Horizontality: From “Window” to “Ground”, Exploring Immersive Auditory Space as an Interactive Participant Medium

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“Most people mistakenly think that when they hear a piece of music, that they're not doing anything, but that something is being done to them. Now this is not true, and we must arrange our music, we must arrange our art, we must arrange everything, I believe, so that people realize that they themselves are doing it, and not that something is being done to them.”

John Cage (1962)
ABSTRACT

My sound-based arts practice is currently concerned with the shift of focus from the materiality of the sonic art object to the conceptual and semantic dimensions involved in interaction within a system \(^1\). The twentieth century saw the dawn of technologies that could not only mediate the sonic arts in new ways but also inform its techniques and tropes \(^2\). Over the last few decades we have seen the emergence of the genres Transmission and Telematic Art, the methodology of both often being informed by: 1. new concepts of space. The rise of post-industrial Capitalism situates us in a new epoch of spatial awareness \(^3\). This seems particularly relevant now that mediated sonic and communication technologies are an integral part of our lives. Transmitting media “punching a hole in space” \(^4\) now ignore acoustic container boundaries: a sound heard and its source can exist separately yet simultaneously. Physical location and distance become less relevant. How does this create a shift in how we perceive the spatial within the practice of living?; and 2. redefining concepts of author and audience. All who participate are involved in authorship creating a form that is impossible to mediate to a passive audience \(^5\). My work explores how this situation and the aesthetics deriving from it inform me as a practitioner within the medium of sound: the generative and emergent behaviour that arises from relationship as a form of “composition” and, of particular interest to me, the desire to shift focus from the traditional role of sound as an object of aesthetic expression to immersive interactive auditory space as a means of entering into dialogue with the multidimensional environment which humanity inhabits.

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1 Kim-Cohen, Seth. In the blink of an ear: toward a non-cochlear sonic art. The Continuum International Publishing Group ltd. 2009. P114
3 Harvey, David. The Condition of Postmodernity: An enquiry into the origins of cultural change. Blackwell publishers. 1990. Chapters 16 and 17
5 A seminal interview by Josephine Bosma of Heidi Grundmann. 17.08.1997
Acknowledgement of Dr. Dugal McKinnon for invaluable input
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0. INTRODUCTION

0.1 Ancestry

Literary theorist Roland Barthes \(^6\) foresaw the shifting role of artist to curator – the author is no longer the creator – he/she is a medium of creation and we are now seeing the accessible and malleable nature of new technologies facilitating this. Interactive hybrid media sets the stage for the liberation of an audience from anchored passive recipient to the active engagement of community. The latter half of the 20th century saw the emergence of forms that would shape this practice:

In 1952 John Cage created a situation which had not been explicitly part of traditional sound-based arts. By making passive reception very difficult the audience was prompted to take a more active role in listening and aurally contributing to the world they inhabit for a period of 4 minutes and 33 seconds \(^7\).

During the late 1970’s and early 1980's pioneering communication technologies saw experimental projects such as *La Plissure du Texte* \(^8\). This piece involved groups of artists around the world creating a “fairy-tale” by participating through an electronic network. The story developed daily as pieces of text were logged in from participant’s terminals. Nobody knew exactly how many individuals were involved and no one individual was able to know the entirety of the piece. Each participant could only experience his or her version \(^9\).

A decade later Ascott again removed the container of the proximate performance employing networked interactive virtual space as a simultaneous global participant experience inviting collaboration between various disciplines, including the scientific, cultural, and spiritual. His piece *Aspects of Gaia: Digital Pathways Across the Whole World* aspires toward planetary harmonization as a means of understanding how we are a part of the world we inhabit and not apart from it \(^10\)

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6 Barthes, Roland. The Pleasure of the Text Publisher Éditions du Seuil. 1975
7 So many varying observations has been made of this piece – best to hear from source. Kostelanetz, Richard. Conversing with John Cage. New York: Routledge. 2003. P70
In these works, the orientation shifts from the defined roles of author/audience and immediate sensory experience associated with physically proximate art practices, to “dispersed authorship” 11 and the perception of the distal and disembodied as well as the relational, all of which are core to Distance Art practices using transmission and communication based mediums; in other words, the act of composition lies within participant interaction and their implicit relationships, and, community in as broad a sense as possible.

0.2 Approach by example

0.2.1 A Physical System

On commencing development of my project work I explored possibilities by asking: What do I wish to communicate? What are the events and objects to be identified? What are the metaphors appropriate for creating connections for a participant within the space of the work relating to the “real world”? Which tools could be made available to create an environment to expand ways of thinking through engagement with the process?

Much of what defines the human condition is the assumption that life is a process of operating within sociocultural norms, most often without awareness of these and therefore without challenging them. Traditional Western arts practices can often perform the same role. Due to the tradition of a public expecting to have “… [the] art done to them” rather than “… doing [the] art” 12 how do we shift an audience into participant-consciousness? How do we shift consciousness from the stressed, paranoid, hopelessness of the present post-industrial materialist age to new thought processes of connectedness and on-going collaboration? 13


It would seem logical that if the intention is to communicate a need for a creative human relationship with the multidimensional environment which humanity inhabits then it would follow that this metaphor should be present in the work. That is, the participant becomes the creator of the piece through relationship with the complex space she/he inhabits.

The foundation for this project thus requires I have a basic understanding of how we use sound as a medium for interacting with our environment and how community can either engage or alienate us from the world.

Homo sapiens evolved through encounter with their environment – from its beginnings in the savannah and forest to high-density urban life. Within the process of encounter with environment we find that information exchange within the auditory field has evolved as a primary survival function; i.e. we will often hear an object approaching well before any other sense encounters it and if this object is likely to prey on us or if we wish it to be our prey then our ability to hear a “coming into being” 14 or “listening-in-search” 15, is a useful survival skill requiring an ability to extrapolate possible outcomes from auditory information. Memory and learned schemas are the architecture of sonic signposting that allows us to navigate our environment and read the 'acoustic ecology' 16 of our habitat. For example, non-Westernised aboriginal peoples of the tropical rainforests are able to map their movements through the proximate visual horizon of a dense rainforest by hearing sounds such as the running of water informing them of a stream they are familiar with and the amplitude or density of the flow gives away which part of it they are approaching.17 Likewise, there is the blind person I see every morning as I leave home for the day who confidently strides through the busy urban CBD knowing precisely when to stop, to cross a road, to turn etc.

Sound signals need not only be a method for terrain navigation – they are a means of social interaction and the binding of community 18.

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16 Ibid. P55
17 Feld, Steven. From “Ethnomusicology to Echo-Muse-Ecology: Reading R. Murray Schafer in the Papua New Guinea Rainforest” The Soundscape Newsletter, Number 08. 1994
The Kaluli People of Bosavi, who live in small communities in the forests of Papua New Guinea, have a form of composition and performance that takes the structure of a journey: “Poetic song maps”. The singer narrates an event as a trail from the perspective of a bird. It will be performed within a social context as much as an environmental one. The river participates in the process of creation for often these songs will be composed by a river and the vocalist will sing with the river as accompaniment, or can sing at the river in the form of a narrative. It is as much a “being” as are members of the community. Poetic song maps are emotionally charged with history and events placed in time and space, often remembering family members who have died, the intention being to create feelings of empathy and connectedness within the whole community. The relationships described in these journeys are reinforced or remembered by the signposting of places and the getting to and from them. Similarly there are the subversive marginalised or minority communities whose occupancy of Internet space is compact and sparsely populated. The creation of “profiles” with pics and text, which are individual residences placed into the space of the community. The social interaction comes into being through binding actions such as creating an increase in accessible navigation paths by adding “friends” or “interests”, sending or receiving “pokes” and “oinks”, and home page message boards for sharing personal stories and fantasies. As is the situation for the Kaluli, the participants of these Internet communities are interacting with each other and the environment simultaneously whilst the overall container of their online “habitat” is informing the structure of the cultural system. However, this remains a heterotopic virtual space and is not “space (as) a practiced place” in that it is separate and remote from the physical world.

20 Foucault, Michel. "Des Espace Autres". Architecture/Mouvement/Continuité. October 1984. This article, published after his death has it's origins in a lecture Foucault gave in March 1967
0.2.2 A Virtual System

An arts engaged community that straddles both virtual networked and physical space is the Tactile Sound Garden by Mark Sheppard. This is an example of a group of people occupying two worlds simultaneously – bilocating. It is within the virtual world that the community comes into being whilst navigating and interacting with the physical urban landscape. The project explores gradations of privacy and publicity within contemporary urban space by addressing the social impact of mobile audio devices such as the iPod. The structure of this piece piggy-backs on existing communications technology via WiFi hotspots. Virtual sound gardens are created where participants “plant” sounds in space via mobile technologies. The plantings are mapped in space via a 3D audio engine. Wearing headphones connected to their WiFi enabled device, participants move though virtual sound gardens as they walk throughout the city listening to and being able to edit the “plantings” of others. Although there is a community of participants interacting with each other within a virtual “nested” world, they actually remain separate from the physical environment they are navigating through. Mark Sheppard observes: “to what degree does this contribute to a retreat or withdrawal of the modern urbanite by distancing him or her from the encounters and frictions that make urban public space such a vital component of democratic societies?” In the process of creating a situation whereby participants are invited to make their urban journeys more meaningful and engaging he observes the possible future-vision of the megacity’s effect on humanity in terms of alienation.

0.3 Process of Engagement

These examples suggest situations for interaction with systems as a means of engaging with environments that have informed my current work. The process of engagement suggested development through incremental stages of “proof of concept”. It seemed appropriate to create a laboratory for defining strategies and conducting experiments. This is the situation in which the following pieces were developed. They are an experiment in removing the agency of arts practice from the traditional Western containers of gallery white cubes and the silent frame of performance

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space to engage instead in enactment within an already present space. Instead of requiring the participant/contributor to remove themselves from the world and enter a controlled, sanitised space for the dissemination of an artist’s self-expression, I ask for engagement in what I call environment practice: the participant/contributor physically and consciously removing themselves from the familiarity of their egocentric space and by encountering the unfamiliar, as well as perhaps the uncomfortable, they will begin to engage in a new relationship with how they perceive themselves in space.

Once I have a concept of a system of interaction and the space it inhabits, I then consider the materials that will populate it. Within the visual arts, an assemblage refers to the practice of putting together found objects three-dimensionally to form a sculpture. Within composition it is a form analogous to electroacoustic bricolage: the re-contextualization of existing sound objects utilizing the familiar as a means of playing with audience expectation. Gilles Deleuze describes assemblages as social entities that operate on all scales manifested by components, which are of themselves assemblages. He also is responsible for the concept of absorption; the gathering of elements to form coalition whilst still maintaining the individual agency of each.25 My current practice finds an aspect of both these concepts applicable to lesser or greater degrees, which is the Deleuzean assemblage with its subsets of components will make itself apparent within the structure of the works. This is the beginning of an exploration of works that are built on process-driven participant authoring engagement; as such the works themselves are likely to evolve in future iterations of them, as well as this evolution sparking new works – there can be no finality to these works.

What follows is an exegesis, through the writing and multimedia documentation, of four works in order of their temporal development. The first explores themes of broadcast media colonisation and unification produced via cultural collisions while inviting the participant to action the content themselves outside of the frame of the performance space. Their engagement will prompt them to consider contracted and expanded space. The second piece occupies the same conceptual domain as this but its focus is situated within the context of a characteristically Aotearoan/New Zealand cultural experience of distance. The third piece sees a technological evolution from the simple forms employed in the first two, to a more complex controlled digital

media environment. This explores themes of isolationism and the deterioration of human hierarchies. I developed the fourth work parallel to the previous three and it explores how mediated sound colonises personal space, and how fixed media can be an immersive interactive experience. The first three are forms of transmission, telematic, communication and distance art practices; the fourth takes the form of radio art. Within all of these pieces I have made and followed my own rule to blur the roles of author, curator and participant.

1. LIFT UP OVER TRANSMISSION: RECONNECTION OF HUMANITY WITH ENVIRONMENT THROUGH INTERACTIVE AUDITORY SPACE

1.1 Conceptual Underpinnings

For this piece I create an interactive immersive auditory space within a forest setting divided into zones created by four “sounding nodes” using a variety of repurposed battery powered technology. A low-powered miniFM transmitter transmits the sound for each node. The participant wears a radio receiver with earphones and is able to pick-up and move through the audio transmission regions as they navigate the environment. Transmission artefacts due to atmospheric conditions and physical disruption of reception and the “seeping through” of the ambient environment are all part of the entirety of the auditory experience. The intention is that the participant is aware of occupying and traversing multiple worlds simultaneously (bilocating) and to feel an awareness of this situation. In effect it is an analogue of a holophonic sound space where the participant is aware of their navigation via sonic signposting. The auditory journey they experience through their receivers is recorded and they are invited to take the document away with them to create their own compositions.

I will commence by explaining the conceptual underpinnings of the piece and the cultural metaphors I have drawn upon. I will then describe the linear development process of this work.
The title derives from the Kaluli people of Mount Bosavi, Papua New Guinea. The study of this culture as an interactive system has influenced my current project work. The Kaluli have a relationship with the aural environment described as “lift up over sounding”. Ethnomusicologist Steven Feld informs us: “‘Lift up over sounding’ like ‘harmony’, is both a grand metaphor for natural sonic relations, the way tones combine together in time, as well as for social relations, for people doing things together in concert. In the Kaluli world ‘lift-up-over sounding’ sounds are dense and layered, blended, and forever thinning and thickening. One hears no unison, only a constant figure to ground motion of densities, decays and fades, of overlapping, alternating, and interlocking sounds. These sounds, whether in the forest, in Kaluli music singing, or in the overlap of the two, are ‘in-synchrony but out of phase’. By this I mean that they are always cohesive, yet always seeming, as well, to be at different points of displacement from a hypothetical unison. Neither a clear-cut polyphony nor heterophony, ‘lift-up-over sounding’ sounds define an acoustic space-time where upward is outward. One sound stands out momentarily, then just as quickly fades into a distance, overlapped or echoed by a new or repeated emergence in the mosaic.” This image of a unified holistic auditory experience describes my intentions well. Due to the transmission component of the piece I wanted to explore community systems that have had influence or shaping from afar – cultural collisions. I wish to explore sound transported from distance into the “local” ambient environment via transmission: is this invasive or creative?

Until the end of the 19th century, the colonisation of indigenous cultures in the “New World” by Western Europe was an act of conquest, an indomitable presence aggressively taking possession under the name of Empire. The discovery of the electromagnetic wave spectrum gave birth to the technologies of media transmission creating a far more effective means of colonisation. During the 20th century, non-Western cultures found themselves unwittingly acquiescent to the cultural imperialism of Western consumerism: the creation of desire for a can of Coca-Cola could be delivered over far greater distances with far less resources via the vehicle of radio and television broadcast transmissions 27. Yet this seemingly passive invasion need not always be a vehicle of destruction – the cross fertilisation resulting from cultural collision can be equally creative. During the 17th and 18th centuries, the West Indies

witnessed the arrival of musical forms from Africa and Europe eventually cross-fertilizing and evolving into Calypso and Mento (one can only speculate how indigenous Carib and Arawak music might influence what we are hearing today). Similarly, by the 1950s Jamaican youth felt alienated by American pop music, the dominating content of local radio broadcaster JBC’s playlists. So they took to listening to the “edgier” RnB broadcast from stations in New Orleans and Miami, the next generation of musicians being strongly influenced by the sounds they were hearing. Yet the music of Jamaica not only found itself being shaped by the content of the African American art form, it also found itself influenced by the artefact of the medium. Amplitude modulation radio propagation will be affected by atmospheric conditions such as water vapour, ionization and various other disruptive phenomena. The listening experience of a Jamaican audience when tuned into distant American radio stations in the 1950s and 1960s would often include an oscillating signal creating a pulsing affect. It is speculated to be where the distinct delay “feel” of Reggae and Ragga originated. A metaphor for this situation will be created in my work by inviting participants to navigate a cultural collision of 1. the physical world, and 2. the mediated auditory world. The ambience of wilderness and the soundscape of urban humanity: two worlds that can appear separate and irreconcilable. How can this sense of bilocation become unity? Just as the Kaluli find sonic relatedness between the sounding of their humanity and that of the environment, and the people of Jamaica who draw upon the physical environment they inhabit, the community they interact with and the transmitted music and the medium artefact as a source of creativity, the participant is invited to explore a creative connection with environment. They are then asked to take the sound recording of their experience – “[the] motion of densities, decays and fades, of overlapping, alternating, and interlocking sound” – away with them. Just as musicians of all cultures who have had their art influenced and shaped by the voices of a culture far beyond their horizon, participants will be invited to create something new from the recordings they have made from their own unique experience of interaction with the environment by manipulating it in any way they should wish and “voicing” it to the world by uploading it into a shared online community for all to access. Due to the proliferation of freely downloadable and easy

28 Quevedo, Raymond. “Atilla’s Kaiso: a short history of Trinidad calypso”. University of the West Indies. 1983
to use audio editing software, anybody can now create sonic content – it is no longer the mysterious craft of an elitist few – the audience now becomes the author: as Jacque Attali argues, we are all becoming authors.  

1.2 Project Development

The engineering commenced by approaching artist/engineer team Lea Bertucci and Ed Bear and asking if I might participate in their project sponsored by Transmission Art organisation, free103point9 entitled exiTtrip. They agreed and sent me several miniFM transmitters, hacked iTrips that can now take any analogue audio input and transmit. Before proceeding with designing and constructing the assemblage it was necessary to experiment with these devices to gain an understanding of their capability. Because they transmit on “domestic” FM band it is necessary to find a position within the frequency range of the receiver that has no broadcast allocated to it. This transmits to an FM radio receiver and is output to headphones for the participant’s connection with mediated auditory space. Every time the miniFM transmitters are powered up they have to be manually re-tuned to the required frequency which takes about 64 flashes of the led indicator = approx. 1 minute. An obvious aspect of the technology is that when powered off whilst “tuned-in” one will hear the noise of static, and whilst powered on with no audio input one will be hearing silence – this proved to have a useful application for one of the zones. The devices have a remarkably fine and variable range or depth of field, which has been the greatest impediment in quantifying my container of interactive auditory space. The slightest change of aerial size can produce remarkable variation and those same changes vary depending on location.

The piece is situated within a forested location and distant from urban infrastructure. Through necessity the technologies must be powered off the grid dictating a self-powered or very low-powered medium. The piece uses an assemblage or population of networked media types. The components of the system are made up of obsolete analogue technologies such as modified record player cartridge, SW radio receiver cassette tape player, transistor radios, and the hacked iTrips. Radio transmission, from public broadcast outside the event zone and from within via the miniFM transmitters, is used. Vegetable/mineral matter is also important: plant life and geography

informing both participant engagement in space and transmission signal level or field strength. Finally, digital social media networks are deployed with participants using Soundcloud.com to upload their compositions and for public audition.

Finding myself working outside the controlled environment of a gallery/performance space created a challenge for the piece’s architecture and motivated me toward a process of experimenting with a new form of medium. A metaphor I find useful in illustrating the approach I take in the development process is that of atavistic media, this being the adjective of atavism defined by the Merriam-Webster dictionary as: “a: recurrence in an organism of a trait or character typical of an ancestral form and usually due to genetic recombination b: recurrence of or reversion to a past style, manner, outlook, approach, or activity”. My understanding of Atavism within the context of biological studies is that genetic traits lying dormant within a gene pool may be switched back on when an attempt to adapt to environmental change occurs. This can revert an organism to a form that appears more primitive or simplistic. An apparent “throwback” can also appear via existing current gene combinations: evolution/natural selection takes on the form of the past as much as the future.

The reversion to antiquated technology is not motivated by nostalgic desire, but by finding myself at a point in my practice where if I’m to continue working within an exclusively digital or computer software environment I would arrive at a medium design cul-de-sac. I approach work from a holistic position, and by engaging in a creative process using simple technologies that have an accessible and malleable quality I benefit from the emergence of form that can arise as result of what is, in effect, collaboration with one’s tools (this understood as having a kind of agency in themselves).

Once I feel I have an entity, I can then develop a project further within more technologically complex situations. This situates my practice within the context of Deleuzean assemblage. It is not just that the technologies are assembled from various sources, but the piece as a whole is a networking together of, for example, alkaline, leaf, transmission artefact, silicone, soil, and flesh, to mention just a few components. To choose one component from the previous list, for example: flesh, within that one would find an assemblage of cochlea, auditory space, cognitive brain function, etc. In other words, the leaf litter on the ground is as much a part of the technological assemblage as is the shortwave radio receiver.
1.2.1 Bench Test 1

Before heading out on location I needed to gain a basic understanding of technology I could assemble with available resources. The following video illustrates how I am to consider re-mediation of broadcast and re-mediation of transmission artefact whilst the physical environment filters and contributes to the auditory output.

Three possibilities are: 1. domestic broadcast is relayed to miniFM transmitter via a break in the circuitry, allowing the ambient environment to “seep in” via the earphone attached to microphone; 2. shortwave radio earphone output to record player cartridge which behaves like a contact microphone picking up ground vibration; 3. remediated broadcast media earphone output attached to record player cartridge intersected by tensile nylon twine so that avian movement such as wind might be included.

See video: TechRun1.wmv

Locating this interactive piece within a bush setting exaggerates the contrasts of multiple worlds being occupied and traversed simultaneously. The site is thick with vegetation on slippery, sloping and undulating ground. The majority of the urban population (for whom this project is aimed at) finding themselves amid this terrain would find this an uncomfortable experience. If one is used to sitting in a car seat or walking on a flat pavement as the only means of getting from A to B then the stress of focusing on balance and using all four limbs to remain upright and move forward creates a contrast to the audition of mediated sound “punching a hole in space” and being present where it ought not be. The experience of navigating a sound world that has the individual origins of its aural objects located at extremely variable distances and further confusing distal perception by re-mediating has the quality of re-contextualising sound material due to its dislocation from source and could prompt a sense of creative discovery for the active participant.

For example: 1. the cartridge of the “silent zone” transmitting omnipresent environmental vibration below the threshold of human hearing; 2. the miniFM transmission of a studio recording of a human voice from an onsite sound reproduction device; or, 3. The twofold dislocation of distance perception created by a radio receiver sounding shortwave transmissions originating from a vast distance away which is then remediated to the participants earphones via a local mini-FM transmitter. While the participant is experiencing the above and simultaneously working hard to prevent a downhill fall, perhaps they might become aware of being

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taken out of the confined occupany of “the self” and grasp a sense of the multitude of places in space.

For the next stage I went to the forest to find a space with a proximate visual horizon. I situated it far enough away from urban space in consideration that participants may “acclimatize” to the natural environment while walking to the location. On arrival there will be no more ambient city-urban sound present. The space is placed within a regional container. I created 3 transmission nodes with each receiving incoming radio transmission: SW, AM and FM being filtered by and allowing the “seeping in” of the local ambient space. The 3 nodes would occupy 3 biosphere zones: 1. The atmosphere which is where the assemblage of cartridge and tight nylon twine would be situated; 2. The flora is where the earphone and cartridge resided; and, 3. buried within the soil where re-mediated broadcast earphone to microphone was positioned. This experiment illustrated the auditory result lacked any definition or textual variation when navigating through the space so this form of re-mediation would have to be revised. Nonetheless the overpowering amount of transmission artefact led to the consideration of duality relationships. How does the mediated audio nest within the ambient sonic environment on a perceptual level? Do they fight each other or do they create unison (at one point the “tuned-out” static blended seamlessly with strong wind in tree-tops) and, how does this support the physical relationship with environment – or should it not? As one finds oneself navigating the uncomfortable, other-worldly physical and visual of “wilderness” and simultaneously receiving input from a stressful yet familiar urban world (mediated noise) do we feel out of sync, confused and unable to equate the separate worlds (tension)? Which world do we inhabit and are we able to be cognate of both? These questions inform development regards inter-zonal regions and the boundary of the event container. See video: TechRun2.mpg

1.2.2 Bench Test 2
I relocated for the second trial in denser bush and on the slope of a hill, making the act of navigating and traversing the environment more physically demanding as the participant interacts with auditory space. The hope being that the participant will be made more aware of multiple locations. This includes a modification of the medium structure. Four nodes will now more closely resemble the Jamaican reggae metaphor. I will now outline these nodes.
Node 1: a FM receiver will directly relay via miniFMtrans Radio Tarana, an Indian radio station broadcasting throughout New Zealand. I understand this as representing colonising broadcast media bringing an outside culture within the local region.

Node 2: a SW receiver relaying “feral” transmission in the same way as Node 1. This will represent the artefact of transmission medium i.e. the oscillating signals of 50’s and 60’s American AM broadcast over a long distance.

Node 3: a recording of a voice with a strong New Zealand accent narrating the driving manual for a Mitsubishi car via an mp3 player plugged directly into miniFMtrans. This, via accent, will represent the local broadcaster. The content being a consumer commodity responsible for the damaging of environment strengthens the metaphor of the undesirability of commercial broadcast content and draws a parallel with the dissatisfaction of Caribbean youth with local media during the 1950s and 1960s.

Node 4: ceramic record-player pickup attached to vegetation surface and input directly to a mini-FM transmitter. This would appear superficially to be silent, yet would carry the “vibration” of the land, presenting a metaphor for how physically proximate location, or the land one inhabits, influences personal and cultural expression. All of this technology was camouflaged so as to be invisible. The function of mini-FM transmission in nodes 1 and 2 as medium differs to that of 3 and 4. With 1 and 2 the transmitters are used as “wireless” devices to relay the outside transmissions to the headset of the participant whereas 3 takes on the role of broadcast media while node 4 performs a more symbolic function.

Figure 1
The set-up and run-through in the second location produced a more successful outcome. A relatively quick reconnaissance of the geography revealed suitable positions for transmission nodes. Due to the topography and vegetation the situation of transmission points took on the function of marking linear movement, or perhaps mapping a path. I will explore the concept of mediated auditory space as a form of cartography thinking in terms of the Kaluli poetic song map as metaphor. Once a layout had been decided it appeared wise to record this in a form located somewhere between musical notation and mapping.

Within the interior delta of the Niger River there is a vast territory of canals, rivers, lakes, islands, seas, prairies and flood zones where different human societies have learned to live together with the cycles of the river. One of the inhabitants, Alassane Sangare, a shepherd turned pilot of the Tombouctou region, tells us that city folk have not the ability to recognise distinguishing features of the countryside and are unable to find their way – they will get lost. Those born of the land can identify every feature of the land and can navigate without need of maps. Keeping within the spirit of bricolage and detourning, I tore apart an unused appliance package and noted composition of the nodes in space for future reference.

Figure 2

This consideration of societies living with the cycles of their environments brought me to consider the difference between one participant versus multiple participants engaging simultaneously. The experience of two or more would prompt the formation of community: individuals interacting with each other as they do with place and space.

An outcome required from this experiment was to confirm aerial length for this location (a piece of wire attached to mini-FM transmitters input one end and vegetation, the other). This is the main variable when determining the dimension of the working space, and proved to be the most erratic. A guess of 1 metre appeared to do the job.

Personal observations made during the process of testing in situ included noting the new ways of thinking that are required when working out of the controlled environment of the performance space. It can be easy to find oneself overwhelmed by the paraphernalia of technological assemblage when working within a space that is very definitely not sterile, ergonomic or predictable – as is the case with most indoor performance environments. In this work, by contrast, the act of creating the piece is no different from the process of engaging in it: it is to confront the dilemma of binary location, or, the two separate worlds. Thus it could be argued that I become an author-participant.

On deciding that the second run-through created a more engaging experience, I returned to this second location to think in terms of fine-tuning setup and calibration. This proved to be a time consuming and clumsy experience, and it takes some time to get the assemblage running and relatively stable. In keeping with the spirit of curator rather than author, I welcome a level of unpredictability and generative form but find it too easy for the system to tip over into chaos. Similarly, a Korean group of electronic musicians practicing a genre they have labelled “inferior music” intentionally build unreliability into their technologies resulting in dysfunction, i.e. performances deteriorating into chaotic noises or even collapsing into silence: this limited control and heightened sense of volatility is something to celebrate! But for the sake of trying to make this an engaging experience for those who might not be acclimatized to the form of arts practice I am aiming for: “controlled out-of-controllness”. My intent is to ensure that I test and document with participants who are not themselves part of the “artistically enlightened”. This work is intended to

engage “everyday people” I wish that the audience become the author; “preaching to the converted” is practicing within a “walled garden” of pointless elitism. I hope this to be a medium to prompt people to engage in greater awareness of community, culture and their environment. Perhaps I suggest a motive present in the Fluxus movement – toward separating the divide between art and life.\(^{35}\) Reminders of how I must structure my work, not as an author, but as the audience often present themselves. For example on one occasion whilst discussing various arts practices within a specific context, a person who has known me for a while but is not familiar with my work and whom I had invited to participate, mentioned he was interesting in “seeing what I do”. This comment brought a John Cage quote to mind: “...we must arrange our Art, we must arrange everything, I believe, so that people realize that they themselves are doing it, and not that something is being done to them”\(^{36}\) and I responded that I hoped he would see or hear nothing of what I do but would enjoy seeing and hearing what he does. This work suggests a role in shifting perceptions within arts practice, in much the same way our relationship with the environment and the world we inhabit require a shift in perception.

I perform a run through without video documenting and finalize new Transmission Node layout of which I think creates a more intuitive navigation space: a relatively central silence zone 1, radiating out to audible media zone 2, to outside range transmission – static noise, zone 3. I become aware of the development process not being separate from the discourse of the piece. I find myself in the bush cursing and swearing because I can’t find a battery dropped in the undergrowth, or my headphone wire gets tangled in a branch, or I become “stressed” over completion times because I’ve noticed some potentially wet dark clouds rolling in etc. I’m continually observing human/wilderness separation or non-relatedness within myself. This serves me usefully as it is a constant reminder of what the piece is supposed to be doing. I recall that, not only does the audience become the author, but the author becomes the participant – the blurring of boundaries for those engaged in the process is core to transmission and communication arts practices.\(^{37}\)


1.2.3 Event 1

The first event for participants involved tuning and setting up 2 x receivers and MD recordings. This added yet more complexity to the whole setup process. Whilst I managed this they read the programme note offered on arrival.

1.2.3 Event 1: Setting up and Testing

The initial setup process involved participants tuning and setting up the 2 x receivers and MD recordings. This added yet more complexity to the whole setup process, as the participants would need to synchronize their devices, ensuring that they were tuned and heard correctly. The process became more challenging as the setup required attention to detail, including ensuring that all devices were synchronized and functioning correctly.

During the setup process, it became clear that the current recording and monitoring arrangement was too cumbersome and ergonomically demanding. The participants found that their radio receivers were getting knocked out of tune easily, with some participants even picking up local broadcast signals. This led to a realization that the current setup needed to be improved, with a focus on creating a more user-friendly and ergonomic environment.

The reception of the soundscapes varied among the participants. Some found the soundscapes to be immersive and engaging, while others found them to be too overwhelming or disorienting. The participants' experiences varied, with some finding the soundscapes to be too loud or too soft, while others found them to be just right.

The feedback from the participants highlighted the need for further iterations to improve the setup process and create a more user-friendly environment. The participants' suggestions for improvements included making the setup process more streamlined, reducing the complexity of the setup, and ensuring that all devices were synchronized and functioning correctly.

The feedback from the participants also highlighted the need for further iterations to improve the setup process and create a more user-friendly environment. The participants' suggestions for improvements included making the setup process more streamlined, reducing the complexity of the setup, and ensuring that all devices were synchronized and functioning correctly.

During the aforementioned process, it became clear that the current recording and monitoring arrangement was too cumbersome and ergonomically demanding. Also, these participants found their radio receivers were getting knocked out of tune easily – at one point, a participant found himself picking up local broadcast. Yet he remarked that he still found himself engaging in the urban/wilderness relationship essential to the situation of this piece! We stopped to retune and continued. I was interested to note that the participants were inclined to move beyond the “container” of a bounded auditory zone. Whether this was likely to be a choice for some and less so for others, or a general inclination, only further iterations would reveal. My thought is to extend the boundaries of the piece and perhaps include more nodes. Of interest is to note how the participants who are known to each other in their lives were not engaging or acknowledging each other through the piece – they appeared focused on movement through the environment. This leads me to believe that this could work as a single user piece – the inter-human interaction would follow next. On completion as we were packing up the participants felt a strong desire to communicate their experience and have more light shed on their experience. They felt a sense of wanting to be led...
by auditory zones and sounding objects yet still a little unsure of outcomes. At this point I realized that an essential part of this piece will be a group discussion on completion – this is where the social and communal element of it lays. They came away sensing a greater understanding for the motive as a result. For the purpose of this present document, I converted audio files to an appropriate format and sat with participants at their own computers to offer guidance and instruction on audio editing for eventually uploading onto a Soundcloud.com page. I suggested the process could be less daunting if they were to think in terms of creating multiple small pieces. This will be an evolving process. When this piece runs a second time the participant will walk away from the site with a .mpg of their “transmission journey”, some basic audio editing software and will be left to self-engage in the composition process.

See video: Lift Up Over Transmission 1.wmv
Listen to: Participant Compositions/ 4 X audio files of compositions created by participants

2. LIFT UP OVER TRANSMISSION: WALKING BACKWARDS INTO A FUTURE TOWARD SYNCRETHNICITY

2.1 Conceptual Underpinnings

This piece is a variation on a theme of the previous work. It will be located at the water’s edge on the rocks of the Taputeranga Marine Reserve, Island Bay on the South Coast of Wellington, New Zealand. The participant will be standing on the very edge hovering over the sea whilst secured by self-controlled adjustable harness. She/he is prompted to inhabit two zones divided by the boundary where the ocean meets the land. The zones are represented sonically via transmission space. Standing upright upon the shore-side of the divide, the participant will experience domestic broadcast media. To lean out past the shoreline, she/he will hear sound material associated with cultures far from these shores. As all occupants of Aotearoa/New Zealand are relatively recent migrants, it is hoped that this experience will prompt the understanding of how we all, including Māori and Pakeha, share the same concept of Home being in the present and our ethnic origins being in lands faraway.
As with the first project I will explain the conceptual underpinnings of the piece and the cultural metaphors I have drawn upon. I will then describe the linear development process.

Distance art, and telematic and transmission practices, as is the case with my own work, finds at its core the occupation of two spaces simultaneously. As explored within the previous project, I wish to engage in the situation whereby rapidly evolving technologies finds humanity occupying multiple locations simultaneously. This can be geographic, due to the ease of global travel resulting in more individuals of dual nationality and identifying as multicultural, or most often, those physically located whilst simultaneously occupying non-geographical technologically enabled networks or communities and connected to the world by transmitting mediums. This is a relatively recent shift in sociocultural development having manifested itself over the last century. On a personal level this is a primary motive for exploration of spatial practice. Being a product of dual ancestry, I was born and spent childhood in New Zealand and then lived most of my adult life in the UK. On returning to New Zealand (supposedly my native environment) in middle age, I find it one of the most alien cultures I have inhabited. This concept of tribalism and cultural identity will be visited below. I find myself occupying this physical location as an observer whilst still finding my important interactions are with those at the opposite side of the globe. These new forms of presence are increasingly becoming a part of the human condition.

The previous piece explored the general nature of humanity’s bilocation within the physical and the compressed space of the communication technologies world. This piece takes a reduced view on this theme by aiming at a specific region and culture, as well as observation from a more personal point of view. This compacting of subject matter has leaded me to pare down the complexity and component population of this event as an assemblage – it requires simplicity to communicate its observation. As is the case with the first piece this one is also an “ad hoc groupings of diverse elements, of vibrant materials of all sorts”. So rather than thinking in terms of this as a piece of art, I prefer to engage in it as an experience and everything present is part of the process. H2O, sediment mineral, rope, electromagnetic wave function, the adrenalin rush as the participant is feeling in danger of falling into the sea etc. As with

the purportedly egalitarian nature of Aotearoa’s culture, regardless of ethnicity, there is no hierarchy of components to this structure - all are on a level playing field. This situates the piece within the frame of social space. It is a place that consists of relations. My preference when considering how I position my work is to think in terms of the “event-scene”, as this eloquently describes the simultaneity of the experience: action and place\textsuperscript{39}.

With this second piece I also wish to explore community or tribal relationships. I believe that if humanity wishes to repair its relationship with the environment, it must first repair the relationship with itself – aiming towards non-separation. Not only does the arrogance of humanity perceive itself occupying the top of a pyramid within the nature of being, or, its place in the universe, but also the “dance of the egos” manifests itself within humanity as various ethnicities, communities, societal demographics all consider themselves to occupy a position on the apex that can have no room for any other.

The group of islands located in the South Pacific Ocean named Aotearoa or New Zealand illustrates an example of a sizeable piece of Earth’s territory that has only relatively recently encountered humanity. This land has had millennia to form its ecology and within a mere 500 years of human occupancy it has been systematically plundered. Within the last half of the previous millennia many immigrants arrived from all parts of the world. They share one thing in common: the arrogant belief in the right of ownership.

With this piece I wish to communicate an observation made regards the process of national and cultural identity within Aotearoa / New Zealand. Something it shares with only a very small handful of nations on the planet is a relatively recent birth with the painful teething problems associated with development as it navigates itself through infancy. During this process there are the inevitable partisanisms of territorial and cultural protection and ownership. Something both Māori and Pakeha share when at this point of transition is the need to reach back into the past and reconnect with a stable and familiar foundation with which to identify and use as a means to understand who they are before they can move forward. This is illustrated in the belief in the homeland of Hawaiki from where the Māori migrated and upon death return there. They will leave Aotearoa from Spirits Bay, the most Northerly part of the Country returning to a meeting place within central Polynesia.

\textsuperscript{39} Lefebvre, Henri. \textit{The Production of Space}. Blackwell Publishing. 1974. Chapter 2
Yet Hawaiki will always remain in the heart of the people while alive wherever they might journey.\(^{40}\) Similarly, there is the Anglo youth ritual of OE (Overseas Experience), which can mean relocating to the UK to live and work for a period of time, this often being facilitated by gaining entry due to recent British ancestry. Common to New Zealanders of my generation were the occurrence of archaic cultural remnants: Christmas cards picturing snow, holly and robins (red breasted birds of Northern Europe), or shops on the High street with artificial snow accumulation painted on window fronts while temperatures were over twenty degrees Celsius and pedestrians passed by dressed in shorts and flip-flops.

I also draw upon my own personal situation, one which was once common: I had a parent who when using the word “home” would often be referring to a nation situated at the opposite side of the world rather than the house in which we lived. And still to this day we will find the Union Jack within the New Zealand flag.

Māori have a concept: “walking backwards into the future”\(^{41}\) which could be a suitable metaphor to put into practice for the entire population to apply in some adaptive form or other if aiming towards a syncrethic future. I use my neologism syncrethnic or syncrethnicity to describe a diverse yet unified poly-ethnic identity. Syncretism: being the taking of various beliefs and re-synthesising into the formation of a new. For example, the many ethnicities within this nation that go into creating a new identity. Also, this word – I believe – shares an appropriate phonetic similarity with synchronicity. How might we glimpse a possible future where we are synched, finding commonality in our cognition of our recent pasts that occurred in space vast distances away? The structure of this piece involves two spaces: 1. the physicality of land and the sea. A single step may have you occupying either zone. The land represents the participant’s occupancy of home space and the ocean represents a transporting medium connecting to past from a distant space and time, the unbroken horizon representing a form of mental schism; 2. the transmission zones occupy no such local occupancy. When leaning out of the local sounding zone and entering into the “wormhole” that connects with any part of the universe simultaneously, I hope, prompts a participant to observe how we occupy our cultures, past, present and future.


synchronously.

Humanity has found itself on a piece of land with the largest moat it has ever had to conceive of and has tried putting various bridges in place, abstract, memory and mental, in a desire to reconnect to a foundation from which to build and find a voice for a future. This piece serves as an analogue for the reaching out from the boundary of shoreline over the ocean to connect with the ancestral that is sourced far away yet present simultaneously – broadcast transmission describes appropriately this ability to compress space and connect regardless of distance.

2.2 Project Development

A single participant will be wearing a harness, and equipment that will have the adjustable end within their own control and the other end anchored to the ground a few metres behind them. There will be a pair of SW receivers tuned to European and Polynesian broadcasts, which, due to location of origin will include the distinct audio signature of long distance feral transmission artefact. This will input to an Audiomulch patch on a laptop for real-time processing then sent to personal receiver via minFMrans. The adjustable rope will have a hose clip attached to it, wired to one side of battery power circuit and the other end of circuit will be attached to belay/rappel device. The radio receiver is set to a position where it is possible to receive domestic FM broadcast albeit not tuned precisely to the correct frequency: this will be the exact tuning for the minFMrans. The participant will be standing on the very edge of the rocks hovering over the sea whilst secured by harness. She/he will gradually pay-out the rope and incline into a lean over the sea until the power circuit of the battery pack for the miniFMrans is contacting and then the greater strength of this transmission, relaying SW radio broadcast, will cancel out the domestic broadcast due to greater transmission strength.
For this project, much of the groundwork for the technologies had been created in the previous piece. The changes were adaptations in the mechanics and the reduction of paraphernalia.

For the purposes of this first version due mainly to budget issues the computer processing part of the technology assemblage will be replaced with fixed-media.

A reasonable amount of precision with attachment of circuit wires positioned on rope required testing due to need to hear clearly the transition from local broadcast when standing normally on land and the sounding material of the “abroad” when positioned over the water.

2.2.1 Bench Test 1

On the issue of location it seemed important that shoreline should face in a Northerly direction since the population of these islands all migrated from that direction and equally as important, an uninterrupted horizon where sea meets the sky as a view for the participant to lean into. This offers the sense of vast mileage that our ancestors had to navigate to get here. Unfortunately I had the geographical inconvenience of Wellington/Port Nicholson being at the bottom end of New Zealand’s North Island; it faces south! The quandary presented itself – do I use a location inside the harbour
facing north at the sacrifice of a horizon intruded on by landmass, or do I go to the coast outside of the port where it affords the uninterrupted oceanic vista desired, yet facing south? My first choice was the Wellington Harbour Marina facing north and I thought it could make a humorous reference to the landmark sculpture “Solace of the Wind” situated further along the waterfront. The original technology design for this location differed. In would require two miniFMtrans placed on the outside edges of the fender posts and a receiver arrangement attached to the head requiring exact aerial ratio necessary for transmission to be received when leaning into position. This proved to be unsatisfactory so I relocated to the ocean coast where a good position was located – an outcrop of rock facing the ocean and suitable anchoring for fastening rope hoping it would not be a danger to health! I drew a diagram mapping position and points so that it might be possible to return to the same spot with ropes and trial.

Figure 5

2.2.2 Bench Test 2
This next exercise was performed without electronic circuitry since I needed to focus on practising how to guide myself through the physical actions of the piece. It was clear that the object of this, i.e. being aware of the environment one inhabits as one engages the work, would make itself very apparent. While standing on the edge of the rocks with waves rolling in and slowly leaning seaward as I let out the rope - it was a remarkably fearful and stressful experience. I had to make a conscious decision that I had tied the rope correctly and that I would remain secure before I could allow myself to lean out and over the rocks. This struck me as an interesting metaphor for being too afraid to move on in life and wish to remain with the familiar at the present point in time. As is the situation with the first work one becomes very aware of occupying physical space while synchronised to the transmissive.
2.2.3 Event 2

For this video documented run through I made a decision to replace the harness with an alternative. I thought, a: the rock climbing harness might have the wrong visual association and b: the current arrangement affords a greater sense of security and stability due to being attached higher up the torso. The new harness was created out of a couple of belts crossed over and wired together. I decided it inappropriate to ask others to participate, due to ethical and policy issues within academic research involving human participants, it required I did it myself.

The duality of aural input from transmission/auditory space and from physical environment appeared strongly evident particularly as I leant out over sea and rocks; it felt quite stressful. This made it clear to me that some participants might find the whole experience overwhelming. Of both the “Lift Up Over Transmission” pieces I believe this one contains the premise most strongly: The discomfort of unfamiliarity. This has the potential to prompt an understanding of the risk and uncertainty attached to immigration and travel and the process of navigation that is represented in the act of leaning out. One is grounded in the physical whilst engaging in risk. This is how I believe these two projects differ from traditional telematic/transmission arts cultures – the disjunct that is of simultaneous occupancy.

See video LOUT2.wmv

3. LIFT UP OVER TRANSMISSION: TOWARD PLANETARY CONSCIOUSNESS

“At the dawn of the new Millennium, we have an opportunity to make a better world. If we act with responsibility and compassion, we can change the way we relate to each other and to the planet…” Arthur C Clarke

3.1 Conceptual Underpinnings

With this I wish to create an immersive navigable action response space within a controlled interior situation using digital technology. I wish to explore themes of disintegration of human hierarchical structures including human rights abuses, human commoditisation, and consumerism and, especially, the detached disinterest of “the self” being most apparent amongst those who perceive themselves to not be directly
affected. The physical space will be contained within a triangle of three computer terminals connected to social media websites via the internet. Within this will be groups of sound objects expressing views and observations in the form of spoken language mapped within a virtual holophonic space of six regions based around a central zone. As well as earphones, the participant will wear a radioMIC prompting them to contribute to and affecting outcome of local conversation. There will also be three levels of sounding, or, polyphony. 1: The ambient environment of the physical space including the audio output from the social media websites via small monitor Speakers. 2: The localised mediated audio material via earphones and 3: The vocal content of participant – 2 and 3 being nested within the container of 1.

The participant will be challenged to consider His/Her iPod culture “bubble” experience as a potential retreat or withdrawal from encounter with the world. 42 Materials, objects and actions will take place within a two dimensional X Z axis. This is to represent a metaphor for the removal of top-down hierarchy. The exception to this is the technology for the visual (camera) tracking system situated above the triangle of the horizontal space. This represents a metaphor illustrating the State surveilling, monitoring and ultimately disciplining human behaviour. 43 The auditory zones radiate outward from a central spot where the sound of trickling water is heard. This reminds us of the Trickle Down Theory where wealth is created at the Top of the Human pyramid with the expectation that it creates a knock on effect down through all levels of society and the current concern regards its dysfunction. There are two orbital regions radiating outwards divided into three zones each. These represent the themes of the collapse of: Western consumerism, Middle Eastern Non Secularism and South East Asian Totalitarianism and the process of human reinvention. The inner region contains “conversations” observing local New Zealand views. The outer represents “conversations” of those located within the respective regions bordered by relevant online audio/video footage supplied via social network media websites. The participant will travel through the zones hearing the conversations, within the local zone he/she may participate, affecting outcomes via vocal contribution, and within the “abroad” zone, may access online materials.

43 Foucault, Michel. Surveiller et Punir. Gallimard. 1977
The 20th Century saw revolutionary forms of practice within the visual arts. Beginning with Marcel Duchamp and later the paintings of Jackson Pollock, the “place” of the artist and the audience in relationship to the work shifted. Artists were moving their workspace from the vertical of the painted canvas to working toward the floor from above. For example in 1914 Duchamp dropped three threads on the floor to determine structure via chance operations. In the 1940’s Jackson Pollock would be walking around his canvas stretched on the floor pouring and dripping paint upon it. Later, Roy Ascott would create interactive works in which participants engage in the process on a horizontal table surface.\(^\text{44}\)

The human relationship to visual arts, for artist and participant, shifted from a hole in the wall or a window offering a view into a distant world, to a space of immersion or at least an invitation to travel through the space presented, due to a sense of mapping out, cartography – instructions on how to navigate the eye through the piece. The same is true for sound based arts. In the mid twentieth century painter Allan Kaprow attended John Cage’s experimental composition class and explored how he might take, as he perceived, Jackson Pollock’s concept of immersive engagement in process of painting to the sonic situation – being applied physiologically as much as the spatially. In 1956 he would create some of the earliest interactive audio installation works by placing sounding objects within a gallery space. Some would go off indeterminately while inviting a visitor to press a button that could produce other sounds, or triggering audio events by the crossing of a light beam. \(^\text{45}\) Today we see technology creating the virtual realities of three-dimensional sonic experiences. Various techniques analyse human cognitive function and psychoacoustics to simulate sound location and listening immersion. Technologies such as B-Format ambisonics using tetrahedral microphone recording techniques diffused through five or eight speakers at the ear level of the floor plane or else fully immersive “Christmas Tree” arrangements.\(^\text{46}\) The restriction with this form is the necessity of the listener to remain firmly anchored to one position, the “sweet spot”, for the illusion to be created. Needless to say this will not serve the active, mobile participant. Ideally we look forward to a future of holographic sound projection – the ability to project sound

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objects to a specific location being the most appropriate technology for the placing and dropping and pouring of sound objects onto navigable workspace. I aim to create an analogue of this medium with technologies available.

3.2 Project Development

The authoring software environment for creating the sounding materials is Audiomulch designed by Ross Bencina. Six groups of sounding events and a core of a single sound is arranged and mapped within a two-dimensional floor plane space. I acquire soundtrack recordings from news broadcast sources in Mandarin, Arabic and English. I then create sound bites from these by cutting them in small sections of no more than of four or five words or syllables. And then place them into grouped audiofile players that play them back in a non-linear, aleatory form similar to the William Burroughs cut-up technique, which implies the possibility of perpetual interaction and alteration.

As luck would have it, Mr. Bencina had put out a call for artists/musicians to beta-test a new version of the software soon to be released. I offered my services and during the process of developing this piece, I hoped I might contribute user feedback in supporting development and I would certainly benefit from being in dialogue with the programme’s designer! Of particular interest to me is Audiomulch’s unique “Metasurface” interface which facilitates a means of mapping sound object location in

Figure 6

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space. With this device, one is able create regions within a two-dimensional interpolation surface assigning various parameter edits to sound objects referred to as “snapshots”. A triangulated “cross hair” representing the point of sonification travels through these preset regions enabling smooth transition between the different parameter settings and thus the six groups of sounding materials.

![Figure 7](image)

The metasurface represents the two-dimensional “event scene” of the interactive auditory space and the “cross hair” represents the location of the participant. So the next step is to track participant movement and relay that to metasurface position. This involves the implementation of a computer vision tracking system that inputs video stream and outputs tracking data while remaining stable in varying lighting situations while not creating “false positives” often associated with “blob tracking” setups. To remain situated within the context of Atavistic approach to the piece’s architecture within the digital domain, I decided upon “reacTIVision as an appropriate form. It is designed to track specifically shaped markers named “fiducials”. These shapes are recognised by an adaptive thresholding algorithm and the intention of the designer was to give these forms an organic shape. I was immediately reminded of cave paintings by the Dogon tribe of Mali suggesting how the fiducial has a totemic icon quality. The Nommo are ancestral spirits worshipped by the tribe and are depicted as hermaphroditic creatures with humanoid upper torsos and a fish-like lower torso and tail. They are "the Monitors" and "the Teachers" in local tradition.48

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In normal use, the fiducial is attached to a solid object and then placed facing down on an under-lit transparent topped surface. This becomes a musical performance device replacing the use of knobs, sliders, mouse etc. I reworked this so that a marker is placed upon the top of the headphone/mic arrangement and camera fastened to ceiling. In effect, the participant becomes the fiducial. The participant’s marker is tracked and outputs X Y axis MIDI control data with the instruction, which the interpolation point (“cross hair”) receives via XY parameter control through the OSX IAC driver. The other major consideration is that “reacTIVision” offers the choice of MIDI output unlike other optical setups that only allow OSC. When considering that “Audiomulch” is currently only MIDI compliant, it meant that I would avoid the need for an OSC to MIDI converter. Interesting to note is that Ross Bencia is not only the author of the Audiomulch software but he is a contributor to reacTIVision. He developed the computer vision algorithms and marker system. On commencing setting up reacTIVision to output MIDI controller info whilst inputting and being accurately read by Audiomulch I approached Mr. Bencina regards these systems working together so I might have the resource of other’s experience, but to the best of his knowledge and after my own search it appears that there has been no previous work done on this setup so I am now seeing the project as a bench test for development related to future projects. The next video documents the two systems communicating.

See video: LUOT3 visual track1.wmv

On Audiomulch Metasurface responding accurately to reacTIVision MIDI output data the focus is on calibration and how much physical distance can be achieved between participant and camera. Initial finding meant a fiducial from the “small tree” scaled up eight times larger could be read at enough distance to create a container space of roughly seven x seven ft. without any calibration adjustments on camera. The fiducial marker fits atop the headphone/MIC brace; about the size of the upside of the cranium. The situation of the participant being tracked by a monochromatic symbol.
that shares common ground with “bar-coding” re-enforces the metaphor of the ability of the State to track and surveil individuals. For example, even when switched off, if the battery is still connected to one’s mobile phone it is still transmitting unique individual location data via cell triangulation.\footnote{BBC News. (2005-08-03). “Tracking a suspect by any mobile phone: Tracking SIM and handset”. Available at http://news.bbc.co.uk/2/hi/technology/4738219.stm BBC News. 2005-08-03. Accessed 2012}

Within the everyday, we all unwittingly occupy two spaces simultaneously. We bilocate without knowledge or consent. As we navigate our way through the infrastructure of our urban environment we also do the same within an electromagnetic web of cellular triangulations. For the convenience of being connected and contactable at any given moment by anyone on the planet we simultaneously navigate through the positioning software of surveillance and monitoring systems. Do we know? Do we care?

### 3.2.1 Ongoing Bench Testing

The following video illustrates first walkthrough and how system responds to tracking. This experiment revealed how incorrect calibration could create delay between visual tracking reception and the corresponding position on the metasurface. Also of note is how the need for clear boundaries within the physicality of the interactive space would avoid participants from exiting camera range of vision and losing lock on the fiducial.

See video: Fidhattrack.wmv

With this piece I wished to have more than physical gesture or bodily position as the form in which user interaction can take place, if one is immersed in an auditory experience then it follows that one can engage in it sonically – the participant becomes one of the sounding objects. Due to the diffusion being earphones and low powered monitor speakers meant that I would have no problem with MIC feedback. Within the Audiomulch environment I include a readymade module that will record bites of realtime audio input then repeat it in a linear chain of loops. As the sound-bite of the participant is repeated it can either be processed or used to trigger events. As the vocal is repeated a distorting effect is applied to it to represent how our views can be observed differently or manipulated by others. But most importantly the participants voice needs to affect the outcome of material, or, mediated conversations. This should represent how we have the power to change negative points of view if we
make the effort to express our own. I used a VST Reaktor patch to translate the participant’s vocal input to MIDI controller data which would then affect amplitude and velocity of mediated voices.

The participant can contribute vocal at any location within the space but they will only hear themselves and the affect they have had when in the local New Zealand zone. The following video illustrates the system in a realtime input example before the looping module had been included.

See video: LOUT3 midi track1.wmv

To further explore ideas of directionality and exaggerating a sense of ones place in space I experiment with artefact created via signal strength. I put the Audiomulch audio out to the miniFMtrans (exiTrip) with an aerial pruned back to a centimetre in length and tune to identical receivers to the same FM frequency. I attach these to each side of my hips then monitor via earphones – one per radio. Due to very weak signal as a result of aerial length, the human body appears to become a form of shield – as one turns blocking the signal from either side. This creates the additional effect of nesting a central mediated sound object within the shifting binaural image of transmission artefact, or, static noise. This situation offers a second layer of directionality – we have the visual draw and prompts of the internet monitor screens creating a path to the outside world and the bigger picture within the physical world.

The artefact of the transmission can offer a compass within the mediated world. This will be developed as the project evolves.

3.2.2 Event 3

During the full run through I was delighted to note that on occasion the radio mic and the exiTrip would interfere with each other and produce a subtle yet almost painful high frequency squeal. The signal from each device has a level of incompatibility that becomes apparent when in proximity with each other. This creates a sense of system input and output fighting each other and the stress of the inability to harmonize. This phenomenon, once fully understood, will be used to highlight positions within the piece where human conflict is apparent for example when viewing social media or the boarders between conversation zones.

See video: LOUT3.wmv
4. SCHERZOPHOBIA: A RADIOPHONIC SOAP OPERA

“The twentieth century is, among other things, the Age of Noise. Physical noise, mental noise and noise of desire - we hold history’s record for all of them. And no wonder; for all the resources of our almost miraculous technology have been thrown into the current assault against silence. That most popular and influential of all recent inventions, the radio is nothing but a conduit through which pre-fabricated din can flow into our homes. And this din goes far deeper, of course, than the eardrums. It penetrates the mind, filling it with a babel of distractions, blasts of corybantic or sentimental music, continually repeated doses of drama that bring no catharsis, but usually create a craving for daily or even hourly emotional enemas... Spoken or printed, broadcast over the ether or on wood-pulp, all advertising copy has but one purpose -- to prevent the will from ever achieving silence” Aldous Huxley, 1946.

4.1 Conceptual Underpinnings

This project has run parallel to the Lift Up Over Transmission series. It came into being as a result of a previous work that became the first episode of this series. And an invitation from the New Zealand based online audio archive Jam Radio to produce six pieces of approximately 30 minutes each.

During the process of assembling the Lift Up Over Transmission series, as I was trying to locate a position within the frequency range of domestic FM transmission that had no broadcaster allocated to it for the need to allow space for the exiTrip to transmit, I was struck by how the entire spectrum of the FM radio frequency range in my local region was crowded cheek-by-jowl with what I could only describe as homogenised auditory pollution. What has changed in the half century since Aldous Huxley made his observation?

It appears that nothing has changed content-wise, indeed he describes precisely what we would be on the receiving end of right now should we switch our radio knob on! The shift is in how we listen, the culture of listening and what we perceive to be noise these days. Noise is the new silence – if we hear absolutely nothing then we imagine
something has “gone wrong”. The squawking speaker cone fills the space of something “wrong”. This is where I saw the division between the mediated world and the ambient physical world and another chance to enjoy creative outcomes from cultural collisions. Can I silence the “babel of distractions, blasts of corybantic or sentimental music” by marrying it off to the environment? In other words, how one might shape the “babel” into a more meaningful environment than the one we are passively exposed to on a daily basis? I explore ways in which we can actively engage with the general environment, as the Kaluli people do in order to shape their world into a meaningful form concretely and conceptually.

It is my wish to shape the broadcast listening situation into a more meaningful form, rather than simply meandering through it, changing channels, downloading pods and so forth until one encounters something that satisfies one's taste in a hit-or-miss sort of way.

This is an exploration of how one might create an immersive participatory audio environment within which, as is the case with the previous work, I believe I take on the role of “curator” yet must be delivered as a time-based, fixed media “broadcast”.

4.2 Project Development

Being of the Punk generation during the late 1970's and early 1980's and familiar with associated forms of expression within the associated subcultures, I felt the method of assemblage via Detournment and Bricolage most appropriate. The repurposing of materials to create new situations through juxtaposition regardless of original meaning is not only present within the audio materials being broadcast, it is also manifest within the ambient environment by allowing it become a participant in the montage – it also has its original meaning re-contextualised.

On assembling the mediated audio material, as any Bricoleur would, I considered any sonic material to be fair game, including my own compositions recent and early thrown into the selection of montage. Also to have as wide a variety of structural creation employed: montage, composition, sequencing, instrument playing, synthesis, field recording, spectrum manipulation, singing and vocals were all employed at one point or another across the series. To insure some sense of it not representing self-

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“Adorno’s Horspielsstreifen, or hear-strip, the delicate buzzing during a film of recorded silence whose purpose it is to subliminally confirm the presence of a reproduction underway, thereby establishing the minimum existence of some type of presence.” Kahn 1994
expression I included chance methods, For example I had downloaded Pods in which I had no idea of the content and put them through randomizing processes within audio manipulating programmes. When applying this methodology I would often favour systems that would randomly reorder the linear content in a form analogous to the Burroughs Cutup technique.

The aspects of Radio Arts that I felt core to this situation are 1: listening to broadcast transmission means that each listener has their own unique listening experience as a result of the sum of the environmental parts.\textsuperscript{51} For example, the sound reproduction technology (radio), the acoustic of the room it is situated within, the activity and location of the “listener” as they interact with their physical space, the drifting in and out of focus as attention shifts from the listeners presence in the physical and the information from the transmission sounding device that aurally “colonizes” the physical space with its content.

Following is an experience I had when listening to a podcast of ZIP:MGNG, Phour Fonetic Sound Rooms by Ergo Phizmiz (2002). During this piece vocal materials appear – the screaming and groaning of the insane placed at a distance within the sound picture of the composition and an individual suffering from Tourette’s with the inevitable explosions of four letter words. I was listening to this whilst in the distance I could hear children playing and my neighbour chopping some wood with a large axe. This took place on Waiheke Island New Zealand with the feel of an island paradise. All of these sounding materials combined to recontextualise my environmental experience – my local area and in particular the neighbour with the axe had a different “feel” the next day!

The experience of two worlds unfolding simultaneously, one “nested” within the other, is where the potential for the indeterminate, and the interactive participation situates itself. The approach I took in the structuring of these pieces was to have sonic content morph from the representational to abstract, from identifiable structure to noise, so that the transmitted fixed media could blend and distant itself, or camouflage or contrast undulating to and from the physical environment – the sounding medium and the local ambient are engaging in a unique conversation (“was that a car pulling up in the driveway or was that the radio?”). Because of this dialogue, the listener becomes a participant. As she/he creates sound when interacting with their physical

space, for example doing the dishes and dropping cutlery, or, perhaps cleaning and moving objects around etc.

The divisions between the three environmental inputs: transmission media, ambient environment and participants sounding actions become blurred and result in a participatory immersive auditory event. This implies that the hermetically complete “work” no longer exists: The environment and the work can't be distinguished. Having said that, I did make a concession to the tradition of passive entertainment. If an individual did simply wish to engage in it as a passive listening experience I used this as an excuse to include some “tongue-in-cheek” humour – most needed being as the Sonic Arts is an extremely barren desert in this regard.

All six can be accessed at: http://www.jamradio.co.nz/index.php?tag=114*
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