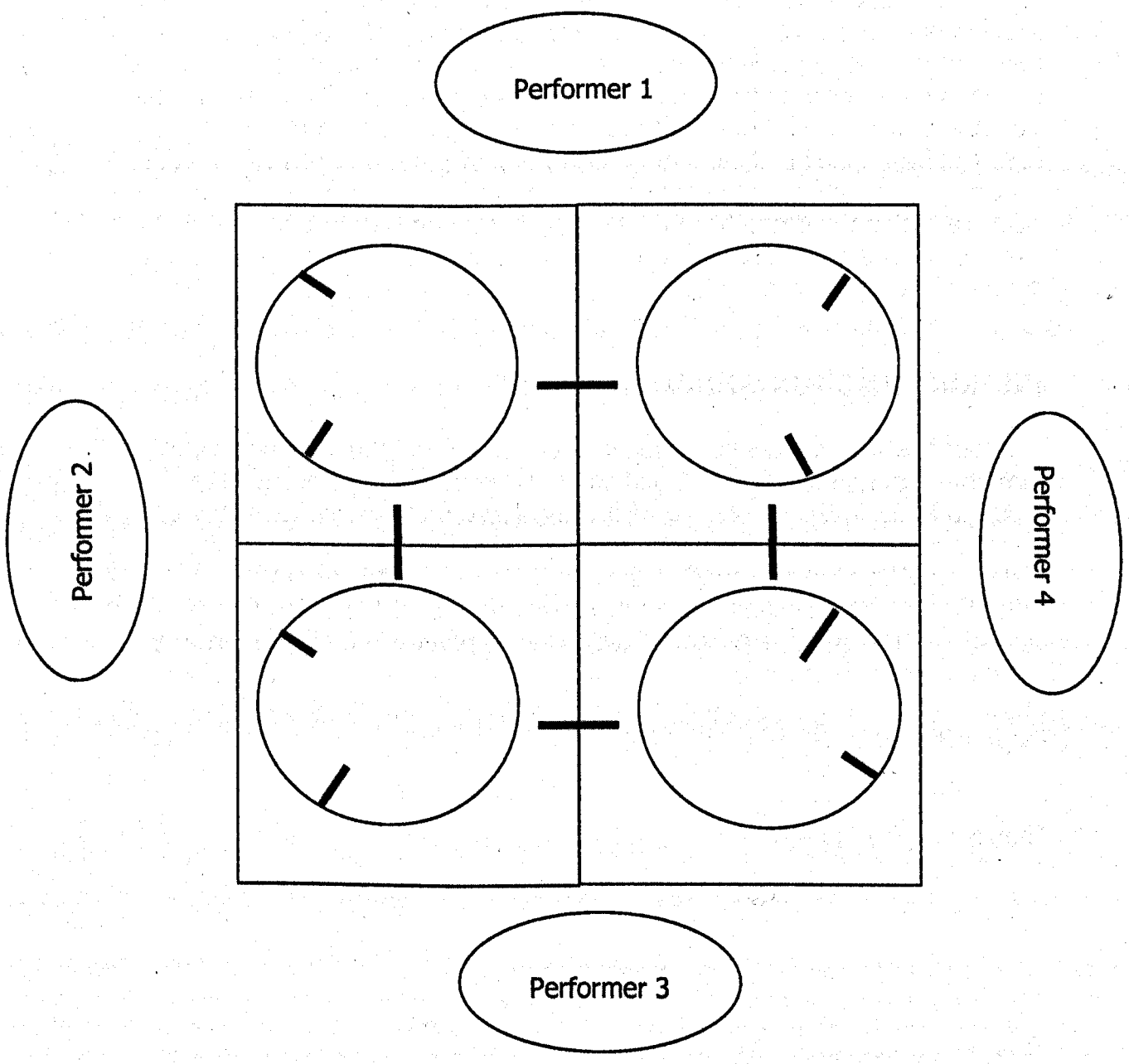
As each performer stands, there should be a turntable to their left and right. Each performer should place one sticker on the body of each turntable, and one on each platter. The stickers on the bodies of the turntables should form a continuous line:



When the sticker on the platter aligns with the sticker on its respective turntable, the performer strikes the percussion as instructed, (1) being one strike, (2) being two strikes, and so on. (These attacks must always be as fast as possible when played on junk. With the shakers, triangles or prayer bowls, these attacks should be played with a steady 5,4,3,2 or 1 per rotation.)



Therefore, each turntable acts as a metronome for *each hand* of the performer. If all performers prepare their turntables as above, each turntable will have four sets of stickers, at 90 degree angles to each other, creating a kind of polyrhythmic clock:



When ½ contact is specified in the score, the performer should move the tone arm of the turntable over the record and lower the stylus only halfway onto the record using the lever. This takes practice, but should result in a fragment of the record looping. In rehearsals aim to perfect this technique so that it becomes fluent and relaxed.

PREPARATION FOR PRAYER BOWLS:

Four prayer bowls should be used, one for each performer. The pitches are unspecified, but preferably close to each other in frequency (but not the same), to create dense clusters of drones at the end of the piece. The players should find four cushions that are suitable to sit on top of the turntable and therefore hold each prayer bowl. In rehearsals the performers should find the optimum speed of each turntable with regards to the sustaining of the pitches from the bowls – each bowl will have its own unique speed in relation to its size. The best speed is the one for which the performer only has to hold the beater lightly against the bowl, so that the turntable does the rest of the work, releasing the drone from the bowl. If the drone is occasionally 'lost' and metallic scrapes are heard, this is totally acceptable and actually adds to the drama of the work at the end.

INSTRUCTIONS FOR SOUND ENGINNERS:

The four speakers should be placed in a square around the audience, with turntable 1 routed to speaker 1 and so on. Likewise, the sound engineer (notated as SE in the score) should use the Ableton Live patch to trigger the samples at the specified moments. Sample 1 should be routed to speaker 1 and so on. The acoustic sound of the percussion and the feed of the turntables and the samples should be cleanly balanced. According to the acoustics of the space, light amplification of the percussion may be needed, but the prayer bowls must never be amplified. Please make sure that when the drones begin, the PA is faded down so that only the acoustic resonance of the bowls is heard.

Thanks for playing - MW

Mixtape Zen could not have been made without the dedication and support of the Ear Massage and Bl!ndman percussion quartets, and a special thank you goes to Diego Espinosa and Eric Sleichim.

All turntables turning:
One – 33 rpm
Two – 33+2 rpm
Three – 33+4 rpm
Four – 33+6 rpm
One – ½ contact (33rpm)
left hand junk (1)
right hand junk (1)
Two – left hand junk (1)
right hand junk (1)
Three – left hand junk (1)
right hand junk (1)
Four – left hand junk (1)
right hand junk (1)
One – change rpm: slightly faster
left hand junk (2)
right hand junk (2)
Two – stop right hand
½ contact (33+2rpm)
left hand junk (2)
right hand junk (2)
Three – left hand junk (2)
right hand junk (2)
Four – left hand junk (2)
right hand junk (2)
One – change rpm: slightly faster
left hand junk (3)
right hand junk (3)
Two – change rpm: slightly faster
left hand junk (3)
right hand junk (3)
Three – stop right hand
½ contact (33+4rpm)
left hand junk (3)
right hand junk (3)
Four – left hand junk (3)
right hand junk (3)
One – change rpm: slightly faster
left hand junk (4)
right hand junk (4)
Two – change rpm: slightly faster
left hand junk (4)
right hand junk (4)
Three – change rpm:
slightly faster
left hand junk (4)
right hand junk (4)
Four – stop right hand
½ contact (33+6rpm)
left hand junk (4)
right hand junk (4)
One – stop right hand
left hand shaker (5)
Four – stop right hand
left hand shaker (5)
Three – stop right hand
left hand shaker (5)
Two – stop right hand
left hand shaker (5)
[[SE: FADE IN Sample 1]]
All – unison shakers with One
One – stop loop with right hand
All – un synchronise shakers
– unison shakers with Four
Four – stop loop with right hand
All – un synchronise shakers
- unison shakers with Three
– stop loop with right hand
All – un synchronise shakers
- unison shakers with Two

Two – change rpm to 33-10
All – slow down in unison with Two
- stay in unison
- un synchronise shakers:
One – 33-4 rpm
Three – 33-8 rpm
Four – 33-6 rpm
[[SE: FADE IN Sample 2]]
Two - left hand junk (2)
right hand junk (2)
Three – left hand junk (2)
right hand junk (2)
Four – left hand junk (2)
right hand junk (2)
One – change rpm to 33-4
left hand junk (2)
right hand junk (2)
Two – change rpm: slightly faster
- left hand junk (3)
right hand junk (3)
Three – stop right hand
½ contact (33-8rpm)
left hand junk (3)
right hand junk (3)
Four – rpm change: slightly faster
left hand junk (3)
right hand junk (3)
One – rpm change: slightly faster
left hand junk (3)
right hand junk (3)
Two – change rpm
- left hand junk (4)
right hand junk (4)
Three – change rpm
left hand junk (4)
right hand junk (4)
Four – stop right hand
½ contact (33-6rpm)
left hand junk (4)
right hand junk (4)
One – rpm change
left hand junk (4)
right hand junk (4)
[[SE: FADE IN Sample 3]]
Two – stop right hand
left hand shaker (5)
One – stop right hand
left hand shaker (5)
Four – stop right hand
left hand shaker (5)
Three – stop right hand
left hand shaker (5)
All – unison shakers with Two
Two – stop loop with right hand
All – un synchronise shakers
– unison shakers with One
– un synchronise shakers
- unison shakers with Four
Four – stop loop with right hand
All – un synchronise shakers
- unison shakers with Three

Three – change rpm to 33
[[SE: FADE OUT Sample 3]]
All – speed up in unison with Three
- stay in unison
- un synchronise shakers:
Four – 33+2 rpm
One – 33+4 rpm
Two – 33+6 rpm
Three – left hand junk (3)
right hand junk (3)
Four – left hand junk (3)
right hand junk (3)
One – left hand junk (3)
right hand junk (3)
Two - left hand junk (3)
right hand junk (3)
Three – change rpm: slightly faster
left hand junk (4)
right hand junk (4)
Four – ½ contact (33+2rpm)
left hand junk (4)
right hand junk (4)
One – rpm change: slightly faster
left hand junk (4)
right hand junk (4)
Two – rpm change: slightly faster
left hand junk (4)
right hand junk (4)
[[SE: FADE IN Sample 4]]
Three – stop right hand
left hand shaker (5)
Two – stop right hand
left hand shaker (5)
One – stop right hand
left hand shaker (5)
Four – stop right hand
left hand shaker (5)
All – unison shakers with Three
Three – stop loop with right hand
All – un synchronise shakers
– unison shakers with Two
– un synchronise shakers
- unison shakers with One
– un synchronise shakers
- unison shakers with Four

Four – change rpm to 45
All – speed up in unison with Four
- stay in unison
- un synchronise shakers:
One – 45+2 rpm
Two – 45+4 rpm
Three – 45+6 rpm
Four – left hand junk (4)
right hand junk (4)
[[SE: FADE IN Sample 3]]
One – left hand junk (4)
right hand junk (4)
Two– left hand junk (4)
right hand junk (4)
Three – left hand junk (4)
right hand junk (4)
Four – stop right hand
left hand shaker (5)
Three – stop right hand
left hand shaker (5)
Two – stop right hand
left hand shaker (5)
One – stop right hand
left hand shaker (5)
All – unison shakers with Four

Four – stop loop with right hand
All – un synchronise shakers
[[SE: MUTE Sample 3 - no fade]]
- unison shakers with Three
– un synchronise shakers
[[SE: FADE OUT Sample 4]]
- unison shakers with Two
– un synchronise shakers
[[SE: FADE Sample 2]]
- unison shakers with One

One – change rpm to 33
All – slow down in unison with One
- stay in unison
[[SE: BEGIN SLOW FADE OUT OF Sample 1]]
- un synchronise shakers:
Two – 33+2 rpm
Three – 33+4 rpm
Four – 33+6 rpm
- unison shakers with Two
- un synchronise shakers
- unison shakers with Three
- un synchronise shakers
- unison shakers with Four
One – change rpm to 33-10
All – slow down in unison with One
- stay in unison
- un synchronise shakers:
Two – 33-8 rpm
Three – 33-6 rpm
Four – 33-4 rpm
All - unison shakers with Two
- un synchronise shakers
- unison shakers with Three
- un synchronise shakers
- unison shakers with Four

One – place prayer bowl at centre of record
left hand triangle (4)
right hand prayer bowl (4)
[[SE: Sample 1 OUT]]
Two – place prayer bowl at centre of record
left hand triangle (4)
right hand prayer bowl (4)
Three –place prayer bowl at centre of record
left hand triangle (4)
right hand prayer bowl (4)
Four – place prayer bowl at centre of record
left hand triangle (4)
right hand prayer bowl (4)
One – left hand triangle (3)
right hand prayer bowl (3)
Two – left hand triangle (3)
right hand prayer bowl (3)
Three – left hand triangle (3)
right hand prayer bowl (3)
Four – left hand triangle (3)
right hand prayer bowl (3)

One – left hand triangle (2)
right hand prayer bowl (2)
Two – left hand triangle (2)
right hand prayer bowl (2)
Three – left hand triangle (2)
right hand prayer bowl (2)
Four – left hand triangle (2)
right hand prayer bowl (2)
One – left hand triangle (1)
right hand prayer bowl (1)
Two – left hand triangle (1)
right hand prayer bowl (1)
Three – left hand triangle (1)
right hand prayer bowl (1)
Four – left hand triangle (1)
right hand prayer bowl (1)

One – stop triangle, move rpm to optimum speed and sustain prayer bowl, stopping occasionally if needed
Two – as One
Three – as Two
Four – as Three
- switch off turntable and stop
Three - switch off turntable and stop
Two - switch off turntable and stop
One - switch off turntable and stop

pause

Mixtape Zen

Matt Wright

Transference
(51.16 North, 1.04 East)

matthew wright (2007-8)

Transference (51.16 North / 1.04 East) (2007-8)

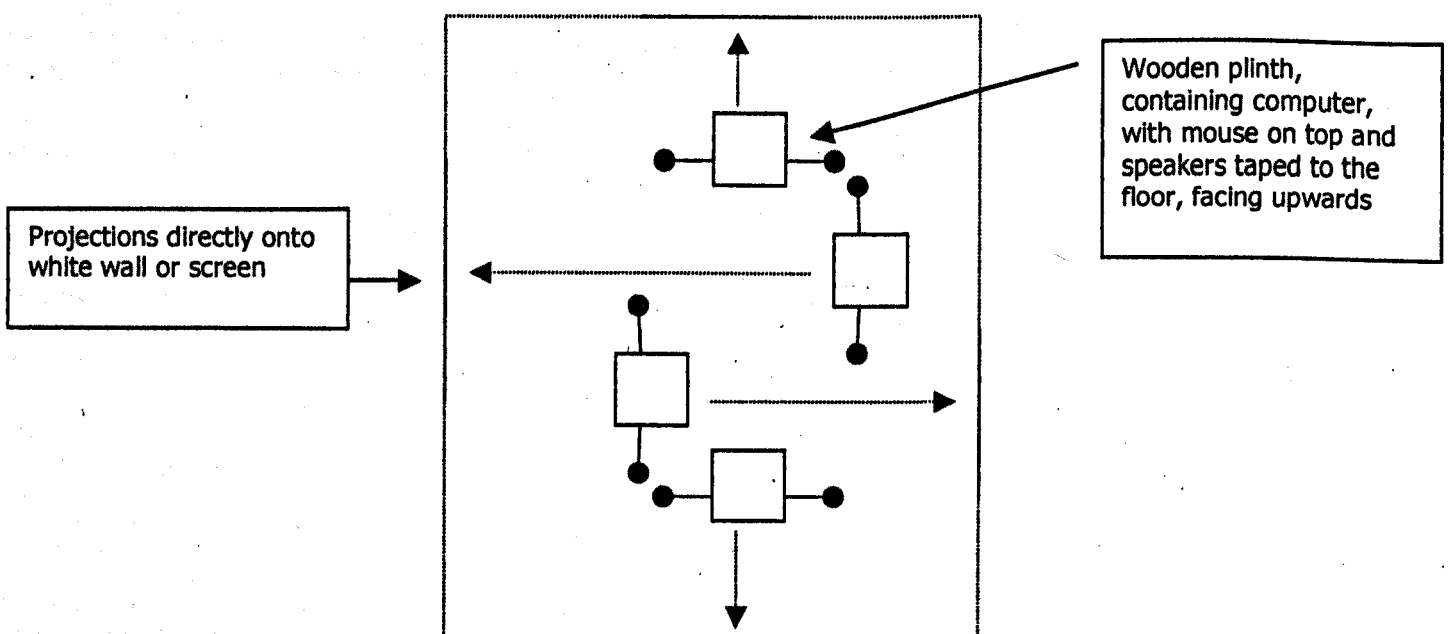
This work was commissioned by the Sounds New Festival 2008 and was installed in Canterbury's Sidney Cooper Gallery between the 14th and 19th April. Being a relative newcomer to Canterbury, listening to, recording and reflecting on the sounds of the city gave me a chance to make contact with this new environment in ways similar to a photographer assembling a visual montage. I chose nine 'zones' of sound that particularly interested me and then made little studies based on their rhythms, frequencies and motion. Short texts regarding my thoughts on those sounds were distributed through the gallery and the interactive animations contained in this package were projected onto the four walls of the space. Visitors to the gallery could interact with the images and make their own mix of sounds and leave soundclips for me via a microphone or email. Over the course of the week the installation began to document itself and the people who visited it, representing a transference of sound and image from the streets of the city, into the gallery and out to the virtual space of a website.

INSTALLATION NOTES:

Four* computers with mice, running Flash Player 5 or higher.
Four* good quality sets of computer speakers.
Four* projectors
Four* white plinths, large enough to cover the computers.

*this installation is flexible and can be adapted to the particular circumstances of the space.

In the Canterbury version, four wooden plinths were constructed with air vents and small holes on the top, through which each computer mouse was threaded. These plinths were then placed in the centre of the space, facing out, with the computer speakers for each plinth taped to the floor, facing upwards towards the ceiling:



The following texts were placed on the walls of the space:

Gate and Doors

'These are the sounds of entrances, openings and movements from one geographic space to another. They also trace movement from one sonic zone to another – from inside to outside, from the High Street into this gallery, for instance. Heard in this way, we often use buildings as large acoustic shelters that block out the sounds of our surroundings. Doors, windows and gates can puncture this illusion, however, and let reality creep back into our ears. Opening and closing a gate in a field reminds us that sound is not always as easily divided as land on a map.'

Trains

'Trains define movement in and out of the city, but recorded from a static point on a platform, train stations are predominately empty spaces, to be filled temporarily by sounds of departure and return. Doors opening on trains offer not just solace from the outside, but also promise a journey from the static to the transitory. This promise of travel is echoed out across the fields surrounding Canterbury and is a constant feature of our sonic experience.'

Traffic

'This cushion of traffic noise that rubs against the edges of the city walls is built from multiple journeys – a diffuse cloud of narratives that disperses and rearranges itself on a twenty-four hour cycle. The sounds of these roads speak of our position in history – our entanglement with nine-to-five trade and commerce, our temporary dependence upon petrol and diesel, and, to get to the point, our need to get to school, to work, to home. Threaded through this, our subconscious habit of stitching these sounds with others is ever present – the sound of the radio, a soundtrack brought from home on an mp3 player, or a voice at the end of a mobile phone.'

Language

'Through the intertwined narrative of languages spoken here we have the opportunity to catch glimpses of cities beyond Kent, beyond the UK, beyond Europe. This is the life blood of the city – the sound of co-operation, disagreement, of people thrown into dialogue. Heard from a distance, these fragments of conversation form an amorphous web of sound that runs down the High Street and disperses into the surrounding area.'

Bells

'Bell sounds and the history of Canterbury are so obviously intertwined that these frequencies have become an unmistakeable part of the sonic fabric of the area. The rhythms of these bells are refracted, bounced across walls and thrown out over the rooftops and fields, a phenomenon uniquely affected by your position within and proximity to the architecture of the city.'

Outside the City Walls

'Outside the city walls, and beyond the traffic noise, there are places in the surrounding area of Canterbury that have an internal stillness, a soundscape that is relatively untouched by industry. These spaces provide a counterpoint to the sound of transit that encircles even small cities such as ours, and give us the opportunity to think about the sounds that were here before the city, a chance to measure our 'progress'.'

Pedestrian Crossings

'There is rich rhythmic complexity in the ways pedestrian crossings work. They can function like sonic hinges at the meeting points of two or more streams of transit, signalling the beginning of one traffic flow and the end of another. They also provoke reactions – people can start moving again after temporary stillness, car brakes produce high tones that seem to answer the signals of the traffic lights, and humans and machines meet at right angles for a few seconds.'

Listening through the City

'Listening whilst moving through the city gives us an opportunity to hear familiar sounds from multiple perspectives, catching snatches of lyrics from a busker or hearing a guitar being tested in a second hand shop blending with the sounds of generators and fire alarms. The order of these events, and their placement in our unique definition of left and right an up and down, give us the opportunity to navigate a soundscape that is constantly rotating, evolving and shifting, reinforcing a sense that simply by listening in different way, we can make our own sonic narrative.'

Thanks for playing - MW

Vent / Glacier

matthew wright (2008)

Vent

Imagine the violence of the 'industrial' colliding with the 'digital'.
Imagine the sound of the tuba melting like iron ore into a digital waveform.
Imagine the human voice wrenched from the throat and morphed into a virtual scream.

Vent is a semi-improvised performance piece based on the interaction between a series of tuba multiphonics, live sampling and filtering. The structured improvisation should move, with relentless violence, from an exposition of the multiphonics to a dialogue between the multiphonics and the electronics, before a final coda in which the sampler is used in conjunction with an effects unit. The tuba should be played lying on its side on the performers lap, so that the performers' hands are free to manipulate the electronics, placed on a table in front of her/him. A microphone should be taped into the inside of the bell of the tuba, and the gain of the signal should be distorted. The type of electronic manipulation of the multiphonics should be limited to:

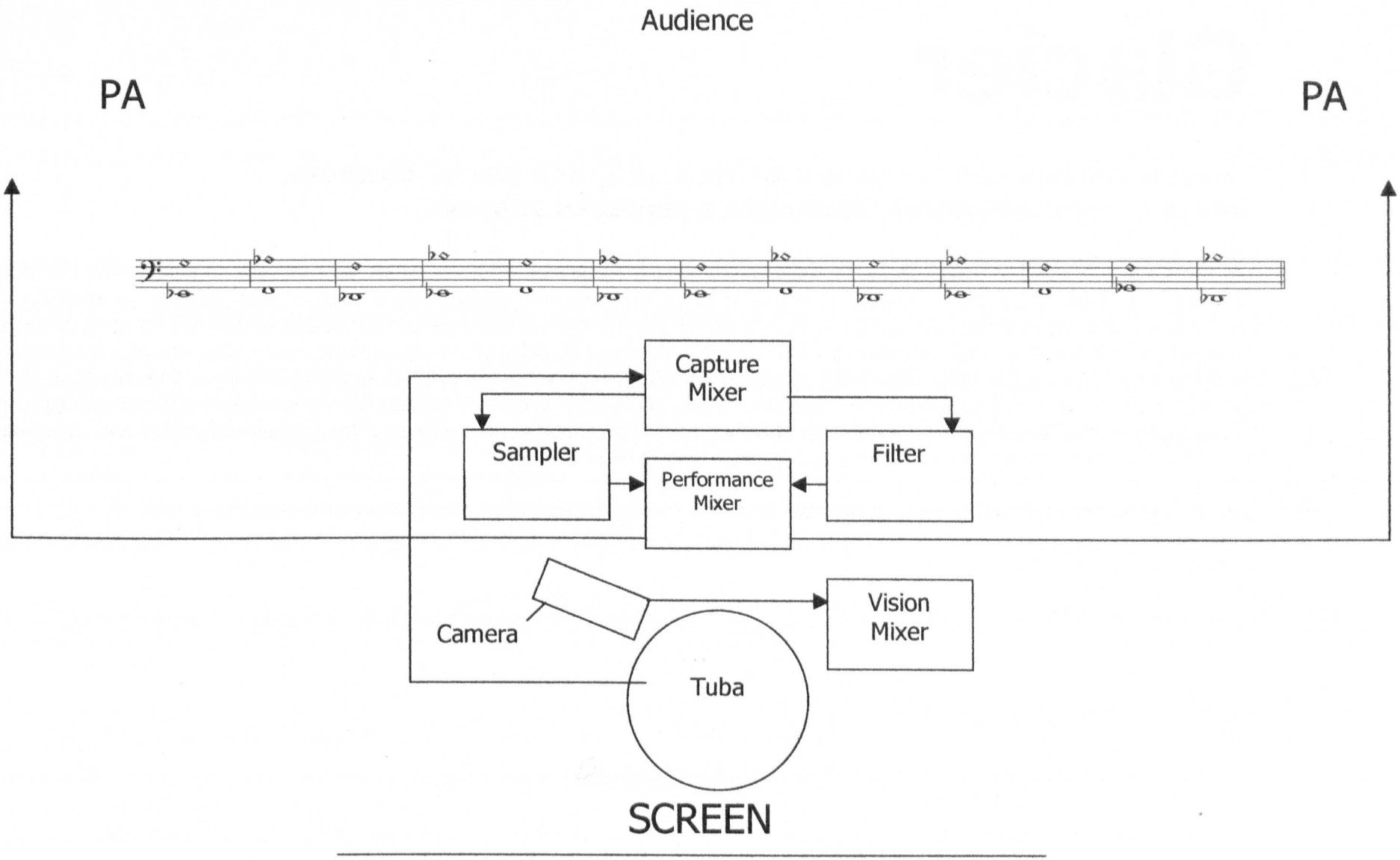
- live sampling and violently reducing the sample length to create high frequency glitches
- live filtering, consisting of changes of speed and depth of a sawtooth wave
- live pitch-shifting of the sampled material, using an effects processor or similar[1].

The visuals for this work consist of a digital camera attached to a vision mixer or visual patch. The camera should be placed to the left of the performer, focused in a tight shot on the valves and tubing of the instrument. The mixer or patch should be split the live feed into a four-way mirror, and this image should be mixed against a no-input blue screen, giving a glacial blue hue to the colour of the image. The performer should freely move the tuba during the performance, to alter the live visuals. The following score represents the arrangement used for the first performance. Thanks for playing – MW

---

[1] Equipment for the first performance:

- Sampler: Korg Kaoss Pad
- Filter: Electrix Filter Factory
- Capture and Performance Mixers – Gemini FX-7000 DJ Mixers (with 'pitch up' effect between 0-99 used for pitchshifting)


Audience
PA
PA
Capture Mixer
Sampler
Filter
Performance Mixer
Camera
Vision Mixer
Tuba
SCREEN

Glacier

Imagine the industrial burning into the digital with glacial slowness.
Imagine metal and silicon frozen into a perpetual stillness.

Glacier is a strictly-notated score, using the same multiphonic materials as Vent, but whilst Vent focuses on a perceived transition from the 'industrial' to the 'digital', Glacier asks the performer to focus on musical stasis, a tense, frozen dialogue between the multiphonics and two samples[2]. As such, this version of the work is more suited to a concert of pieces focusing on musical stasis, or an installation. Put simply, Vent and Glacier could be considered as two sides of a schizophrenic work – one violent, volatile and reaching for resolution, the other attempting meditative equilibrium between the acoustic and the electronic. The challenge of Glacier for the performer is to continue to maintain a sense of glacial slowness as the number of multiphonics per breath increases. The equipment for Glacier consists of the tuba amplified as in Vent, the capture mixer and the sampler – the filter and performance mixer are not used. A large reverb of around 3 seconds should be perceivable.

Glacier is performed without visuals, as the attention of the audience should be as still and as focused as possible.

Thanks for playing – MW

[2] Before the performance, the player should record samples of the first and second multiphonic into the sampler. These are notated above the stave and should be sustained until the next sample is triggered. At the end of the work, the sample should be faded out in sync with the end of the live multiphonic.

𝅝=as long as possible