Brigid Burke

Paper : **The Process of Integrating Poly-media in *Blooms and Death***

Topic: Music/Visuals

Authors:
Brigid Burke
University of Tasmania
Conservatorium of Music, Australia
www.brigid.com.au

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Abstract:
This paper will discuss the methods and meaning of the polymedia processes represented in *Blooms and Death* as a live interactive performance composition, giving audio and visual examples throughout.
Blooms and Death incorporates sounds and images based on a series of graphics created following the transformation of a freshly cut bunch of yellow roses through to their grey death of decay**.** The visuals (video samples and stills) are layers of video footage displaying blowing yellow flowers, grey pencil drawings, layered scrolls of paintings incorporating the combination of computer transparencies of images. All the visual material has been treated extensively in various computer software packages to form this series of electronic artworks and video.
Blooms and Death explores many facets of polymedia in live performance, integrating through the audio, a response to the transformation of the dying roses employing breath sounds, and digitally processed clarinet with percussive processed piano sounds (performed by David McNicol), live processed acoustic environmental sounds, fans and the sampled video projections. The process of the disintegration of the roses and the response to this is explored through manipulation of sound and visuals to another timbral plane of textural ambience, colours and exploration in the context of polymedia. The music of *Blooms and Death* is scored for B ♭ clarinet, fan, live audio mulching (via laptop computer), multiple video projections and piano. The opening movement, Prelude, is for solo clarinet and visual shadows, with the following movement making a clean yet rough audiovisual statement through diffused fan and air sounds with thick clusters of sound from the piano presaging the later movements of the work. This is quickly broken down with many 'peaks' and subtle layers, the piece again emerging into transformed breath sounds moving into complex paths of high overtones and repeated notes as if conversing. The live audio computer interaction in the second and third movement adds to the sonic world of layering throughout the composition, while the Interlude between the second and third movement makes a short statement combining many sounds and visuals.

Images of Blooms and Death

Contact: email brigid@chariot.com.au

Keywords: music, composer, multi media artist, clarinet soloist, visual artist, film maker, peformance artist, installation artist, printmaker

The Process of Integrating Polymedia in *Blooms and Death*

Brigid Burke *MMus (Melbourne Uni)*

University of Tasmania, Australia

Conservatorium of Music

www.brigid.com.au
e-mail: brigid@chariot.com.au

Abstract

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Blooms and Death incorporates sounds and images based on a series of graphics created following the transformation of a freshly cut bunch of yellow roses through to their grey death of decay**.** The visuals (video samples and stills) are layers of video footage displaying blowing yellow flowers, grey pencil drawings, layered scrolls of paintings incorporating the combination of computer transparencies of images. All the visual material has been treated extensively in various computer software packages to form this series of electronic artworks and video.

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Introduction

This paper will explore the processes of integrating sound and visual counterparts of the composition *Blooms and Death* for clarinet, live interactive audio and visuals.

It will define polymedia and other terms that correspond with evaluating the many media that are associated with creating *Blooms and Death*. In the creation of *Blooms and Death* consideration of the use of elements is discussed in individual movements of the work.

Blooms and Death is made up of a Prelude, Interlude, Movement 1, Movement 2 and Movement 3 for Bb Clarinet, piano, live and pre-recorded electronics, Fan, 2 video projections and live video mixing. The physical human presence of performers, objects, real-time interaction are key elements of exploration.

Blooms and Death will explore elements of real-time performance, microtonal exploration, electronic timbres, acoustic instrumental samples and the relationship between tuning, timbre, melody and visuals. The overall focus is to create a world of space and texture in a sonic composition.

The discussion of *Blooms and Death* will be divided into 2 sections: How was polymedia integrated in the process of the composition? How will polymedia be integrated in the process of performance?

Definition of Polymedia

In the context of *Blooms and Death* polymedia is defined by the layered or different media that is performed at one moment of time in live performance. Other terms that can describe polymedia is multi-media, hybrid art, visual/music, visualized music, multi-arts and VJ-ing.

My definition of polymedia is one performer, composer and visual artist creating a whole identity. As the performer the concept of polymedia is opening new palettes for the audience to interpret in terms of form. The composition integrates acoustic sound, live audio mulching, acousmatic sound (fixed music that exists only in a recorded format (as a fixed medium), and is composed for reception via loudspeakers), live video mixing and fixed video during performance.

Visual/music is a loose term that describes a wide array of creative approaches to working with sound and image. It can also be referred to as visualized music in which the visual aspect follows the sound's amplitude, spectrum, pitch, rhythm, often in the form of light shows or computer animation, while in other instances it may refer to "image sonification" in which the audio is drawn from the image in some form. Both sound and image may be presented live, fixed, or as part of an interactive multimedia installation. [i]

Visual music has much in common with music visualization, and is used to describe

electronic music visualisers and media player software. The term describes how the music generates animated imagery based on a piece of music. The imagery is usually generated and rendered in real time and is usually synchronized with the music as it is played. The changes in the music's dynamics and frequency spectrum are among the simple properties used as input to the visualization. Sometimes visual music can be described as a non-hierarchical correlation between sound and image, in which both are generated from the same algorithmic process, while in other instances, they are layered without hierarchy or correlation altogether.[ii]

VJ-ing is another term that can be loosely associated to Visual/Music as it is primarily real-time visual performance which is the creation or manipulation of imagery in real-time and synchronized music. VJ-ing is the manipulation or selection of visuals, the same way DJ-ing is a selection and manipulation of audio. One of the key elements in the practice of VJ-ing is the real-time mix of content from a "library of media", such as DVD disks, video and still image files on computer hard drives, live camera input, or from computer generated visuals. In addition to the selection of media, VJ-ing mostly implies real-time processing of the visual material. The term is also used to describe the performative use of generative software, although the word "becomes dubious (...) since no video is being mixed.[iii]

Blooms and Death
How was polymedia integrated in the process of the composition?

In the creation process of *Blooms and Death* the polymedia creator (in this case myself) makes decisive day to day notes on the theme the rose from a moody personality. My decisions within each movement both musically and visually are random, spasmodic and erratic. The overall creation especially in the sonic world is in the form of an abstract narration. Each of the movements takes you on a journey that inevitably leads to the next idea. The musical composition is written first but without the visual of the dying rose the music would have no context.

The score and acousmatic pre-recoded audio is a combination of extended clarinet and piano techniques. Clarinet techniques include: throat sounds, hums, glissando, tongue clicking, kissing sounds, micro-tonality, key clicks, screams, multiphonics, monophonic, quarter tones, over-blowing, teeth on reed and interrupted tones.[iv] The piano techniques include: transferred clusters, tone clusters, tremolo, repeated notes at changeable speeds, harmonics (keys pressed down without sounding) glissando, extreme registers, erratic rhythmic patterns with indeterminate durations and pedal effects (fluctuating at different speeds with differing pressures and improvisation on graphic notations. Many of these extended devices on the clarinet and piano such as quarter tones, multiphonics, tri-tones, microtones, transformed clusters are reorganised and work cohesively to create sound clusters by just changing how each of the devices are orchestrated. The score incorporates graphic notations especially in the 2nd and 3rd movements that can be either literally or intuitively interpreted according to the ambience and sound world the musicians are creating and visual setup of the space at the time of the performance.

Examples of electronic plug-ins I have used in the processing of the audio samples

include: Stereo Delay, Delay, Transposition, Grain Duration, Pan, Granulation, Ring modulators. [v] The process continues with manipulation of files into different layers and multi channels, concentrating on microtonal interaction between the samples.[vi] A similar process is applied to the visual materials including analysis of brightness, colour, contrast, duration, speed and complexity. The images have two categories: graphic based images and film/still images. The sound and image influences the shape and analysis of each of the works. The audio in the compositions uses a real-time environment of acoustic sound and generative structures. All audio samples were pre-recorded and processed in Adobe Audition (multi-channel audio processing program.

Diagram 1 Original photographs

Diagram 2 Pencil Drawings

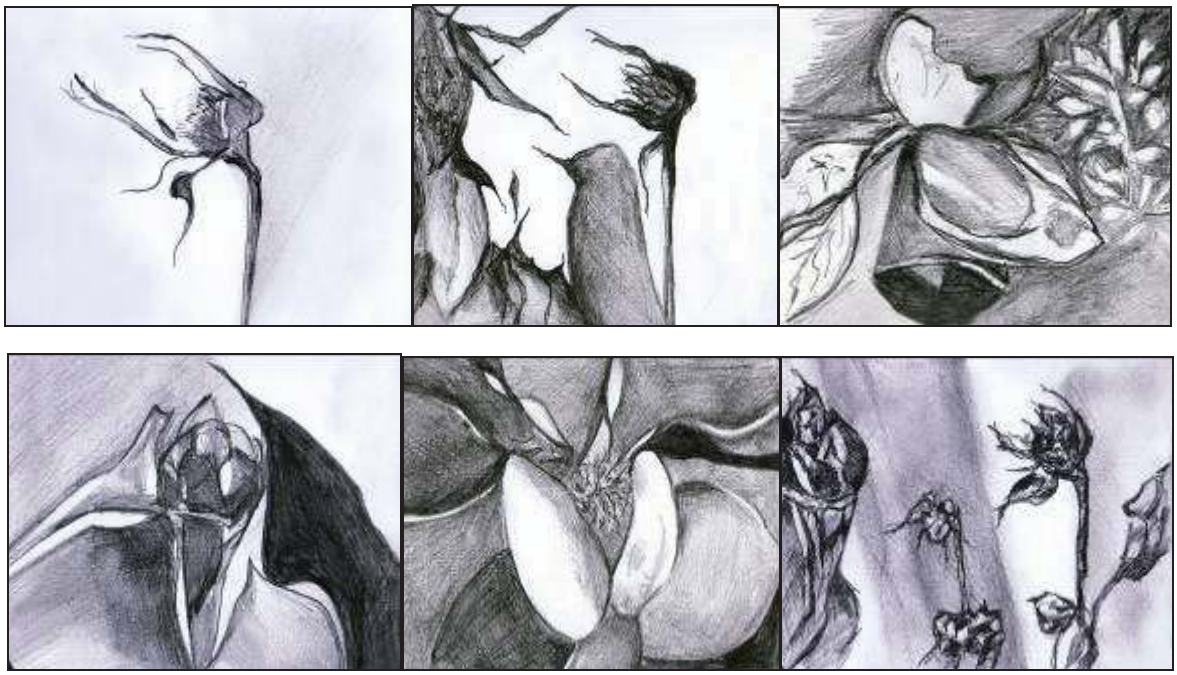
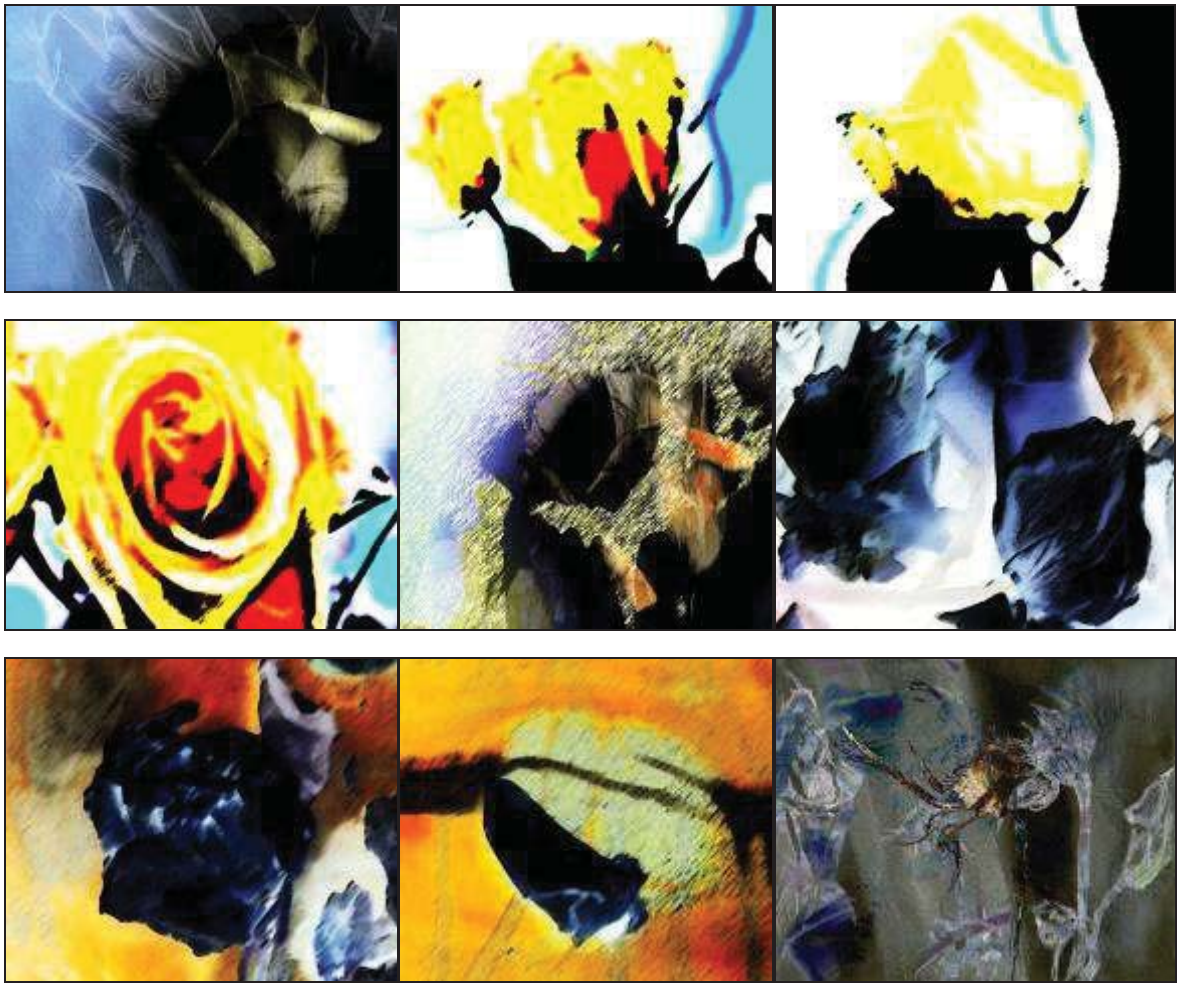


Diagram 3 Computer processed art



The imagery in *Blooms and Death* is a process of timing; every image has a fade, so it's all about the dissolve and the transformation in the image rather than in the fade. Very little manipulation is involved to fade one image to the next only the length of the fade is calculated. The layering of the transparencies with luma, chroma, speed (pulse), and cut-outs dominate many of the visual samples. The aim is to make the still images move through these effects. The use of stained glass plug-in with the treated rose images is animated.

All these structures have given me freedom of process and uniquely affect the outcome of the piece. There is no correlation between the musical and video layers as the music is written at the onset and the animated video samples added afterwards so as the creation of the musical composition has created movement in a cohesive whole.

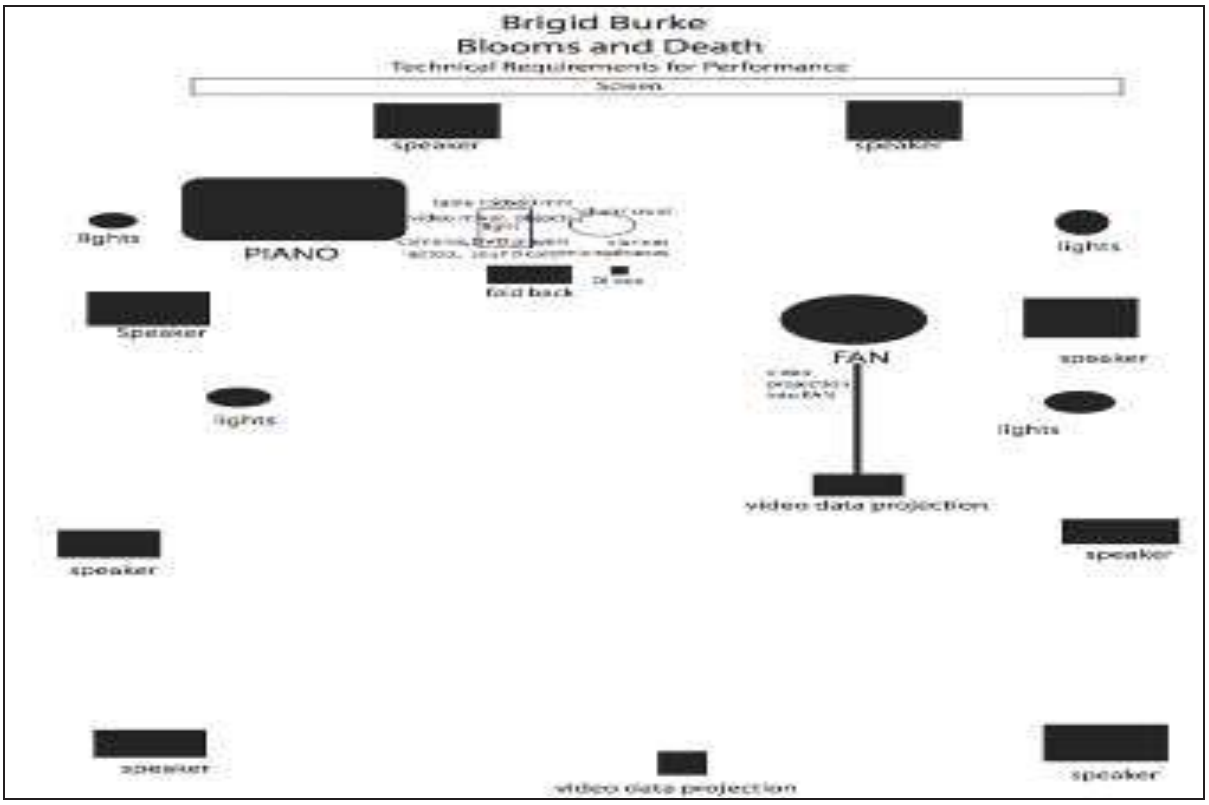
Technical Requirements for Performance

1) Eight speaker surround sound system 100+ watt stereo amplifier, speakers and mixer operated by sound engineer
2) 1 speaker (wedge) for fold back and mixer DI box for stereo sends
3) White backdrop (Screen) for visuals to be projected on to fill space
4) Two (data) Projector/Screen Composite/S video inputs
5) One 150cm x 70 cm high table
6) One chair (stool preferably)
7) One music stand
8) Lighting: two side washes and two spots (one to left and one centre) not directed on back screen
9) Two 6.35 mm plugs line-out from stage mixer into main audio mixer
10) Two Svideo/composite output connection from video mixer on stage to 2 data projectors one on Fan the other on Screen
11) Sound and lighting engineer
12) 3 microphones
13) Grand Piano
14) 30–40 inch Fan on Stand
15) Small 4to 6 channel stage mixer for on stage to be connected to main mixer operated by sound engineer

Technical Equipment performer is providing
1) Bb/Bass Clarinets
2) Lap-top computer

3) Objects
4) 1 microphone
5) Effects units, pedals and sensors
6) 2 cameras, DVD Pal player and video mixer

Diagram 4 System layout of equipment (computer/audio/visual)



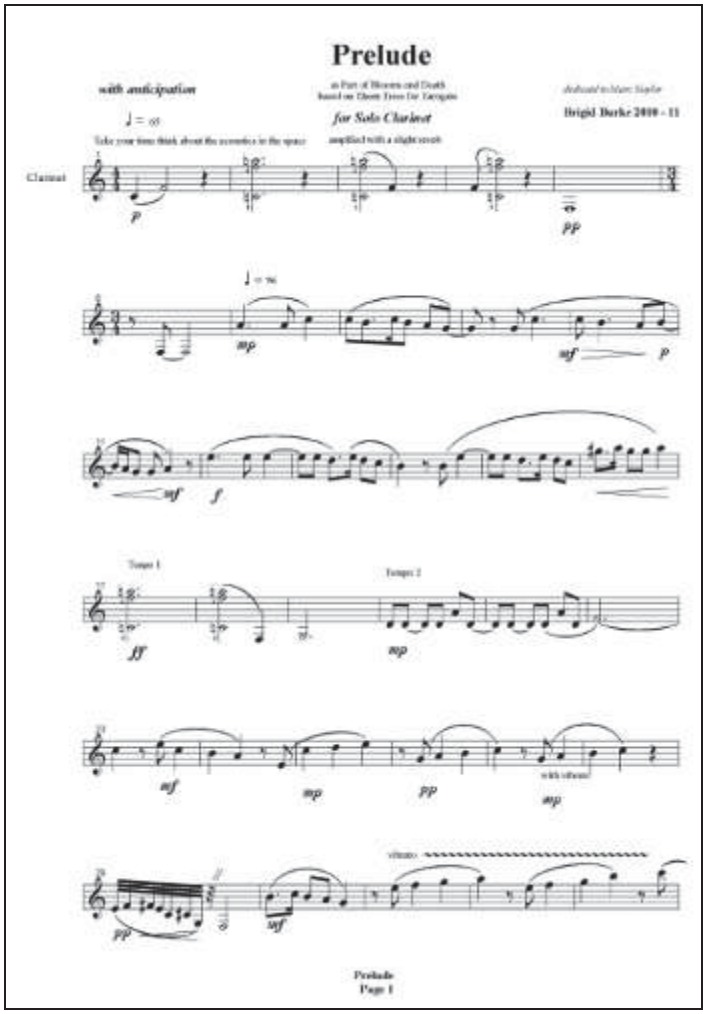
Prelude

This movement for solo clarinet and visual shadows (video) starts the journey of *Blooms and Death* as a Prelude**.** It fuses the original roses as shadows into hinted layered digital images. The vivid rose is only seen in the distance as part of the many layers the movement is made up of.

Prelude is to be played in an intimate, subtle and lyrical manner, taking time over single notes with little interruptions throughout the work. The atmosphere both visually and audibly is driven by the colour of the rose and is unique. Full of rich sonorities just waiting for the ambience of the space transform the clarinet. The aim was to try and convey moments of stillness with simplistic and guttural sound worlds while the rose with all its beauty blows in the wind.

Durational time is used to interpret Prelude. It is counting a unit for rhythmic organisation to destroy any sense of regular beat groupings. The beat or pulse, if present is an abstract concept whose function is to hold all the parts together. In durational music it is common to see ties, freely accented notes, uneven groupings and a wide variety of temporal subdivisions. The purpose of these is to destroy any feeling of the beat. Its absence makes the music non–metrical.[vii]

Diagram 5 Prelude score for acoustic Bb clarinet

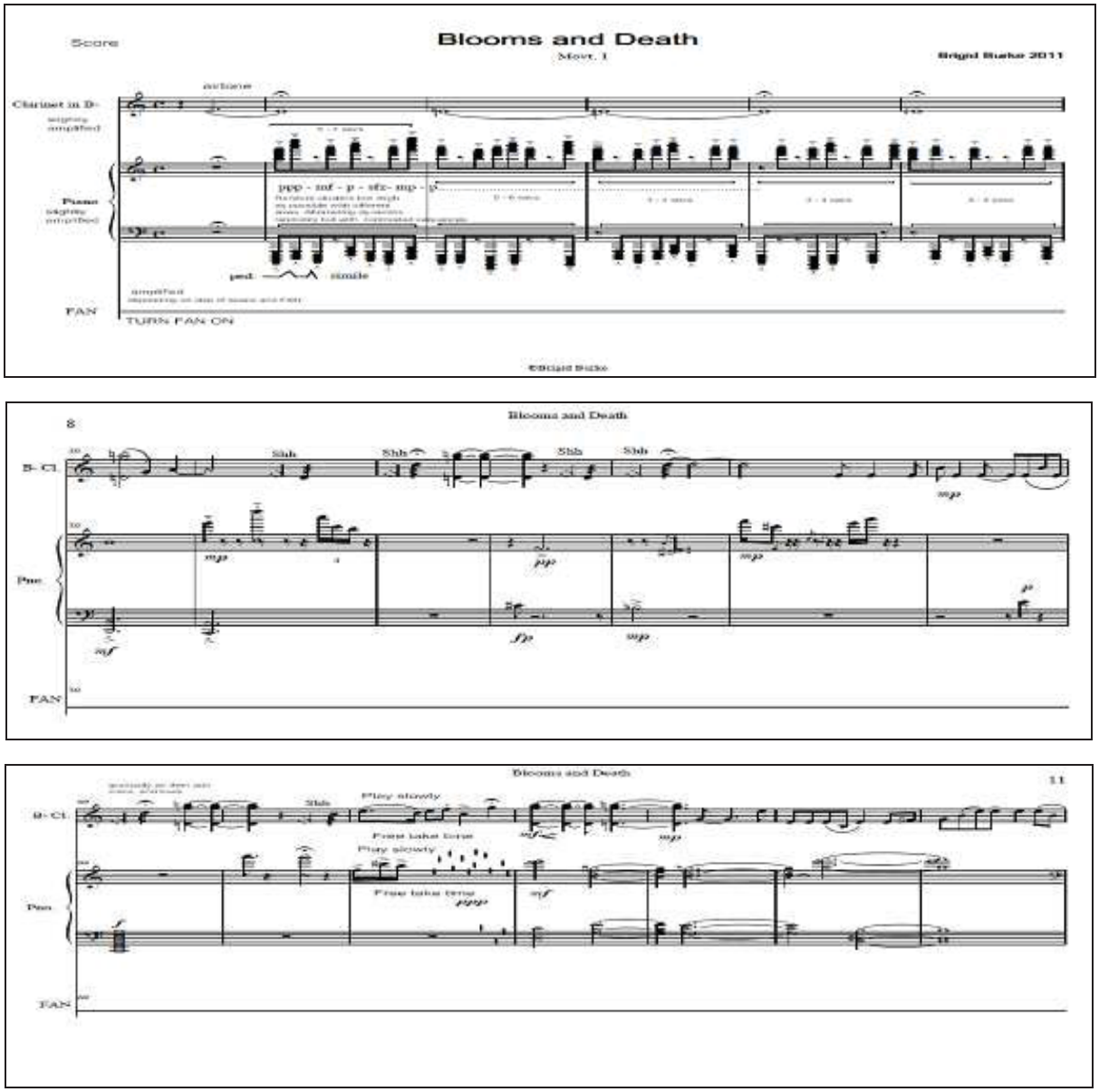


MOVEMENT 1

This movement is scored for Bb Clarinet, fan, multiple video projections and piano with audiovisual statements made through diffused fan and air sounds with thick clusters of sound of extreme registers and dynamics from the piano. The clarinet adds another layer of suspense with ambient long notes in low register of the clarinet that are coloured with quarter tones and tremolos. There are many interruptions with quotations from the 1st movement which brings us back to the beauty of the rose. This is quickly broken down with many 'peaks' and subtle layers, and repeated notes and repeated rhythmic dynamically erratic clusters as if conversing.

The piano motives which were notated were recorded and divided into small samples with the blowing sounds of the fans. With many rehearsals starting out with rough ideas that soon developed into the final score. As each rehearsal was recorded the final score was now audible and the video samples of both the still images and video clips were added. The process of refining the audio samples was similar to the rehearsal refinement of the notated score and this was done in the multi-channel program Adobe Audio.

Diagram 6 MOVEMENT 1 score



MOVEMENT 2

The music of *Blooms and Death* is scored for Bb clarinet, fan, live audio mulching (via laptop computer), multiple video projections and piano with audiovisual statements made through diffused fan and air sounds again with thick clusters of sound from the piano presaging in a processed state later in the work. This is quickly broken down with many ‘peaks’ and subtle layers, the piece again emerging into transformed breath sounds moving into complex paths of high overtones and repeated notes as if conversing.

Diagram 7 MOVEMENT 2 Graphic drawings in score

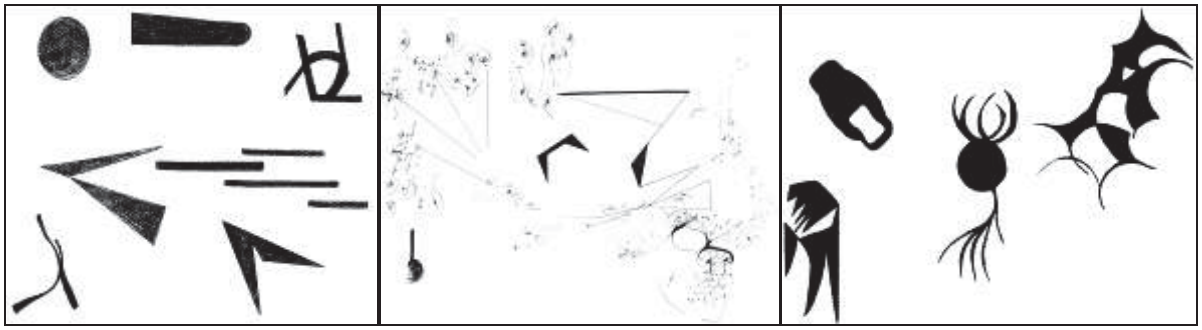
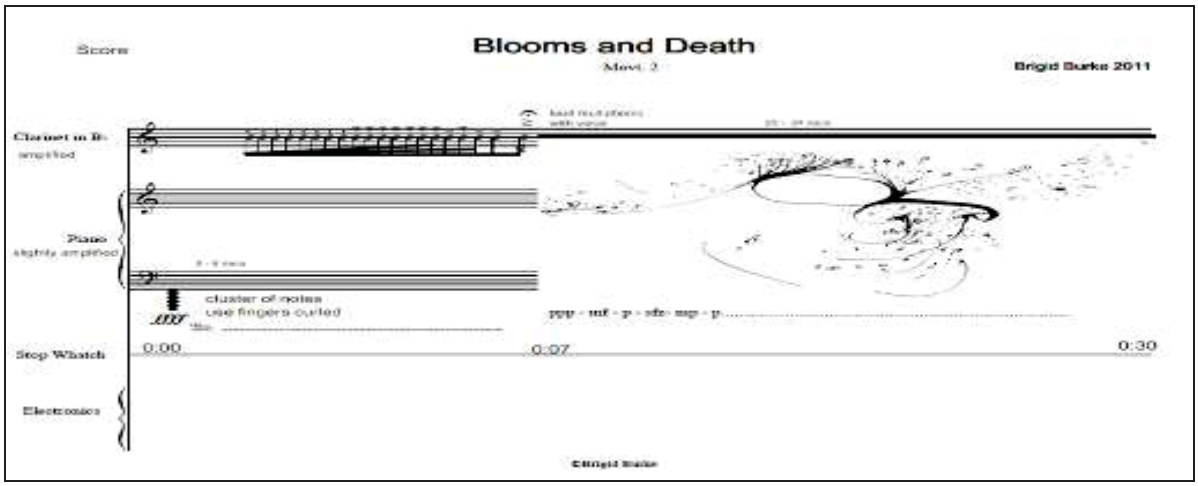
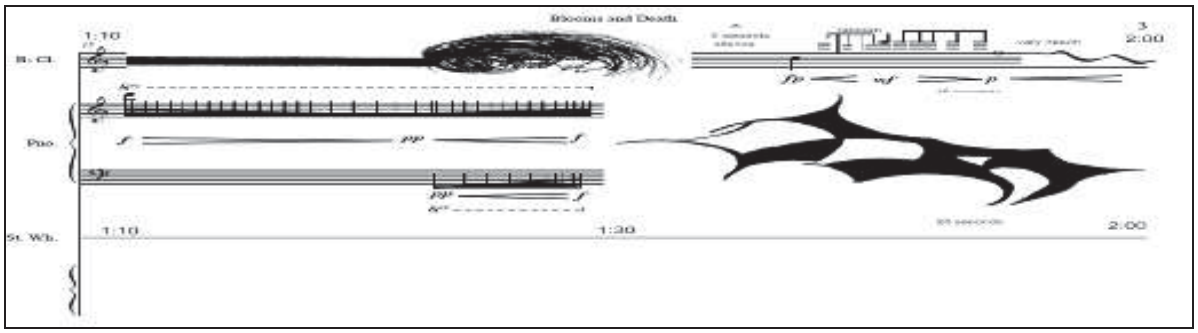
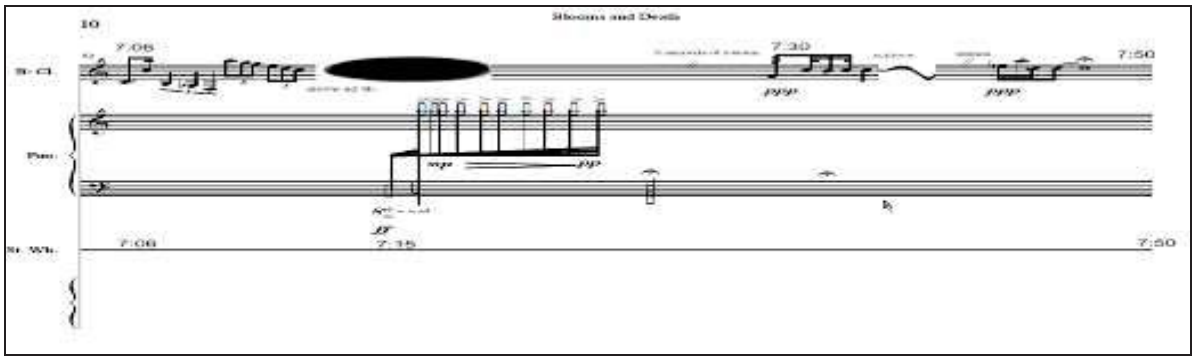


Diagram 8 MOVEMENT 2 score







Interlude

Live Audio Mulching (laptop) and video projections.

This short Interlude brings new life to the red and blowing images in the fan of the image of red stationary rose and is fast and racy visually, accompanied by a beautiful soundscape. The Interlude also features the use of constrained random material gathered from Movt.1 and 2 interlocking with occasional raw utterances from the clarinet motives. This only adds to the freshness and sense of surprise created in the tapestry of the work. The visuals are forever moving, creating their own pulse and energy to the point where the rose fades to become unrecognizable.

Diagram 9 Audio mulch patch for Interlude Movement 3

Movement 3

The concept of the third movement takes the vivid yellow roses, breath, acoustic clarinet and percussive piano sounds to next level of textural ambience, colours and exploration. The sounds and transformations came from images that depict grey colours and slow decay but show new life in their transformation through diffused timings and multiple layers of images and sounds. In the graphics one can see a series of yellow shades and grey pencil drawings layered to delicate tranquillity of refinement.

How will polymedia be integrated in the process of performance?

The polymedia performer in *Blooms and Death* plays Bb clarinet, controls the audio samples through the laptop and visual samples through the interactive responses on the video mixer, which is directly influenced by the sonic output of the system. In addition the first and second movement involve a pianist who is directed through a notated score and cues. During the performance one is continually creating new musical ideas that trigger fresh sonic audio improvisations that then influence different combinations of visual layering that give fluidity to the balance between the visual and audio output. Both are reacting off each at all times. In other words the performance could perhaps be conceived as creating polymedia counterpoints on player-defined fragments, effectively enabling the musician to perform a time-

extended improvisation.[viii] The visual output is based on an abstract representation of how the music is progressing. The audio is affected by the live video feed samples taken which is affected by the lighting and the amount the performers interact with the footage in real-time.

The aim is to make sound and image structurally integrated. To achieve this integration in performance the audio is analysed and used directly to control the manipulation of specific aspects guided by the visuals.

Blooms and Death uses microphones and laptop to control the granular synthesis of acoustic audio material sampled during the performance, producing a musical confluence of live clarinet, piano and visual components which can only be described as polymedia.

The use of Organic Time is utilised throughout as the performers interpret the construction of sound durations not as a pulse or counting unit but using other parameters such as physiological determinants responding to the general conditions of the environment around them.

Blooms and Death explores the sonic vocabularies of extended clarinet acoustic micro-tonality techniques, keyboard, tonal and percussive techniques, interactive mapping audio devices and visual components. The interactive audio techniques used are pitch-shifters, frequency changes, room placements and granulation. All these filters and parameter modulations are controlled live using a mapping software device. The visuals go through similar processes as the audio samples but are pre recorded and include video footage of flowers blowing, photos, dead flowers and drawings with live editing through video mixing. These performance strategies open up enormous avenues for improvisation and inventiveness throughout the performance.

All audio processing is created in Audio Mulch a live audio interface for real-time audio performance, manipulated during performance.

The performance outcome aims to develop from the audio samples of the clarinet, the fan and piano audio-visual media. The element of air blowing literally from both sources symbolizes a virtual moving space. This in turn reveals that the visual images are preceded by the audio Bb clarinet, piano and audio mulching with the soft purr of the fan sounds.

The audio and visuals are all triggered manually. This is purely by choice as I treat all the components individually in a polyphonic manner. As an acoustic Bb Clarinet performer the natural state is to have no added attachments to the instrument so reaction to musical moments is spontaneous. However the addition of the laptop is another line of the control that affects/ influences the outcome resulting in a fluid and reactive performance.

Diagram 10 Photograph of set up used in performance on 6th March 2011 at UTAS

Prelude

Throughout Prelude there is always a glimpse of age, death and familiarity as a tangible sound through the clarinet with the rose being familiar and beautiful visually.

At beginning point what happens between the music and listener in the performance depends on the strategy of the composition and how familiar the audience is with the structures of the performance.

MOVEMENT 1

At the first performance of Movement 1 on 6th March 2011 the recital space was quite different from my original plan in the placement of the fan on the stage and the image it created on the big screen. So it was decided to create a double image on the screen one with the fan switched on directly in front of the projector the other with the straight image. The result was quite astonishing and created the austere atmosphere that was envisaged.

The aim in this movement was to test the material of the diffused fan, making the score; acoustic space and pulse of the visuals form a balance with the experimentation of structures and ideas.

MOVEMENT 2

The live audio mulching in this movement is controlled through the computer and adds to the sonic world of layering throughout the composition.

The aim was to take the sonic world to the next level of real-time interaction in which compositional decisions are made continually through the graphic notations in the score during the performance. There is much random computer affected samples which open up the free improvisational shaping leaving much of the decisions to the performers being intuitive with the pre-formulated material. Within these pockets of improvisation there are key meeting points. This result means no two performances are the same.[ix]

Diagram 11 Audio Mulch Patch for performance for Interlude and Movement 3

Interlude and Movement 3 for live Audio Mulching (laptop or acousmatic - fixed audio) and video projections.

These 2 movements in performance are fixed so according to the set in the performance space which should be in the form of a movie theatre with surround sound the out come is totally immersive with the integration of sound and visuals.

Conclusion

The performance work *Blooms and Death* demonstrates a creation of balance that is sensitive to environmental thought and fluidity in polymedia performance. The polymedia attributes as defined earlier in the paper achieve the use of acoustic sound in a sound environment at the present time that is of processed sound. The meaning of creating a polymedia work is each voice enhances the other (the music and visual). The aim is to create video with an emphasis on it been a moving piece with a direction even in the still image. The components of a live feed of the clarinet, piano and fans with the interactive mechanisms of video and audio mulching add a component that will captivate a moment of time. By encouraging interaction with adaptive sound as from the clarinet and visually engaging footage one can enrich the creative possibilities of polymedia processes in art, and in particular music. On a practical level, by bringing these independent processes of interactivity with computer orientated music in a traditional improvisation framework an interactive polymedia performance practice develops that offers a means of ‘humanising’ this age of the computer.

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