

CREATING SOUNDING SPACES: THE WHY? FACTOR

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ABSTRACT

Sound artist and composer Ros Bandt, reflects on “Creating sounding spaces, the why factor?” with reference to the complexities of approaching two recent international commissions, the six channel *Raptor* 2014 for the ListenN festival, USA and a performance piece *Five Faces of Medea* for the German recorder Virtuoso Ulrike Volkhardt with 5 videos, surround sound and live electronics.

1.WHY DO IT? WHY MAKE WORK?

Thinking it through.

In my studio I have a blank canvas. It beckons me with the question mark of empty space for each new work. What do I want to create? For Whom, Where? For how long? Why do I want to do this? A commission? A dream? An invitation? A non-intention; something just growing up by itself? An experiment? Some novel research and development collaboration? A challenge? A computer aberration? The answers to all these questions come together in unique ways which shape the creative outcome. I never sit down at the computer to just make a new piece of computer music because I can. Technical possibilities are available to us, but as artists there has to be a much better reason. There's a tango waiting to happen, people in an acoustic space somewhere.

Two very recent international commissions, *Raptor* and *5 faces of Medea* are case studies for these questions to be answered. They are two very different working models and outcomes. The complex roles of the computers are totally subservient to the overall aesthetic needs of each work, but both works rely heavily on them for the production of the ideas at every stage of the musical process.

2. CASE STUDY I : RAPTOR

Raptor Ros Bandt 15 minutes

5.1 computer composition interpreting an international environmental sound archive for an international festival.

I received an email from Garth Paine director of electronic arts at the university of Arizona to invite me to

be one of a number of internationally commissioned works for his ListenN festival in Arizona, 2014. The task was to create a work interpreting the ambisonic sound recordings of the environmental regions he is archiving of the biosphere in Arizona. The sounds recorded by someone else (him or Leah Barclay) had to be the focus of the composition as the whole point of the commissions was to make people aware of the biosphere data base they were creating as a continuing sound laboratory of the natural environment, a worthy task.

Unlike most computer music composers, I have always created my own sound palette and made my own air and hydrophone recordings and rarely used anyone else's samples despite encouragement from The West Deutsche Rundfunk and the ABC to use their sound libraries. An exception is the brutal horse race end of the Bacchylides movement in my *Thrausmata Sonic Archeologies* CD on Move Records. The act of listening and “being in place” is part of the integrity of field composition for me personally. Several days were spent listening to this environmental sound archive. I found the on-line recordings very variable in quality and sonic interest. For the most part as Garth described them they were low level ambient environments.

At the time I had just spent a year in one location documenting one sound habitat, the Goldfields box ironbark at my acoustic sanctuary making an online twelve month sonic calendar. Spending time to know country over the long term is a requirement in an ancient sung country such as this one for me personally.

See www.hearingjaaraara2013.wordpress.com I had been dealing with the disembodiment of sound on line in this project already. Technology would have to create a fictional and sonorous auditory landscape.

There was also the problem of not being there, on site to understand the relationship of the sound to the habitat that generated it. Nor would I be able to hear the premiere of the work or have knowledge of the acoustic space it was going to be heard in despite being given speaker specs, 4 Meyer UPJ1 loudspeakers, 1 sub to be augmented to 6 with 2 Genelec 8020s backup. The piece was to be 15-30 minutes. There could be live elements. Live Tarhu bowed spike fiddle would have been

attractive to me if I could have attended. It would be an electro-acoustic six channel piece. Leah Barclay with whom I have collaborated over many years, offered to be my surrogate overseer as she would be present and was aware of the needs of my work from the outset. This was useful as in the end the files I chose from the data base she had recorded. We met and discussed this process intimately. I was feeling more connected to the site and the life of the birds. My particular focus on the sound quality and spatial movement in the acoustic space is paramount. Both were problematic in this invitation.

Once I committed to the golden eagle travelling from one habitat to another through their ambisonic recordings as the main focus of the piece, *Raptor* was born. The movement of large birds, the dihedral angles of their flight and the subtlety and strength they bring to every dramatic journey they make, the design became easy. The sound source, the calls of the golden eagle, the *Acquilla Chrysaetos* would hold the sonic identity of the piece as they move the distance between speakers in the overall migration from the Joshua Tree Creek Biosphere where it was recorded to the Beaver Creek precinct, a different habitat. To this end the speaker array was clearly conceived from the outset. In a clockwise position the design needed to take into account the northern hemispherical orientation.

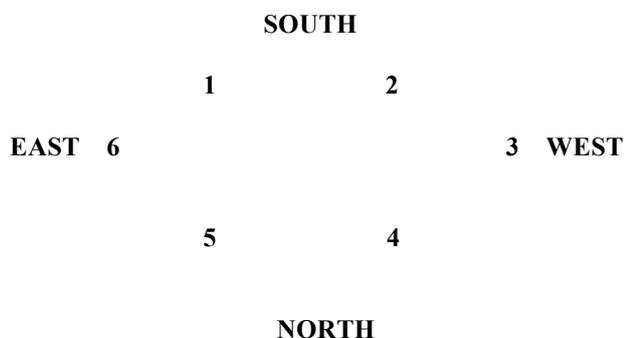


Figure 1. *Raptor* Speaker Array Orientation

The programme note describes the intention. “The granulated eagle calls are stretched to represent the psycho-perceptual orientation of the eagle, solitary, looking down over the land. The harmonic drones of the bowed tarhu within this soundfield position the eagle’s eye creating a moving point through which we can share the dynamic movements through these spaces as it rides and tips through the dihedral angles intrinsic to its flight. The slow strength and power and control of these magnificent birds can defy our aerodynamic understanding as they sculpt the biosphere. In order to help me effect this difficult task I engaged my engineer Jim Atkins to record me bowing the tarhu in this winged like way being a bird flying and to decode the different ambisonic and stereo files I had chosen so we could effect the spatial migration. I added air sounds of the slide whistle which I recorded and granulated and for the golden element chose some ancient Greek bronze

beaten cymbals to give an ancient golden feeling to the bird’s DNA and latin name (*Chrysaetos*). We worked together on the EQ, Signal processing and effects around the east west axis of this 6 channel design. The final mix was done in the entire set up where I could tweak and add things straight into the mix live until the end. This responsive way of working with the array is not something everyone gets all the time especially with such a great engineer on board. For me I was flying on the tarhu, bringing the bird to life in the space, a long journey from the American recordings. In this situation I felt all the work was worth it and the sonic results thrilling. The sound as mass was flying around me and I was on a long journey with lots of air support.

As it happened the entire concert venue in America was changed the day before the performance, as it was felt the array of speakers was too narrow, by those at the festival. The venue was the Arizona State University Art Museum. The date, October 17, 2014. I was in Chiang Mai for a wedding and freaked out that the scale and design elements I had worked so hard for were to be altered. I emailed Jim whose speed and skill in adapting the piece into the new format was exceptional. The performance and all spatial sound considerations had to be re-jigged in 24 hours. This was of great concern to me as the entire spatial design I had spent weeks doing had to be rescaled. Jim and I had to reverse all the files reconsider the spatialisation and reverse the central trajectory had altered. It made me think, a piece is never finished. This change hit at the main design element of the piece. The axis of the flightpath. But I knew my fall back position at the moment of replay would be safe in Leah’s hands. It was the first item in the concert of works with Douglas Quin, Leah Barclay, Ricardo dal Farra and Garth Paine. I would have loved to hear these composers’ solutions to the invitation, “listening to life now” (dal Farra). The feedback was great. I have yet to hear it performed and look forward to it here at this festival. There will also be other opportunities.

Raptor 2014, an electro-acoustic 6 channel work, was recently acquired by RMIT for the international collection of soundart, along with the 8 channel *Loops* 1983/95.

3. CASE STUDY 2 : FIVE FACES OF MEDEA

Commission for solo performer, surround sound, 5 videos and live electronics.

Five Faces of Medea, (September 30, 2015) was written for and premiered by recorder professor virtuoso Ulrike Volkhardt, Chair of Mixed Media, Folkwang University, Essen who was invited to come to Australia for the Victorian Recorder Guild’s 2015 spring festival in October. Ulrike wanted me to share a concert with her, *Traces* to open the festival and write her a new piece on the Medea myth. It’s not my favourite myth (she commits 5 murders, 2 her own children, is full of hate

and gets away with it). I had to find a way in which the recorder could do justice to her sorcery and foreignness. Having met Ulrike at a recorder festival many years ago I felt I should understand more about why she wanted to do this and the skills, sounds, tools and processes which might be appropriate at this moment. I also wanted the work to be approachable for new players of electro-acoustic music and decided to implant the electro-acoustic soundfield in five video clips each one representing a key emotion or face of Medea which could be played separately or together.

The five psychological movements gleaned from the Richmond Lattimore text of the Euripides play gave the structure to the piece. The ancient Greek words, the videos, the notated parts and the electro-acoustic score work to the common goal for each movement. The intention is clear.

4. THE STRUCTURE OF THE SCORE

FIVE FACES OF MEDEA ROS BANDT

MEDEA 1 CLIP NO 1 FOREIGNER 2'16

1. βάρβαρος (barbarous), non Greek, barbarian χένη (xenay), foreigner

Medea arrives on the shores of Corinth with Jason. Everyone looks at this exotic woman from afar. Begin the mode in the additive style of the alap, E D E G# E ...with wily turns of phrase and breath to give an exotic feel. At 50" Medea realises she is a foreigner and becomes more assertive and takes centre stage throughout. Watch the waves of the sea in the placement of the space notation.

Blow across the recorder finger holes in the direction indicated.

MEDEA 2 CLIP NO 2 MAGICIAN 2'20

2. γοής (goes), sorcerer, σοφή (sopay), clever schemer, skilled,

πανούργα (panourga), wicked μάγισσα (magissa), magician

Medea is a very talented woman capable of seduction, (slow dance) tricks, clever schemes and sorcery. (footbells). Her transformative powers are seen in the video as the sound in the water from the hydrophone makes the light patterns visually. Live effects and improvising on the key word modules give immediacy to her alchemical powers through which she ensnared Jason.

Footbells
Flattment, finger vibrato on one pitch like throbbing
Free improv. imitating ancient Greek word form and intonation

MEDEA 3 CLIP NO 3 PITY 2'37

3. δύστηνος ηττησμένη (dustenos etimasmeni), unfortunate, dishonoured

Φέυ (Pheu), pity me

κάκιστος ανδρών (kakistos andron), worst of men

Low sad drones of video underpin the tears of rain and mock chant as she is abandoned for the local king's daughter. Sing and play together. Woe is me.

MEDEA 4 CLIP NO 4 REVENGE 3'09

4. πάς δόμος έρροι (pas domos erroi), let the whole house crash

The door slams and you improvise ff with the fire and effects full on throughout as the body/bodies burn. Cut exactly with video at 1'49. Silent freeze till the Childrens are stabbed. (offstage). You breathe on the other side of fate through the labium from 2.16. If string, breathe in Microphone with the bellows. Can also be acoustic.

MEDEA 5 CLIP NO 5 UNBEARABLE 2'07

5. δεινή, (daynay) unbearable monster

You have become something else, the hissing serpent, you have lost your original voice (no tone). Find cicada like frequencies with rocking hand over labium and altering breath pressure. Pathetic, soft, no remorse. Dry. Hot. Air is given to you (solar powered bellows) as the sungod catches you up and speeds you to the heavens in the air of the metro and aeolian harps. Your part-being goddess saves you.

1'20 walk out breathing over the fingerholes.

If strings, make vocal air sounds and disappear.

5. DESIGNING PERFORMER RELATIONSHIPS

Live electronics are also possible with the amplified recorder particularly in the second and fourth movements, Sorcery and Revenge. In Hannover I collected the sound palette and began the collaboration. I recorded Ulrike speaking the ancient Greek key words which were talismans and rhythmic DNA for the piece. These would be mixed later in Athens with ancient Greek and modern Greek voices making the chorus. (Arthur McDevitt, ancient Greek and Dora Papaioannou, the Athens Centre). I recorded her 8 foot renaissance instruments she would be unable to bring with her. I tried rushes of the composed mad dances with bells on her ankle and heard her improvise piteously and wildly. She was passionate that Medea's voice should be just the Renaissance Tenor at A=466, so I immediately abandoned my intended use of the sopranino for the children's death screams, (Movement 4) making them electro-acoustically instead and having them heard from speakers installed on the balcony high up behind the audience.

Much of the electro-acoustic sound and soundscapes for the 5 videos for each section for *Five*

Faces of Medea was recorded in the Mediterranean near Corinth where the myth is situated. Medea comes from the Colchis. Movement one was a Cretan sea recording where Jason's boat would have passed on its way from the east Black sea, taking Medea to her new home in Corinth, in the Peloponnese. The second movement is an iPhone recording I made of my hydrophone making light ripples in the red water tank with a MAX patch supplied by Jon Drummond and activated by Sophea Lerner. It is the score for an alchemist, translating sound and movement into image to return to transformed sound.



Figure 2. Hydrophone making the images in the water and Ulrike Volkhardt improvising as sorceress.

Here in the second movement she has various boxes containing the ancient Greek words and she is free to improvise on the meaning of each, stamping her foot with the bells of the notated dance and developing the modules with the effects as she wishes. It's short and compact and demandingly fast. The third movement has pitiful tears, recorded from rain in Hannover on a glass hotel verandah and the fourth, a vigorous fire burning a robe filmed close up in a fire stove in the bush.



Figure 3. Ulrike Volkhardt recorder, premiering *Medea 4*, Wyselaskie Auditorium, Parkville. 30/9/15

It rages during a rain storm on a tin roof. The performer has complete freedom to wreak havoc around the pitch centres in tandem with the video and moving sound and effects through the space.

The last movement uses a subtle blend of cicadas for the snake hissing, aeolian harps in the desert and the solar powered bellows of the organ powering Cage's longest piece in the world, ASAP at Halberstadt. This mix cross fades into the roar of the Athens metro taking Medea to the sun with her grandfather the sun god Helios. Each movement is notated on one A4 sheet for the recorder player. The video is the chronograph, 12'27. Performers are encouraged to learn it from memory to make the psychological pathway of Medea more dramatic and to avoid the music stand /microphone/ time-code barrier. Even Ulrike seemed to need these, as it is her common performer-mode for contemporary music performance.

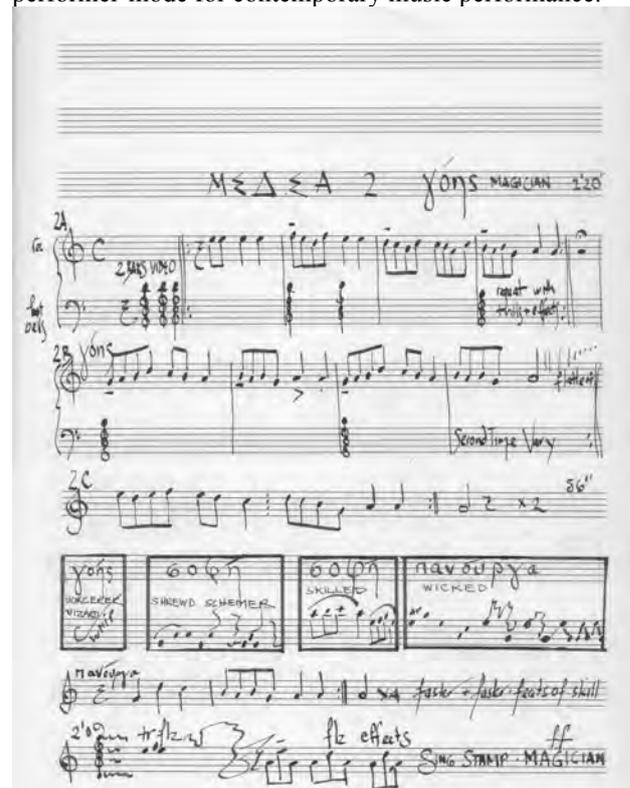


Figure 4. Movement 2: The Sorceress and Magician

Ideally the performer would use a wireless microphone to be free to move around, respond to the details of the videos, the surround sound speaker array and the audience. This yields better theatre and more integrated art, with less proscenium "performer" focus. For the premiere however, the recorder playing fraternity amongst the audience were more than thrilled seeing Ulrike being Medea, giving it her all with strong emotional content, impressive technique and perfectly timed improvisatory sections. She took the recorder to new emotional heights. The effects possible for the live performer, delay, EQ reverb, echo, distortion of the words were also prepared on the video soundtrack so that the piece could exist as a .mov file on a USB and

simple notations in score. The concert performance session was automated from the Logic sessions merged with the video clips with time code for the performer to track her improvisatory pace and keep in line with the dramatic curve of the composed media throughout the five movements. An edition at A=440 is also being prepared which I will premiere with bowed tarhu recorder and voice with live electronics on the ancient greek keywords for the ABC live broadcast for the ACMA 2015 festival concert. Medea's foreignness will be further explored.

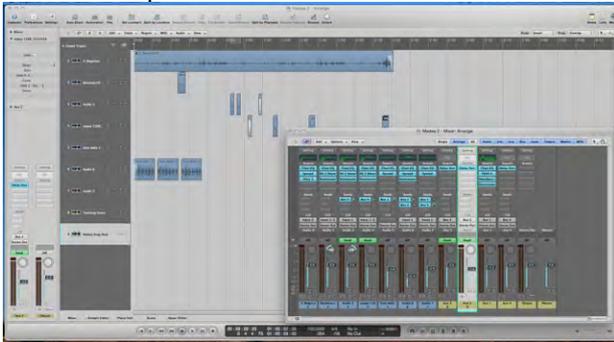


Figure 5. Movement 2 :screen shot of Logic session.

5. WHY HAVE PERFORMANCE?

The role of the performer in electro-acoustic settings can be a plus and a minus depending on the audience and the venue. I can perform *Raptor* with the array on tarhu, slide whistle and cymbals but a seat on a moving floor would also be great. If it is performed for radio, then the movement can be mixed on a slow graded right to left, south-north orientation over 15 minutes, given that it goes to air on stereo FM. This needs adjusting in the northern hemisphere.

If RMIT intends to re-situate the work as an installation in their new an outdoor sloping ground art in their new installation facility, The Bundoora Spine Soundscape System, the relationship of the height of the speakers, sound levels, EQ and distances will need to be re-set against the prevailing soundscape of the site.



Figure 6. The RMIT Bundoora Spine Soundscape

If it is a continuous loop, then boundaries need to be preserved or the sense of journey would be distorted. If it is in a stream of pieces by other people there should be a major gap. It is hoped that any further curatorial settings of the piece will be done in consultation with the composer. *Raptor* will always need a re-tweak in every setting for the piece to have its intended effect, especially for the geographical east-west axis to be maintained.

6. COMPARATIVE OBSERVATIONS

In these two works the constraints accepted by the commission in terms of venue, possible sounds, playback conditions with the audience have been noted.

For each piece elements need to be renegotiated with each recurrent performance, the position of speakers, the levels, the position of the audience in relation to a video screen, an outdoor concourse which is concave, fixed or moving listeners, the type and skill of the performer. Would a male Medea be possible as we have seen with a female Creon in *Antigone* recently?

In these two pieces, the sound transmits the emotion through many different computer processes at various stages of the composition, editing the soundscape recordings, equalising, and filtering many of the samples recorded and adding effects to them. Granulation and stretching allows the sounds to be opened up be lot, be it a bowed string of the tarhu or the call of the golden eagle. Thanks to Barry Truax, we can climb around inside the sounds in great detail.

The multi-tracking and temporal adjustment of both pieces of course lies in the computer in both cases. The array of the speakers and the export feeds to each are the critical design elements in both pieces designed at the outset, as are the sonic gestures contributed by the performer both before the mix and during performance. Finally, the spatialisation, type of speakers and their position in the listening environment in relation to the audience is the most important feature in rendering the work to the ear. Levels must be tried to enact the most desirable sculptural sounding so that the chunks of sound as mass and tiny detail occur in the right place.

7. WHY HAVE AN ENGINEER?

Since I have been performing in many of these pieces and installations over the past years, (*Floating Glass*, 6 concerts, *Iso Nagecki*, 2015, *Medusa Dreaming* 2015, I have been working in collaboration with sound engineer Jim Atkins to ensure the sound and embodied architectures are rendered during the performance with a vibrance and volatility embracing change and realtime mixes I can enjoy on the fly. He is also part of the compositional process in some of the works, so he is totally involved in the intention and construction of all elements of the work by the time we have prepared the session for the performance. Having worked with him in the ABC doing large scale inter-continental live feeds (A Global Garden for Percy, Grainger Museum), no challenge is too great. Jim has also recorded and mastered the new baroque/modern *Birdsong* CD, touring Castlemaine, Italy, Malta and next week in Elder Hall Adelaide. In the Australian concerts, I have chosen to situate the amplified historical instruments in sound fields of Australian bird recordings with two new pieces *Peristeria* (doves) and *Lyrebirds* for the Elder Hall, November concert, 2015. The engineer is an essential part of the team for this to occur. It is often challenging for the baroque musicians who prefer their sound acoustic rather than electronically mediated, but they need to be amplified to live in the surrounding digital

bird speaker forest particularly when the performing venues are dry such as the historic Castlemaine Market.

Over the past forty years I have constructed some 45 installations on four continents and published many CDs of audio works. The tangos in these two works are by no means a summary of my approach in my long career. Many studio situations, indoor and outdoor, public and private, large and small scale have been used on and off site. Seven unesco world heritage sites have been installed. Ancient archeological sites bring other restrictions to the possible uses of technology as do remote off line environments such as at my acoustic sanctuary. Solar powered generators and mobile units created for the situation remain the most subtle and environmentally sustainable.

(Available at URL www.hearingjaarajaara2013.wordpress.com)



Figure 7. Flexible systems and mobile studios. Working with Jim Atkins mobile system on *Windharps Symphony* in my tiny bunker for the International Harp conference 2014.

Often I have done nearly every stage of this myself, recorded sound, notated it, invented the sculptures, the multi channel playback system, rigged it, installed it, engineered it, performed in it, recorded it. Filmed it. This has given me a polymath experience as a sound artist and designer and technician. The design process is the issue. I have been fortunate to work with the best engineers in the World through commissions at the WDR Koln, the ORF Vienna and the ABC, Sydney and have worked in collaborative teams which have built works which can transcend the sum of their parts. The two works discussed here have required their specific orientation because of the nature of the details of the invitation, which can never be underestimated. I personally find a tango with an empathetic brilliant engineer frees me to participate at the moment of audition, sound painting in realtime in the electronic auditory environment I create. Both these works testify to this experience working with Jim Atkins.

It is great to see more exploratory listening spaces becoming more frequent in the computer music scene and seeing performers such as Genevieve Lacey, now designing collaborative installations combining new electro-acoustic commissions with her Dutch Van Eyck recordings in garden settings, 2015 and 2016. The context of the listening environment has a profound influence on what we make. Every space is an acoustic space.

8. MAKING WORK: WHAT IS THE FINAL AUDIENCE EXPERIENCING?

The audible space and the audience experience must reign supreme for the design of every work to be fully realised, be it an electronic concert with or without performance, or interactivity for the audience or the performer. In the two works discussed here audience interactivity is not part of the design. Temporal designs of different lengths and various forms of relationships, such as walking through a beautiful garden, may shape where the audience may want to be, and for how long they may care to listen. Babbit's old adage is still relevant, who cares if you listen? And the soundscape is playing out in its manner of operation every second. (Cage). What do we offer the auditor when making work? The question mark is always there. WHY? FOR WHOM? WHEN? HOW? and FOR HOW LONG?

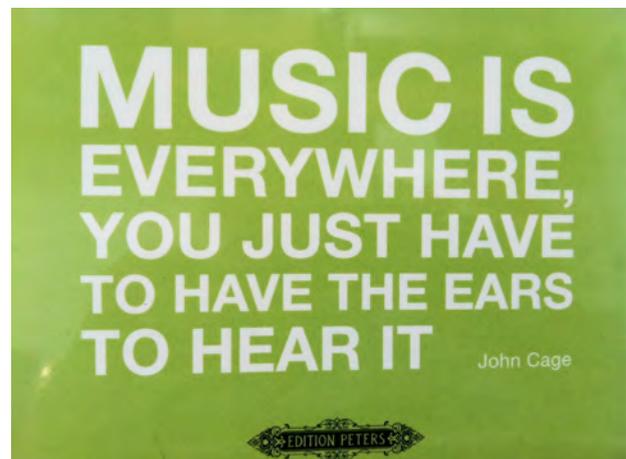


Figure 8. Peters Edition plaque of Cage's quote.

9. CONCLUSIONS: CREATING WORK: THE WHY FACTOR

There are many ways to create revelatory sonic experiences for people to experience with all their senses, as these examples show. Installations, concerts, Radiophonic works, outdoor environmental events and multi-site online works all have their power and uses. Techniques and computer possibilities are constantly changing and seducing us. Technology has always been seductive at every stage of the musical process as I pointed out in an early article in Meanjin, The musician and the Machine. (Bandt,1988). For me personally, the first shotgun microphones, the VCS3, Nagra taperecorders and the fairlight were followed by the 3DIS Interactive space, the SSIIPP 8 channel interactive

system, (Bandt 1985), sonic solutions, Audio Mulch and an array of interactive audiovisual softwares which often seem like fetish objects. But it is the quality of the intention, the design of the work and its realisation that matters. Who is it for? Where? When? For how long? Computers are helpful tools through which these questions for each work can be realized, but the presets of the softwares should never and will not dominate or create great sonic art. It's the service to which they are put through the design of the why? factor and the technique through which it is rendered that will make a work inspirational, refined or not. It has to be more than technical display. The listener is the final arbiter when the sound is physically heard and emotionally experienced in the auditory environment however diverse that may be. (Bandt, Duffy MacKinnon: 2009)

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