# **PORTFOLIO OF COMPOSITIONS**

by

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## PORTFOLIO OF COMPOSITIONS

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### PORTFOLIO COMMENTARY

### (...) for solo tuba and off-stage brass quartet

(November 2008, revised March to April 2009)

This piece was written as an entry for the 2009 John Golland Award at the Royal Northern College of Music. The instrumentation for the competition was symphonic brass quintet. Given a short period in which to write the piece, I decided to develop an idea I had explored previously for off-stage brass quartet. With the addition of a tuba I contemplated adding it to the off-stage ensemble but instead decided to develop the concept further by placing the tuba on stage. I wanted to use the tuba, an instrument with a physically large presence within a small brass ensemble, as the focal point of the piece. The off-stage brass would form an aura around the visible tuba. From this basic setup I began developing the idea of a non-tonal brass chorale, after a trumpeter I know expressed a love of brass chorales. The chorale element would be used as punctuation points stating the pitch material between explorations of brass timbres. These sections would be composed using the brass instruments as if they were sound sources in a piece of acousmatic music, using the gestures and timbres available to the instruments in the same way as slamming a door or tearing paper might be a source gesture or texture to be worked with. The sounds are altered to develop different sounds from the basic brass sound in the same way as recorded sounds might be processed to disguise or expand upon the characteristics of the sound source. The piece draws on both instrumental electroacoustic approaches to composition with the acousmatic ensemble contrasted against the visible live performance of the tuba. After hearing the piece performed by students of the RNCM in January 2009, I decided to pursue these ideas further in an attempt to develop a more integrated version of the piece.

The pitch material was based on four non-tonal modes created through changing intervallic patterns. The notes absent from each of these modes were used, as a series of chords, to create the final chorale section and in doing so create the fifth mode. In this manner there is a delayed chromatic completion of each mode in the final chorale. The modes used, and the derivation of the final mode, are as follows:



The four modes were used in order 1 to 4 as the material for each of the chorale sections, and in reverse order for the interspersed developmental sections. The final developmental section moves into the fifth mode, which is also used for the chorale at the end of the piece. In this way the material is constantly shifting through the piece, completed only in the final sections. The similarities between the modes, particularly in terms of intervallic content applied to small gestures, enabled the

chorale sections to retain a hint of tonality without functional harmony, while allowing the developmental sections freer movement around various timbral and gestural ideas and retaining the familiarity of gestures with common intervallic content throughout the piece. The final chorale is constructed of the 'missing' pitches from each mode, portraying the final mode as a series of chords. In this way there is chromatic completion of the modes through the extra mode and then even completion of this in the final chords. The more tonal-sounding harmony of the last sections, reminiscent almost of a gradually disintegrating romantic harmony, were constructed by applying the modes laterally in each part such that more harmonic vertical moments could occur combined with the static modal horizontal lines. The tuba applies the modal influence most freely, with the *cadenza* and *quasi cadenza* elements providing a freer exploration of the instrument's potential of timbre and range. These broken lines lie under the static chorale ideas, melding these moments with the developmental sections and uniting the ensemble with a focal point in plain view of the audience at the centre of the stage.

The timbral sections around the chorales were the passages where the acousmatic characteristics of the instruments were explored and developed. This development starts in the first bar, with the single pitch gesture demonstrating the timbral variation possible through a written *accelerando*. Timbral movement becomes a key feature of any sustained sound, as I applied the same processes of automating effects to transform through time on recorded sound to the tones produced by the brass instruments. Hand over bell, flutter tonguing, valve tremolos and trills are all used to vary sounds through their duration, combined with dynamic contrasts. The most common application of these techniques is a pure tone with a *crescendo* while

applying flutter-tongue or trill leading to a short punctuating gestural shape which is These punctuation points occur both in individual parts and non-pitch-specific. across several parts to create varying levels of accent, and cause other changes in the music in the same way that a short gesture might initiate a change in a sustained texture in electroacoustic music. These gestures and textures increasingly overflow into the chorale sections and the tuba line as the piece moves forward. The freer modal application of the tuba is accompanied by entries which were initially conceived as a separate cadenza movement but, after the first performance, were integrated into the piece. The gesture shapes increase in frequency and intensity through the piece, leading to the actual cadenza passage, which provides the tuba with an opportunity to stand out further from the ensemble. The quartet uses the spatial imaging of sound possible with electroacoustic music. The ensemble is split to allow the passing of gestures between the two sides of the stage or playing in unison when a 'central' image is required. This can lead to a fragmentary or united image to disintegrate and complicate the texture or bring out the tuba against a common background idea. The staggered entries in particular are used to create a more rippled texture to the sustained sounds over which the tuba operates, drawing the listeners' focus on to the stage or outside it in varying degrees through the piece.

The piece aims to tackle a variety of issues involving the application of electroacoustic principles to instrumental music and, in doing so, created its own questions through the compositional process. One of the issues raised is the division between the highly visual aspect of live instrumental performance and the acousmatic nature of electroacoustic music. This was the reason I explored the use of an off-stage brass ensemble. While the use of traditional instruments means that

an audience will always recognise them without the masking possible by processing in electroacoustic music, a large portion of the sound being produced out of view applies acousmatic principles to the live instruments, as the audience cannot see directly how the sound is being produced. I was not trying to fool an audience into thinking there was anything other than brass instruments off-stage, as I did not want to use live electronics but instead to stick to acoustic instrumental sounds. This problem was where the tuba's role became clear. The large presence of the tuba in the middle of the stage removes all doubt as to the sound-world in use. The theatricality of having a solo tuba, an instrument more often than not consigned to bass lines in brass music, could allow for a less conventional use of the brass quintet. This theatricality follows to the point where the tuba player stands up and, leaving the tuba, exits the stage. This effect worked well in performance, as the idle tuba still served as the recognisable link to the hidden brass instruments which continue to play, while removing the visual performance element of the piece. In this way I sought to balance the almost theatrical visual potential of live performers with the application of acousmatics to instrumental music.

One problem that became clear after the first performance of (...) was that the brass ensemble needed more spatial development than had been originally evident. All four members of the quartet were off to one side which, while removing them from view, did not explore the important spatial aspect of electroacoustic music. I had been working as if the ensemble was a spatial entity, although specific instructions for layout were not included in the original version. After the performance I decided upon a set layout for spatialisation, that the ensemble should be split into two groupsa trumpet and horn off to the left hand side of the stage and the second trumpet and

trombone to the right. This allowed for the exploration of space around the tuba. It would no longer be simply a tuba with a hidden brass accompaniment, but a soloist placed inside an area of brass sound. To develop this, many of the fragmentary gestures in the ensemble were re-written, to pass sounds between these two defined groups rather than general spatial movement as it had originally been. Whereas many staggered entries had been organised according to pitch, now they occurred in the desired 'channels' (left or right) of the ensemble. Many gestures portraying a written accelerando or rallentando idea were reconfigured to create panning from one side to the other. Another point that arose out of the first performance was the juxtapositions of the chorale and developmental sections. The separation disrupted the flow of the piece. I developed some timbres within the chorale sections and placed gestural tuba lines beneath the chorale to create a more homogenous feel to the music. In this way I developed from the original version of (...) a piece that was musically more integrated, flowing through the different sections in more than simple juxtaposition, as well as being spatially more integrated, expanding on the sound imaging possible with the stereo ensemble.

"Raise your sticks and cry"

(January to June 2009)

The idea to write a percussion piece came after attending a concert at the Barber Institute of Fine Arts with Håkan Hardenberger and Colin Currie. The combined trumpet and percussion made for an impressive concert but it was Currie's percussion playing in Fire and Water from Per Norgaard's I Ching and the duet Heptade for trumpet and percussion by André Jolivet that struck me the most. From the starting point of a piece for solo percussionist I chose to write for extended drum kit, as was the case in *Heptade*, following my interests in both art music and heavy metal. Having decided on a rough outline of instruments for the part, "Raise your sticks and cry" emerged from hearing A Perfect Circle's cover of the song Fiddle and the Drum by Joni Mitchell. What struck me about this was the notion of heavy metal musicians putting down their amplified instruments and just singing in harmony. The line "raise your sticks and cry" had the most impact on me and I took this from the perspective of the drummer, as an instruction. The peacefulness of the song contrasted with the idea of a drummer leaving his usual playing and taking up instead the war drums that would lead his troops to battle. It was this contrast I sought to capture in my piece.

Much of the inspiration for the piece came from rock and heavy metal drumming, as well as its relation to art music. Just as *Heptade* uses a standard rock drum kit as its base, so I sought to use not only the conventional rock and heavy metal instruments but also draw on the work of key performers in the genre. Neil Peart, the drummer with Canadian progressive rock band Rush, formed a key influence on my work. In many of Rush's recent tours Peart has performed a solo drum piece incorporating a

wide range of musical styles, ranging from classic rock drummers such as John Bonham to fusion and jazz artists such as Buddy Rich, and uses a drum kit extended to the point that part way through he stands up and the whole rig revolves around him to provide a second set of drums and extended equipment. He also integrates samples and electronics into his kit, and his extension of the timbres available and their use within rock rhythms became an approach I sought to adopt in my own writing. Also, Peart's work across irregular metres has become a standard method of teaching unusual rhythms to drummers, in publications such as *Drummer* magazine or Peart's own drum tutoring DVDs, and, although I decided to keep my piece in simple time signatures, the rhythms work against the metre and play off the complexities available when freed of conventional 4/4 rock beats.

Several heavy metal drummers influenced the way I created my rhythms, in terms of the small rhythmic units, the more general rhythms and the overall feel of each section. As well as the work of A Perfect Circle,<sup>1</sup> these influences include Kai Hahto (Wintersun),<sup>2</sup> Daniel Svensson (In Flames),<sup>3</sup> Mike Wengren (Disturbed),<sup>4</sup> Jejo Perkovic (Candlemass)<sup>5</sup> and the work of Dada/Futurist rock group Sleepytime Gorilla Museum.<sup>6</sup> The most influential of these on *"Raise your sticks and cry"* was A Perfect Circle, for the concept of the piece, as well as for the percussion and heavy rhythmic guitars on *Counting Bodies Like Sheep to the Rhythm of the War Drums*, which captured the imagery I was seeking for the opening section of the piece. The other

<sup>&</sup>lt;sup>1</sup> see *Fiddle and the Drum*, on A Perfect Circle, *eMOTIVe* (2004)

<sup>&</sup>lt;sup>2</sup> see Winter Madness on Wintersun, Wintersun (Nuclear Blast, 2004)

<sup>&</sup>lt;sup>3</sup> see *Dead End* on In Flames, *Come Clarity* (Nuclear Blast, 2006)

<sup>&</sup>lt;sup>4</sup> see Inside the Fire and Torn on Disturbed, Indestructible (2008)

<sup>&</sup>lt;sup>5</sup> see I Still See the Black on Candlemass, Dactylis Glomerata (Mfn, 1998)

<sup>&</sup>lt;sup>6</sup> see *The Donkey-Headed Adversary of Humanity Opens the Discussion* on Sleepytime Gorilla Museum, *Of Natural History* (2004)

artists, from a range of subgenres, provided a wealth of ideas about the various approaches one might take to heavy metal drumming, with the fast-paced metres of melodic death metal and the slower, heavier beating of doom metal reminiscent at times of war drums. From the work of these and others I was able to build an idea of the building blocks of metal and rock drumming from which to construct more complicated rhythms, as well as various characteristic qualities of how rhythmic devices form songs of different dispositions, to create each of section of my piece.

The way I used these influences started from the most basic building blocks of rhythm. From listening to the varying work within metal drumming, I reduced the complex rhythmic patterns to a few small ideas. The double impact, most noticeable in terms of two quavers or semiquavers followed by a crotchet or quaver rest respectively, became a dominant feature in "Raise your sticks and cry". The bass drum rhythms were built from the ideas seen in the rapid patterns involved in the death metal drumming of Kai Hahto and Daniel Svensson, as well as the slower, driving patterns of the epic doom style of Jejo Perkovic. These were used both separately in different sections of the piece and combined in fast or irregular rhythms with a broader rhythm of slower accented points. Another influence of metal drumming was the abrupt tempo changes that frequently occur, particularly in death metal, and are often preceded by movement in the other direction such as slowing before a faster tempo. This idea was emulated in "Raise your sticks and cry" by introducing triplets disguised with a molto rit. before a large jump in tempo from crotchet = 72 to crotchet = 132. The development of repeated rhythmic ideas is a feature of much metal music, derived from the influence of progressive rock on the death and doom groups I have mentioned. This appears in "Raise your sticks and

*cry*" with the constant variation of small rhythmic units, particularly in the sections with steadily driving bass drum quavers over which fragments occur, repeated and altered. This is evident within sections and on the level of form, as the sections themselves recur in an altered shape.

The overall form itself is drawn from Joni Mitchell's words for *Fiddle and the Drum*. The words are repeated, firstly from the perspective of a single person talking to another, and then as a group speaking to a whole nation. Within these repeated verses are structural points. From this I created four sections; the opening slow and steady 'war drum' passage, the more overtly rock and metal inspired section, a driving section dominated by a constant bass drum pulse, and a section mixing the war drum ideas with more percussive metal drumming; all of these sections are interspersed with bowed cymbal passages depicting a fiddle player leaving their stringed instrument for a drum kit. The four sections are repeated in the same order but heavily varied, as if in a mix of strophic, binary and variation forms. This was developed from the strophic nature of the verses (a frequent feature of popular music), though here without a clear verse and chorus definition, but influenced by the more fluid forms seen both in progressive rock and death/doom metal, where an alteration or lack of standard verse-chorus structure commonly occurs.

Various issues arose in and through *"Raise your sticks and cry"*. In writing the piece, I sought to confront the notion occurring in much contemporary music of a fusion between high and low art. Here that notion was to be expressed in the portrayal of popular culture within the context of high art. One main pitfall to my mind of music that crosses such boundaries is the concept of the 'riff'. I was wary of writing riffbased music, as this tends to lead to art music sounding minimalist, which was not

the style for which I was aiming. I was attempting to tackle the ideas of rock and metal drumming while still writing a piece of contemporary art music.

The main issues that arose through the process of writing such a piece were related to the notation of music based on a genre that is traditionally not notated. Drum kit parts more often than not exist only in a recorded form and are usually only notated when used for teaching to other drummers. Because of this there is no consistent method of notation, with different drummers favouring different methods, particularly when the use of symbols for various techniques or unusual instruments is concerned. When asking a drummer how to notate something the response often involves one or two ways it 'could' be done, followed by the drummer's own preferred method, usually a simplified version with an instruction scribbled over the top. The tendency for drummers to use characteristic techniques or instrument selection based on their own personal style or available kit creates a tendency for notation to be specific to each song. To this end, I was forced to use a combination of standard drum kit and orchestral percussion notation as far as possible. This was altered according to the notation of specific techniques used in the piece. The most prominent dilemma within this issue is the fact that drummers view their notation as a single voice, rather than several voices as is the case in most instrumental and choral music. The various aspects of this single voice, for each independent limb, are written with stems down for feet and up for hands. The unfamiliarity of this style of notation to orchestral musicians led to many instances of debate over whether a rest was required. In the end, the clearest method seemed to be to place rests as if the hands and feet were two voices, as the combining of the notation into one voice led to confusion and alignment issues.

This led on to various other issues, to do with how the vast range of instruments was to be portrayed on a single stave in a clear and concise way that both drummers and orchestrally-trained musicians would be able to understand easily. An example of this is the hi-hat, where there is often no way of differentiating between open and half-open. When inquiring about this matter I was advised not to use fully open hi-hat but instead that drummers tend to find their own preferred position of half-closed depending on personal interpretation of the music. Bearing this in mind, while still aiming to have a notation strict enough for the music to be accurately reproduced, I decided to specify that all 'open' hi-hat indications should be understood to mean half-open, thereby giving a performer the freedom they are used to without losing the consistency of timbre I desired. Another notational issue that arose was the use of rim shot on the snare drum. Whereas in an orchestral snare part a cross would be placed on the stem, in drum kit notation this would collide with the hi-hat or other cymbals, creating confusion. Instead a cross was use for the snare note head when a rim shot was required, though several different sources suggested a variety of methods, including a standard note head with a line through it. In this instance I was guided by the most logical combination of drum kit and orchestral notation and what would look the least confusing. Overall, the approach I adopted was to use the closest thing to convention in drum notation, altered to retain a more traditional notational appearance, being guided primarily by the demand that whatever was chosen was as clear as possible.

### On the Genealogy of Oneirology

### (October 2008 to June 2009)

This audio/visual piece came about after my first experience of Dada and early Surrealist cinema. Having viewed *Ballet mécanique*,<sup>7</sup> as well as some of Man Ray's film works, I was inspired to try a contemporary approach to non-narrative film art. The music and visuals for Ballet mécanique were created separately, by the filmmaker Fernand Léger and composer George Antheil. Although the two started working in collaboration they quickly parted and continued their individual aspects of the project separately, to the point where the original score was actually twice the length of the film. I sought to avoid these issues by creating the entire piece myself, with the visuals and audio made simultaneously, each driving forward the other. One major problem with the Dada films was their portrayal as anti-art. While this concept has been influential on my own work, it had a limited life-span in the form of an artistic movement. Indeed the Dadaists themselves proclaimed the movement dead in 1922. There is an inherent flaw in Dada, as its products are now presented as art. This may have achieved a form of parody in the early twentieth century, but now Dada works are studied alongside the art they opposed. This diminishes the aesthetic impact of Dada, which relied on shock. While a work of art can and indeed should be viewed several times to appreciate its aesthetic value, most Dada work occurred in a relatively short period of time, from 1916 to 1922, and the ceased. As Richter points out in criticism of the overuse of Dada's anti-art tactics, and their reemergence in the 'Neo-Dada' of the 1960s, "Such a shock is not repeatable. Their

<sup>&</sup>lt;sup>7</sup> Fernand Léger, *Ballet Mécanique* (1924) on *Dada Cinema* (Re:Voir, 2005)

artistic or anti-artistic content is reduced to nothing after the first shock effect."<sup>8</sup> I was not attempting to give Dada a rebirth, but instead to include some of its ideas and approaches within a piece of art precisely for their aesthetic value that is lost in the initial shock aim of the works. I wanted to avoid some of the aesthetic flaws in experimental anti-art, which often removes certain aesthetic choices from the creator, such as the Man Ray films created by randomly dropping nails and salt onto film and then exposing it. Instead of these experimental and aleatoric methods, I sought to create a more controlled and surreal visual and sonic experience, influenced by the shock aesthetic of Dada but not the aim of shocking the audience. In doing so I hoped to create a piece of art that spanned audio and visual media to explore the similarities in compositional processes and aesthetic results in my own work.

*On the Genealogy of Oneirology* itself is inspired by words adapted from Hesiod's *Theogony*, concerning the genealogical history of the Ancient Greeks' large interrelated pantheon of anthropomorphic deities, many of whom developed from the personification of concepts such as love, victory and spite. I was concerned with the line of the Oneiroi, the tribe of dreams. The three Oneiroi; Morpheus, Phobetor and Phantasos, were, to the Ancient Greeks, the creators of dreams; sending them out to sleeping humans through two large gates at the edge of the world. According to Hesiod, the mother of the Oneiroi and Hypnos (sleep) was Nyx (goddess of night) who was spawned directly out of Chaos. Chaos here is not disorder, but rather the primal void from which all things were created. It is the three generations of this darker side of the pantheon with which my piece is concerned, a movement portraying each generation. The title of the piece came from an alteration of

<sup>&</sup>lt;sup>8</sup> Hans Richter, *Dada: Art and Anti-Art* (London: Thames and Hudson, 1997) p. 208

Nietzsche's *On the Genealogy of Morality*, as well as a reference to the *Genealogia deorum gentilium*, or *On the Genealogy of the Gods of the Gentiles*, a late mediæval encyclopædic text detailing the Greek and Roman pantheons. Whereas these two texts factually describe the gods or discuss issues of religion, *On the Genealogy of Oneirology* instead serves as a celebration of dreams in their personified form, attempting an almost Dadaist subversion of the two texts formed into a work of mixed media art rather than a factual tome.

The audio aspect of the piece is an electroacoustic work incorporating the influence of popular culture in the form of progressive rock and heavy metal references. I chose 5.1 as the audio configuration as it is the standard home cinema setup. I wanted to work with multi-channel audio and the commercially conventional surround sound arrangement would allow a greater accessibility to the piece. The opening clearly displays the use of electric guitar, influenced by some of the introductions to early Metallica songs placed here in an electroacoustic context.<sup>9</sup> The use of guitar in the first movement, titles and end credits and synthesizers throughout the piece are demonstrative of the influence of progressive rock. The heavy use of reverberation, distortion and modulation effects are also characteristic of rock music production and were applied not only to the instrumental sources but also to the other source sounds to create a more blended sound world. This blending also retained an electroacoustic feel without moving too much towards rock music. The dissipation of the guitar in the second movement into the freer theremin gestures serves to keep the music within the electroacoustic genre rather than moving into experimental rock.

<sup>&</sup>lt;sup>9</sup> see *Blackened* on Metallica, ... And Justice for All (Vertigo, 1998)

The guitar I used had an unconventional string arrangement. As well as vastly detuning the strings, particularly for the low distorted impacts, I completely restrung the guitar. The highest pitched string was removed and an extra lower string added, as if using the lowest six strings of the 7-string guitars often used in heavy metal. This lower string remained only loosely wound on to the tuning peg, to create an unpredictably detuned effect. This aided the low distorted impact sounds by avoiding the open fifths common on metal guitar tunings, such as dropped-D,<sup>10</sup> and added interesting resonances to some of the sounds. The two highest strings were the only ones tuned to specific, pre-determined pitches; the others were left relatively indeterminate, like as the low string. The two high strings were tuned a tone apart, so that the opening melody of the piece could be played without losing the resonances when the gestures were echoed a tone lower. The synthesizer gestures echoed the guitar melody, varied and at times granulated to add a new sound and avoid repetition of previous material. In this way the synthesizer carries on after the guitar and is used more as a gesture than a melodic instrument. The granulated synthesizer gesture in particular serves as a pitched variant on the low guitar impact.

The other source sounds I used include the slamming of a book, sounds obtained from a metal fruit bowl and the noises made by two (hungry) cats. These were processed using similar reverberation, modulation and distortion effects to the 'rock' sounds. Granulation was also used, particularly on the cats, which can be heard in the opening titles. I used the cat sounds at various extreme transpositions for the 'demonic' sounds heard in the first movement. Equalisation was applied to many of the source and processed sounds using Audio Ease's Periscope effect at extreme

<sup>&</sup>lt;sup>10</sup> D A D G B E – conventional guitar tuning with the low E string 'dropped' to a D, widely used in heavy metal.

levels, effectively equivalent to band pass filtering, in order to completely alter the range of a sound, or to remove the characteristic frequencies of a sound and keep only the quiet low rumbles or higher harmonic resonances. This was used most in the second movement, where I sought to expand the very mid-heavy feel of the first movement towards the extremes of high and low pitch. I also applied GRM's FreqShift and FreqWarp effects to alter the ranges of the sounds, as well as standard pitch and time shifting. In the final movement there was much use of combined effects and of processing sounds completely beyond the possibility of recognition of their source, as well as taking small sections of texture from the first two movements and further processing them to create new textures blended with familiar gestures. In this way, the final movement became more erratic, noisy and disjointed, with many juxtaposed sections and quick changes in texture. This was in line with the structure and concept of the piece; from the first movement springs an extreme darkness and then a varied dream movement.

The persistence of the easily recognisable guitar gestures in the titles of each movement and end credits was inspired by the use of music in the films of Quentin Tarantino. Often in Tarantino's films the music chosen for the end credits is completely different from the rest of the film, seeming almost out of place. At the end of Tarantino's films, which are filled with aestheticised violence, shooting, torture and bloodshed, songs such as *Coconut* by Harry Nilsson,<sup>11</sup> or the surf rock hit *Surf Rider* by The Lively Ones<sup>12</sup> play over the end credits. Tarantino often uses music in his films juxtaposed against the content of the film itself. I was influenced by this in the gradual insistence of the guitar melody each time it returns between movements,

 <sup>&</sup>lt;sup>11</sup> in Quentin Tarantino, *Reservoir Dogs* (Momentum Pictures, 1991)
<sup>12</sup> in Quentin Tarantino, *Pulp Fiction* (Miramax, 1994)

increasingly time stretched, transposed or processed with FreqWarp and distortion, to the point where, at the end credits, it feels almost inappropriate as it suddenly enters, along with a jump cut to more abstract and almost psychedelic imagery.

The visual element of the piece is derived from filmed source material, which was then processed in a ways similar to how I work with sound material. I was interested in exploring the similarities between the two media and how the audio and visual aspects of the piece could be integrated. The source material I filmed was different for each movement of the piece. The opening section, and the following title sections for each movement, as well as the end credits, used a filmed stopwatch. This symbolises the plotting of time down the family tree of the pantheon of gods, though not chronologically as the clock moves both forwards and backwards as well as freely jumping around in time to detract from chronological narrative to a more generally representative approach. The first movement, Xaos, being the source of creative force in the universe, used natural imagery. This material was largely filmed in Largs on the coast of Scotland, as well as in the surrounding farmland and hills of Ayrshire. The footage I used included waves, sand, fields and sky as well as fireworks for the bursts of creation. The second movement; Nyx, the darkness of the night, uses imagery influenced by several stereotypical genres of popular culture. The 'goth' sub-culture and many types of heavy metal use churches to represent a sense of foreboding, which I have included by filming much of the source material for Nyx around Worcester Cathedral. I have also been influenced by the use of Victorian imagery in 'steampunk' goth culture, transferred into my piece in the form of a railway line. These two sets of imagery are combined into a gothic-metal-inspired portrayal of darkness. The images used in the third movement, Oneiroi, the tribe of dreams,

are much more varied than those of the preceding movements. While I was not seeking to portray a dreamlike state, I wanted to express the myriad possibilities of dreams, so the images change more rapidly. A wind farm, security cameras, a traffic light and road signs, houses with satellite dishes and a rainbow, rubble and a rubbish-strewn brook all feature as source material. Despite being more varied and rapidly changing, the material here follows the general progression through the piece of plotting a chronological order of the items seen. Whereas the first movement is largely natural imagery and the second is Gothic or Victorian, the final movement is more contemporary. This is the extent of the narrative element of the piece, a general motion forwards in time as the genealogy unfolds. The influence here is more related to Cyberpunk imagery, in particular the shots of the security cameras with the first two movements seen replayed rapidly in the screens. As well as reflecting the use in Emak Bakia of the cameraman's eye seen in the lens of the camera, this little reference to meta-art points to postmodern influence in terms of art about itself, and serves as a hint towards a dystopian end to the genealogy (perhaps even our dreams are being monitored) and, while in *Emak Bakia* we can see through the camera, here we can only see that which we have already viewed being reflected back at us.

The visual sources were processed in a variety of ways. As this was my first foray into the visual medium I was eager to explore various techniques but wanted to take a similar approach to my work with sound. To this end I applied similar processes to those used in the audio element. I made use of visual noise distortion as well as dust and scratches as a link to early Dada experiments. I also used distortion in terms of warping the images, particularly in the second and third movements. I made some

use of montage, with the fireworks and waves dissolving in Xaos, as well as its more frequent use in Oneiroi. I used a method of texturing the images in a similar way to convolution in sound. This was used with the abstract colour bars in Xaos and more subtly under the cathedral images in Nyx. The technique involved imposing the contours and shading of one image onto another, in a similar way to how one sound filters another in convolution, creating shared characteristics. I made use of techniques that sharpened the edges and adjusted contrasts to alter which aspects of the images are most prominent. Some of the Cathedral sections in Nyx were reminiscent of Van Gogh's later paintings of churches. I followed this original reference to the predecessor of expressionism further, in applying processes that picked out the edges of images to the extreme of creating highly stylised thick lines over more plain backgrounds. When applied to certain images this created results with more abstract expressionist connotations, such as the rubble in Oneiroi suggesting an appearance similar to some of Jackson Pollock's work. I was attempting to use the fact that "film technology has developed a series of techniques which work against the realism inherent in the photographic process"<sup>13</sup> to alter the source images, to create a drastic departure from the realism of the video pictures, while still avoiding the total abstraction of the shorter geometric interjections.

I wanted to take the approach that "artistic creation is a demand for unity and a rejection of the world – but it rejects the world on account of what it lacks and what it sometimes is."<sup>14</sup> In the same manner as Man Ray's *Emak Bakia*,<sup>15</sup> with its stylised nails and out of focus reflective objects, I aimed to use recognisable images in a

<sup>&</sup>lt;sup>13</sup> Theodor Adorno, 'Transparencies on Film' in *The Culture Industry* (London: Routledge, 1991) p.184

<sup>&</sup>lt;sup>14</sup> Albert Camus, *The Rebel* (London: Penguin, 2000) p.219

<sup>&</sup>lt;sup>15</sup> Man Ray, *Emak Bakia* (1926) on *Dada Činema* (Re:Voir, 2005)

more surreal way to retain some recognisability while allowing for non-realist interpretations. Many of my images can be interpreted in different ways- for example, the spherical object in *Xaos* was originally intended as an eye, influenced by the eyes of the Ogdru Jahad in Guillermo del Toro's *Hellboy*;<sup>16</sup> however the result was also reminiscent of embryonic activity. I furthered this idea in the final movement with the quivering distorted circles depicting what could be seen as nerve cells. I was adding to the rejection of realism the idea of "the range of interpretive possibilities to which we have here been restricted"<sup>17</sup> often found in postmodern approaches to art. While I was creating an aesthetic experience that could lead to several interpretive conclusions, compositional intent needed to remain evident, all the while avoiding the establishment of narrative or realism in the piece.

Almost all of the images in the piece had their colour palette altered in some way. The rejection of realism requires the lack of narrative to reach the full potential of colour in film, by removing the necessity for rational images to portray a clear plot. While in a traditional approach to film "it is to the narrative that colour must ultimately be subordinate",<sup>18</sup> with a non-narrative, non-realist perspective we are freed of restrictions over the creative forces' use of colour. While in narrative film we are confined by "the objective being to have colour 'act' with the story, never being a separate entity to compete with or distract from the dramatic content of the picture",<sup>19</sup> once freed of narrative, colour can be used as an element of dramatic content in and

<sup>&</sup>lt;sup>16</sup> The Ogdru Jahad are referred to as the seven gods of chaos; exploring a different approach to deified chaos – in Guillermo del Toro, *Hellboy* (Columbia, 2004)

<sup>&</sup>lt;sup>17</sup> Frederic Jameson, *The Geopolitical Aesthetic: Cinema and Space in the World System* (Bloomington; London: Indiana University Press, 1992) p.106

<sup>&</sup>lt;sup>18</sup> Edward Buscombe, 'Sound and Colour' in Bill Nichols (ed.), *Movies and Methods: Volume II* (University of California Press, 1985) p.89

<sup>&</sup>lt;sup>19</sup> Society of Motion Picture and Television Engineers, *Elements of Color in Professional Motion Pictures* (New York: SMPTE, 1957) p.41

of itself. From this we can create a more complex interaction of colour in the visual realm as we would with gesture and timbre in the audio element of the piece. We can draw this approach from the practice defined by Adorno as a "dialectical method of composition" where "subject and object- compositional intention and compositional material ... engender each other reciprocally."<sup>20</sup> We have the opportunity not only for free dialectical interaction between audio and visual without the restrictions of narrative realism, but also within each medium we can create dialectically between the actual material and the colours we can project on to it with our imaginations. This came about for me through the simultaneous composition of the audio and visual aspects of *On the Genealogy of Oneirology*, to create a unified piece of art.

<sup>&</sup>lt;sup>20</sup> Theodor Adorno, 'The Dialectical Composer' in Essays on Music, p.205

(April to May 2009)

This piece was designed to explore some of the potentials of the new BEASTmulch software. Written for a specific concert and setup, with the full BEAST system at my disposal, I decided to attempt a piece in which I could create a virtual tornado. Using multi-channel audio files and the routing and filtering capabilities of BEASTmulch, my aim was to create sounds that could move around the audience on the horizontal plane, as well as travelling vertically. This would be achieved not through live streaming of sounds but automated from fixed media. As I do not have experience of programming in SuperCollider or creating complex Max patches, the new software created opportunities for self-diffusing music that would be otherwise impossible. The piece would also hint at the concept of meta-music, albeit in a mildly satirical fashion. To create 'music about music' I chose as sources sounds from the three objects I find most essential to electroacoustic composition: computer, refrigerator and espresso machine. Using these I was not attempting to create a tornado soundscape but rather a virtual storm based more on spatialisation and, in doing so, I was satirising the technology we use as composers – particularly apt after my own computer contracted a virus that rendered it unusable. Thus the aim was to imitate the motions of a storm in an aesthetic experience while exploring the compositional potential and automated performance made possible through BEASTmulch.

Having gathered suitable source sounds, I began two separate approaches to processing. Because I wanted to retain some element of traditional stereo diffusion alongside the automated tornado, I created processed sound files for the stereo

element and tornado element separately. To create the stereo 'plateau' element of the piece I used a range of light modulation processes, such as flange or chorus, as well as heavy application of Adobe Audition's Noise Reduction effect to bring out the more resonant qualities of the partials and transient aspects of the sound, removing the general wash of noise to create more stable specific pitches. The use of noise reduction creates a more serene and pure timbre out of a noisy sound that enabled the building of the stable plateau that I was aiming for. I opted for this method over EQ as it proved less constricted in picking out resonant pitches across all frequencies of the sound, which could then be fine-tuned with EQ and filtering, rather than finding each individual resonant frequency through filtering or EQ. The result was a set of sustained sounds, many of them pitched with almost chord-like impacts. This would create the opening of the piece – a calm plateau introducing the material, albeit heavily processed, before the storm starts.

Creating the sound files that would later be mixed to form the storm element of the piece was a threefold procedure. Each of the fifty-plus sound files of varying lengths (some over thirty seconds long, the others barely more than a second), was created through these same three procedures. Each sound would have a spatial control, a set of processes and a frequency control. The spatial control was set up in a spinning motion around an 8-channel ring in Nuendo's multi-channel panner. Each sound would start in a different place or at a different speed. Some had a freer motion, moving around within the ring or backwards against the overall momentum, though most were set in the tornado's spinning circle pattern. The processing I applied consisted mostly of distortion, modulation and reverberation. The modulation tended to be of a metallic nature; the Tranceformer and Metaliser effects in Nuendo.

The reverberation was applied liberally, with envelopes shaped afterwards. In this way the process acted not as a reverberation within a space, but rather to make the sounds airy, emulating wind and rain in imitation of a storm. The heavy use of distortion was applied both before and after the reverberation, as was modulation. Often this would result in a set of different distortion/overdrive/fuzz effects being applied to a sound, creating subtle differences in timbre and specific noise characteristics. This usage of distortion and modulation also served to avoid the specific space of the reverberation becoming audible and helped create the noise aspect of wind and water that characterise the storm element of the piece. Finally, each sound file had a pitch control. This would be either through automation of the GRM Bandpass Filter, applied after all other processes or very late in the chain, or integrated more into the processing by the use of automation to change the frequencies in the GRM Frequency Warp, Frequency Shift and Reson Filter effects. These were placed late in the chain of processes but never at the very end, to avoid the overtly recognisable timbres the effects produce (in particular the Reson Filter). Using these effects and filters I moved the sounds through their duration either up or down in frequency to add a further motion beyond the simple 8-channel panning. This would be particularly important when combined with the BEASTmulch filtering system and create the unusual spatial gualities of the piece in performance.

After mixing the storm element into essentially an 8-channel piece, I combined it with the stereo plateau element and created two extra channels of low frequency material for the sub-woofers, drawn from both elements, for extra bass control in performance. From this I finally created a 12-channel file, arranged into the following order:

1 Stereo Left 2 Stereo Right 3 8-channel – Front Left 4 8-channel – Front Right 5 8-channel – Wide Left 8-channel – Wide Right 6 7 8-channel – Side Left 8 8-channel – Side Right 8-channel – Rear Left 9 8-channel – Rear Right 10 Subs – Left 11 12 Subs – Right

With this file I was able to create a BEASTmulch configuration that would fully realise the concept of the piece. This configuration consisted of routing the 8-channel element to the rings of speakers, including a ring of sub-woofers, placed at various physical heights on the floor and galleries of the CBSO Centre, with the stereo filling the gaps for a limited amount of live diffusion and the low frequency channels routed to the two extra sub-woofers at the front. The fader control of this was relatively straightforward. Because balance was inherent in the nature of the rapidly spinning 8-channel parts, live balancing was only required between the different 8-channel rings. This meant that one fader could be used for each ring. Each speaker used for the stereo element had its own fader, as did the two front subwoofers. In total, to control the entire 86 speaker system, I only required 22 faders (out of a possible 64 in the BEAST system). The most complicated part of the configuration (and because of constraints on rehearsal time, the most traumatic) was the application of real-time filtering on each 8-channel ring of speakers. The larger motion defining the shape of the music was in the frequency spectrum, rather than the rapidly spinning panning motion. In progressively filtering higher bands for speakers physically higher up in the space I would allow the 8-channel element to diffuse itself between the different

rings. This allowed for multiple different types of motion to occur at once, as the speakers could all act essentially independently. My aim was to create the effect of streaming sounds but without the need for complicated programming to run such diffusion. I used -12dB per octave high and low pass filters in BEASTmulch rather than bandpass filters; I had limited time for trial and error of the Q, so standardising the filters in broader frequency bands was both preferable and more convenient. The frequency bands I used for each ring of speakers were as follows:

Overhead	10k+	Tweeter Trees
Gallery 2	6k-12k	APG
Gallery 1	3k-6k	8040
Truss	1500-3k	8030
High	800-1500	8040
Mid	400-800	ATC
Close	200-400	8030
Low/Diffuse	80-200	APG, Volt, Lynx, 8050
Subs	<100	7070

These were the filters as I applied them in the BEAST concert of 28<sup>th</sup> May 2009. I would have liked to experiment with cascading the filters for a sharper curve or finding a balance of Q for bandpass filters to create more defined layers. As it was, with a tight rehearsal schedule, I was happy with the balance I achieved and it portrayed the effect for which I was aiming.

The diffuse ring was the most problematic; with a limited number of speakers actually on or close to the ground I had to compromise in order to avoid limiting too much what was available for the stereo diffusion element. Because of this the low ring also acted as a diffuse ring, to try and blend the sub ring with the rising rings of the storm. In the performance of the piece all I personally had to diffuse was the stereo element, and due to the number of speakers used for the storm channels (72 out of 86), I only had 14 speakers remaining for the stereo and sub parts. This meant that my focus could instead be placed on achieving a balance between the 8-channel rings, as the speakers were of different makes and models and at different distances from the audience. The tweeters and 8030s attached to a truss rigging over the audience, for example, required lower level as they were much closer to the audience, compared to the gallery 8040s and APGs. This balancing process was made easier by the single fader for each ring, allowing a fluid balance throughout the piece, even though the filtering effectively created a piece with 76 different audio outputs (72 storm channels plus two stereo and two low-frequency). The freedom to listen to the piece carefully enough to obtain the desired balance was exceedingly useful, particularly for a diffusion beginner such as myself. With as much of the diffusion as possible automated through the frequencies, as if encoded into the sound file itself and decoded through the live filtering, I was able simply to sit and listen to my piece for large sections of the performance, without worrying about constantly having to diffuse actively. The result was a much better balance between the 8-channel rings, which in turn helped create a more effective imitation of the storm and portrayed to the audience a more effective spatialisation of the sound.

An issue that arose from the composition and in particular form the performance of *In the Eye* was the closed nature of the piece. It is not a piece of music that can easily be reproduced. There are in fact only a handful of systems in the world that could perform the piece properly and as intended. This is because the piece was written for a very specific concert, with a specific venue, a specific speaker setup and a specific piece of diffusion software. Without these it would be difficult to perform the piece again. A new venue, other than the CBSO Centre in Birmingham, would need

to have enough height in which to place the number of rings of speakers required and, within this, some locations equivalent to the two galleries of the original performance venue. The space should also have a relatively square plan, as a long thin hall would distort the circular swirling motion of the storm. As well as this specific type of space, a second performance would require a diffusion system of enough speakers to fill these various heights with rings of eight speakers, as well as having enough sub-woofers, tweeter trees (ideally overhead), and enough equipment to support such a system. While I have experimented on the smaller MiniBEAST system in the Elgar Concert Room, the piece does not convincingly work without a large number of separate 8-channel rings. The specific nature of such a setup would preclude even many large diffusion systems from performing the piece without the correct space. TU Berlin's Wave Field Synthesis system, ZKM's KlangDom and GRM's Acousmonium would all be unsuitable without a large amount of alteration.<sup>21</sup> The TU WFS system has the necessary surround capabilities but only works on one plane, and is permanently installed in a tiered hall, not high enough for In the Eye. ZKM's KlangDom has an almost suitable spatialisation potential,<sup>22</sup> although the dome shape would distort the cylindrical spiral motion of the storm and has half the number of speakers of the BEAST system used for In the Eye, which would allow for fewer rings and thus a much less defined storm. GRM's Acousmonium, while perhaps comprising enough speakers, is generally used to create a sound image across a stage rather than completely enveloping the audience and does not use height to the same extent as BEAST. It would certainly involve a complete redesign of how the system is used. The Sonic Lab at the Sonic Arts Research Centre in Belfast is

 <sup>&</sup>lt;sup>21</sup> http://cec.concordia.ca/econtact/10\_4/chippewa\_inventionen08.html accessed 06-07-2009
<sup>22</sup> http://www.zkm.de/zirkonium accessed 06-07-2009

perhaps an exception. The multiple layers possible, including subwoofers below the floor level of the audience, would create the height necessary for an effective diffusion of *In the Eye*, although the standard setup still does not have as many rings of speakers as the BEAST system did in the performance of my piece; 5 layers rather than the 9 I was able to use in the CBSO Centre. The SARC system's interface, however, only has 48 outputs,<sup>23</sup> limiting the n-channel potential for filtering the sounds when using BEASTmulch. Indeed, with 48 outputs there would be fewer than two-thirds the number of output channels I was able to use in the BEAST system. In essence, *In the Eye* is likely never to be performed again, having been written for a specific concert and setup that cannot be easily reproduced. Despite this, however, the effect I had aimed for was successfully performed and certainly served as a valuable experience for me to explore just a few of the diffusion possibilities on a leading contemporary diffusion system.

<sup>&</sup>lt;sup>23</sup> http://www.sarc.qub.ac.uk/main.php?page=soniclab accessed 06-07-2009

### Conclusion

My aim throughout this portfolio of compositions was to consider a variety of approaches to contemporary composition through the use of instrumental and electroacoustic resources, as well as my first exploration of the visual medium. The four pieces test very different approaches to this study: (...) experiments with the concept of applying electroacoustic principles to instrumental music; "*Raise your sticks and cry*" investigates the crossover between art music and popular culture; *On the Genealogy of Oneirology* considers a contemporary approach to non-narrative film using an electroacoustic audio track also using elements from popular music; *In the Eye* examines the electroacoustic medium in order to focus on diffusion in particular. In this respect it has been successful, as I have explored the different media individually as well as their impact upon one another, and applied what I have discovered to my own works. This has broadened my approach to composition and, although my doctoral research will be focusing on electroacoustic rather than instrumental music, the use of other media will feature strongly in my further experimentation of mixed media art.



System plan diagram from the BEAST weekend 29<sup>th</sup> May – 1<sup>st</sup> June at CBSO Centre, Birmingham, showing the speaker routing for *In the Eye* 

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for solo tuba and off-stage brass quartet

by Garfield Benjamin (...)

# for solo tuba and off-stage brass quartet

### Instrumentation

Solo Tuba

Off-stage Brass Quartet

Trumpet 1 in Bb Trumpet 2 in Bb Horn in F Trombone

The score is in C

The quartet should be placed either side of the stage in the wings, with Trumpet 1 and Horn stage right and Trumpet 2 and Trombone stage left. The players should not be visible to the audience but should be able to see the Tuba player, who sits in the centre of the stage.

All parts require straight mutes. Trumpet 1 and 2 require cup mutes.

### Notation

Lowest note possible↓Highest note possible↑Hand over bell (closed to open)+ ----O

Duration: c. 6'45"

(...)

for Tuba and Off-stage Brass Quartet



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![](_page_43_Figure_4.jpeg)

# "Raise your sticks and cry"

for Percussion

by

**Garfield Benjamin** 

### EQUIPMENT

![](_page_45_Figure_1.jpeg)

And so once again My dear Johnny my dear friend And so once again you are fightin' us all And when I ask you why You raise your sticks and cry, and I fall Oh, my friend How did you come To trade the fiddle for the drum

You say I have turned Like the enemies you've earned But I can remember All the good things you are And so I ask you please Can I help you find the peace and the star Oh, my friend What time is this To trade the handshake for the fist

And so once again Oh, America my friend And so once again You are fighting us all And when we ask you why You raise your sticks and cry and we fall Oh, my friend How did you come To trade the fiddle for the drum

You say we have turned Like the enemies you've earned But we can remember All the good things you are And so we ask you please Can we help you find the peace and the star Oh my friend We have all come To fear the beating of your drum

words by Joni Mitchell

"Raise your sticks and cry"

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