

An exploration of cross-genre
composition focusing on the
combination of natural and synthetic
sound sources

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Declaration

I declare that the eight musical compositions and the accompanying commentary that constitute this submission are my own work and that, to the best of my knowledge or belief, they contain no material previously published or written for the award of any other degree or diploma of the University of London or other institution of higher education.

Signature.....

Name.....

Date.....

Abstract

This portfolio explores a combination of acoustic performance with technology in various guises, including the use of backing tracks alongside an ensemble, the manipulation of live instruments with effects and the use of synthesizers and samplers along with an instrumental ensemble.

A key feature that runs through the portfolio is the use of specific non-musical subject themes as inspiration for the music. These include the murders of five prostitutes in Ipswich in 2006 by Steve Wright, a speech by David Davis on people trafficking from 2005, the Mumbai hostage situation and bombings of 2007, drug culture and the sounds of London.

A large proportion of the pieces that make up this portfolio have contributed to a fusion album entitled *Opposites React*. This album explores how acoustic performance can be combined with electronics and includes performances and collaborations with performers, poets, producers and visual artists.

Composition Portfolio

Red to Rags – 20' - Flute/Clarinet, 2 alto saxophones, 1 tenor saxophone, 2 trumpets, string quartet, electric/acoustic guitar, bass guitar, piano/MIDI keyboard, percussion, drum kit and sequencer (effects, playback of additional synths, drums and news report sample material).

Performers – Voice – Owen Young. Saxophones – Michael Gunn, Ed Barker, Harry Lightfoot. Live Strings – Solaris Quartet. Guitars/Bass/Sequencing – Richard Norris. Live Trumpets – Hugh Rashleigh. Engineered by Richard Norris, Matthew Slater and Leo Steeds at Clean Dirt, FX Rentals and Blackdown Studio. Mixed by Matthew Slater at the Barn Studios.

April 2008

Extracted Intrusions – 30' - Flute, 2 alto saxophones, 1 tenor saxophone, 2 trumpets, string quartet, electric/acoustic guitar, bass guitar, piano/MIDI keyboard, percussion, drum kit and sequencer (real-time delay and phasing effects with automation, playback of additional vocals, poems, synths, pianos and drums).

Performers – Voice – Owen Young, Meg Lloyd. Saxophones – Michael Gunn, Ed Barker, Harry Lightfoot. Live Strings – Solaris Quartet. Guitars/Bass/Sequencing – Richard Norris. Live Trumpets – Hugh Rashleigh. Engineered by Richard Norris, Matthew Slater and Leo Steeds at Clean Dirt and Blackdown Studio. Mixed by Leo Steeds and Richard Norris at Blackdown Studio.

August 2008

Human Traffic – 10' - Flute, 2 alto saxophones, 1 tenor saxophone, 2 trumpets, string quartet, electric/acoustic guitar, bass guitar, piano/MIDI controller/sampler (for the triggering of spoken word sample material)/Moog synthesizer, percussion, drum kit.

Performers – Royal Holloway Sinfonietta conducted by Mark Bowden.

November 2008

Mumbai Nights – 12' - String Quartet, Piano/Keyboards, Tabla, Female Vocal, Sequencer (real-time vocal manipulation, playback of additional synths, drums and news report sample material).

Performers – Voice – Nishi Malhotra. Tabla/Harmonium/Voice – Ashiq Hussain. Live Strings – Solaris Quartet. Guitars/Bass/Sequencing – Richard Norris. Engineered by Richard Norris and Matthew Slater at Clean Dirt, Why and FX Rentals. Mixed by Simon Byrt at Brown Bear Studio.

April 2009

Some Place – 10' - String Quartet, Piano/Keyboards, Sequencer (playback of additional synths, drums and collected sample material of sounds around London).

Performers – Live Strings – Solaris Quartet. Guitars/Bass/Sequencing – Richard Norris. Engineered by Richard Norris and Matthew Slater at Clean Dirt and FX Rentals. Mixed by Simon Byrt at Brown Bear Studio.

August 2009

Rahat – 11' - String Quartet, Keyboard (simple additional string pad part).

Performers – Live Strings – Solaris Quartet. Pad/Additional sampled orchestration – Richard Norris. Engineered by Richard Norris and Matthew Slater at Clean Dirt and FX Rentals. Mixed by Simon Byrt at Brown Bear Studio.

February 2010

Why can we never win? 5' – MIDI Xylophone (triggering sounds from Logic), vocoder and loop pedal (one performer).

Performer – Live Version – Joby Burgess. Recorded at Birmingham University. Recorded version – Voice – Shanade Morrow, Sequencing – Richard Norris. Recorded and Mixed at Clean Dirt.

May 2010

Do you want to wake up tomorrow? 7' - Cello and backing track.

Performers – Cello – Bethany Porter – Programming – Richard Norris. Engineered by Richard Norris in Bath. Mixed by Richard Norris at Clean Dirt.

August 2011

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Additional Material – 2 Audio CDs, Appendices booklet, 8 scores. Logic files are available on request. Please e-mail richard@richardnorrismusic.com.

1 - Introduction

The compositions that make up this portfolio have all been written between 2008 to 2011 and range from solo performance, to string quartet, to an ensemble comprised of flute, 2 alto saxophones, 1 tenor saxophone, 2 trumpets, string quartet, electric/acoustic guitar, bass guitar, piano/MIDI keyboard, percussion, drum kit and sequencer.

Each piece is in some way routed to the combination of acoustic performance with technology. The degree to which technology is used ranges from providing a pre-recorded backing track (*Red to Rags, Some Place, Extracted Intrusions, Mumbai Nights*) to triggering samples (*Human Traffic, Mumbai Nights, Why can we never win?*) to providing effects and looping (*Extracted Intrusions, Red to Rags, Why can we never win?, Do you want to wake up tomorrow?*).

Within the context of this research I have used features of different musical genres (tempo, timbre, texture, production) and explored how they can be combined to form a coherent contemporary composition. Within this exploration the use of samplers and synthesizers has been integral in terms of providing sound sources and using technology for live performance. Genres that I have explored include drum'n'bass (*Some Place, Mumbai Nights*), trip-hop (*Extracted Intrusions*), song-writing (*Extracted Intrusions, Some Place, Why can we never win?*), traditional orchestral/cinematic composition (*Rahat, Red to Rags, Some Place, Extracted Intrusions*) and experimental avant-garde composition (*Some Place, Rahat, Mumbai Nights*).

In terms of how I have crossed genres I have taken features from different genres and used these features within particular pieces. Features drawn upon include timbre, melody and harmony and how these are used is often dictated programmatically. For example, a tense hostage situation may be represented using an upbeat tempo in the region of 140bpm with harsh drum'n'bass timbres (e.g. *Mumbai Nights Mvt. I*) whilst a dreamy drug-trip section may be represented with sustained pads and effected instrumental sections (e.g. the delayed wind parts in bar 113 of *Extracted Intrusions Mvt. I*). There are situations, however, where it is interesting to represent a particular

situation with a composition angle that might not be the most obvious approach (e.g. electronica with a string quartet representing the apprehension of a drug trip at the start of *Extracted Intrusions Mvt.2* and the cello improvisation over a London tube journey in *Do you want to wake up tomorrow?*). My musical aim within the pieces in this portfolio is generally for the music to portray a journey, or image, in the imagination of the listener, and, as such, my compositional approach could often be considered radiographic.¹

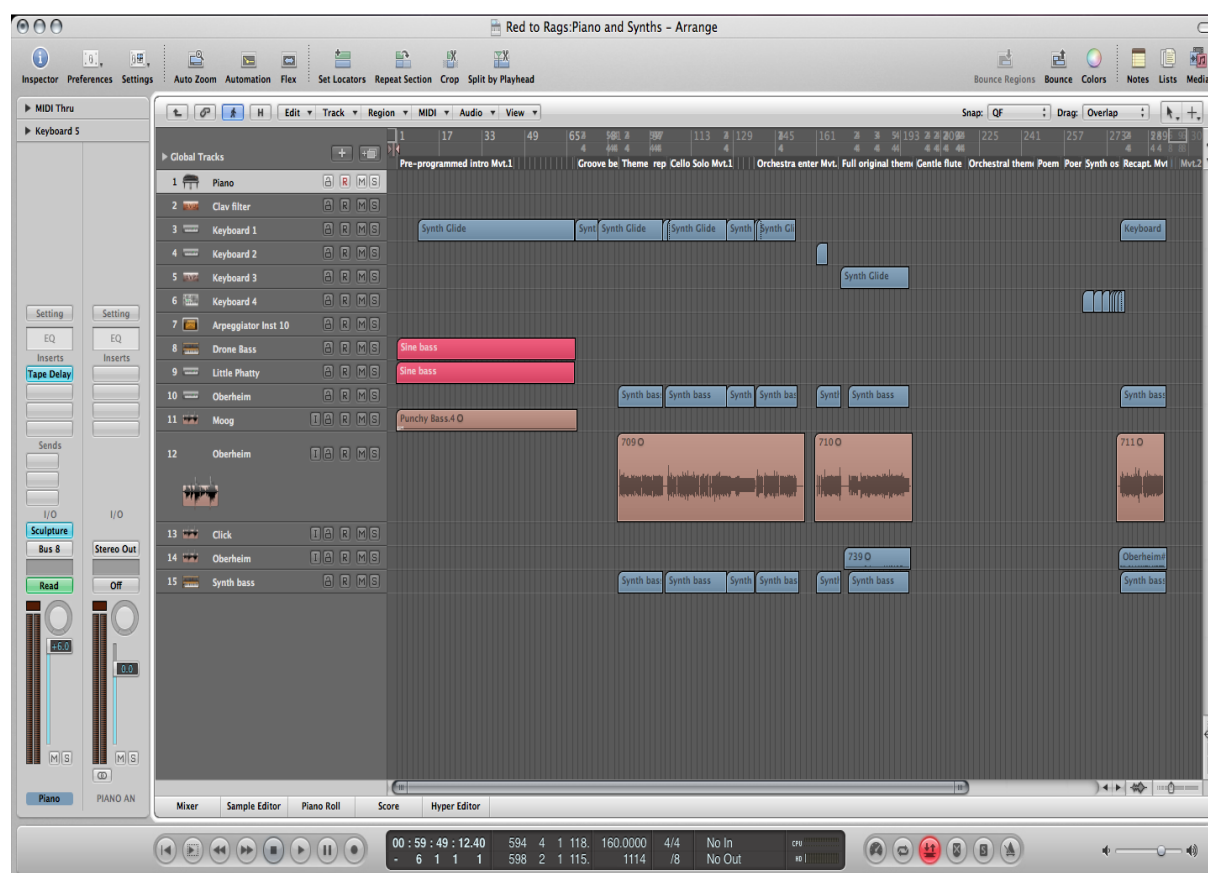
In the context of this research “natural” is taken to mean an instrument or sound source that is played acoustically through natural means (e.g. breathing, tapping, hitting) whilst “synthetic” requires electricity, although the instrument or source may still be played or have been produced manually (e.g. a synthesizer, vocal sample, loop pedal). “Live” is taken to mean anything that is not pre-recorded or edited. “Real-time” refers to a process that takes place at the same time as the performance (e.g. effects being applied to an instrument as it is played (as opposed to pre-recorded), often with parameters being altered manually alongside the performance).

Collaboration has been a key feature in terms of developing ideas and completing these compositions. For *Mumbai Nights* I worked with a female Indian vocalist and a tabla/harmonium player. The collaboration worked to the extent that I had a first draft of the piece virtually written before arranging a recording session with the musicians who I then asked to sing/perform specific patterns or to improvise over my material (which often involved temporarily re-arranging irregular time signatures into regular signatures with which they felt more comfortable). I then selected and edited the recorded material to fit into my composition, or altered my composition to fit around their phrases (this will be discussed in Chapter 4, part iv). Other collaborations included *Extracted Intrusions* and *Red to Rags* with an actor and *Some Place* with a London busker playing a drum-kit made up of buckets.²

¹ “Radiographic” taken to mean programmatically composed music that aims to evoke a visual response for the listener.

² Elliot Rooney busking on Oxford Street on 4/6/2009.

Throughout the writing and recording of these pieces the main software that I have used has been *Logic Studio*, *Pro Tools* and *Sibelius*.³ I, along with many other technology based composers, have come to view the sequencer page as an alternative score, in which the tracks are represented as a series of horizontal objects displaying which parts are active and inactive. This display will lead to the resulting timbre, much like the choice of registration on a church organ. Whilst a notated musical score only suggests a performance/interpretation of the markings on the page (thus each performance will vary), a sequencer will play back a computer-generated representation of the information being displayed (thus theoretically always playing back in exactly the same way). I have aimed to work with these two features in my compositions (many of which I will explore later in this commentary), contrasting the rigidity of the sequencer with the variety of live performance (a strong example of this is the bending saxophone lines pushing against the tightly programmed drums in the third movement of *Red to Rags*).



Ex.1 Mvt 1 Red to Rags Piano and Synths page displaying which parts are active and inactive

³ From *Logic Pro 7* on Mac OS 10.4 (Tiger), via *Logic 8* to *Logic 9* on Mac OS 10.6 (Snow Leopard), *Pro Tools 8* and *Sibelius 4*.

Some of the recordings in *Opposites React* use both live strings and saxophones⁴ and editing was often required (both in tightening the live performances, and loosening the programmed parts) in order to help the parts fit more comfortably in a recorded format. This was largely due to the completely programmed nature of the rhythmic parts conflicting with the naturally imperfect nature of the live performances. The solution throughout the recordings was highly dependent on the nature of the music in each section. A four-to-the-floor drum dominated section would tend to result in the live performance needing to be tightened against the computer parts (again, particularly evident in the third movement of *Red to Rags*) whilst more spacious, live instrumental sections would be better presented by removing or lowering the impact of quantization or grid-based material (this approach worked better in the orchestral, less beat driven sections of *Extracted Intrusions*).

It is important to note that it would be impossible for a keyboard player to play all of the electronic parts live for a number of reasons. First, the quantity of the parts would require multiple performers (up to twenty in places of *Extracted Intrusions Mvt.3*) to cover all of the leads, pads, arpeggiators and other electronic sound sources. Secondly, a lot of the parts would be impossible for a live performer to trigger either due to the amount of notes taking place or the nature of the writing. The keyboard part in the scores aims to provide a live performance of, what I consider to be, either the most important, or the most appropriate, part for a live performer to be presented. There is room for alteration to these parts depending on the quantity of performers available and the score can be updated accordingly for each performance (e.g. if three keyboard players were available). The live keyboard performance would help with the visual side of the performance, and, in addition to this, I would encourage the sequencer screen to be visually projected so that the audience are aware of the role that the sequencer and electronics are playing within the performance.⁵

In live performance, the importance of using a click track will vary from piece to piece, influenced by the scale of the instrumentation and the flexibility of each particular composition. For the large-scale pieces with multiple instrumentalists the

⁴ *Red to Rags* (live saxophones and strings), *Extracted Intrusions* (live saxophones), *Mumbai Nights*, *Some Place* and *Rahat* (live and sampled strings). See pages iii-v for a complete listing of performers.

⁵ This is the method in which Brian Lock's performance of *Rêve* was presented at LSO St.Luke's, London, in October 2007.

click would generally need to be dominant in holding the players together with the rigid backing track, though there may be less rigid sections within the piece where a conductor or instrumentalist could provide cues without the need for a click.

Preparation would also be required as to when and whether the performers would be able to hear the live effects/click within their monitor mixes (this is further discussed in Chapter 5).

2 – Research Context

Contemporary composition performances that I have attended over recent years include *Outhear* (at the Luminaire in Kilburn), *Nonclassical* (Macbeth in Hoxton Square and the Horse and Groom on Curtain Road), *Trouble Tune* (Southbank Centre) and *Blank Canvas* (Kings Place). What has been consistent with all of these nights is the aim to present new, and less new, music in an informal environment. This is important in the establishment of current composition in order to attract and establish new audiences, something which I feel composition should take into consideration.

Graham Fitkin's nine-piece band performed a selection of his own music at a *Blank Canvas* concert in 2010.⁶ Fitkin's music appeals greatly to me, with its strong focus on syncopation and jazz harmonies. Fitkin's piece, *Cud*, (not performed in this particular concert) had a large influence on my piece, *Human Traffic*, in terms of instrumentation⁷ and the use of varying time signatures. Varying and irregular time signatures are a dominant feature in many of my compositions and a feature that I am drawn towards, perhaps as a rebellion to regular loop-based electronic music, as well as my jazz influences (Dave Brubeck has had a large influence on my writing with pieces such as *Blue Rondo A la Turk*, *Unsquare Dance* and *Take Five*). *Human Traffic* has a heavy reliance on a 7/8 rhythmic phrase intertwined with regular time signatures that don't necessarily feel regular once the 7/8 has become established. The use of time signatures with this instrumentation (in which the saxophones have a major impact on the overall timbre) along with harmonic features (a use of both jazz and traditional harmonies) lends itself to a crossover of ensemble/jazz composition. When intertwined with technology (*Human Traffic* uses a Moog synth and a sampler) this further expands the musical territory and timbres in electronic music.

⁶ 2nd February 2010 at Kings Place. The band for this concert consisted of Simon Haram on soprano and alto saxophones, Nick Moss on tenor sax and bass clarinet, Noel Langley on trumpets and flugelhorn, Aidy Spillett on percussion and vibes, Joby Burgess on percussion and marimba, Alan Thomas on guitars and mandolin, John Lunn on double bass, Graham Fitkin on piano and Ruth Wall on bray and lever harps.

⁷ *Cud* (1988) is scored for 2 flutes, 2 clarinets, 5 saxophones, 5 brass, guitar, bass guitar, 2 keyboards and percussion. *Human Traffic* (2009) is scored for flute, 2 alto saxophones, 1 tenor saxophone, 2 trumpets, string quartet, electric/acoustic guitar, bass guitar, piano/MIDI controller/Moog synthesizer/sampler, percussion and drum kit.

The *NonClassical*, *Blank Canvas*, *Trouble Tune* and *Outhear* nights were of particular interest to me for their settings and location. Moving traditional ensembles and “classical” music into these environments is interesting, and, in my opinion, works successfully at times and less so at others. I heard Gabriel Prokofiev’s *Concertos for Turntables and Orchestra* performed by DJ Switch in a reworked format for prepared piano and turntables in the Macbeth⁸ and it was interesting to see the interaction between live performance and technology.⁹ Sustained sounds and sudden hits were sampled in real-time and re-triggered in various effected forms, combining composition with sound design. This use of real-time effects is of interest to me and is dominant in my music (an example of this is the second movement of *Red to Rags* in which the alto saxophone is passed through a bit-crusher to provide it with a raspy-synth sound).

The times that I found these nights less successful were when the choice of music and its suitability for the environment and the audience was less compatible. An example is an improvised trio (piano, cello and voice) in an extremely avant-garde style that was placed in the middle of a programme of jazz-inspired composition. The intention of programming the piece in such a manner was presumably to entice, and hopefully retain, the audience for this new piece, but the piece lasted around fifteen minutes and the room slowly cleared, which was unfortunate as the following piece was very interesting and perhaps more widely appealing.

The interaction of live acoustic performance with technology and invention has progressed and altered dramatically. Very early examples range from the noise machines of Luigi Russulo and his manifesto on noise in musical composition, “L’arte dei rumori” of 1913, in which he wrote of the need for listeners to be presented with a larger scope of sound than that provided by the traditional orchestra¹⁰ to Stockhausen’s *Gesang der Jünglinge* (“Song of the Youths”) from 1956 for tape

⁸ www.themacbethuk.co.uk, 70 Hoxton Street, London, N1 6LP. Accessed on 13/06/2011.

⁹ *Concertos for Turntables and Orchestra* (2007, Gabriel Prokofiev). Excerpts from the original performance by The Heritage Orchestra and DJ Yoda can be seen at <http://www.youtube.com/watch?v=QQvvtELiCdo> (Accessed on 11/10/10). Released by the Nonclassical label on 9/11/09.β

¹⁰ http://www.michelebartlett.com/futurism/russolo_music.htm. Accessed on 15/04/11.

and five loudspeakers combining pre-recorded electronic sounds with recordings of text from the bible sung by a boy soprano.¹¹

Steve Reich has had a huge influence on the use of technology in composition. *It's Gonna Rain* (1965) is entirely based around a loop of a preacher speaking of the end of the world, in which two tape machines both played the same recording but the imprecise nature of the machines meant that the recordings gradually shifted out of phase and sync with one another before eventually regaining sync. This is interesting in that the mechanics of the technology itself is influencing the composition, something that nowadays, possibly due to the more precise nature of technology (and the move from hardware to software meaning that there is less variation from one piece of technology to another) can have a substantial or insignificant influence depending on the approach taken.

In *Different Trains* (1988) Reich uses a live string quartet along with samples of train sounds, sirens, vocal phrases and other samples to simulate a train journey. Rhythm and timbre are huge features of this composition and the musical rhythms work alongside the melodic string lines. The vocal phrases are notated in the score in musical notation and the strings imitate these pre-recorded phrases. The string writing often feels like it is underscoring a particular situation, a musical representation of a visual image, and the use of samples emphasizes and secures this in the listener's mind. In his programme notes Reich wrote that *Different Trains* "presents both a documentary and a musical reality and begins a new musical direction. It is a direction that I expect will lead to a new kind of documentary music video theatre in the not too distant future".¹² This is very much the approach that I took to many of the compositions within this portfolio, visualizing a particular scenario of circumstance alongside a musical unfolding of events.

Herbie Hancock's *Head Hunters* (1976)¹³ use of synthesizers to provide bass lines and textures alongside electric guitars, brass and drums demonstrated many new

¹¹ <http://music.columbia.edu/masterpieces/notes/stockhausen/index.html>. Accessed on 15/04/11.

¹² <http://www.boosey.com/cr/music/Steve-Reich-Different-Trains/2699>. Accessed on 15/04/11.

¹³ *Head Hunters* (1976, Herbie Hancock).

possibilities in what was texturally achievable through the use of fusing technology with traditional instruments. The compositions tend to follow a traditional jazz structure with a head followed by solos and breakdown sections, leading to extended pieces based on generally limited thematic material. *Chameleon* is based around a two-chord pattern, with an ostinato bass line played on the original recording on an ARP Odyssey with groove material forming the basis of the performance. The synth bass line entirely replaces any live double or electric bass that was previously associated with a typical jazz/funk layout. The use of experimental performance techniques to produce new, often rhythmic sounds, is prevalent on this album, such as can be heard with the sound of drummer, Bill Summers, blowing into a beer bottle at the start and end of the *Head Hunters* version of *Watermelon Man*.

Current artists and composers continuing to explore this element of live performance with technology include Bass Clef (Ralph Cumbers)¹⁴ combining multi-instrumentalist performance (trombone, theremin and drum pads) with dub-step production and beats, and Caravan Palace who describe their genre as “Electroswing” and combine traditional gypsy folk performance (clarinets, violin, double bass) with electronics in the form of synths and samplers.¹⁵ Jan Bang¹⁶ composes with diverse range of influences from jazz to ambient, with an emphasis on the live performance and how an original performance can be extended in a later performance as a remix.¹⁷ Bang launched the Punkdt festival with Erik Honoré in 2005. This festival is focused around a main stage/studio performance space called the Alpha Room. A remix of the Alpha Room concerts is performed immediately after each performance in a smaller venue at the festival.¹⁸

Tim Exile’s composition and performance work often focuses on the live manipulation of real-time performance through his use of control surfaces and software to manipulate effects and live loops. His collaborations with Beardyman are heavily based around sampling Beardyman’s beat-boxing in real-time and passing this

¹⁴ *May the Bridges I burn light the way* (Bass Clef, 2009).

¹⁵ *Caravan Palace* (Caravan Palace, 2008).

¹⁶ <http://www.allaboutjazz.com/php/musician.php?id=25557>. Accessed on 15/04/11.

¹⁷ *And poppies from Kandahar* (Jan Bang, 2010).

¹⁸ <http://www.punktfestival.no/program.php?menunumber=1>. Accessed on 15/04/11.

through various effects (distortion, granulators and filters are heavily used¹⁹) to provide a particular soundworld.²⁰

In addition to these, other artists that have had significance within my research context include Nitin Sawhney (*Nadia*, both the album version from *Beyond Skin*, and the live version with Jeff Beck were key influences on *Mumbai Nights*), Goldie (*Timeless*, *Innercity Life*),²¹ Roni Size (*Brown Paper Bag* and the use of double bass in *New Forms* had a large impact on my choice of sounds in *Some Place*), George Fenton (*Blue Planet*), Hans Zimmer, The Beatles and Crowded House.

¹⁹ Beadyman and Time Exile's live jam at Fabric from June 2009 demonstrates a use of these effects. <http://www.youtube.com/watch?v=FOppy4i5BV0> (Accessed on 4/4/11).

²⁰ One programme that I used when beginning to explore writing some live-loop pieces was some freeware called *MmmTsss* that Tim Exile has used for performances. I eventually settled for whatever software/hardware the performers were most comfortable with as this type of performance is easily transferable. More information from *MmmTsss* can be found at http://web.mit.edu/~eric_r/Public/mmmtsss/ (accessed on 18/10/10).

²¹ *Classic Goldie* was an interesting BBC documentary broadcast in 2009 in which Goldie wrote an orchestral piece, *Sine Tempore* (2008), combining his drum 'n' bass experience with acoustic and electronic performance (mainly in the form of small samples). Broadcast on BBC 2 on 31/07/10. Produced by Toby Macdonald. Performed by the BBC concert orchestra in the 2009 Proms series.

3 – The use of subject matter

A large portion of the pieces in this portfolio is based around a narrative of some sort, often using audio taken from media reports. *Red to Rags* uses extracts from the case of Steve Wright who murdered five prostitutes in Ipswich in 2007, *Human Traffic* uses a David Davis speech from 2005 and *Mumbai Nights* uses audio footage relating to the 2008 terrorist bombings. The subject matter helps me to formulate an initial tonality, tempo and feel that sets the starting point for the piece. After this initial setting, the piece will then develop a musical form and structure and the subject matter may become more or less relevant. Once the composition is underway the music is my main guide and the course may divert musically from the initial plan.

The news reports that begin the second movement of *Mumbai Nights* were recorded live during the situation, with police cars and ambulances driving past and people frantically running around whilst the journalist is attempting to produce a calm and comprehensive report. I visualised this situation whilst determining a tempo and feel for the piece. In this case the news report was the starting block in setting this mood, whereas in other pieces (e.g. *Extracted Intrusions*) there is no audible influence but a subject that I then respond to through thinking and reading about. How much the subject matter influences the composition is very much determined on a piece-by-piece basis.

Subject matter and ethical implications

When using current source material a moral ethical question is raised of how the material is portrayed and what the implications and responsibilities are. One situation that caused much controversy was a potential performance of John Adam's opera, *The Death of Klinghoffer*,²² with a libretto that addresses the murder of an American Jew during the hi-jacking of a plane by the Palestine Liberation Front in 1985. It was scheduled to be performed by the Boston Symphony Orchestra in November 2001, a

²² First performed at the Théâtre Royal de la Monnaie in Brussels in 1991. Conceptualized by Peter Sellers, libretto by Alice Goodman and music by John Adams. Taken from Richard Taruskin's *New York Times* Article from 9/12/01. Accessed from <http://www.nytimes.com/2001/12/09/arts/music-music-s-dangers-and-the-case-for-control.html?pagewanted=8> on 18/10/10.

month after the Twin Towers disaster. Much debate was sparked by this planned performance before it was ultimately cancelled due to the controversial and closely linked content of recent events. The musicologist, Richard Taruskin, addressed this debate and the anger of many people (including Adams) over the decision in an article in the *New York Times* and ultimately defended it with the argument that the real-life events that had taken place would make it irresponsible, perhaps glorifying terrorism, if the performance should take place. Taruskin wrote "If terrorism... is to be defeated, world public opinion has to be turned decisively against it... This means no longer romanticizing terrorists as Robin Hoods and no longer idealizing their deeds as rough poetic justice." Arguments stated from the other side included the accusation that the Boston Symphony Orchestra was not brave enough to present a work that might make the listener think,²³ and the fact that the theme of the opera only showed "the sad solace of truth."²⁴

An article from *The Guardian* in December 2001 affirmed that "Adams responded angrily to the cancellation. He criticised the orchestra's administrators for presuming that "audiences only want comfort and familiarity during these difficult times" and that once the initial shock has receded, audiences "want to be prodded and challenged by art, not merely consoled."²⁵

This situation clearly identifies some of the issues around using real life events and raises questions of art's place in society (e.g. does art have the authority and responsibility to address such delicate issues?). There is obviously no one set opinion on this and this is the reason why it is such a controversial issue, and will undoubtedly lead to debate when related situations arise.

²³ "In the San Francisco Chronicle, the arts columnist David Wiegand, enraged at what he perceived as a slight to Mr. Adams (a Bay Area luminary), wrote, "There is something deeply wrong when a nation galvanizes its forces, its men and women, its determination and its resolve, to preserve the right of the yahoos at the Boston Symphony Orchestra to decide to spare its listeners something that might challenge them or make them think." What nation had done this? And why shouldn't people be spared reminders of recent personal pain when they attend a concert?" Taken from Richard Taruskin's *New York Times* Article from 9/12/01.

²⁴ Anthony Tommasini in *The New York Times*.

²⁵ From the article: The witch-hunt: Why is composer John Adams being accused of romanticising terrorism? by Martin Kettle, *The Guardian*, Saturday December 15, 2001. Accessed from <http://www.earbox.com/inter027.html> on 18/10/10.

The actual subject matter of *Red to Rags* has been used as the basis for a musical entitled *London Road*²⁶ based on the atmosphere in Ipswich at the time of the murders. The production received much apprehension in advance but the producers claimed that they aimed to not “exploit or sensationalize” the events. They commented that labelling the production as a “musical” was not a good idea as audiences have typical associations with that particular term. It has been marketed instead as a “theatre piece”.²⁷ This demonstrates the need for the composer or producer of any work based on events that could be considered controversial to be completely sure of what they hope to achieve from, and their stance towards, their work, and to approach it in what they consider to be an appropriate manner.

Subject matter and melody and harmony

In addition to the tempo and timbre of sound sources, the subject matter has undoubtedly had a key influence on melody and harmony in my pieces. I have explored a wide variety of approaches to both and, again, the subject matter has determined my approach in each specific circumstance. The second section of *Some Place* is, in the main, a string quintet and many of the harmonies in this section are harsh and dissonant, with more melodic lines intertwined around them. The choice of such harmonies, in this case, was inspired by the previous section which is heavily electronic with some harsh sounding samples and performances and I aimed to re-create this drum’n’bass atmosphere, though this time using only the natural instruments. The melody lines, in the main, have been taken from synth lines in the first section. For this section I regularly move between dissonance and consonance in order to retain the impact of each approach.

In the third movement of *Red to Rags* the relentless drum rhythms and distorted guitar riffs are augmented with stabs from the strings, brass and wind. The chords used alternate between open triads and dissonant jazz based harmonies. The guitar and bass provide the harmonic underpin for where the harmony is structurally, while the higher parts gradually lead the piece from one transposition to another with varying

²⁶ Cottesloe Theatre, National Theatre. Running from 15/04/11-18/06/11. Book and lyrics by Alecky Blythe. Music by Adam Cork.

²⁷ <http://www.metro.co.uk/news/854031-ipswich-prostitute-murders-musical-defended-by-national-theatre>. Accessed on 15/04/11.

interpretations of often similar material. Each instrument section has a clearly defined role as to whether it is providing a harmonic underpin, melody or a harmonic effect. The culmination of decisions that I make in all of my programmatic compositions concerning melody, harmony, timbre and tempo aim to represent my specific response to each situation, resulting in a macro-composition that is influenced by all of the micro-compositional decisions.

Subject matter in relation to my portfolio

For the compositions in my portfolio, I have aimed, as far as possible, to approach each composition from an un-opinionated perspective. I am not aiming to make a moral comment on the events linked to the pieces, but rather to produce compositions that evoke an atmosphere influenced by the events. *Red to Rags* uses tempo and timbre as my musical response to the murders, while *Extracted Intrusions* uses effects, melody and harmony to create an artistic impression of a person passing through a drug-trip. This is not a moral comment on drug culture but an artistic impression/painting, again demonstrating the radiographic nature of my composition.

If the subject matter is immediately apparent, such as in *Red to Rags*, *Mumbai Nights* and *Human Traffic*, the question is raised as to whether the music will take precedence over the subject matter or vice versa. In a television or radio documentary the subject matter will tend to take precedence, as it is the purpose of the documentary. In such a case the role of music is to underpin the subject and create a certain mood, but not to distract from the subject. In the case of a musical composition, there is not such a set answer. Of course, my initial focus is the music and if the music ended up constantly being dominated by the subject matter then there would be an imbalance of material, but there are undoubtedly sections (e.g. the introduction of the second movement of *Mumbai Nights*, or the spoken word section of *Human Traffic*) where the role of the music is to underscore and the subject matter will come to the fore. This shifting balance helps to retain interest and variety, and it is this balance that determines the importance of the imagery that may form in the mind of the listener.

4 – Features of portfolio compositions

i) *Red to Rags* (2008)

Ensemble and Electronics

Source Material

The source audio material for *Red to Rags* was taken from news reports about the Steve Wright investigation into the murder of five prostitutes in Ipswich in 2006/2007.²⁸ The audio spans from the beginning of the investigation (“A post-mortem taken last night failed to reveal a clear cause of death”) to the sentencing (“Why you did it we may never know”). Vocal phrases and lines are used in this piece, and other pieces within this portfolio. I have usually scored these rhythmically, but this is only as an indication of time frame, leaving room for improvisation in response to the musical material to the actor/poet if desired.

Instrumentation

Red to Rags uses the large ensemble of flute, saxophones, trumpets, strings, guitar, piano, bass guitar, keyboards, percussion and programmed drums, and live and programmed synthesizers are provided by the sequencer. Effects are used on the acoustic instruments, applied either through passing mic’ed sections into *Logic* or an outboard effects processor, and then through the P.A. system.

Structure

The subject material was a key influence in determining the structure of *Red to Rags*. The three movements are based on chronological developments and the urgency of the criminal investigation had much influence on the timbre and tone of the music. The listener will be aware of the chronological unfolding of this investigation alongside the musical development.

²⁸ The names of the victims were Anneli Alderton, Paula Clennell, Gemma Adams, Tania Nicol and Annette Nicholls. Accessed from http://en.wikipedia.org/wiki/Ipswich_serial_murders on 22/10/10.

The first movement is entitled *Red to Rags*. This movement is based on the highly tense situation in which a number of prostitutes had been murdered in the red light district in Ipswich and a news report played in the introduction makes this immediately apparent. The tempo is upbeat and it features heavily quantized rhythmic parts with a relentless driving rhythm. Distortion effects and bit-crushers are used to degrade the pure quality of the acoustic instruments and to place them in a more similar sound world to the lo-fi electronic sources.

In *Ex.2* the cello is passed through a phase distortion, which creates a raspy, harsh timbre. The keyboard triggers a square-wave based sound with a slight glide, thus resulting in two quite contrasting sounds.²⁹ In comparison with the pure sounding synth the electronic drums have been step-sequenced at a tempo of 145bpm. Instead of settling with a four-to-the-floor loop (something that I am generally keen to avoid) I often include subtle time signature changes (heavy influences of this being Fitkin and Brubeck) with the intention of occasionally providing a slight rhythmic glitch to leave the listener slightly unsettled. This represents the unsettled nature of the case and the urgency and fear surrounding the area.

Ex.2 Mvt 1 Red to Rags

One sample that features heavily throughout *Red to Rags* is an ascending police siren. I assigned this sample to a transposing keygroup and then used this sample in place of a cymbal build or drum fill as a way to achieve suspense and build-ups. This idea was inspired by Stevie Wonder’s use of a descending car horn in *So What the Fuss?*³⁰

²⁹ Although interestingly when distortion is added to a sound source it begins to “clip the outermost regions of the waveform, causing it to increasingly resemble a square wave as more distortion is applied”. Accessed from http://en.wikipedia.org/wiki/Square_wave on 22/10/10.

³⁰ From the album *A Time to Love*, released by Motown on 18/10/05.

The xylophone features prominently in this movement. The xylophone is a useful cross-over instrument as it has a very physical quality to it, yet it can still be replicated effectively through modelling synthesis. It can therefore be used in certain variations both acoustically and through synthesized impressions. This is interesting in the context of this area of composition and I have frequently used the xylophone as a timbre to encourage electronic and acoustic sound-sources to interact effectively (bar 240 shows the xylophone used as an atmospheric underscore with spoken word above it).

The second movement is entitled *Danger versus Money* and the initial inspiration for this movement came from an interview with Paula Clenell, a prostitute who was later murdered by Wright, in which a journalist asks “Why did you decide to come out tonight?” to which she replies “I need the money”. This answer alone shows the desperation of these women and how even such danger could not prevent their needing to make money from prostitution. This suggested a moral battle between the need for money, and presumably drugs, and the rationality of the situation. All of the women were aware of the danger, yet their needs prevented them from removing themselves from such a situation. The use of short vocal samples from the interview is in the same realm as Reich’s use of samples in *It’s Gonna Rain*. More directly, this particular piece was influenced by the Tranquility Bass remix of *It’s Gonna Rain*³¹, and in particular the vocal rhythms alongside the programmed material within this remix, to provide a rhythmic cumulative effect. I experimented with using a few key vocal words, before ultimately settling on “danger” and “money”, the two words that to me demonstrated the complete desperation of these women, to transform what is essentially non-percussive material into percussive material.

The soundworld of the second movement is more lo-fi in timbre than the previous movement (now in 6/8 with a dotted crotchet = 48.3bpm). Again there is a dominant use of opposing timbres (i.e. clean strings and distorted drums, fast synth attacks against instrumental crescendos). The drums are passed through an 8-bit bit-crusher to provide additional distorted noise, representative of my reaction to the women’s desperation, producing a lo-fi timbre to the composition.

³¹ From *Reich Remixed*, Nonesuch Records, Catalogue 79552-2, 1999.

The third movement is entitled *Operation Sumac* (the official police title for the investigation). This movement returns to a tempo similar to the first movement (150 bpm), though now combining the beat-driven rhythmic feel of the first with the dirty, aggressive timbres of the second. *Operation Sumac* is based on the sentencing of Wright and could be compared with the final scenes of a documentary. The musical devices that I have used to portray the approaching climax include the use of a heavy rhythmic ostinato from the distorted guitars and pedal note implications. For example, the guitar ostinato in bar 539 is in Bb minor while the accompanying bass and string parts are heavily based around a unison Bb note, but they are often moving up by a semitone only to be pulled back to the Bb, almost as if they are trying to move the harmonic root position but are not able to escape the initial root (see Ex.3). Even when the ostinato manages to move to Eb minor in bar 535, the same situation occurs and it is not until bar 622, when a full chord sequence is introduced, that the pedal note tie is beaten. This is further developed in the final section at bar 673 when all of the themes and features are combined.

38

537 Synth break

Vln. I

Vln. II

Vla.

Vc.

E. Git

E. Bass

Pno.

Perc. 1

Perc. 2

Seq.

MC 6 (Syn. Ld)

Shaker

Guitar rhythm loop to begin

Ex.3 Mvt 3 Red to Rags

The live off-beat bass-lines in this third movement, and, in fact, in a number of sections of *Red to Rags* is reminiscent of Squarepusher (Tom Jenkinson), a live bass player who himself combines heavy electronic programming with live bass performance, often in loop based compositions that develops textually and timbrally.³² As mentioned, I have notated a guide rhythmic part for the spoken vocal line in bar 642 but this is only rough, and the main purpose is to suggest that it needs to finish shortly before bar 658. Notating this section was a decision that I made post-composition in order to provide the actor with more specific guidance other than a time frame, in order to tie in with the musical structure.

Red to Rags draws on influences from house, electronica and loop music for the electronic side of this piece, whilst the acoustic side draws on film and minimalist influences. In this case, I have not approached the combination of a large “natural” ensemble with heavily synthesized sources as two completely different entities, and much of the writing technique for the natural and synthetic sources is the same (i.e. the synth parts generally follow the same harmonic progressions provided by the string parts). I have treated all of the sound sources as one ensemble whilst exploring genre-specific sounds (i.e. heavily synthesized drum sounds) and the effect that they will have on the overall sound world.

Five Daughters

A documentary based on this case was written by Stephen Butchard for broadcast by the BBC in 2010.³³ The music was composed by Peter Salem and it includes both electronic and orchestral sound sources. I found it very effective and not a completely different world from that in which I had responded to the subject material. It was minimal in places with solo piano before building tension with the use of orchestral pads, delays and drones. Electronic synth ostinati were often used as a backdrop to provide a particular underscore to the picture, whilst simple, emotional melody lines complemented the tragic events and situations with which the girls’ families were

³² *Hello Meow* from the album, *Hello Everything*, demonstrates this. A live performance of this from Koko can be heard at <http://www.youtube.com/watch?v=I3e1YCLV9bA>. Accessed on 21/04/11.

³³ *Five Daughters* was commissioned by Jay Hunt and Ben Stephenson at BBC Drama, original run 25-27th April, 2010. Written by Stephen Butchard and directed by Phillipa Lowthorpe. Information accessed from http://www.bbc.co.uk/pressoffice/pressreleases/stories/2009/08_august/29/five.shtml on 22/10/10.

having to cope. As mentioned earlier, writing for picture is obviously different from writing a programmatic piece of music and *Red to Rags* works from a completely different perspective to Salem's music, but, perhaps surprisingly, both of our compositions ultimately result in a similar sound. Just as the documentary does not intend to judge the lifestyles of these girls, but rather portray them away from typical stereotypes, I hope that I have managed to maintain a neutral ethical perspective whilst representing the tension and fear of the situation surrounding their lives, the case and the feeling of Ipswich at the time.

ii) *Extracted Intrusions* (2008)

Ensemble and Electronics

Source Material

Extracted Intrusions is not based around the use of specific media extracts, but rather around the subject matter, approached from two different angles of drug usage. The first compositional approach considers the problems that arise from drug usage, and the second is the supposed peace that drugs provide to the user.

Instrumentation

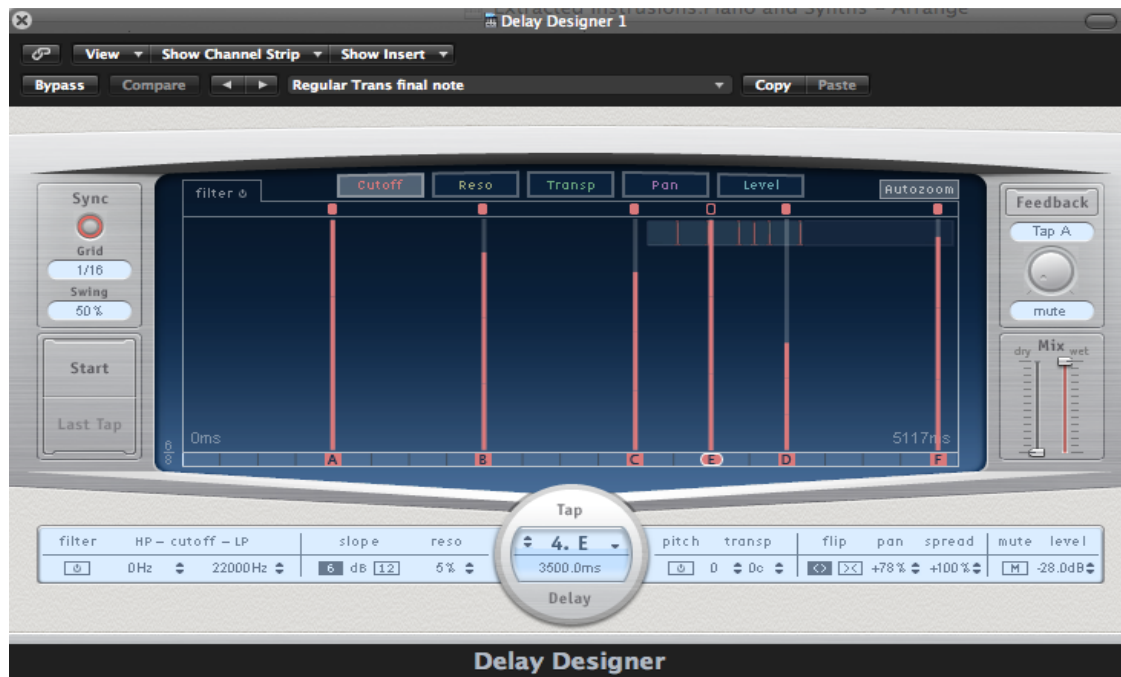
The acoustic ensemble used in *Extracted Intrusions* is the previously described large ensemble of flutes, saxophones, trumpets, strings, guitar, piano, bass guitar, keyboards, percussion, programmed synths and drums (some triggered live and some pre-recorded in *Logic*). Again, effects are applied to the acoustic instruments to provide rhythmic and sonic interaction.

Structure

The first movement, *Inside my mind*, uses spacious writing with drawn out phrases to represent the mellow high that drug users aspire to achieve. In order to create this atmosphere I have used light, gentle sounds with held chords. Guitar harmonics hint at particular sounds but do not openly achieve large, full timbres whilst a four-chord keyboard pattern provides rhythmic movement through the use of delays. A particular feature of this movement is the use of the Delay Designer plug-in. This plug-in has a massive amount of versatility for altering delay volumes, cutoff, transposition and pan and really pushes the delay effect to its limits (see Ex.4). I used two Delay Designer settings that were directly opposite to one another in panning along with other altered parameters.³⁴ This delay was applied to the held keyboard chords heard at the

³⁴ *Delay Designer 1 settings* – Cutoff: A – 22000Hz, B – 7700Hz, C – 4250Hz, D – 22000Hz, E – 510 Hz, F – 12200Hz. Transposition: A – 0, B – +7s. Pan: A – +85%, B – +82%, C – -68%, D – +78%, E – -69%, F – 0%. Level: A – 0.2db, B – -4.4db, C – -15db, D – -28db, E – -19db, F – -13db.
Delay Designer 2 settings – Cutoff: A – 22000Hz, B – 7700Hz, C – 4250Hz, D – 22000Hz, E – 510 Hz, F – 12200Hz. Transposition: A – 0, B – +7s. Pan: A – -84%, B – -84%, C – +67%, D – -78%, E – +69%, F – 0%. Level: A – 0.2db, B – -4.4db, C – -15db, D – -34db, E – -29db, F – -32db.

beginning of the first movement and adds rhythmic and melodic movement to otherwise static chords.



Ex.4 Delay Designer Cutoff Settings Mvt.1 Extracted Intrusion

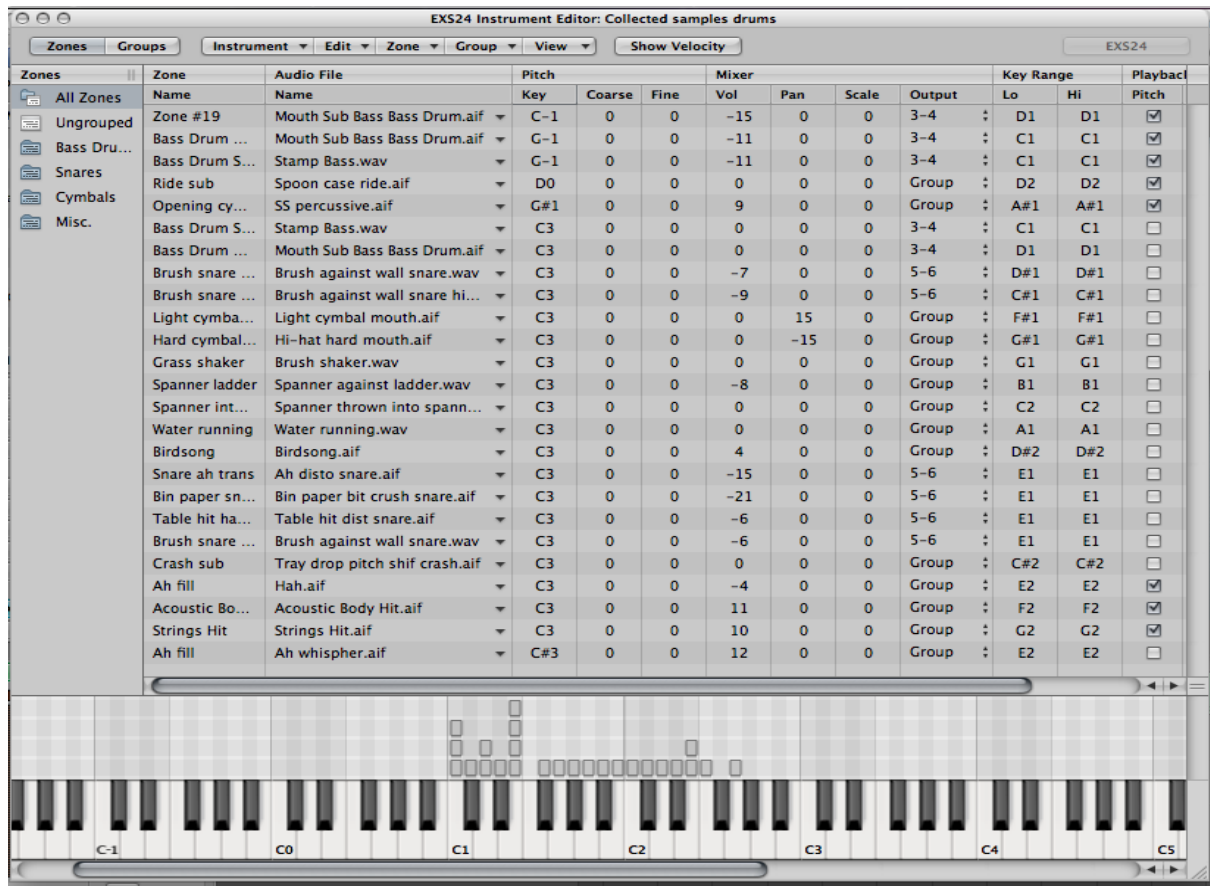
Elements of narration, such as the female spoken voice in bar 9, are present throughout this entire piece and, as well as being the longest piece in the portfolio with a running length of half an hour, it has the most internal variation with the exploration of many genres including trip-hop, pop, orchestral and sound-design. The first movement includes elements of song-writing (the song melody idea is first introduced in bar 57) whilst exploring the supposed calmness and tranquillity that drugs bring. This is especially emphasised in the delay-filled arpeggio section in bar 113.

For a live performance of this piece, a sequencer operator would have control over the parameters of the delay designer settings. Cutoff, resonance and feedback could be altered in real-time in order to respond to the live performance and building/falling of sections. As mentioned earlier, I would always encourage the projection of this visual image on to a screen so that the audience is able to see exactly what role the computer is taking in its contributing to the performance. The rhythmic element of the delay

setting is carefully planned and the rhythm is used as a compositional feature that works with and against the notated parts. There is, however, scope for experimentation with the delay timing settings. For example, in bar 458 the delays of the vocal are fading away and there is the opportunity to stop the sequencer running and to experiment with a purely delayed rhythmic section in which different rhythmic delays are running alongside each other (i.e. the original, a half-time, and a much faster delay with a larger feedback setting) all gradually fading. This is an area in which the live version of the pieces could be extended from the recorded version in order to allow spontaneous reaction and improvisation, and, of course, room for error, which is part of the excitement of a live performance.

The second movement, *Mindfields*, was based on a firm pre-planned internal structure, dictated by the narrative of a bad drug trip. Although not using any particular media extracts, this movement is highly programmatic with structural subsections. The user takes the drug in *Rise to Grace*, the drug starts to take effect in *Mindfields*, the situation turns paranoid and negative in *Mindwars* and the drug's effect wears off in *Fall from Grace*. I undertook a lot of pre-compositional planning for this movement and sketched out the overall dynamic and musical structure along with the dominance of either natural or synthetic sound sources, or a fusion.

For the second movement I recorded and edited many of my own samples from household objects (e.g. the bass drum at the start of the movement is a foot stamping into a bin, the snare is crunching a piece of paper and the hi-hats are vocal noises). I imported these samples into *EXS24* (see Ex.5) and experimented with layering other sounds alongside them. The movement initially begins with only my bass drum sample, for instance, before it is layered with a heavier sample in bar 222.



Ex.5 EXS24 self-made drum samples set up as a multi instrument

Mindwars, again, is heavily reliant on the use of delays, this time with a high feedback setting reaching 89% resulting in an increasing building in sound and discord (this feedback can be altered manually in real-time in a performance). It is highly rhythmic with an increasingly frantic spoken-word phrase shouted over it, representing the paranoia (see Ex.6). This section is very dynamic and a *crescendo* leaves a vocal delay fading away (increasingly high-pass filtered) before leading into the final section. The rhythmic vocal writing of this section was influenced by Philip Glass's *Toltec* in which heavily syncopated rhythms are underpinned by the orchestral writing, particularly in the second movement.³⁵

³⁵ *Symphony Number 7, A Toltec Symphony*, for orchestra and chorus was commissioned in 2005 by National Symphony Orchestra, Washington. The UK premiere took place as part of the Proms on 12/08/09.

Ex.6 *Mindwars* build-up

The third movement, *Weakness is your strength*, returns to the realm of *Inside my mind* with the use of a Wurliitzer in conjunction with a delay and sub-bass line. The narrative behind this movement is the reliance of a person on drugs and the fact that it is a vicious circle in that the user feels that without the drugs (their obvious weakness) they have no strength. It is through composed and structured around sections increasing and decreasing in dynamic intensity, generally achieved through the use of arrangement techniques (e.g. different instrumental combinations resulting in dynamic variety). Again, I have used my own samples such as the live rhythmic percussion achieved through hitting the body of the guitar in bar 613 and live percussive instrumental techniques such as the palm-muted strings in bar 631. There is a strong song-writing influence in this movement, as can be heard in the final large-scale song section in bar 665.

Extracted Intrusions could be viewed as the most general piece of the portfolio, exploring orchestral and electronic composition, songwriting, sound-design and differing production techniques from digital effects to sample manipulation. The use of delays and the interaction that these could provide between the parts was often my “glue” for the fusion in this piece.

In a live performance parts of *Extracted Intrusions*, and actually the entirety of *Mvt. I* and *Fall from Grace*, could be performed without click assuming that the full instrumentation is available. A conductor would be required for these sections. Moving between a live conductor and click will undoubtedly add some variety to the manner in which different sections are performed. Of course, if the entire instrumentation is not available for the performance then click and backing track can be used throughout and these decisions would be made on a performance-by-performance basis in which the *Logic* file and score would be edited as necessary.

iii) *Human Traffic* (2009)

Ensemble and Electronics

Source Material

Human Traffic is based on a set of samples taken from a speech made by the Conservative politician, David Davis, in 2005: "Trafficking is the modern slave trade. It's a global problem, it's a European problem, but it's very much a United Kingdom problem. It's now 200 years since William Wilberforce saw the end of the slave trade in the United Kingdom. It's time, it's past time that we brought this evil, harrowing trade to an end".³⁶ This is a topical issue and the British government continues to work hard at finding ways to combat human trafficking.³⁷ The driving rhythms, especially the piano writing, are characteristic of both Graham Fitkin and Piano Circus³⁸ with syncopated jazz influences accentuated with the use of the different hands.

Instrumentation

Human Traffic uses the large ensemble layout employed in other pieces in this portfolio³⁹ although, in this case, it is an entirely live piece with no use of a sequencer but rather the live triggering of samples and synth (a Moog *Little Phatty* synthesizer).⁴⁰

Live Fusion

In *Human Traffic* I have explored methods in which technology can be layered with natural instruments to create new sounds and textures. *Human Traffic* uses

³⁶ Taken from an audio recording of a speech made at Chatham House in 2005.

³⁷ The All-Party Parliamentary Group on Human Trafficking (APPG) was established on 9 July 2006 by Chief Constable Grahame Maxwell, and was re-instated on 29 June 2010.

<http://www.allpartygrouphumantrafficking.org/the-appg/history>. Accessed on 13/06/11.

³⁸ The keyboard parts in Fitkin's *Totti* (2004) performed by Piano Circus in the Southbank Centre on 21 May, 2011 demonstrate this syncopation.

³⁹ Flute, saxophones, trumpets, strings, guitar, piano, bass guitar, keyboards, percussion and programmed drums, and live and programmed synthesizers.

⁴⁰ Jason Martz's *The Pillory* uses a similar layout as a concerto for Mellotron (Under the Asphalt, 2005).

monophonic ostinati lines played by both the natural and synthetic instruments resulting in interlocking musical phrases. I have used words such as “harsh”, “raspy” and “soft” to suggest the synthesizer sounds that I envisage. I am aware that these are very subjective and if presented to multiple performers, one interpretation would be very different from another. This does not concern me as I feel that this is an exciting feature of the use of synthetic sound sources (the only way to ensure a specific constant sound would be to suggest a synthesizer model and preset sound or provide a waveform diagram, but this is an area that I am keen to avoid as it takes the interest of chance away from it). As this piece does not use any sequenced material there is no tie to a click so this piece is entirely live tempo-wise and requires a conductor.

Sampling preparation

I imported David Davis’s speech into *Logic* and decided on the phrases that I would use. I then saved these phrases as new audio files and imported each of them into the *EXS24* sampler. In *EXS24* I determined the settings and, if necessary, loop points for each sample. Ex.7 shows the settings of the samples that I used.

Zones	Zone	Audio File	Group	Pitch			Key Range		Vel. Range			Output				Playback			Sample		Loop					
				Name	Name	Assignment	Key	Coarse	Fine	Lo	Hi	On	Lo	Hi	Vol	Pan	Scale	Routing	Pitch	1Shot	Rvrs	Start	End	On	Start	End
Ungrouped Zones	And that	And that.aif	Ungrouped...	A#1	0	0	C#1	B1	<input type="checkbox"/>	0	127	0	0	0	Main	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	418950	<input type="checkbox"/>	0	418950	0	0	<input type="checkbox"/>
	EU Full	EU Conve...	Ungrouped...	A#1	0	0	C-2	A#1	<input type="checkbox"/>	0	127	0	0	0	Main	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9000	617400	<input type="checkbox"/>	9000	617400	0	0	<input type="checkbox"/>
	One thing	One thin...	Ungrouped...	B1	0	0	B1	B1	<input type="checkbox"/>	0	127	0	0	0	Main	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	33075	<input type="checkbox"/>	0	33075	0	0	<input type="checkbox"/>
	Trafficking	Trafficking...	Ungrouped...	B2	0	0	C2	B2	<input type="checkbox"/>	0	127	-4	0	0	Main	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	52047	<input type="checkbox"/>	0	52047	0	0	<input type="checkbox"/>
	Sarah full	Sarah Ful...	Ungrouped...	C3	0	0	C3	C3	<input type="checkbox"/>	0	127	8	0	0	Main	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	145946	080451	<input type="checkbox"/>	0	080451	0	0	<input type="checkbox"/>
	Locked in a flat	Locked in...	Ungrouped...	D3	0	0	D3	D3	<input type="checkbox"/>	0	127	-4	0	0	Main	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	291176	441000	<input type="checkbox"/>	0	441000	0	0	<input type="checkbox"/>
	Luck ones	Luck one...	Ungrouped...	D3	0	0	E3	C#4	<input type="checkbox"/>	0	127	-4	0	0	Main	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	102440	<input type="checkbox"/>	0	102440	0	0	<input type="checkbox"/>

Ex.7 Human Traffic speech samples

Structure

Human Traffic is based around a driving rhythmic ostinato scattered throughout the piece with the use of various instrumentations (see Ex.8). It is in one movement and is through composed. The David Davis source material is, therefore, not dramatically

significant in its influence over the structure and is used more as a punctuation interlude, with some indistinguishable phrases used purely as a rhythmic device (much as Steve Reich’s use of pre-recorded material in his tape works such as *It’s Gonna Rain* and *Come out*).

The image shows a musical score for a piece titled "Human Traffic piano ostinato". The score is written for a large ensemble of instruments. The instruments listed on the left are: Flute (Fl.), Alto Saxophone 1/Soprano (Alto Sax.1/Sop.), Alto Saxophone 2 (Alto Sax.2), Tenor Saxophone (Ten. Sax.), Trumpet 1 (Tpt.1), Trumpet 2 (Tpt.2), Electric Bass (E. Bass), Piano (Pno.), Drum Kit (Drum Kit), and Percussion (Perc.). The score is in 4/4 time and features a piano ostinato section. The music is marked with a forte dynamic (ff) and includes various rhythmic patterns and melodic lines. The score is numbered 19 at the beginning and 3 at the top right.

Ex.8 Human Traffic piano ostinato

One device that I explored whilst writing this piece was how time signatures could be used to produce altered variations of phrases through rhythmic displacement. In Ex.9 the original 7/8 piano ostinato has been transferred to a 4/4 time signature, with the second alto and tenor saxes providing off-beat syncopation, and the flute and first alto saxophone providing a straight, on-beat melody. This melody is then transferred to 3/8 in bar 120, with the previous off-beat hi-hats continuing in exactly the same fashion, but now, through rhythmic displacement, resulting in a cross-beat 3/8 syncopation. I found this an interesting method of extending material and this is a method that can be used to escape the “grid” based regularity of sequencer composition.

Ex.9 *Human Traffic* piano theme rhythmic transfer

I intentionally chose not to use a sequencer-backing track in this piece in order to take a break from sequencer composition. I aimed for the rhythmic material within this piece to be shared throughout the instrumental parts, much like the “hocketing” technique used by Louis Andriesson. The piano and bass lines in *Human Traffic* often overlap melodically and rhythmically to provide syncopated lines that melodies emerge from through the use of accents. This is a feature that is used heavily in Andriesson’s *The Hague Hacking* (2008)⁴¹ in which the rhythmic writing of the two piano parts combine to produce one overall ensemble part.⁴²

Although *Human Traffic* was not written in a sequencer I still had the links and potential pit-falls of sequencer composition firmly in mind, and many sequencer

⁴¹ *The Hague Hacking*, for 2 pianos and large ensemble, was commissioned for the Los Angeles Philharmonic Orchestra in 2008. <http://www.boosey.com/cr/music/Louis-Andriessen-The-Hague-Hacking/51754>. Accessed on 15/04/11.

⁴² A slightly less evident feature of this piece is the word “hacking” being Dutch slang for a “dance-style of a techno-descended hardcore house music, high speed and heavy on the bass”. This is undoubtedly evident in the rhythmic emphasis throughout this piece. http://www.concertonet.com/scripts/review.php?ID_review=5250. Accessed on 15/04/11.

techniques (looping, automation and sampling) have been presented and integrated in this piece through equivalent techniques such as ostinati, dynamics and sampling.

Songs of Belonging

I attended a concert of Simon Speare's, *Songs of Belonging*,⁴³ based on the topic of asylum seekers and illegal immigrants. This piece was written for choir, children and percussionist. It included elements of acting through the reading of newspaper reports, audience participation and the interaction of technology through visual links (photographs and internet forum messages were projected on to a large screen at the front) and references to internet blogs. The use of technology in this piece really brought the reality of the situation to the attention of the audience. The music took the prime role, with key features including hymn-like melodies and discordant sections, and was used as Speare's response to the situation and narrative material presented throughout. The visuals added another dimension to which the audience was able to relate. The subject was portrayed in a sympathetic manner, although both sides of the situation (asylum seekers and politicians) were addressed. I found this work particularly interesting to attend and, although it would have stood strongly as a musical composition on its own, the use of the subject matter and technology definitely helped to expand the scope of the audience's experience.

Performance of Human Traffic

Human Traffic was performed by the Royal Holloway Sinfonietta in 2009.⁴⁴ The performance was successful in terms of the sound world that was formed and I was happy with how the piece came across in a live context, although the difficult rhythmic and melodic material would have benefited from extra rehearsal time. The narrative of my piece was less dominant than that of Simon Speare's piece, but the middle section in which the instrumentation is broken down and the speech samples are presented, both as short rhythmic phrases and eventually as the whole speech,

⁴³ Performed on 30/09/10 at the Church of St Saviours, Pimlico, London. Commissioned by Canticum Chamber Choir through the BBC's Choral Ambition Scheme.

⁴⁴ Conducted by Mark Bowden in December 2009.

worked effectively at providing some structural punctuation and as a more direct dimension with which the audience was able to relate.

On a technical note (one discussed further in chapter 5) this performance highlighted the need for a detailed sound and technical setup, not only for the monitoring and balance of the natural instrumentation alongside the synthesized sources, but also for the correct EQ'ing of the speech samples. A certain amount of work can be done on this prior to the rehearsal, but each room and layout will require some adjustment in order to allow the samples to be presented as clearly as possible.

This piece combines jazz rhythms and harmonies with contemporary compositional harmonies and the synthetic sound sources are there to provide an extra dimension to what is achievable timbrally. I have treated the whole ensemble as a unity in the writing and the overall effect, although not extreme, is interesting with typically unassociated sounds working alongside one another.

iv) *Mumbai Nights* (2009)

String Quartet and Electronics

Source Material

Mumbai Nights uses the theme of the hostage situation and bombings in India in 2008, taking media reports from the time of the event to make this directly apparent. This piece is not based around a chronological unfolding of events but the news reports and situation helped to form a mental image which acted as a starting point for the feel and development of the separate movements. I collaborated with an Indian vocalist and a tabla player⁴⁵ whilst writing this piece and a prominent influence on this piece was Nitin Sawhney and Jeff Beck's performance of *Nadia*.⁴⁶

Instrumentation

Mumbai Nights is a string quartet with a sequencer providing beats, synths, news reports and other synthetic sound sources. It could be performed in different instrumental layouts; a string quartet, sequencer and live vocalist, percussion, keyboard and actors, or, with only a violinist, singer, keyboard player and sequencer. The use of technology in composition allows specific versions of pieces to be tailored to the forces available for a particular performance or budget.

World Music Influences

Whilst talking to and performing with the Indian musicians I was interested in the use of the raga and other alternative systems in their music. When listening to Indian vocal and sitar music I have always found the use of sub-divided intervals interesting and I have tried to incorporate this into *Mumbai Nights* with the use of these sub-divisions in the string and guitar parts. I have done this both through the use of quarter tones (e.g. the string descending double stops in the first movement, bar 125 (see Ex.10) and the use of slide guitar in the third movement, bar 300).

⁴⁵ Nishi Malhotra – Singer, Ashiq Hussain – Tabla.

⁴⁶ From *Beyond Skin*, Outcaste, released 13/09/99.

The collaboration side of this piece involved a session in which I collected vocal, tabla and harmonium performances alongside a programmed skeleton structure of the piece. I played certain phrases to the vocalist, Nishi, and asked her to sing sounds or words and phrases. I recorded numerous takes of each phrase in a variety of forms (whispered, spoken, variations) and I then edited these into samples. The tabla samples came about in a similar fashion with some editing transferring irregular bars to more regular lengths for practical reasons. This was interesting as it ultimately meant that I had longer loops than were necessary and so was able to cut and edit these to produce some unintended, yet interesting phrases. For the improvised harmonium/vocal section, the performer, Ashiq, freely improvised a few minutes' worth of material that I then edited down in length.

12

125

Vln. I *f*

Vln. II *mf* *f*

Vla. *mf* *f*

Vc. *sempre staccato* *mp* *ff*

Kbd.

E. Gtr. Spacious tapping body
clean delay sound effects

Bass *ff*

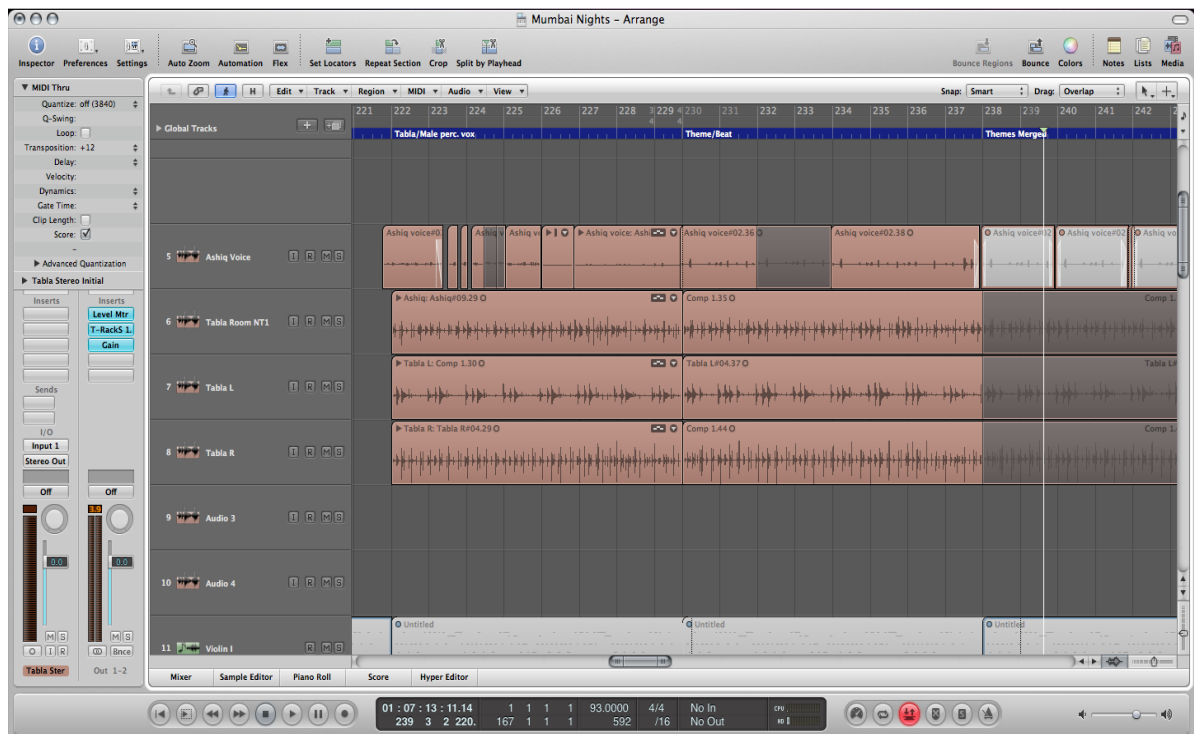
Ex.10 String quarter tone descending passages in Mumbai Nights Mvt.1

Structure

Mumbai Nights is in four movements with the third movement being a solo tabla/vocal improvisation. The first movement has a harsh drum'n'bass feel at 160bpm. This manic feeling is fed directly from the subject matter and the intensity of the bombings, both in timbre, melody and rhythm. A handful of ideas is used throughout and these are intertwined with one another through rhythmic displacement

(e.g. the cello and bass lines in bar 133) and manipulated to provide variations on their initial forms. Vocal samples have been manipulated through pitch shifting and looping, such as the vocal rising chord heard in bar 7 and the transposed extended vocal phrases in bar 107. These samples have been edited and triggered from Logic's *EXS24* (the loop start point for the vocal chord was set after the initial ascending phrase).

The second movement explores many of the features of the first movement, with shifting rhythms and melodies, though now at a slower tempo (93 bpm). This movement is in two halves with the first being based over a two-chord sequence, and the second over a folk violin phrase (I was listening to a lot of folk music, in particular Show of Hands and Richard Thompson, around this time). The tabla plays a large part in this movement and lends itself well to the less heavily quantized feel of the music. The “ta-ta-tari” vocal phrases were initially improvised and I began editing these but the file became corrupt and began playing back with a glitch effect. I liked the effect and bounced it to a new audio region (see Ex.11). This was an example of a computer error turning into a creative idea. Whilst the drums are step-sequenced, the bulk of material around it is entirely live with the aim of allowing the natural imperfections from the non-electronic sources to give some life to the recording.



Ex.11 Edited vocal and tabla phrases in Mvt. 2 of Mumbai Nights

The third movement is a simple improvisation section in which I asked the harmonium player/vocalist to improvise over a harmonium drone (the main rhythm played by the harmonium is similar to the “ta-ta-tari” rhythm provided by the male vocal in the previous movement).

The fourth movement uses slide guitar to provide sub-divided intervals in imperfect melodic phrases. The drum sound in the intro is very distant with a subtle reverb which has the aim of tying it to the previous movement, almost like a reference section into the new movement. The idea to use slide guitar was inspired by watching Jeff Beck’s performance of *Nadia* with Nitin Sawhney, in which he mimics the sliding vocal line on the guitar. The melodic material in this movement is based around the Asavari That (intervals following the pattern E, F*, G, A, B, C, D, E).⁴⁷ *Lakshmivana* from Steve Tibbet’s *Natural Causes* album demonstrates the use of slide guitar alongside percussion resulting in a sitar-like sound and feel.⁴⁸

For the recording of *Mumbai Nights*, the imperfections of the guitar tuning achieve the effect that I was after. It could have been tidied up using pitch correction but this would have taken away the idiosyncrasies of the slide technique and so I made the decision to highlight the raw-sounding, imperfect material as a feature. The imperfect nature of the guitar in drum’n’bass composition is demonstrated in Derek Bailey’s album *Guitars, Drums N’Bass* (1997) in which Bailey improvises electric guitar lines (melodies and noises) over busy drum beats provided by DJ Ninj.⁴⁹

Production as composition

During the mixing stages of the recorded version of *Mumbai Nights*, I became aware of how much influence the production can have on a composition. The individual programmed and live parts were both recorded to a good standard but I was not happy with the overall sound and feel. The live strings felt very detached from the

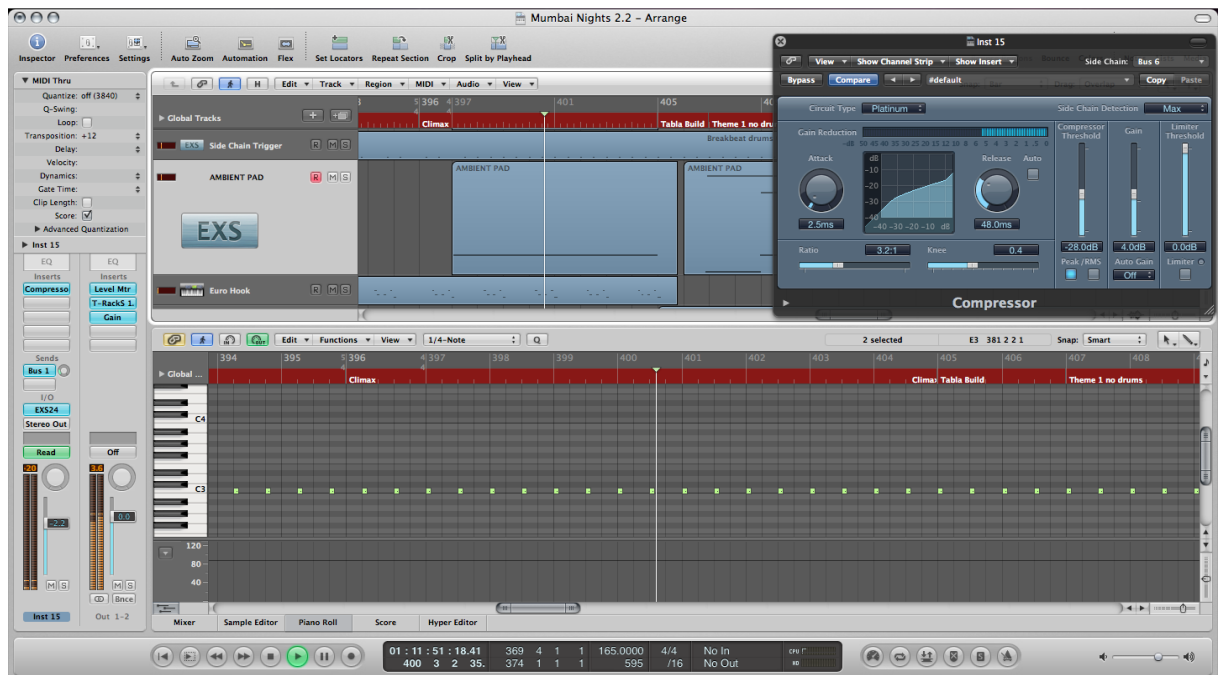
⁴⁷ “A raga that is generally associated with being used in serious or sad music”. Accessed from <http://kksongs.org/raga/list/asavari.html> on 22/10/10.

⁴⁸ Tibbets, S: *Natural Causes* (2010)

⁴⁹ Bailey, D: *Guitars, Drums N’Bass* (1997).

programmed material and the drums were lacking a lot of the punch typically associated with this style of music. It was with the fusion of such natural sources with extreme synthetic sources layered in degrading effects such as bit crushers and filters that the differences in timbre and sound became apparent and extra work was required in order to produce a homogenous recording of the composition.

Along with producer, Simon Byrt, we experimented with side-chain compression on the synths, bass, drums and live strings and eventually the parts began to feel more homogenous. We initially used the programmed bass drum part as the side-chain key, but the irregularity of the bass drum and the time signature variations did not complement the overall sound. We instead settled with a regular crotchet bass drum pattern (alternating between four-to-the-floor, and beats 1 and 3) and often applied this with a high ratio and low threshold. This can be heard clearly on the synth pads and electronic sounds in the introduction of the fourth movement of *Mumbai Nights* and is dominant throughout these two pieces. In fact, using a four-to-the-floor trigger occasionally results in a rhythmically displaced side-chain key (such as in bar 133 in the first movement of *Mumbai Nights*) which can have an interesting effect (see Ex.12).



Ex.12 Rhythmic Displacement of a side-chain key from beats 2 and 4 to beats 1 and 3 caused by a 5/4 bar

The side-chaining helped to provide a more established link between the natural and synthetic parts (especially the more sustained parts such as string chords and synth pads), providing them with some common rhythmic ground. This enabled them to sound more related when necessary, whereas before they sounded very detached and disjointed.⁵⁰

⁵⁰ Daft Punk is perhaps the most obvious example of side-chain compression techniques to produce pumping. I used the album *Homework* (Virgin, released on 17/03/97) as a key reference throughout the mixing of these two pieces.

v) *Some Place* (2009)
String Quintet and Electronics

Source Material

My initial influence for *Some Place* was a collection of samples that I took from various parts of London. The sample that I ended up using the most came from a busker on Oxford Street playing a make-shift drum-kit consisting of a set of buckets and a few cymbals. I recorded this sample on to my phone and it is often used to pad out the programmed drum loops. Other samples that I used in this piece include the sound of traffic and radio intercoms. This is a similar starting point to Gavin Bryars' piece, *Jesus' Blood never failed me yet*, in which Bryars wrote an extended orchestral piece around a recording of a homeless man singing a hymn-like tune.⁵¹

The use of the sound of cities was also explored in Reich's *City Life*.⁵² *City Life* is scored for 2 flutes, 2 oboes, 2 clarinets, 2 pianos, 2 samplers, 3 (or 4) percussion and string quartet. The samplers trigger sounds that Reich recorded around his home city of New York. The samples include car horns, alarms, air brakes and speech samples collected from the public. These samples are incorporated into the composition both rhythmically and melodically. The atmosphere of this piece encapsulates the feel of the city through the use of these samples, whilst the instrumental writing is routed in Reich's typical minimalist approach with jazz chords and ostinati. The glockenspiel and xylophone feature heavily throughout this piece and the rhythmic drive of the city is very evident through the music, augmented by the city samples being triggered in rhythmic time. *Some Place* has a harder, more electronic edge than *City Life*, but the use of samples in order to augment the raw sounds and add some geographical link to the music is similar.

⁵¹ http://www.gavinbryars.com/Pages/jesus_blood_never_failed_m.html. Accessed on 8/11/10.

⁵² Commissioned in 1995 by the Ensemble Modern, the London Sinfonietta, and the Ensemble Intercontemporain. Accessed from http://www.boosey.com/pages/cr/catalogue/cat_detail.asp?musicid=5922 on 22/10/10.

Instrumentation

In a live context *Some Place* could again be performed in a number of instrumentation layouts. The full instrumentation for this piece is a string quintet with sequencer backing.

Structure

As mentioned, *Some Place* is not based on a specific event or media article but rather the sounds of London where I was living at the time of writing. This definitely fed the hard, aggressive nature of the music and programming. The piece is in three sections. The first is a combination of natural and synthetic, the second is entirely natural (string quintet), and the third section returns to natural and synthetic. The live strings are used in various contexts throughout the piece with both traditional (i.e. bowing) and developed (i.e. percussive) performance techniques.

Very little musical material is used in this piece, with new material gradually being added whilst retaining material from previous sections. I found the sharing of material a useful way to experiment with how natural acoustic material could be fused with technology and I experimented with how I could use one type of writing to mimic the other. For example, both live double and electric bass feature prominently in the electronic sections rather than relying entirely on synth bass (like the dominance of double bass in Roni Size's *New Forms*). No synthetic sounds are used in the middle instrumental section, but I have used the performer's feet and sound effects from instruments (scratching, tapping and vocal noises) alongside off-beat double bass phrases, to mimic the energy and sounds produced and heard in the previous and following electronic sections.

The first section is heavy and intense with the drum loop sample providing additional, aggressive timbres. I cut this loop down from two bars of 4/4 to 7/4 and determined its original tempo in order to create an apple loop that would then follow tempo alterations. I found the idea of writing a drum'n'bass piece (174 bpm) in 7/4 interesting, and, at the time, I was writing another piece in collaboration with a choreographer, who experimented with street dance in relation to the music. He came

up with some interesting ideas and we are planning to use this piece as the basis of a dance piece.

For the second part, whilst there are obvious limitations to how far a string quintet can compete with replicating the sound of a fully produced electronic fusion, the writing aims to simulate the beats, synths and timbres using only the live strings. It is convincing at achieving a definite link to the synthetic “sound”, and it provides the listener with a break from the relentless 7/4 drum loops and samples of the first section. The harmonies drift in and out of dissonance and the melodic and harmonic ideas of the first section continue throughout. For example, in bar 347, the synth line that is first heard in bar 141 is now presented over the 7/4 bass line (first introduced in bar 52) but now in an entirely acoustic manner (see Ex.13). The synth melody is developed and altered rhythmically in order to fit in with the material taking place around it, with further rhythmic interest being added by foot tapping, off-beat quaver syncopation and other string sound effects.

The image shows a musical score for string quintet, measures 366-376. The score is written for five staves: Violin I, Violin II, Viola, Violoncello, and Bass. The key signature is one sharp (F#) and the time signature is 7/4. A tempo marking of ♩=160 is present. A performance instruction 'H All to tap crotchets with feet (to be mic'ed up as practical)' is shown. The score features complex rhythmic patterns, including triplets and syncopation. The Violin I part has a melodic line with triplets and a 'port.' marking. The Violin II part has a rhythmic line with triplets. The Viola, Violoncello, and Bass parts have rhythmic lines with triplets and 'sim.' markings. The Bass part has a 'sim.' marking. The score is divided into two systems, with a double bar line between measures 366 and 370.

Ex.13 String writing in middle section of *Some Place*

The second section gradually *accelerandos* into a return of the original feel (now at 160bpm) for the third section. The third section uses rhythmic displacement of

phrases as a key feature (beginning in bar 439) with a breakdown from full instrumentation to a string build-up (again using string rhythmic effects) before entering an outro section at bar 487, in which a vocoded vocal leads to the end of the piece. Vocoding is a direct fusion between synthesizer and voice and the combination of this alongside a heavy dance beat and live strings provides an interesting variety of sounds that perhaps should not work together, but given the gradual culmination of material and sound sources throughout the piece, builds to a final fusion.

A similar line-up can be seen in the Maida Vale performance of *Perfect Stranger* by Magnetic Man featuring Katy B. This was performed with a live string quintet, vocalist and sequencer (playing back the electronic parts and adding delays to the vocals with some subtle vocoding used in the backing parts).⁵³ This particular song is intended to be more commercial and, as such, does not push the string players particularly far (mainly being used to pad out chords) but it demonstrates an interest in the use of live musicians and the push towards moving away from purely computer based performance in dance music.

The intention of mimicry and interaction between natural and synthetic sound sources and musical genres, in itself results in an interesting sound, with much energy coming from the rawness of the live instruments and the transferred features of typically programmed music (rhythmic four-to-the-floor foot tapping, percussive cymbal sounds through gently scraping muted strings, off-beat double bass phrases..). Mimicry is an area of fusion composition that I have enjoyed exploring, and it is prominent in *Some Place*.

⁵³ Released by Columbia on 3/10/10. http://www.youtube.com/watch?v=QXY_ZIL6EUU. Accessed on 22/10/10.

vi) Rahat (2010)
String Quartet and String Pad

Source Material

Unlike the majority of the other pieces in this portfolio there is no programmatic material or theme behind this piece. It was the thought of simplicity and freshness that inspired me to write a piece using basic, often sequential melodic material, for string quartet. The main theme in *Rahat* (in the viola part in Ex.14) was influenced by the simple, sequential nature of the cello line in John William's *Theme from Schindler's List*.

The image displays a musical score for the piece 'Rahat'. It consists of two systems of staves, labeled '2' at the top left. The first system starts at measure 10, marked with a box 'A'. The second system starts at measure 17. The score is arranged for four instruments: Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello (Vc.). The key signature is three flats (B-flat, E-flat, A-flat), and the time signature is 4/4. The Violin parts play a steady accompaniment of chords. The Viola part features a melodic line starting at measure 10, marked with a 'p' (piano) dynamic. The Cello part plays a rhythmic, eighth-note pattern throughout. The score is presented on a light-colored background with black musical notation.

Ex.14 Main Theme in viola part of Rahat

Instrumentation

Rahat is for string quartet and keyboard triggering a string/synth pad. The purpose of the pad is to provide body and depth to the quartet, through providing an extended range and infinitely sustainable chords. The keyboard part cannot hope to replace what could be achieved through the use of a full string orchestra but it expands the scope of what is possible through the use of a quartet. There is scope for *Rahat* to be

performed with a full string orchestra, with the keyboard part arranged for the additional forces.

Structure

Rahat is made up of three movements with much of the melodic material present in the third movement taken from the first movement. This piece was written in reaction to the previous, generally high-tempo, large scale pieces that I had written, and have been discussed, prior to *Rahat*, and the compositional approach is aimed at simplicity and melody with a move towards contemporary classical string quartet composition in the second movement.⁵⁴ I was less concerned with technological experimentation in this piece, and, as such, it does not use technology to a major extent, but the technology that it does use serves a distinct purpose. The string pads extend the notational range of the quartet and provide a constantly sustained underlay that would be difficult to achieve without multiple players due to bowing restrictions.

The second movement is intended to work within the confines of a string quartet with a conscious decision to move away from technology in order to provide contrast. I have found it important to not constantly use technology only because it is available, and, as with the second movement of *Some Place*, I made a decision to compose without technology to provide compositional contrast. As *Rahat* has no pre-recorded parts there is no need for any tempo-sync'ed material and so no need for a click track. There are no samples and as the scale of the instrumentation is small it could be performed as an un-conducted quintet (string quartet and keyboard player) with much room for *rubato* performance.

Recording

We initially recorded this piece with a click track following a tempo map, purely for practical reasons (if time and money had not been a consideration I would not have opted for this), so that any difficult parts (e.g. the cello semiquavers in the first movement) could be doubled up or replaced with samples if necessary afterwards. This worked for most of the recording but for some sections where *accelerandos* or *ritartandos* were dominant we opted to record without a click, as the tempo track was

⁵⁴ Elliot Carter's *String Quartets No.1* and *2* were useful references throughout the writing of *Rahat*.

often so mechanical that it was hard to produce a natural feel and a disproportionate amount of time would have been required to “learn” the tempo track in comparison with what could be achieved through not using it. The final recording of this has some of the takes combined to produce the effect of a larger ensemble, although in a live performance in its basic form this would be performed by solely a string quartet.

vii) *Why can we never win?* (2010)

Why can we never win? was written for a series of workshops at Birmingham University with Joby Burgess from New Noise.⁵⁵ It is written for MIDI xylophone⁵⁶ which triggers sounds from *Logic* which were then routed through a loop pedal, building up three separate loop phrases which could then be enabled or muted as necessary.⁵⁷

Monitoring was a particularly important issue in allowing a successful performance. Being on a far smaller scale than the majority of the other pieces in this portfolio, and using a phrase loop pedal, the need for a click is not vital as the first loop length will set the tempo and length of the following loops. The use of a smaller force also allows the performer far more flexibility in playing with the length of sections and their approach to the piece, as there is no need to co-ordinate a large group all moving together. The performer can respond to delay rhythms and loops far more flexibly than in a large performance group. As a live performance this allows room for experimentation and would be suitable in a live setting such as a nightclub scenario where the performance has a flexible time limit and is able to influence the feel and development of the arrangement that the listeners will then respond to (i.e. building and dropping the rhythms).

In terms of setting up the tempo one issue that I came across was that, when triggering drum sounds, it was far more accurate to build up the parts steadily (bass drum first, snare second, cymbals third) rather than to try and play them all in at the same time. The option of Auto-Quantize was available but to use this feature would take away the chance element that contributes to making a live performance exciting.

⁵⁵ The duo of Joby Burgess (percussion and electronics) and Janey Miller (oboe). <http://www.newnoiselondon.com>. Accessed on 25/10/10.

⁵⁶ A Wernick xylosynth, <http://www.wernick.net/history/>. Accessed on 26/10/10.

⁵⁷ The specific setup was Xylosynth MIDI Output into Logic, Logic Output 1 and 2 feeding Loop pedal Input 1 and 2, Loop pedal stereo output feeding mixer, Audio Input 1 – Microphone into Logic to feed vocoder. I chose to use a loop pedal over a programme such as Ableton *Live* to simplify the technical setup and to fit in with a setup that Joby was already comfortable with using.

Ex.15 shows the order in which the loops are built in this piece. A vocoder part was triggered in real-time using a microphone along with the MIDI xylophone. This worked well so long as the latency was set low enough to allow real-time performance.

Triggered	Phrase 1	Phrase 2	Phrase 3
Vocal Phrase			
B.D. to P1			
Hi-hat, Snare to P1	B.D.		
Synth to P2	B.D., H-h, Sn		
Drum Loop to P1	B.D., H-h, Sn	Synth	
Ambient Synth to P3	B.D., H-h, Sn, DL	Synth	
Drum Loop 2 to P1	B.D., H-h, Sn, DL	Synth	Ambient Synth
	B.D., H-h, Sn, DL, DL2	Synth	Ambient Synth
Vocoder Phrase	B.D., H-h, Sn, DL, DL2	Synth	Ambient Synth
Improv Rhodes	B.D., H-h, Sn, DL, DL2	Synth	Ambient Synth
	B.D., H-h, Sn, DL, DL2	Synth	Ambient Synth
	B.D., H-h, Sn, DL, DL2	Synth	
		Synth	
Vocal Phrase Improv	B.D., H-h, Sn, DL, DL2	Synth	Ambient Synth
	Mute All	Mute All	Mute All

Ex.15 Why can we never win? loop chart

Why can we never win? draws on many similar techniques that Tim Exile uses in terms of layering rhythms and sounds in order to build one large, overall soundworld. This is then passed through effects (filters and delays) in order to alter the overall tonality.

Live looping is a particularly interesting form of performance as it is highly visual and allows much room for improvisation, particularly when using only one or two performers as there is so much scope for experimentation and improvisation. It therefore allows much performance interaction with the crowd. This particular piece required a lot of editing as initially the parts that I had written were far too complex to be effective. In a piece of this scale, the performer would hear the live effects and be able to respond to these freely whereas in a larger ensemble piece there tends to be less scope for this. The result is a piece that looks simple in its notated form, yet through the building of loops, results in a complex texture.

viii) *Do you want to wake up tomorrow?* (2011)

Source Material

The source material for the structure of *Do you want to wake up tomorrow?* was the recording of a tube journey from Baker Street to London Bridge. I recorded the entire journey and then edited the recording into six sections lasting around one minute each. One notable phrase that was recorded was a man asking “Do you want to wake up tomorrow?”.

Instrumentation

Do you want to wake up tomorrow? is an improvisation for solo cello, live looping and backing track. The cello should be mic’ed directly into the p.a., and through the looping device (a sequencer would be most practical for this piece⁵⁸), and the backing track and loop output should be run through the p.a.

Structure

As mentioned, *Do you want to wake up tomorrow?* is in six distinct sections representing different parts of the tube journey: “Baker Street to Bond Street”, “Bond Street to Green Park”, “Green Park to Westminster”, “Westminster to Waterloo”, “Waterloo to Southwark”, and “Southwark to London Bridge”, with a short introduction. This piece could, again, be considered radiographical, although on this occasion, rather than working within the typical expectations of a manic London tube journey I have approached the composition, especially the first three sections, with a, perhaps, unrelated calmness. Basic thematic and harmonic material is provided at the beginning of each section and the performer is then left to extend and improvise on this material.

⁵⁸ See “Performance” section on page 50.

The first three sections (up until Westminster) are based around major tonality harmonies (at least in the material that I have provided though the performer is free to move away from this if desired), but from Westminster I have moved the underlying tonality to Eb minor and some synthesized tones and percussive samples are added to the backing track. I chose this development in order to try and provide a feeling of a) the gradual approach of the final destination, and b) the development in the traveller's/improviser's response to the external situation surrounding them (this could be an increasing urgency if they are running late, or an increasing feeling of claustrophobia as the tube becomes busier). Again, this is radiographical and there is no set scene, and it is purely dependent on the cellist's response and imagery of how they visualise the journey.

Performance

This is a simple piece to perform in terms of the technical setup and there is much opportunity for the performer to choose how to approach each section. I have provided scored material but my primary aim is for the performer to respond to the backing track. This may be in tempo, dynamic, or even a complete spontaneous improvisation, moving away from my material completely if the performer feels that it naturally leads elsewhere.

For the technical setup of this piece it would be most appropriate to use a sequencer as the looping device, with a separate sequencer operator controlling the loop recording. For "Green Park to Westminster" only the second half of the previous loop is used so the sequencer operator will need to graphically cut this up and have this in place before moving on to the next section. A click will, therefore, be necessary in this piece in order to allow the appropriate loop lengths and editing to be accurate. Ex.16 shows the order in which the loops are built in this piece.

Section	Phrase 1	Phrase 2	Phrase 3	Phrase 4	Live
Introduction					
Baker Street to Bond Street	Recorded on First pass	Recorded on Second pass			Improvise on third pass
Bond Street to Green Park	Continue	Continue	Add stave 3 part of first pass.		Improvise on second pass
Green Park to Westminster	Second half of Phrase 1	Second half of Phrase 2	Second half of Phrase 3	Record on First pass	Play Phrase 5 and elaborate
					Solo cello C* to end section
Transition section	Clear Loop	Clear Loop	Clear Loop	Clear Loop	
Westminster to Waterloo					Improvise along with beat and material provided
Waterloo to Southwark	Recorded on First pass	Recorded on Second pass	Recorded on Third pass		Improvise on Fourth Pass
Southwark to London Bridge	Continue	Continue	Continue		Play Phrase 4 and elaborate
					Solo cello Eb to fade

Ex.16 Do you want to wake up tomorrow? loop chart

5 – The practicalities of reproducing natural/synthetic sound sources in a performance

Many of my compositions in this portfolio are a crossover between music that would typically be heard in a nightclub and that heard in a concert-hall. With step-sequenced programmed music working alongside live instrumental performance, the two often contrast each other completely, but, at the same time they aim to work alongside each other as a cohesive fusion.

It has been necessary to consider the most suitable way of synchronizing the live performers with the backing tracks/live effects. In the majority of cases, as the scale of the pieces has been so large, we have used a click track as there is less opportunity for performers to be individually flexible with the tempo. However, in sections where this is not completely necessary or the scale or instrumentation allows (e.g. the middle section of *Some Place* and much of *Rahat*) we have played or recorded in free time. Tempo maps have been used heavily throughout, however, so the click is not a complete tie in terms of the flexibility of time signatures and tempo variations. Over the course of my research I have spoken to many performers and composers about the issue of sync'ing technology with live performance and it is interesting to include some points made in a couple of these discussions.

Zoë Martlew⁵⁹ wrote of playing to click that “(in film sessions) one is slave to the click and plays in a very artificial way - precisely with the click...which is really frustrating and leads to a rather tight way of playing...Other situations when I've had click, if it's a single solo line with electronics/backing track, you can feel freer and play around the click a bit more. It takes a little practice as again, it doesn't allow for the "in the heat of the moment" so crucial to all musicians in live performance...

What's crucial every time is to have really efficient foldback...I have used headphones in quite a few situations when it's really loud - so can sort the mix of live sound and track.” Playing to click is undoubtedly a particular technique and some performers will be more adept at it than others. This is an important consideration to bear in mind when selecting performers, both for their benefit and for the benefit of

⁵⁹ Zoë Martlew is a cellist with the London Sinfonietta, Ensemble Moderne and Birmingham Contemporary Music Group. Correspondence via e-mail in December 2009.

the performance.

George Fenton⁶⁰ described the synchronization during the 2008 tour of *Blue Planet Live*⁶¹ as follows: “They run a digi-beta with the picture which is projected, and they then run a slave machine with a copy of the picture on it which has got timecode and streamers on. I have my music desk and just below the music desk I have that picture, so I can see the streamers. It’s very tight. A couple of times in the show we put people on click, but not the whole orchestra as it’s just too expensive and tricky to lay it out when you get to a new hall, and some of the orchestras don’t like it anyway. So we just have the keyboard player, guitar player, percussionists and the principal bass, a total of about eight clicks, and I have one. I don’t necessarily use the click all the time, everything is clicked if I want it to be, but you can’t keep an orchestra with a click if only you are hearing it, it’s almost impossible. I think you can put it out to selected people, but if you want it to be a complete ensemble immediately, everyone must have a click, or no-one have a click.”

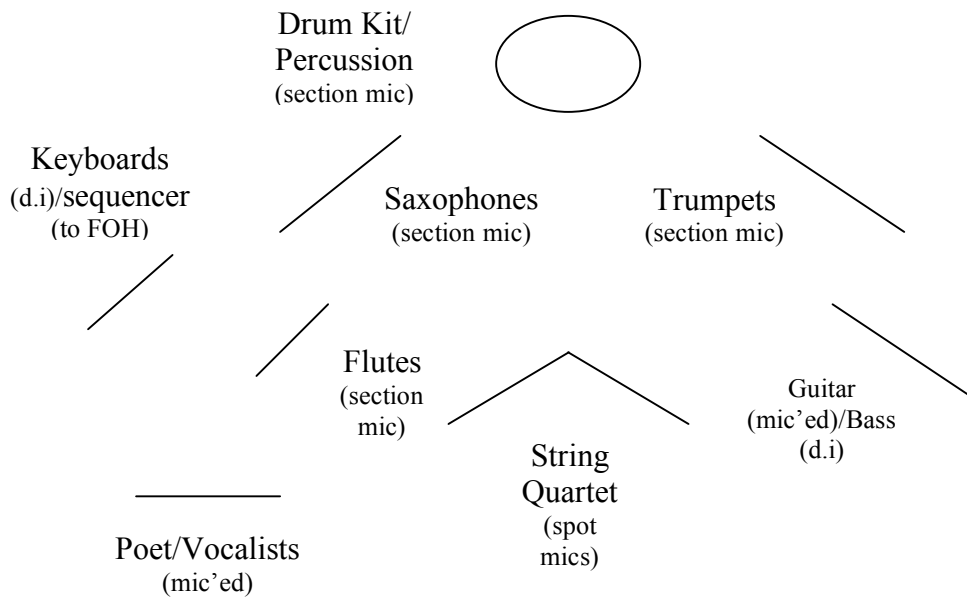
Technical Setup for live performance of portfolio pieces

In the case of my large ensemble pieces, fifteen headphones would have to be distributed amongst the players (and this is assuming that none of the instruments are doubled) so this would require at least fifteen channels of headphone amplification. As mentioned, selected members of the ensemble could be fed the click, but this would have to be meticulously planned for each piece in order to make sure that no-one was missing any vital cues. The other option would, of course, be to use a conductor and this would make sense, but it is still not a fool-proof method of synchronization. George Fenton said “If you have something where the basses are playing over here and the harp is over there, and there’s no click and they’ve just got you (the conductor), they’ll use their eyes and ears to be together, so the basses are not only listening to the harp, but they’re watching each other also. If you’ve got only one group on click (e.g. the basses and not the harp), when one is playing to the music

⁶⁰ Interview conducted with George Fenton in person on 1/12/09, arranged by James Syngé.

⁶¹ The *Blue Planet Live* tour ran from 2006-2008 initially with the score performed by the BBC concert orchestra. Music from the score for David Attenborough’s *Blue Planet* was performed alongside visuals.

and one to the click, there's no way it can be together because of the time lag between what they hear and what they see."



Ex.17 Technical setup of ensemble

Ex.17 shows a possible layout that could be used in my ensemble pieces. The following layout on a mixing desk could be used (Ex.18).

Channel	Purpose	Pan
1	Poet/Vocalist mic 1	C
2	Poet/Vocalist mic 2	C
3	Violin 1 spot mic	-50
4	Violin 2 spot mic	-25
5	Viola spot mic	+25
6	Cello spot mic	+50
7	Electric Guitar mic	+70
8	Acoustic Guitar D.I.	+70
9	Bass Guitar D.I	C
10	Trumpet Overhead	+80
11	Sax Overhead	-80
12	Flute Overhead	-100
13	Drum Kit Overhead L	-127

14	Drum Kit Overhead R	+126
15	Percussion Overhead	-20
16	Keyboards L	-127
17	Keyboards R	+126
18	Logic Main Output L	-127
19	Logic Main Output R	+126
20	Logic/ Outboard FX	-127
21	Logic/ Outboard FX	+126
Send 1	Logic FX Bus/Outboard FX	
Send 2	Logic FX Bus/Outboard FX	
Output 1/2	FOH	
Bus 1	Mix 1 (inc.click – to headphone amp)	
Bus 2	Mix 2 (inc.click – to headphone amp)	

Ex.18 Mixing Desk Routing

The sectional microphones would require some means of separation. This could either be achieved through the use of polar patterns (figure of eight possibly being the most useful) or a device like the SE Instrument Reflexion Filter. 100% separation is not necessary, but it would be best to reject as much unwanted signal as possible in order to apply the real-time effects to the instruments.

In terms of monitoring this will always need focus in the technical rehearsal in terms of whether the live effects are heard through in the monitor mix. This has been discussed already but it is very dependent on the nature of the performance and the size of the group. For example, in *Why can we never win?* there is much flexibility throughout the piece for the performer to experiment and respond to previous material and triggered effects and so the effects will need to be fed into the monitor mix. In *Extracted Intrusions*, the effects are important in terms of the overall sound being produced, but there is less flexibility for the performers to play with the timings much

of the time. In the flute part in bar 113, however, it may be useful for the flautist to hear the delays as it will make their part easier to play in terms of breathing and as it is creating a particular atmosphere it may allow them to add their own ideas (e.g. breathing effects).

Experiences with live performers

In terms of following the score when a click track was necessary I created two click tracks, one with spoken bar numbers every ten bars so the performers were not expected to count constantly, and one without. Visual (descriptive or word cues) and scored cues were of extreme importance. Providing the performers with as much information as possible helped to make the rehearsals run as smoothly as possible and, in all situations, we spoke about any technical issues prior to rehearsing.

On a practical note, the string players (especially the cellist) found the Eb minor key signature a struggle for sight-reading. They said that it would be fine with sufficient rehearsal but for the practicalities of the amount of recording that we were fitting into one six-hour session it may have been simpler to transpose the piece, although I feel that the difference between the soundworld of Eb minor and E minor is particularly noticeable.⁶²

The rhythmic passages of *Human Traffic* would have benefited from more rehearsal before the performance that I had, but this was a practical consideration and given the rehearsal time the majority of the piece went reasonably smoothly.

Recording the portfolio pieces

I found the use of click to be satisfactory for most of my compositions in this portfolio whilst recording the live parts against the programmed parts. There were points, however, where the performers struggled to play alongside the click and at these moments we discussed whether we could manage without. For the sax and string recordings, each player wore headphones, though for certain sections we were able to go without (e.g. the third movement of *Rahat*, the second section of *Some*

⁶² E minor feels much brighter to me than Eb minor.

Place, and at points in *Red to Rags* where the programmed beats were sufficient to play with). These issues can be prepared for in advance to some degree but are highly dependent on a particular performer's preference, so in this area of composition the performers and composer must be prepared to discuss and consider the various methods of synchronization where necessary.

6 – Conclusions

An exploration of cross-genre composition focusing on the combination of natural and synthetic sound sources

I have been focusing on the exploration and development of composition that incorporates a variety of genres and sound production methods. Whilst the initial work was carried out on my own (writing music, planning pieces and immersing myself in current compositions) I have increasingly seen the benefit of collaboration. Collaboration enables me not only to draw on other influences but also to consider different methods and approaches. For example, I worked on rough mixes of all of the pieces for the recordings on my own before then working with other mix engineers to finish them. Even just having someone else in the room made me listen to the pieces in a more critical way.

In *Red to Rags* and *Extracted Intrusions* I have explored the use of a large ensemble alongside an interaction with technology providing a backing track and applying live (often real-time altered) effects. Within the programmed material I have explored creating my own samples, manipulating live sounds to mimic samples and the use of highly rigid quantized material alongside the more natural, imperfect nature of the live performance. I have explored musical genres from electronica and trip-hop, to songwriting, to film, to traditional, to avant-garde and I have aimed to create two pieces that allow this variety to co-exist side by side. The main challenges have perhaps been structural planning and how best to move between compositional methods, and these pieces have been re-worked many times before reaching their current state.

Mumbai Nights and *Some Place* are highly based around drum'n'bass and electronica influences and cover many areas of composition that were completely new to me before writing these pieces. I found the main challenge was how best to “encourage” the natural strings to fit timbrally with the synthetic material taking place around them. The use of effects helped with this, but I also settled on the fact that sometimes it was not always necessary for the strings to fit, and at points it is interesting for the contrast to be highlighted as a feature.

Human Traffic took a different approach and focused on completely live performance with no backing track, with a funk/jazz influence. It is not an easy piece rhythmically, and it draws on influences from my previous sequencer based compositions. The use of live triggered samples and synths helps to expand the boundaries of the sound produced and to achieve an entirely live fusion performance.

Rahat was written as a far simpler piece for string quartet, with the use of a synthetic string pad to fill out the sound. This could also be played in a string orchestra layout. This piece raises, for me, the point that just because there are lots of resources available, sometimes less is more, and technology and live performance can be integrated in a more subtle way that can still produce rich results.

Why can we never win? explores live looping and this is an area that is particularly interesting to listen to and watch. It is a visual performance as well as musical and allows much room for improvisation. Thom Kirpatrick is a live loop-artist under the name of 21st Century One Man Band.⁶³ He says of live looping “it is a new technique and the use of technology to achieve something that is obviously impossible without, is a good tool for catching the audience’s attention. For example, when large layers of vocal harmonies are built up from nothing with only one performer, the audience is not only drawn to the sound, but also to the technical aspect of the performance. The room for error is obvious also and this undoubtedly adds a certain rawness to the performance.” This is certainly an interesting area of composition and one that I will continue to explore in the future.

Do you want to wake up tomorrow? explores a more improvised approach in response to a sampled scenario. In this I worked with the idea of providing a musical response that would perhaps not typically be associated with a typical, manic London tube journey. The technical setup is simple and there is much room for diverting the course of the piece in response to the performer’s mood and the surrounding environment.

Composition in this area is an ongoing process and, as I continue to explore it, my approach will continue to evolve, as it has done over the previous years. My main

⁶³ *The Fear* can be accessed on You Tube at <http://www.youtube.com/watch?v=xKBT3IHPfrE>. Accessed on 27/10/10.

alteration from a practical point of view, so far, has been the simplification of my part-writing, technical setups and instrumentation. *Red to Rags*, *Extracted Intrusions* and *Human Traffic* are all large-scale, complicated instrumental and technical pieces (though through editing they are all achievable live). *Mumbai Nights*, *Some Place*, *Rahat* and *Do you want to wake up tomorrow?* are string based and would be far simpler to perform live, whilst *Why can we never win?* requires only one performer and was increasingly simplified over the writing sessions. It has become evident to me that writing music that sounds “complicated” is often achieved through taking a more simple approach and, over the course of returning and editing all of these portfolio pieces, I have increasingly addressed technical and performance issues and now have a set of fusion pieces that work in both live and recorded formats.

My portfolio covers a range of performance styles and methods and I am currently working alongside other composers and performers to prepare a series of concerts focused on fusion compositions and performances. The benefit of composition labeled as “fusion” is that there is enough variety so that even if listeners do not like a particular piece or section then there should be other areas that appeal to them immediately, or, at least encourage them to listen further. I have explored areas that I had not previously written, or sometimes even listened to, and much of the time the resulting sound has been interesting and fresh. It is an area of composition that has unlimited potential to explore and I look forward to continue to focus on new projects that draw on all areas from my own, and others’ influences.

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